SELF-HELP HOUSING PROVISION AND CAPITAL ACCUMULATION IN ATLANTIC CANADA

by

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This thesis is dedicated to the memory of

Neil Murray

who showed many of us the value of clear intellectual thought
and the beauty with which it could be expressed

and to John Jameson

for helping me reconcile myself to being unable to meet Neil's standards
and for his contribution to the mourning of Neil's death.

ABSTRACT

A third of Canadian housing starts and half of the housing starts in Atlantic Canada are produced by self-help means, yet this important sector of housing provision has been overlooked by analysts of Canadian housing. The objective of this thesis is to examine self-help housing in Atlantic Canada, and by this means, improve the understanding of Canadian housing.

The thesis begins by developing an economic theory of self-help housing provision. The application of this approach is not restricted to Canada; it has relevance for housing analysis in all industrialised countries, and to self-help housing in the Third World. In the third chapter estimates are made of the level of self-help housing in different regions of Canada. Self-help is estimated to account for at least half of all housing starts annually in Atlantic Canada, and a third of all Canadian housing starts. Ontario, Manitoba and Alberta are predicted to have the lowest level of self-help housing, while Saskatchewan, Quebec and British Columbia are predicted to have medium levels of self-help. Self-help is not a rural phenomenon, it is estimated to account for 22 percent of all housing starts in Census Metropolitan areas of Canada.

Case study information from Atlantic Canada is used to describe self-help housing provisioning and there appears to be little difference between households using self-help as opposed to purchasing a dwelling built by the residential construction industry, or indeed between the dwellings built by the two sectors. While there are no differences in the quality or the suitability of dwellings built by the two sectors, self-help provisioning is far more affordable, and self-help households have a much higher level of financial security in their dwelling. The incidence of self-help cannot be predicted by different skill levels of the population or by factors such as a greater amount of time for self-help as a consequence of high rates of unemployment (while self-help provisioning is highest where unemployment rates are highest, self-help households are rarely unemployed, at least in the areas covered by the case studies). It is argued that self-help is best viewed as a sector of housing provision, and is more likely to occur in areas where the residential construction industry has greatest difficulty obtaining profits from the production of housing.

Others have noted that self-help appears to be most likely where the economy is weakest, an observation which is consistent with the predicted incidence of self-help provisioning in Canada. However this thesis demonstrates that self-help also contributes to uneven development by depriving the residential construction industry of profits (from production as well as extra profits) and also by contributing to the ability of the population to survive at lower money wage

levels and concomitantly reducing incentives for local industry to improve productivity. In this fashion self-help housing provision slows the accumulation process of both the residential construction industry and industry in general, thereby contributing to uneven development.

The impact of housing policy on self-help provisioning is also examined. Self-help is more sensitive to policy initiatives such as changes in the costs of inputs or interest rates, and thus is more responsive to policy initiatives. At the same time, self-help generates more employment than does industry production. Thus, given the size of the sector, its higher incidence in areas with the greatest economic problems, and, that self-help provisioning is more affordable and the housing produced is of equal quality and suitability, then there is considerable potential for social and fiscal gains through policies directed towards the self-help housing sector.

PREFACE

The empirical work which is the foundation of this thesis began as an exploration of a self evident truth: a significant amount of housing in Canada is built by households themselves, particularly in the four eastern provinces comprising Atlantic Canada. While this was, and is, obvious to residents of these provinces it had escaped the notice of housing analysts in Canada. The often explicit assumption of their work is that housing is produced by the residential construction industry (eg. L. B. Smith 1981, Rose 1980) and that it is financed by mortgages (Smith 1973, Bourne 1986). One important consequence of these assumptions is that evaluations of housing policy in Canada have only been appropriate in areas where these assumptions hold. In this thesis these mistaken assumptions are addressed and it is estimated that self-help accounts for over 50 percent of total housing production in Atlantic Canada, and about a third of total housing production in Canada. The principal objective of this thesis is to examine the role of self-help housing provision in Canada.

Housing analysis in Canada has usually been conducted at a national level, or focused on metropolitan areas (eg. Rose 1980 and Miron forthcoming). Sub-national analysis tends to be scattered case studies where no general or analytical conclusions are drawn and hence do not form any clear pictures. This is illustrated by a recent monograph commissioned by the federal housing agency, Canada Mortgage and Housing Corporation (CMHC) and originally scheduled to be published in 1988 (Clayton, Miron, both forthcoming). Both monographs accepted the direction that they were to integrate current knowledge of local and national housing markets into a "seamless text which would summarize the state of the art in Canadian housing research"[1]. The picture of the state of the art represented by recent drafts of the monographs is one where local differences from the supposed national norm can only be illustrated with anecdotes. Only the authors dealing with specifically metropolitan issues were able to utilize an existing body of knowledge of local housing markets which is both empirically and theoretically informed.

Even a cursory glance at sub-national data generates questions which contradict the prevailing national understanding. For example, it is usually assumed that the acquisition of a new dwelling is financed by a mortgage. Yet a table published in Canadian Housing Statistics annually from 1973 to 1979 showed that about 35 percent of single detached dwellings built in Canada were not financed by a mortgage issued by a lender approved to lend under the terms of the National Housing Act (NHA)[2]. Smith (1973) assumed that this 35 percent were family or

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[1] I was originally a contributor to the Miron monograph but withdrew from participation when it became clear that the project did not have the resources or the mandate to seriously examine sub-national, non-metropolitan issues.

[2] Mainly banks and trust companies.

estate mortgages, however he is clearly wrong. The type and level of financing encompasses a variety of options including savings, short-term loans, insurance and pension settlements, and the sale of an asset such as a house or land (Rowe 1983. Bishop 1985). Moreover, the range of options available is often influenced by contingent factors such as the quality of land title (Rowe 1981), the alternatives available to financial institutions (Rowe 1990b) or the savings rates of households (Steele 1988).

Another illustration of the problems with the current national understanding is that most explanations of housing production include various measures of interest rates as the major components of their production functions (see Maclennan 1982) - yet seven of ten provinces have over 40 percent of new single detached production financed principally by non-mortgage means (see Chapter 3). Moreover, even if these models were effective at the broad national level, then during the 1981-82 period when mortgage interest rates moved as high as 21.3% (CHS[3] 1983:69), it would be reasonable to expect that total housing output would fall dramatically. However, total output fell by only 4 percent, and output of single detached dwellings by only 19 percent, both compared to 1980 levels of output, when interest rates ranged from 12.9% to 16.9% (CHS 1983:69). Further, the fall in output was not even for all provincial markets, it ranged from an increase of 13 percent in output of single detached dwellings in Ontario to falls of 41% and 44% respectively in British Columbia (BC) and Alberta (calculated from CHS 1983:10). What makes these observations particularly striking is that Ontario and Alberta have the two highest levels of mortgage financing. Despite this experience, many housing analysts still look to interest rates as a predictor of housing production, and assume that housing is produced by the industry and financed by a mortgage, assumptions which are now clearly questionable at both the national and local level.

Still another example is with the clear inverse relationship between the stock and flow of single detached dwellings and levels of home ownership on the one hand, and provincial levels of household income; regions with lower income levels have a higher proportion of owner-occupied single detached dwellings in new production, and in the total housing stock. They also have higher levels of non-mortgage financing. This is often attributed to a 'taste' for homeownership, just as the low levels of mortgage financing are attributed to a 'dislike' of debt (see Fillion and Bunting 1990:32 as an example). Yet this has rarely attracted the attention of housing researchers in Canada. Moreover, the value of new built dwellings in areas such as Atlantic Canada is often less than the costs of labour and materials required for construction (see Chapter 4). Clearly this is a situation where the national understanding is largely inadequate for

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[3] CMHC publishes an annual volume of housing data titled *Canadian Housing Statistics* (CHS). In this thesis this is referred to by CHS and the reference is CMHC (annual).

housing in these areas and "runs the risk of overlooking specific factors which may be at work in different segments of the labour (or housing) market" (Forrest and Murie 1987:374, emphasis mine).

Since the 'national' includes contradictory markets and conditions it averages unlikes, thus it is advisable to reassess the national explanations. Explanations of housing production in Canada are wanting, even at the national level. For many areas they are clearly inadequate. This raises the two sided question of how are we to account for these local differences and do they matter at the national level? This thesis attempts to address these questions by including self-help provisioning in the analysis of housing in Canada.

The development of an approach that is capable of addressing these questions requires a more general assessment of methodological approaches. This is the principal task of the first chapter. Chapter 2 contains the theoretical approach to self-help housing and develops three propositions which are tested in subsequent chapters. The first proposition is that the residential construction industry is negatively affected by self-help housing provision. This proposition is empirically examined in Chapter 5. The second theoretical proposition developed in Chapter 2 is that self-help provisioning reduces the requirement to meet the subsistence needs of the population out of money wages, and this proposition is tested in Chapter 6. Related to this is the claim by the leading proponent of self-help housing provision, John Turner (1972, 1982), that self-help households are better off and also the quality of the housing that they produce is at least as good as that produced by the residential construction industry. These claims are examined in Chapter 4. The final theoretical proposition is that self-help housing provision is likely to have a negative effect on capital accumulation and so widens uneven development. This proposition is examined indirectly throughout the thesis. In addition, there have been disagreements in the self-help literature about the virtues of state support for self-help housing provision and this is examined in Chapter 7. Some of the material from this thesis has already been published in *HOUSING STUDIES*, and a copy of that paper is appended to this thesis.

I am indebted to many people and institutions for their advice, support and encouragement, and, like most in this position, am unable to acknowledge the contributions of all who have assisted. However some must be mentioned, and the foremost is my supervisor, Simon Duncan. His support has always anticipated my needs and weaknesses, and has always been sensitive to the conditions under which this thesis has been produced. He truly deserves the title of Master Supervisor.

The research for the thesis began long before the idea of doing a degree at the LSE was

conceived, and over the years the research program has had a number of patrons. First and foremost is Philip Brown, now Director of Evaluation at Canada Mortgage and Housing Corporation (CMHC). Without Philip's support, self-help research in Canada would still be in the Dark Ages. In more recent years Sharon Matthews of the Strategic Planning and Policy Division of CMHC has adopted Philip's mantle with equal effectiveness, and over the entire period Paddy Fuller, Director of Statistical Services at CMHC has always been generous in providing data and answers to boring technical questions. I am grateful to all of them and hope that they feel that the gains which we have collectively made in understanding self-help housing have justified their investments.

There is a long list of individuals who have provided commentary and advice over the years, and among these I would like to acknowledge Tom Carter, George Courage, Geoff Dobilas, Joe Kopachevsky, Jan McClain, Jamie Simpson, Grant Wanzel, and Peter Zystlra. Jon Waterhouse has read the entire thesis , provided comments and assisted with the formatting and layout of the final version, an invaluable contribution, particularly his role in resolving the deadlock between Simon and myself on the appearance of tables. Equally important has been the personal support of friends and relations, particularly Tara, Grace, Mike, Marcia, Harold and Linda. Luigi Zanasi, Sherry May and Jon Waterhouse were all part of the project research team at NORDCO where much of the analysis behind Chapter 6 was developed. Finally, I would like to gratefully acknowledge the support of the LSE and NORDCO Computing Centres, Lesley Jones and staff at the Canadian Housing Information Centre, the generous assistance of Jim Ramsey and staff at the P.E.I. Real Property Assessment Office, and the support and assistance of the P.E.I. Housing Corporation.

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CHAPTER 1
INTRODUCTION

The overall objective of this thesis is to understand self-help as a form of housing provision in capitalist societies, to identify its implications for understanding housing in Canada, including both the production and consumption of housing, to examine the effects of state policy on self-help housing, and to identify the effect of self-help housing provision on capital accumulation.

Individual self-help housing provision has two main forms, self-promotion where the household's responsibilities are limited to organisational tasks and construction is contracted to a building firm, and self-build where the household is responsible for all or most aspects of the production process. (A more detailed definition of self-help is provided in Chapter 2). There is also a second dimension which is whether the household acts alone, or collectively with other households, following either their own initiatives of those of the state (see Turner 1972 for early definitions of self-help). These variations in the labour process in housing provision have an effect upon social relations including those within the household (Harms 1982:36).

An understanding of self-help provision in capitalist society can also contribute to our analysis of self-help provision in the Third World, as well as to the analysis of factors affecting the character of the residential construction industry and policy in industrialised countries, and these are secondary objectives of this thesis.

A fundamental weakness of the self-help housing literature is that its concern has mainly been with the state and political movements, without first providing a foundation for this analysis through the examination of the social and economic nature of self-help provisioning itself, and its economic and social effects. The character of commodity production and capital accumulation in relation to self-help has also been largely ignored. Consequently a reevaluation of self-building based upon empirical evidence from Canada can provide a new perspective, and contribute to self-help housing debates and their methodological bases.

In recent years there has been an increasing effort to understand what determines the differences in the provision of accommodation within and between nations (for example, Dickens et al 1985 and Ball et al 1985, 1988). Empirical work on Canada can obviously contribute to this discussion. Again, much of the focus has been on the role of the state, the construction industry, and land rents. In the non-metropolitan areas of Atlantic Canada, housing production can be observed in a situation relatively free of direct state intervention, and where land rents are near

zero. Since output includes both self-help and the residential construction sector it is possible to compare the two provisioning sectors: self-help and industry, and analyze the potential impact of a range of state policies upon output from the two sectors.

Housing analysis has featured a number of relatively distinct analytic approaches. These can be summarised as market approaches, housing policy approaches, and housing provision approaches. The approach I will use in this thesis is most akin to the housing provision approach adopted by Ball and described in *Housing Policy and Economic Power* (Ball 1983) and the theory of value approach in his article in *Capital and Class* (Ball 1978). My decision to adopt an approach similar to Ball's was made as a result of a systematic evaluation of the analysis I wished to undertake and of the suitability of alternative economic approaches to these requirements. All of this was in the context of the growing acceptability and successes of analysts who followed the "housing provision" approach. Before describing the process by which I decided to adopt this particular approach, I will first explain my emphasis on economic theories, and my acceptance of the general spirit of the housing provision approach.

By 'the housing provision approach' I mean the concept that housing is produced through a series of relations between social agents involved in consuming and providing housing including: occupants (owners or tenants), landlords (state, private and third sector), financing agencies, estate agents, building firms, unions and workers, planners, landowners and others involved in the process of building, selling and consuming housing. Housing provision does not exist in a vacuum and is influenced by state policies, living standards, competing uses for the physical and financial resources required for the production and maintenance of housing, culture, tradition, and so on. Emphasis is placed on the analysis of change as a means of understanding the dynamic effects generated by a structure of provision (see Ball 1983:18-19).

While the housing provision approach includes all of the social agents and relations which influence housing decisions, not all of these agents and relations are equally important in every situation. When Ball undertook his analysis of home ownership in Britain, an emphasis upon landownership and housing production proved to be successful in describing and evaluating the homeownership sector. I doubt he pre-selected the agents and relations which were key to their topic; indeed, the advantage of the provisioning approach is that it does not have a restrictive agenda of causes and explanations. Analysts are compelled to consider all of the agents and actors which might influence their subject and are directed to the key elements by the logic and character of the subject, and by the intent of their study; not by prior assumptions or knowledge.

Like Ball, I would contrast this approach to more traditional emphasis on housing

markets (consumption and production) and policy. Market and policy approaches are linked both in reality and in analytical approach since market failures are the principal rationale for policy responses. Thus the obvious and severe failures of housing markets to provide affordable and adequate housing led to the state housing initiatives of the 1940's and 1950's. Similarly, the shortcomings of market approaches to housing research led to critical approaches to policy as a means of improving the distribution of housing benefits. Given the importance of housing policy in many nations, for example, equal to education and health in Britain (see Ball 1983:1), it is not surprising that over time distributional problems became attributed to the wrong housing policy response to market failure. In a sense then, housing provision is the third generation or Mach III, of housing analysis.

Mach I begins with the assumption that market forces alone will best provide housing and ends with descriptions of market failure. Thus, we have production functions attempting to attribute housing production to a wide range of factors from various interest rates, alternative economic opportunities and portfolio mix. We also have sociological descriptions of different tenures, usually focusing upon income and employment variables. In the former, production decisions reign supreme, in the latter consumption decisions are eminent.

Mach II, or housing policy analysis, occurs once it has been recognised that the market alone cannot satisfactorily distribute housing benefits, and that state policy is required to attend to market imperfections. Within this approach there is a broad spectrum of stances: from abstract assessments of which particular policy option is most effective in reducing inequality, to an analysis of whose interests are served in the selection of one policy option over others. Housing policy analysis is concerned with distributional problems, but builds on the earlier market approaches in that it begins by observing market imperfections and turns to policy as a suitable response.

In the same way, Mach III, or housing provision approaches build on some elements of housing policy analysis. While some of the more specific applications of housing policy research might be of little utility to housing provision approaches, other applications which have approached policy formation on a much more encompassing manner are often cited favourably by provisionists (for example, Dickens et al re Merrett 1979, and Merrett with Gray 1982).

What is often not understood is that Mach I and Mach II are clearly associated with two different economic theories of value: namely subjective preference and cost-of-production respectively. Thus many of the shortcomings recognised in these two approaches can be attributed to deficiencies in the theory of value on which they draw. For example, the excellent critical

survey by Maclennan (1982) of the neo-classical economic literature of housing could and has been done for subjects other than housing ranging from industrial organisation to parenting and marriage decisions.

These connections are important in that they provide links to other sectors of the economy and society which influence or are influenced by what happens in the housing sector, and can contribute to an improved understanding in much the same way as comparative analysis, by "providing a check on generalization and abstraction procedures" (Dickens et al 1985:58; see also Ball 1983:xv).

The situation with provisionists is less clear - it is not obvious what theory of value is being used. Several leading proponents link themselves with marxist analysis which implies a labour theory of value. However, as I will show in the second section of this chapter, appearances can sometimes be misleading. For example, Burgess, a leading critic of John Turner's advocacy of self-help housing in the Third World, has frequently described his approach as marxist, yet he is clearly a cost-of-productionist. Although he uses marxist terminology, his concern is with the distributional benefits of state support for self-help.

Confusion such as this is important for a number of reasons. First of all, it can waste analytical resources (the irony is that Turner and Burgess share a common theory of value). Far more important is that a great deal of confusion can result from neglect of the underlying theory of value. For example, Bassett and Short reject neoclassical approaches to housing because its assumptions are unrealistic and because it does not produce testable results. However, as discussed below, neither of these conditions, realistic assumptions or testable results, are consistent with subjective preference theory which has only one testable result and openly accepts as a starting point unrealistic 'ideal' economic assumptions. Thus while Bassett and Short can reject neoclassical approaches, and many others can cite their rejection as a rationale for their own approaches, neoclassical economists can quite rightly say "so what?' and go on making unrealistic assumptions as a valid scientific activity. By failing to understand the underlying economic theory of value of neoclassical approaches, Bassett and Short's rejection is dysfunctional - it does not deter or even influence neoclassists, and at the same time it mistakingly deters others from gaining a proper understanding of the real difficulties of neo-classical approaches. The latter is perhaps more serious since it is not only possible, but likely that some analysts have rejected neoclassical economic approaches, but used other market approaches such as consumption and tenure descriptions.

The objective of this first chapter is to establish objectives and research categories. It

begins by identifying the requirements for the analysis and then considers the three prevailing approaches to such an analysis: the subjective preference theory of value, cost of production theories of value, and the abstract labour theory of value. The latter is found to be the most suitable for the specific requirements of this study. The chapter concludes with a brief outline of the operational issues which will be addressed.

1.1 SEARCH FOR AN APPROACH: REQUIREMENTS

Social scientists apparently addressing the same human event often produce very different explanations as a consequence of the approaches they employ. It is assumed that no credible analyst will ever deliberately employ an approach known to be inferior, yet equally well trained and sincere analysts can simultaneously employ radically different approaches to similar problems, and equally perceive their chosen approach as the optimum. Thus the selection of an approach is a critical factor in the analysis. Consequently it is incumbent upon any analyst to identify, explain and justify the use of any particular approach.

Sayer has argued that the selection of an approach "can only be decided by reference to judgements about the nature of the thing to be explained" (1984:211). Principally, this is because

> *although causal powers exist necessarily by virtue of the nature of the objects which possess them, it is contingent whether they are ever activated or exercised. When they are exercised, the actual effects or causal mechanisms will again depend upon the conditions in which they work...processes of change usually involve several causal mechanisms which may only be contingently related to one another (ibid. 1984:99).*

The selection of an approach is thus a function of the specific tasks of the research project, and the context and character of the research object[1]. However, the approach must also follow good principles for scientific inquiry.

In the following section a justification will be presented for the approach used in this thesis. Following Sayer, this justification is entirely from the point of view of the requirements of the object to be examined. It will be argued that the categories adopted provide the optimum approach for understanding self-help housing provision in Atlantic Canada at the present time.

Sayer places great emphasis upon the importance of contingent factors in determining causality (1984:99). There will be a whole range of contingencies which might lead to a household deciding in favour or against self-help production, and these will be different at different times and in different places. For example, self-help is more likely to occur where land is available and

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[1] 'Object' is used here in the same sense as Sayer, "the thing being studied" (1984:24).

affordable. Access to land, and the question of whether or not land rents are significant, are outcomes which will be influenced by factors such as the pattern of land ownership, including the degree of concentration of ownership. In a more general sense, access to nature provides opportunities for other forms of self-help production. Thus, for example, not only is access to land necessary for housing production, but also for food production, forests for wood as a heat and timber source, and the sea for food. It would be fundamentally incorrect, however, to identify these activities as 'rural', and the nearness to nature as a good predictor of self-help activities. In many small coastal communities in Newfoundland, for example, the European settlement pattern was often illegal and the communities were under threat if discovered by the British fleet. Thus, land was acquired without probate or record and today this means that it is often difficult to establish clear title to land in Newfoundland which inhibits construction and mortgage financing (Rowe 1981). Thus while land is in plentiful supply and rents near zero, there can still be factors associated with land which affect the opportunities for self-help, and also the character of the self-help production which does occur.

Also in Newfoundland, access to the forests for timber for house or boat building, or for firewood, is limited by the forest rights granted in perpetuity to a small number of English firms or families by the Crown while Newfoundland was a colony. This not only limits access to the forests, it also affects what species is replaced, and whether there is reforestation, both of which can have long term effects on timber and woodlot production for self-help purposes. Finally, access to marine resources is constrained by a heavily enforced licensing system which excludes new entrants. This is similar to land rents in urban areas where social relations can constrain access to nature which may be a requirement of self-help production. These social relations can take the form of high economic rents or limits on access through ownership or policy.

A similar situation exists with the state. Dickens et al in their study of Britain and Sweden, have shown that national states can have a direct and active role as a contingent factor influencing the character of housing production and provision (Dickens et al 1985). However with self-help housing production in Atlantic Canada, the state (at national, provincial and local levels) only has an indirect and marginal role. However, no action is also action. A decision not to do something can be at least as important as the opposite proactive decision, and frequently we can discover elements in the no action decision which will usefully inform our understanding of the actor/non-actor, in this case, the state. Indeed, self-help housing provision in Atlantic Canada is itself a contingent factor in the accumulation process and for uneven development in Canada. The approach selected for this research must direct inquiry to contingent factors. This is the first requirement for the selection of the approach for this research.

The second requirement of an approach is that it must be able to address local conditions and characteristics which influence production and consumption of housing. For example, in many areas of Atlantic Canada the full costs of housing production exceed the price which can be realized with the sale of the house. This occurs because of lower and less regular incomes as well as factors such as historically low prices due to previous high levels of self-help provisioning and, in a number of areas, a surplus in the supply of housing; approximately 10% of Newfoundland single detached dwellings are vacant (calculated from 1986 Census of Canada). These conditions have the potential to change over time, and perhaps more importantly, over time can influence other elements in the local market, such as the profitability of the residential construction industry and accumulation in general. It is thus essential that the approach must be able to integrate a wide range of considerations into the analysis and to do this with due reference to the time periods and spatial setting in which events occur.

The third requirement of a suitable approach is that it must also be able to treat self-help housing production as a factor in capital accumulation. The history of capitalist development is one of increasing centralisation and concentration of production, and of the social division of labour (see Massey 1984:46-49 for a useful review). Many analysts (onesidedly) see self-help as the backwash of capitalist development where older pre-capitalist forms of production linger (for example Burgess 1985:273 and Harms 1982:19). However, as I have argued above, there are contingent factors which influence the possibility of self-help occurring in these areas. Notwithstanding these, the logic of capitalist development is that it is uneven, (see Roxborough 1979, Taylor 1979 and Duncan and Goodwin 1988), and, it has also been argued that housing provision must be an important factor in accumulation (Dickens et al 1985:11). Thus, if accumulation is uneven, different forms of housing provision might, at the same time, contribute to this and be formed by it also. Consequently it is necessary to examine the effect of self-help housing provision on capital accumulation. The selected approach must be capable of encompassing 'economic' considerations which can examine the possibility of a necessary connection between uneven development and self-help housing (see Sayer 1984:143-146 for a discussion of 'necessary' factors).

There have, of course, been countless justifications of why any given approach is the optimum. The selection will, at one level, be conditioned by the material available for the analysis. In this case, the major determinants are two case studies about housing provision in the Maritime Provinces, one in Prince Edward Island (P.E.I.) and the other in Nova Scotia. At the most elementary level, the selected approach must be able to use this and other information currently available.

Although this discussion might appear semantic, it is far from that. While the objective is to have time and space embedded in the analysis, it is often the situation that the material available is either spatially or temporally fixed (or both). This is a restriction on much social science research imposed, for example, by cross-sectional data.

Prior to the two case studies there was virtually no material available on self-help housing in Canada. This was surprising since the Canada Mortgage and Housing Corporation (CMHC) and a number of the partner provincial housing corporations have had self-help housing programs. (See Chapter 7 for a review of self-help housing programs in Canada). Yet the entire inventory of research which could be identified by the Canadian Housing Information Centre (CHIC), a national housing reference library operated by CMHC, amounted to two reports; one completed in 1973 (Selligman 1973) and one still in draft form (Middleton 1983). Both reports addressed the possibilities of self-help in housing policy but neither contributed much in the way of an understanding of self-help provisioning.

This lack of existing information greatly conditioned efforts to develop a research program on self-help housing since it clearly was not viewed as an important or useful area of research. The first task was to document what many knew from experience, that self-help was an important source of housing provision. Thus, when the first possibility of funding arose in 1980, largely through the patronage of an individual researcher in the Research Division of CMHC, it was decided that the first task was to estimate the extent of self-help housing for one provincial housing market, and to also capture as much information about the construction and financing processes as possible (Rowe 1983).

The P.E.I. case study was followed by a smaller one in Colchester County, Nova Scotia (Bishop 1985), and the demonstration of the importance of self-help has since facilitated support for a number of subsequent self-help housing research initiatives in a variety of applications from retirement housing to regulatory barriers and attitudes of financial institutions. One recent initiative was a follow-up to the P.E.I. case study which was completed in 1990: some of the material from this follow-up is used in Chapter 4. CMHC has now acknowledged the importance of self-help and has allocated funds for policy research and development.

It is almost a tautology to say that obtaining useful material for research on self-help housing provision in peripheral locations will be far more difficult than for, say, industry provision in the capitalist centre. Although self-help may often be considered to be at the margins of current research, the theoretical and analytical issues of accumulation, subsistence and crisis are central. However, the resources available for research at the perceived margins can be expected

to be less, for example only 4.3% of the entire research budget for CMHC ($18.3 Billion) for 1983-84) was spent in Atlantic Canada. Thus the approach for this research must be able to use what information is available, whether qualitative or quantative, intensive or extensive (Sayer 1984:221-228).

There are thus four requirements for the selection of an approach which arise from the character of the object of the inquiry. These are:

1. The approach must direct inquiry to contingent factors which affect the object of inquiry

2. The approach must consider objects as being spatial and temporal in their constitution.

3. The approach must be able to place the object of inquiry in its historical context in the accumulation process and be able to consider the impact of the object on capital accumulation.

4. Finally, the approach must be able to use the information resources which are available for the inquiry.

1.2 OPTIONS FOR AN APPROACH

Cole, Cameron and Edwards (1983) have provided a very useful review of nineteenth and twentieth century economic theory. Their approach distinguishes theories on the basis of the explanation provided for the source of value. This is not a unique approach (for example see Rubin 1972, and 1979). However, Cole et al are particularly precise and effective in their descriptions. In this section the three alternative theories of value identified by Cole et al will be summarised and an attempt will be made to indicate how they would address the issue of self-help production.

Cole et al identify three theories of value: the subjective preference theory of value, the cost-of production theory, and the labour theory of value. They claim that all of economic analysis can be encompassed within these three theoretical approaches, and that we can also understand political and moral positions on value through these categories (Cole et al 1983:7).

Subjective preference theory can be associated with those who take their cue from Adam Smith and who emphasise value as revealed in the market place. Cost-of-production theorists take their cue from Ricardo and concur that value appears in the market, but identify the source of value as decisions on production rather than on consumption. The labour theory of value theorists take their cue from Marx who argued that the "whole structure of production, distribution, exchange, and consumption will reflect...social relations of production, and therefore

economic theory has to be historically specific..."(ibid. 1983:12).

The political consequences of these three approaches are as follows. First, for subjective preference theories there is no role for the state except to ensure freedom of contract - freely operating markets will ensure equity and efficiency. Secondly, for cost-of-production theories the state is the only agency which is in a position to address distributional inequity and thus to prevent the inevitable stagnation of production. And thirdly, for labour theory of value theorists, the state is neither neutral nor can it arbitrate equity and efficiency in an economic system whose contradictions can only be resolved through class struggle.

All three theories of value find a particular methodological base most comfortable. The subjective preference theorists are fond of positivism, cost-of-productionists with relativism, and realists often associate themselves with the labour theory of value (Cole et al 1983:Chapter 1, Outhwaite 1987: Chapter 1).

Recently, several very useful books have been published which could be used to justify the selection of realism as an epistemology (for example Sayer 1984) and Marxism as the best realist approach (Outhwaite 1987). In many fields of concern, including housing, critical analysts have made their selection of a theoretical approach through reference to such work (for example Dickens et al 1985) and have conducted useful and sound research as a consequence. However, a danger which can arise from this is that categories from one approach can be adopted without the central elements of the approach. A clear example of this is in the self-help housing literature discussed below where it is argued that leading 'marxist' contributors have most in common with cost-of-production theory although they use marxist categories. This has caused confusion in the analysis of self-help housing production (for example Strassman 1982) and inhibited the development of policies and political strategies (see Schlyter 1984:8).

What is most needed at this point is a classification of the literature as a necessary but not sufficient condition for locating and understanding self-help production as a form of production occurring in capitalist societies. Thus the focus of this section is upon the alternative theories of value with which self-help housing provision can be understood.

In the following three sub-sections each of the approaches is considered in turn, however each is treated somewhat differently. This is because most existing self-help literature falls into the cost-of-production theory of value, consequently the self-help applications for the other two approaches have to be constructed, as it were, artificially.

1.3 SUBJECTIVE PREFERENCE THEORY OF VALUE

While followers of the subjective preference theory of value are not yet promoting self-help as a politically acceptable approach in housing policy, it would seem very likely they will given the apparent compatibility of the theory with the individual initiatives required for self-help. Harms (1982) has shown how support for self-help housing provision grew during the last period of economic crisis in Germany. A detailed description of subjective preference theory used as a basis of an approach to self-help is given here so that the value of the approach in meeting the requirements outlined at the end of Section 1.1 can be evaluated. This discussion of subjective preference theory will also show that some housing analysts (such as Bassett and Short 1980) have inappropriately rejected neoclassical economic approaches to housing analysis. While I agree with their conclusion, I am not satisfied with their argument and much prefer the critique adopted by Maclennan (1982).

Subjective preference theories of value assume that all decisions are made by individuals, or individual households, who will act so as to maximise their utility from the consumption of goods and services, including leisure (henceforth goods). The basis of these decisions are described by Cole et al as:

> *Firstly, the fundamental assumption of subjective preference theory, the existence of utility maximising individuals endowed with tastes and talents, is an assumption and not an hypothesis. It is not open to question or refutation, but forms the starting point from which it follows by logical deduction that, firstly, such individuals acting in their own private interests also serve the wider social interests as long as there is free exchange and, secondly, some statements amenable to observation and falsification are generated (Cole et al 1983:49).*

This means that there is no direct test of the basic assumption of subjective preference theory - utility maximizing households. If, as a starting point, it is accepted that households do behave in such a fashion, then deductions can lead to observations which can be tested. However as Cole et al point out

> *...Exhaustive formal empirical testing is not essential to the survival of the theory. The criterion of success within subjective preference theory, is not in statistically valid observations, but is self-evident on the relative material well-being of the citizens of those societies where governments have appeared generally to act as if subjective preference theory were true (Cole et al 1983:80).*

Thus the fundamental assumption of subjective preference theory cannot be subjected to tests. This is not a failing in method (see for example Sayer 1984:170). Moreover, it means that the rejection of 'neoclassical economic models' on the basis that it is necessary to "differentiate between the performance of models in terms of replicating reality and in terms of explaining reality" (Bassett and Short 1980:32) does not represent a valid refutation of subjective preference

theory.

Two characteristics (individual taste and talent endowments, and the desire to maximise utility) are required to define subjective preference theory. This is important to note, because there is a tendency to focus on neoclassical economics as a school of thought and to ignore their connection to a theory of value as for example, with Bassett and Short's (1980) rejection of neoclassical economic models. Cole et al explain:

> *... it is important that both characteristics of the individual, the endowment of tastes and talents, and the motivation to maximise utility are recognised as the basis of subjective preference theory. In much writing on economic theory, it is only the latter characteristic which is emphasised in the identification of a school of thought called neo-classical economics, where maximisation, emphasising the use of differential calculus, is taken as the hallmark of a unified school of thought (Cole et al 1983:49).*

It should now be clear that subjective preference theory should find self-help production very appealing. (Note that I am referring here to production of commodities or use values, as opposed to exchange of commodities. There is an active concern with the latter, but it arises from lost tax revenues or social security 'abuse' (for example, see A. Smith 1981)). Subjective preference theorists' interpretation follows the line that individuals, or individual households, express their own consumption choices, such as producing a dwelling, producing any other good or consuming leisure. Subjective preference theory thus appears to offer a potential explanation of self-help housing production: households build their own homes because they prefer this activity and its returns to the alternative of leisure or additional work, and they have the skills to carry out the activity. Households in areas where self-building is less common would have a different mix of tastes or talents.

Secondly, in principle, the analysis can be applied to any type of market. The starting point of subjective preference theory

> *... provides a conception of rational economic behaviour that is independent of any social, political and historical factors, with the motivation for economic behaviour, i.e. utility maximization being seen as universal. Where general patterns of taste and talents differ fundamentally from one place and time to another, there lies a possible subjective preference explanation of 'underdevelopment' as an expression of a pattern of tastes and talents neither highly valuing nor conducive to material affluence (Cole et al 1983:49).*

Following this, uneven economic development is a result of a mix of talents and tastes which are, or are not, conducive to economic development. In this sense then, individuals and (since they collectively serve the 'wider social interests') also societies, are authors of their own destinies, so long as individual economic behaviour is not constrained by social institutions which

limit free exchange. Examples of such institutions would be the contemporary market power of large corporations and trade unions.

At this point it must be emphasised that this review is not intended to provide a comprehensive assessment of any particular theory of value. What is being attempted is an assessment of the potential of subjective preference theory to provide an approach which meets the requirements stated in the previous section. Thus it is still necessary to go a bit further with this theory to establish the conditions under which production will occur, since it is production which is the main focus of this review.

The key to understanding production within the subjective preference theory is the establishment of prices in the market through the interaction of the forces of demand and supply. Both of these forces are deduced from the two fundamental elements of subjective preference theory identified above. It is common to begin with the demand relationship, and here it is useful to quote at length from Cole et al because it illustrates the logical consistency of subjective preference theory and substantiates its claim as a valid theory of human behaviour.

> *We can logically conclude that if an individual (and this individual is representative of all subjective preference individuals) is faced with a choice in which one good has become relatively more expensive to other goods...then we predict that the amount consumed of the relatively more expensive good should certainly not rise! Although this may not seem the most earth-shattering conclusion, it is important for the subjective preference theory of value. Firstly, methodologically, we have moved from unobservable reality through a logical process of deduction to an observable, falsifiable statement or hypothesis. This meets the Popperian criterion of scientific method. Secondly, it is the only falsifiable statement obtainable from utility theory. Thus, if this statement is falsified, then utility theory, with all its implied attributes of competitive individualism, would have to be discarded. Up to this time, as far as the authors know, nobody has succeeded in falsifying this hypothesis and, thus, subjective preference theory survives its own test as scientific knowledge. The fact that other theories may predict the same observation does not detract from the statement that 'the world behaves as if it consisted of individuals rationally maximising utility in a framework of well-ordered preferences' (Cole et al 1983:54-5, emphasis mine).*

Prices are established in the market through the interplay of the forces of demand and supply. The key for subjective preference theory is that no individual determines price. Price is determined by the sum of all individual tastes and talents and this "will guide resource allocation towards efficiency, equity and stability" (Cole et al 1983:70-71). For the purposes of this research it is the production decisions, or the supply side of the market, which are particularly interesting. Like demand, supply is the summation of individual decisions about production and these decisions are guided by the utility derived from producing. Thus production is essentially a

consumption decision. Entrepreneurs, like every other individual, willingly forgo the consumption of leisure in favour of work if it will increase their total utility (see Gaskill et al 1986 for an application to rural Newfoundland).

> *...The step beyond Smith for subjective preference theory was to unify the final consumption choice with the productive activity choice in a single decision for each individual, and thus finally dispose of the labour input theory of value. Every activity an individual undertakes can then be seen as an act of consumption, giving utility. Consumption, not labour, is in command: people do not work, they forego the consumption of leisure; people are not savers, they are abstainers from immediate consumption. Production occurs because individuals are persuaded by material rewards to overcome their love of leisure and impatience for consumption. With this formulation it is possible to use precisely the same analytical framework for choices of productive activity as was used ... to examine straightforward final consumer choice (Cole et al 1983:57).*

Production is thus directly linked to rewards and for the individual is a function of their tastes for leisure and their talents. If an individual has a unique non-reproducible talent such as a musician or artist, then it is possible to capture 'economic rent' which is a reward greater than that which would compensate the supplier for the loss of leisure. For our purposes here the critical concern with rent will obviously be associated with land. However for subjective preference theory the argument is identical to that pertaining to musicians - land has certain non-reproducible characteristics, for agriculture it is the productivity of the land, and where productivity is above the average, then owners of that land will be able to capture rents equal to the difference. See Cole et al (1983:117-19). It is only in these cases that rewards are unjustified according to subjective preference theory, all other inequality is acceptable so long as individuals are free to enter into contracts voluntarily, that is, unobstructed by social institutions (Cole et al 1983:59). Before considering production further it is important to note that this is a fundamental claim for equity and efficiency. Without going into too much detail it is useful to note two points, one technical and one political.

First, there is no distinction within subjective preference theory between necessities and luxuries -- there are only the tastes of individuals (whether for fur or potatoes) -- and it is the abilities of individuals which will determine their access to their preferences. Thus the basic condition for equity and efficiency is exactly the same - "the maximum amount of liberty for individual action subject to the constraints of voluntary contract" (Cole et al 1983:60).

> *...models of individual behaviour as consumer and entrepreneur are thus constructed in a particular manner for the purposes of subjective preference theory. Bringing them together in a single market framework shows that, given these assumptions, the free market system, where the price is determined only by the sum total of actions of individuals, is a sufficient*

> *framework of equitable liberty in which everyone chooses what to put into society in the full and accurate knowledge of what they are going to get out (Cole et al 1983:75).*

Returning now to production, the pursuit of individual utility will call forth more production in direct relation to increasing incentives, hence the upward sloping supply function. However, this is constrained in entrepreneurial activity by the costs of production which are assumed to first fall (returns to scale) and then eventually rise due to decreasing returns.

Subjective preference theory starts with the individual who has inherent tastes and talents and whose preferences are expressed through freely entered into contracts to maximise utility. Individuals will decide on the mix of goods they hold and those they trade depending upon the relative prices of those goods and the importance of the particular goods to the individual. Individual goods cannot be classified as luxuries or necessities because all individual decisions are sensitive to prices within a specific structure of preferences.

The first prediction made by subjective preference theory is that there will be a set of prices in all markets which will exhaust all further trading. This equilibrium is stable because at those prices all individuals will be satisfied with their current holdings of goods, and equilibrium can be shown to exist for any number of markets (combinations of individuals and goods). The importance is that it is possible to demonstrate that prices will exist that satisfy everyone.

If the underlying assumptions about the nature of human existence are accepted both descriptively and morally, then a remorseless logic apparently draws us to the unavoidable conclusion that a society always has a set of prices which will satisfy everyone. Although everyone might wish more of some particular good, at that set of prices this can only be achieved if someone else is forced to give up something, which would offend the fundamental principal of individual liberty. Thus all exchange must be on the basis of voluntary contracts. As long as this condition is met, it makes no difference to subjective preference theory (in either equity or efficiency) whether the distribution of wealth is very skewed or flat. These outcomes are all possible optimums for the society and arise from individual differences in tastes and talents.

Thus beginning from plausible assumptions about human nature, a whole economy is logically constructed in which prices have desirable properties which are in harmony with an image of society which sees maximum individual freedom and maximum social welfare as co-existent and co-determinant.

1.3.1 Subjective Preference Theory and Self-Help Housing Production

This lengthy review of the basic assumptions and workings of subjective preference theory has been conducted so as to provide a basis for the examination of the utility (sic) of the theory for the purposes identified above. As a starting point it is useful to first assess what subjective preference theory would say about self-help production.

To begin with, there would be an obvious attraction to self-help production. Individuals making consumption decisions about the trade off among alternative goods, including leisure, decide to build their own accommodation. Nothing can be said about the efficiency of this decision since it is accepted as valid so long as their are no constraints on the freedom of the contract[2]. We would assume that the individual makes an appraisal of all of the available alternative goods, such as accommodation produced by the construction industry and rental accommodation[3], as well as other goods. In many ways this decision, the selection of self-help, represents the true spirit of the liberal 'freedom of the individual' basis of subjective preference theory.

The above analysis would also be consistent with a situation where contractors, appraising their own options, realise that there are limited opportunities to produce accommodation and obtain a price for their product which will cover the costs of production. They thus decide to apply their entrepreneurial activities elsewhere, perhaps in renovation or in some other area of activity altogether.

Thus any housing situation could be taken to be entirely consistent with subjective preference theory, and indeed, to reflect the spirit of that theoretical approach. For example, the reason for individuals living in inadequate housing, or housing that they don't like, is simply a function of tastes and the ability to obtain sufficient rewards to access better housing.

If land rents were being extracted, then there would be some basis for the state to intervene to reduce the impact of this barrier to efficient resource allocation. However, as will be demonstrated in Chapter 5, land rents do not have much of a role in self-help housing production. Thus there is absolutely no role for the state in this picture - indeed there is nothing wrong with this picture from the perspective of subjective preference.

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[2] There are obviously some constraints, most notably planning regulations and land rents.

[3] This is not recognised by subjective preference theory practitioners such as Maclennan who explicitly assume that for every decision there is an unlimited range of housing options available to the individual (Maclennan 1982:66-69).

1.3.2 Suitability of the Subjective Preference Approach

Although subjective preference theorists might be very pleased by and interested in self-help housing production, this does not necessarily mean that it provides an appropriate basis for the analysis which is the agenda for this thesis. In Section 1.1 above four requirements were identified. The usefulness of subjective preference theory as an approach will be evaluated for each of these.

1. The approach must direct inquiry to contingent factors which affect the object of inquiry

2. The approach must consider objects as being spatial and temporal in their constitution.

3. The approach must be able to place the object of inquiry in its historical context in the accumulation process and be able to consider the impact of the object on capital accumulation.

4. Finally, the approach must be able to use the information resources which are available for the inquiry.

The first requirement was that the approach would have to encompass contingent factors in the analysis. Following from the subjective preference view of the self-seeking individual, and a state which ensures economic freedom, since both economic freedom and self-interest are timeless, then the analysis of social structures or history become irrelevant. Economics is thus a self-contained discipline and there is no reason for the inclusion of contingent factors in analysis. Thus subjective preference theory contradicts the requirement by which it is to be evaluated here.

The second requirement was that the analysis must consider events within their spatial and temporal context. As can be seen from the above review, subjective preference theory is atemporal and aspatial. Where spatially uneven development occurs, it is a product of the tastes and abilities (so long as contractual relationships are freely entered into) of the residents of the area, or a product of inappropriate interventions by social institutions including the state. While it might be tempting to fail the subjective preference approach at this point, that would be inappropriate.

It is necessary to go a bit further to find why the subjective preference approach cannot meet our second requirement. We wished to explain differences in housing provision for different temporal and spatial settings, having noted patterns in housing provision which appear to be related to space and time.

According to subjective preference theory these differences are a product of tastes and talents, however, since it is difficult to believe that households would willingly choose to inhabit inferior accommodation unless constrained to do so, the reason for the pattern, according to subjective preference theory, must be found in their talents, where differences among individuals creates, among other things, differences in incomes. From this it is possible to speculate that the problem is really one of insufficient demand as a consequence of factors such as unemployment. Subjective preference theory would argue that this occurs because of the interference of social institutions (such as trade unions) inhibiting the downward movement of wages, and producing barriers to the mobility of households by restricting their incentives to seek work elsewhere. In other words, restrictions on the freedom of contract lead to sub-optimal decisions by individuals and result in inappropriate allocation of resources for society as a whole.

However, having recognised that there are barriers, they must further recognise that the free response of those who can still produce their own housing creates further barriers to mobility. Specifically, an individual in Newfoundland who builds a house will probably realise very inexpensive housing costs. That same individual, later facing a decision about moving to Ontario, attracted by employment or higher wages, will consider housing costs as a factor, and the differential in housing costs will mitigate against a future decision to move. This generates a situation where, once there is a barrier to free contractual relationships (for example, mobility restrictions), then further barriers will be produced as individual responses[4]. The crucial point is that these barriers may stand in the way of an equilibrium situation being possible -- we may have a disequilibrium situation similar to that discussed by Cole et al (1983:76,98), or 'the exploding cobweb' situation common in introductory textbooks[5].

In this situation, spatial inequality in the labour market can lead to decisions by individuals in the housing market which will have a disequilibrating effect on the labour market, widening spatial inequality, and leading to further disequilibrating decisions in the housing market.

Consequently, it would appear to be illadvised to employ a subjective preference approach

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[4] There are other possible restrictions on a well informed decision. For example, in a situation of uneven development, incentives to migrate will be assessed in terms of their knowledge of the options available. If the information is incomplete, or too restrictive in time horizon, then a sub-optimal decision will be made, which creates an environment disposed to future sub-optimal decisions. This would also potentially lead away from an equilibrium as was the core of the argument of Myrdal (1964:100) in his hypothesis of 'cumulative circular causation'. As will be noted in the following sub-section, this is an important element in the formation of the cost-of-production approach.

[5] This is potentially an important problem for subjective preference theory, for if individual decisions set in place a sequence of future decisions which move away from equilibrium, then the validity of the theory itself is in question. While this might be interesting to pursue for this reason, it is really only an extension of a general problem which has already been recognised. What makes it particularly interesting, however, is that the individual self-building household is very close in spirit and in reality to the small scale producer which most closely approximates perfect competition.

in this circumstance since it is not clear that local market disequilibriums are consistent with movements towards equilibrium in larger markets. Indeed, the subject matter is more one of disequilibrium and thus an approach whose first prediction "that there will be a set of prices in all markets which will exhaust further trading" (Cole et al 1983:96) is liable to be unsupported by the situation under study.

The third requirement of an approach is that it must be able to analyze the impact of self-help housing production on capital accumulation. One of the main concerns of subjective preference analysts has been with economic growth. Thus the subjective preference approach is certainly familiar with questions of capital accumulation and has tools for its analysis. In order to more fully evaluate the appropriateness of the approach for this requirement it is useful to review the three principal elements of their housing production functions. These are the number of housing starts as the dependent variable whose level is affected by the price of housing and the prices of inputs; land, labour and capital (Maclennan 1982:96).

Consider the responsiveness of output to changes in the price of housing (price elasticity of supply) first. There are a number of problems in measuring the price of housing in any market because housing is not a homogeneous commodity, nor do all households weight the characteristics of housing (including its location) in an identical fashion. Thus the process of actually measuring the price elasticity of supply is very complex and requires data which is rarely available. More importantly, the analysis requires much better information about the behaviour of residential construction and development firms. While there is not much literature available from a subjective preference approach concerned with housing supply in markets such as Atlantic Canada, the problems here are probably less difficult than for the more complex urban markets due to the low levels of land rents, smaller firms whose operations conform more closely to assumed behaviour, and the more limited role of the state and planners.

However, as Maclennan states, there are very few empirical studies of housing supply in this tradition (Maclennan 1982:76) and the principal reasons for this are that the existing approaches are inadequate:

> *...housing analysts and policy makers cannot be content with simple competitive models of housing supply. Analogous to our conclusions on housing demand, it is obvious that simple neoclassical models cannot be accepted as reasonable approximations to reality. The housing supply curve is as difficult to identify, measure and interpret as housing demand. A more concise understanding of the housing supply system would contribute to housing theory, the development of housing policy, the overall modelling of the urban economy, and the interpretation of the macroeconomic role, both in relation to output and inflation, of the housing system (Maclennan 1982:110).*

Thus while there might be potential benefits for subjective preference analysts if they were to encompass non-metropolitan markets in their theoretical development efforts it is clear from Maclennan's contemporary review that subjective preference approaches are unable to meet the capital accumulation requirement of this thesis.

The fourth requirement was that the selected approach must be able to use available information whether quantative or qualitative. Dickens et al (1985) have claimed this as a particular virtue of their 'realist' approach. While this may be true, it is very possible to use both types of information in subjective preference analysis. This has been obscured because many confuse neoclassical economics, and its mathematical formulations, with the theory in general. Subjective preference theories can quite effectively address qualitative information. It is not clear, however, that they are untroubled by quantative problems. Indeed, there are quite serious problems caused, for example, by the categories used by accountants which are totally inadequate for the estimation of cost (and hence supply) functions. Similarly, subjective preference theory has great difficulty establishing demand functions and considerable effort is dedicated to estimating elasticities and hedonic price measures (See Maclennan 1982:36-58, 95-110). The ability to use qualitative and quantative sources of information is not restricted to any particular theoretical approach, however the assessment of Maclennan (1982:38-58) is that most housing models formulated by the neoclassical section of subjective preference theory would be unable to utilise the information available for this study.

The subjective preference approach fails to meet three of the criteria identified above. Subjective preference theory faces internal inconsistencies with the research subject matter, inconsistencies which are quite likely to create a disequilibrium which is a condition under which the basis of the subjective preference approach would have to be rejected. In addition to this, the subjective preference approach has limited potential to assess the effect of self-help production on capital accumulation and is unable to utilise the available empirical information. Consequently, subjective preference theory is not an appropriate basis for an approach to this study.

1.4 COST OF PRODUCTION THEORIES

Cole et al (1983:114-132) provide a very useful discussion of the central tenets of cost of production theory. The classification is their own and is distinguishable from most others by their inclusion of such diverse proponents as Ricardo, Keynes, Sraffa, Sweezy, Baran, Galbraith and Schumacher. This is based on a shared concern with distributional inequalities, and while there is also a shared acceptance that value is created through production, it is not always clear what the source of that value is for all of the members of this grouping. From the list of proponents

of the cost of production theory above it should be obvious that summarising the various strands of the arguments is very difficult, and likely also very controversial. Cole et al (1983:134) liken this to being "rather like a manager of a national football club who finds that all the star players insist on playing in their club colours".

Most contemporary housing analysis falls within the frame of a cost-of-production theory of value, and reference will be made to several of the leading approaches in the course of this review. These include some very unlike approaches such as housing policy and housing provision analysis. In this sense contemporary housing analysis reflects the analogy of the national football club.

It is useful to think of Ricardo as the basis of the theory, and Marx's critique of Ricardo as the intellectual point of departure for the labour theory of value. Ricardo argued that value was created in production and saw the distribution of this value controlled by those who controlled production; for him these were landlords. Left to their control, then the process would, with an inevitably increasing population, lead to stagnation at a bare physical subsistence level for the general population. Only the intervention of a higher level (e.g. the State) could prevent market forces from stagnating.

The fundamental distinction between cost of productionists and subjective preference theorists was that Ricardo was able to develop a consistent labour input theory of value, while subjective preference theorists after Smith abandoned this approach in favour of the determination of value in the market through consumption of goods freely decided by individuals. For Ricardo, value was determined by production decisions. This is an element common to all cost of production theorists.

The industrial revolution was a very important event for early cost of production theorists, leading to Mills' critique of 'free markets' and a heightened concern with the problems of distribution of wealth whose creation in production was viewed as a 'physical truth'. However, cost of production theorists at this time did not attack the notion of private property, indeed some of the most influential members of the school such as Marshall, and later Keynes, were very concerned to preserve private property. Clearly, if they were to argue that production was the source of wealth, but that distributional problems were not only unjust but would also inevitably lead to stagnation, then distribution had to be a political concern and must be addressed through the state.

There is no place within this framework for the marginal productivity approaches to

distribution and these had, obviously, to be rejected.

The common theme, from Mill and Marshall through to the 1960's proponents was the role of technology in determining workplace relations, and affecting all aspects of life. Ricardo was principally concerned with the introduction of agricultural technology given a fixed land base, however, the approach is easily transferrable to industrial production as with Mill and Marshall.

In the realm of housing studies, analysts who are referred to as housing policy analysts are, generally, operating from the cost of production theory of value. Thus Merrett (1979: Chapter 4) has argued that the labour process in the construction industry is, by its nature, low productivity. This is attributed to the nature of housing construction due to the complexity of on-site activities, craft (read low productivity) work and the role of land developers milking off profits through land rents. The key is that low productivity in the building industry (compared to other industries) is technically, not socially created, placing this variant of housing policy analysis in the Ricardian stream of cost-of-production theory.

For cost of production theory, a key factor in the tendency towards stagnation is the drain on production arising from claims on surpluses from unproductive economic agents: for example, landowners (Ricardo), trade unions (Marshall), excessive consumption of wealthy individuals or nations (Veblen, Baran and Sweezy, Wallerstein), reinters (Keynes), or managers (Baran and Sweezy, Galbraith). They all share in common the assumption that value is created in production but that production itself is governed by natural laws, the tendency towards stagnation and the prescription that the state is the only agency which can address the unproductive claims and promote economic stability, growth and equity.

Veblen played a role in the development of a critique of distribution with his identification of 'conspicuous consumption' which not only revealed inequality in distribution but also presented a problem for subjective preference theorists, since, for some commodities, there might be a direct relationship between quantity demanded (or utility) and price[6].

Cole et al (1983:137-8) identify two main strands developing from Veblen; represented by Galbraith (1970) and Baran and Sweezy (1968). They account for this hiatus of nearly sixty years by pointing out that these authors were writing in the first period of high affluence to follow the turn of the century period of affluence. There are two directions which can lead to negative

[6] This undermined the 'universal truth' of subjective preference theory and was cause, within its own validation process, for rejection. However the response was (not unreasonably) that such commodities were exceptional.

judgements of present consumption patterns in the USA and other western societies from a cost-of-production standpoint. The first observes that affluence is still only local on a world scale and traces out the relationships between rich and poor societies, emphasising the deep interconnections and unequal power positions.

Theories of international trade: "dependency" and "unequal exchange" derive from this reasoning. This argument comes directly from Mill's objections to poverty and Veblen's objections to affluence, combined with Marshall's assertion that redistribution from rich to poor will produce greater total happiness (Cole et al 1983:137).

The second line of criticism does not need to go beyond the boundaries of the affluent societies. Instead it goes back to Smith and his original doubts about the effect of industrialisation on human personality. Mindless, wasteful consumption is then the inevitable outcome of mindless, alienated employment. Hints of this type of view appeared in writings by William Morris in late nineteenth century Britain, and more recently have been strongly put forward in the works of Schumacher, Marcuse and Illich. For such writers there is little quality in contemporary life and the needs of industrial technology have almost completely dehumanised society (Cole et al 1983:138).

In contrast to Veblen, Keynes was more concerned with the problems generated in production decisions which lead to stagnation. For Keynes, the villains are reinters who live off of interest income, not only milking surpluses from the production and consumption cycle, but also accelerating the cumulative impact of negative and positive decisions on investment and production. Keynes' economy is more volatile than that of other cost-of-productionists, however the elements are the same: value is created in production, but some group has an unproductive claim on surpluses generated in production and needed for reinvestment. This drains the growth engines of the economy leading to stagnation, and the only agency able to intervene to correct this tendency is the state.

For cost-of-productionists, the source of value lies in production where progress is largely the result of technical innovations which can only be adopted once the claims of the villains have been satisfied. These struggles over distribution distort and slow economic growth. While subjective preference theorists would say that market prices and the distribution of social wealth are determined by the tastes and talents of individuals, cost-of-productionists would say that prices and relative shares are the outcome of distributional power struggles.

This is also a focus of leading contributors to the housing provision approach such as Ball

(1983, 1986), Dickens et al (1985) and Duncan (1986). Their systematic and thorough work on housing production in a number of nations attributes differences in productivity to factors such as land rents (Ball 1983:, Dickens et al 1985:), the influence of building unions (Duncan 1986), or the role of the state (Ball and Connolly no date:155-158). However, their focus on production is only part of their analysis and is always viewed as a "means of understanding consumption patterns and problems all the better" (Duncan, 1988:6). In all of the provisioning analysis just cited, these factors which are shown to contribute to productivity levels and profitability are linked to much wider productive and social relations. This is the distinguishing characteristic of the housing provision approach.

Ball, for example, explains his approach as a structure of housing provision, "...an historically given process of providing and reproducing the physical entity, housing, focusing on the social agents essential to that process and the relations between them" (Ball 1986:158, see also Ball et al 1988:32-34). Similarly, Dickens et al state "...the processes of housing provision cut through and bring together the major conceptual and everyday divides of production and consumption, politics and economics, material and ideological" (Dickens et al 1985:11).

Housing provision can be characterised as a series of relations between social agents involved in consuming and providing housing such as: occupants (owners or tenants), landlords (state, private and third sector), financing agencies, estate agents, building firms, unions and workers, planners, and others involved in the process of building, selling and consuming housing. Housing provision does not exist in a vacuum and is influenced by state policies, living standards, competing uses for the physical and financial resources required for the production and maintenance of housing, culture, tradition, and so on. Emphasis is placed on the analysis of change as a means of understanding the dynamic effects generated by a structure of provision (paraphrase of Ball 1983:18-19).

The provisionist approach is usually identified as being 'marxist' (eg Berry 1986) because of their use of marxist categories such as productive relations and forces. Here care must be taken to distinguish between such namings and the labour theory of value. As Ball points out in Ball et al (1988:21) referring to earlier 'marxist' housing analysis "In many respects, such analyses could be regarded as radical variants of traditional liberal-interventionist themes, as they tended only to question the functions of state involvement in housing rather than criticising the means through which it was undertaken". As shown above, these earlier analyses can be associated with the cost-of-production theory of value, an association I would also make with much of the housing provisionist literature.

Cole et al identify the distinguishing characteristic between the cost-of-production theory and the labour theory of value as "neither the forces nor the relations of production can be understood independently of each other, and taken together they constitute the *mode of production*" (Cole et al 1983:201, emphasis in original). They further state that it is the contradiction between these as expressed in the tendency of the rate of profit to fall that is the core of capitalist crisis.

> *Crises are not movements from equilibria or detours from a path of social evolution, but they are an inherent part of the process of social development. A crisis is not a flaw in the mode of production but is fundamental to it. It is above all a time of social change, a time when capitalism must either restructure itself or be superseded by a superior mode of production...(Cole et al 1983:224).*

In cost of production theory the emphasis is upon the largely given technical conditions of production and distributional inequality. The notion of capitalist crisis, and the role of housing production in capitalist accumulation as a process, is rarely addressed. Similarly with housing provision approaches; capitalist crisis is not part of their analysis. Here, we really enter the grey area between the two theories of value since most provisionists appear to share more with the labour theory of value than they do with the cost-of-production theory, and frequently this distinction may be of little importance. However, one of the specific requirements of an approach for this research is that it must be able to place the object of inquiry in its historical context in the accumulation process and be able to consider the impact of the object on capital accumulation. Consequently the distinction being made with respect to the housing provision approach is potentially important for the specific requirements of this research.

Cole et al argue that there are three possible political roles for the state which follow from the cost-of-production theory (Cole et al 1983:176-180). The first of these would be most likely recommended by housing provisionists; to abolish the potential for categories such as rent and interest by controlling the rights of private property (this is what Ball claims Dickens et al and Kemeny argue, see Ball et al 1988:26-28)[7]. However other cost-of-productionists might argue that this would be unduly disruptive, and, in any case, would not address the problems of trade unions or managers. The most common political position (eg. Merrett 1979) is that the state should intervene to adjust distribution in favour of those deprived of access to a fair share of surplus, limiting the negative impacts of distributional struggles and enhancing economic growth. The third position is that the state should control the growth of technology to ensure a more humane society, and for the development of appropriate technologies for the Third World. The best example of this in housing analysis is Turner, whose work is reviewed in the following sub-

[7] I would also include Ball himself in this, see for example, (1983:376-390). Ball's mistaken citation of Dickens et al as Duncan et al (see Ball et al 1988:26-28) makes one suspect that there were other elements at play in his evaluation.

section.

In the following sub-section these different political responses will be shown to be the core of the debate on self-help housing which is located within the cost-of-production theory of value.

1.4.1 Cost of Production Theory and Self-Help Housing

Most of the self-help housing literature falls within the cost of production approach. Consequently the review which follows is able to focus more directly on the applied literature than was the case with subjective preference theory where self-help has normally been outside the bounds of interest. There are fundamental differences among analysts of self-help housing arising from differences over who are the villains within the same value system which they have all adopted - the cost of production theory of value. The two polar positions are represented by the writing of Burgess from an unequal exchange point of view, and Turner from a quality of life point of view. A considerable range of studies exist which, like Turner, are concerned with the advocacy of self-help housing (see Turner 1972 for an early collection, Ward 1982 for a critical collection and Skinner and Rodell 1983 for the views of advocates of self-help housing).

Turner's main argument is based upon the observation that "most resources that are available for investment in the (whole) housing process are either in the users' hands or depend on their will" (Turner 1982:108). He goes on to argue that this is obvious in contemporary urban Third World settlements and, as well, in already urbanized and highly institutionalised nations, particularly if the housing process is seen through time and thus includes maintenance and renovation.

> *The now dominant political issue is between those who assume, consciously or unconsciously, that material economy depends on large-scale production and supply systems, and those who do not. To those who, like us, see that there are organizational thresholds beyond which centralised housing (among other) supply systems become counter-productive, the conventional debate between corporate-public and corporate-private ownership and control of the means of production is secondary; its relevance diminishes as the roles of government, capitalist enterprise and trade unions interlock and blur. The argument I have advanced...and which parallels many others, is that the elementary resources for housing - land, materials, energy, tools and skills - can only be used properly and economically by people and their local organizations that they can control personally, and that most plentiful and renewable resources are in any case possessed by people as users (Turner 1982:99).*

Turner focuses upon the production of housing as use values and the importance of households having control over their own accommodation. His approach is one which Cole et

al have termed 'realist'[8], that is, those who claim to "carefully observe the world and then use 'commonsense' to organise those observations for policy-making purposes (Cole et al 1983:134).

> *...In the first place, the housing process - including saving for it, occupying land for it, building it, rebuilding or improving it, managing it and maintaining it, and furnishing it - accounts for a substantial proportion of work and capital. Secondly, and especially in low-income (and very low-budget) countries where the greater part of housing is carried out by residents and local artisans, most resources for housing are both possessed and controlled by the people themselves. And, thirdly, because more resources are demanded by the maintenance of dwellings in general, than by initial construction - and this depends on the care which users take more than on any other factor. The facts, from any comprehensive survey of the whole process of housing, are bound to show that it is an interdependent activity in any society, and in poorer societies it is a powerful lever, or front for political, as well as social, economic and, of course, physical change (Turner 1982:106).*

Finally, Turner's position on the cause of misallocation and the dominant position of distribution identify his place in cost-of-production approaches.

> *The differences in the financial, material, and human costs and consequent quantities and qualities of resource use for housing between locally-controlled and centrally-administered systems are so great that they cannot be ignored or dismissed as secondary bureaucratic problems. As I have argued at length...the connections between values, economy and authority in housing are direct. Only a radical change in the structure of power can release the human and material resources so desperately needed - and actually available - for real and rapid development (Turner 1982:110).*

This approach, focusing on describing how production occurs and concerned principally with who actually produces accommodation does not offer much in the way of an approach for this study. Turner, following Illich and others (Turner 1982:107), is only concerned with who gets the dwelling and not at all with who receives the benefits of the production of the dwelling in terms of accumulation: thus he cannot address one of the requirements of this work which is the effect of self-help housing production on capital accumulation. Moreover, although Turner's observations are empirical, he does not allow for the impact that time, space and contingencies might have on his observations. Thus he is struck by the similarities between the results of his empirical work in the U.S. and in squatter settlements in Peru (Turner 1982:103-4), despite the fact that they occur in two very different situations. The similarities he observes are in terms of factors such as the amount of labour contributed to the construction of the dwelling, whereas there are many contingent factors which must be addressed in a comparison of the situations (see Harms 1982).

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[8] Obviously not to be confused with realism as a methodology for inquiry. See, for example, Sayer (1984) and Outhwaite (1987).

There is a certain danger of unfairly labelling some of the leading participants in the critique of Turner's approach as 'cost-of-productionists' when they themselves are not conscious of this. Their approach bears so many similarities to the abstract labour theory of value that it is tempting to attribute the differences to the context in which most of their contributions have occurred - opposition to the Turner school. However there is one shortcoming which is consistent throughout their work and this is their neglect of the complexity of any mode of production, and of the working out of the forces and the relations of production and of the role of contingent factors in this.

In most of the 'marxist' literature in self-help housing analysis, there has been a failure to consider the dynamic of capitalist accumulation. Rather, authors focus on productive relations and generally ignore productive forces (for example, Burgess 1985, Harms 1976, Stepick and Murphy 1980, Conway 1982, and Portes and Walton 1981). All of these authors utilise formally 'correct' marxist categories, but do so without reference to accumulation as a process which, by necessity, has a cyclical character[9].

In cost of production theory the emphasis is upon the largely given technical conditions of production and distributional inequality. The notion of capitalist crisis, and the role of self-help housing production in capitalist accumulation as a process, is rarely addressed. Thus Burgess has produced a lengthy list of papers which address self-help housing as a policy in the Third World and at times has explicitly addressed both the productive forces and productive relations in the same paper (Burgess 1985), but has not linked the two as would be done in the abstract labour theory of value. He clearly recognises that value comes from production (Burgess 1985:271-2), that the development of the forces of production has a fundamental impact on self-help housing production (ibid. 1985:272-4), that these forces of production imply a particular social organisation (ibid. 1985:274-9), which limit the potential of self-help housing to improve the distribution of housing benefits (ibid. 1985:279-93) and affects the political character of self-help housing (ibid. 1985:293-9). These latter elements in Burgess' critique are the fundamentals of his disagreement with Turner and are essentially about whether self-help housing is 'progressive', that is, whether it can improve the distribution of wealth (or housing benefits) and lead to social change. In a more general way housing provisionists make similar criticisms of housing policy analysts (however the tone of their critiques are usually more constructive than Burgess of Turner). Thus the content of the reviews of housing policy analysis by Dickens et al (1985:59-63) and Ball (1983:13-21) are not all that dissimilar from Burgess' critique of Turner.

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[9] By cyclical I mean periods of expansion and periods of crisis. This is quite different from concepts such as 'the business cycle' or the 'long waves' of capitalist accumulation which imply a much more regular and regulated movement, rather than tendencies whose individual constituent parts can vary greatly in strength and character over time and space.

At no point in any of his writings does Burgess link the two aspects to develop the contradictions of capitalism, and so he is unable to locate housing struggles, state policy, and the development of Third World urban economies in the process of accumulation. Thus his application of the cost-of-production approach fails the third requirement for an approach for this thesis: the approach must be able to consider the impact of self-help on the accumulation process.

Other authors writing in the same 'marxist' stream display similar characteristics. Portes and Walton (1981:67-106) are mainly concerned with the impact of self-help production upon subsistence levels, but do not link the impact of this aspect of the forces of production to accumulation and crisis. Yet, as will be shown in Chapters 2 and 5, it has a very important impact. Harms has produced a splendid review of the "economic and political conditions under which self-help emerges" (Harms 1982:17), and notes that it "extends exploitation" (ibid. 1982:48) and is usually associated with a period of economic crisis (ibid. 1982:46-48). While these observations are extremely useful and well documented, they are only able to explain the political relationship between the interest of the state in extending exploitation and economic crisis, but are unable to address the relationship between self-help production, accumulation and crisis. The use of marxist categories does not necessarily imply that the authors follow the labour theory of value. This is not intended as a critique - it is merely a necessary step to the identification and subsequent evaluation of the approach followed by these authors.

For Burgess, the villains are capitalist suppliers of building materials, technical information and land, extracting surpluses, and driving up the costs of state supported self-help so that it cannot ever replicate the 'artisanal' mode of production.

> *The high costs of state-finished housing programmes derive from the way in which they optimize the participation of all fractions of capital involved in housing development (rents, interest payments, subcontracting and labour costs, bureaucratic and administrative costs, industrial building material costs, etc.). The low costs of artisanal housing derive from the absence or minimal participation of these interests (Burgess 1985:278).*

For Burgess, all of the cost-of-productionist villains interfere with the process of production of accommodation. This isn't really a function of the fact that Burgess might have cast his net somewhat more widely than other cost-of-productionists - it is more likely that Burgess has adopted marxist categories, but not the labour theory of value. For him, value is created in production, but prices are the summation of individual costs which will be lower for artisanal production because surpluses are not being extracted by various capitals in the production process.

The nut of the self-help debate is the potential for "state self-help housing as a solution to the housing problem in less developed countries" (Burgess 1985:271). As Burgess points out,

the state is not a neutral floating arbitrator of class or vested interests. "The essential functions of the state are to maintain the cohesion of the social formation under conditions that secure the reproduction of the capitalist mode of production: to exercise the domination of the bourgeoisie over the subordinate social classes: and to conciliate the secondary contradictions within and between the fractions of this class". (ibid. 1985:275). He continues that the state is unable to solve the housing problem because of the structural and conjunctural limits imposed by capitalism, not because of inabilities to understand the correct solution, such as self-help.

The accumulation process imposes economic limits on the ability of the state to act in any given situation and these are important in shaping how the state addresses the issues. These economic limits are stricter in peripheral locations and in times of economic crisis - that is, they are determined by the position in the accumulation process. Thus if we wish to establish the limits of the state to resolve housing problems, it is necessary to place the analysis of the "structural and the conjunctural" (Burgess 1985:275) firmly within the accumulation process.

With respect to self-help housing then, it is necessary to understand how the accumulation process is affected by this mode of production if we are to be able to understand the limits to the state response.

1.4.2 Suitability of the Cost-of-Production Approach

In Section 1.1 above four requirements were identified for the analysis. This followed Sayer (1984:211) that the selection of an approach should suit the specific needs of the inquiry..

1. The approach must direct inquiry to contingent factors which affect the object of inquiry

2. The approach must consider objects as being spatial-temporal and temporal-spatial in their constitution.

3. The approach must be able to place the object of inquiry in its historical context in the accumulation process and be able to consider the impact of the object on capital accumulation.

4. Finally, the approach must be able to use the information resources which are available for the inquiry.

The housing provision approach within the cost-of-production theory of value is clearly open to consideration of contingent factors. Indeed, the leading work in this by Dickens et al (1985) has already been identified as falling within the frame of the cost-of-production theory of value. The same housing provision approach also clearly shows that the cost-of-production frame can place the inquiry in a historical and spatial context. Once again, the work of Dickens et al (1985), as well as Ball (1983) and Ball et al (1988) and other housing provisionists illustrate this.

The key difference between the cost-of-production theory of value and the labour theory of value is the expression of the link between the forces and relations of production through the accumulation process. And, further, economic crises arising from the tendency of the rate of profit to fall is the key to understanding both the historical (including the current and future) and spatial contexts of capitalist accumulation. Thus while the housing provision approach has realised many advances in the spatial analysis of housing, and has taken account of historical settings, particularly in terms of social and productive relations, it has not considered the temporal character of the accumulation process itself as represented by the cycles of crisis and boom.

The third requirement of this analysis is that the approach must place the object of inquiry in the accumulation process, as a means of understanding and assessing certain observed characteristics of self-help such as why it appears to be strongest (with new construction) in areas where the level of capitalist development is lower (eg. Harms 1982:46 and Burgess 1985:273-4). Here, the housing provision approach, so long as it remains within the cost-of-production theory of value, cannot satisfy this requirement. The cost-of-production theory does not encompass the accumulation process in the sense of economic crises as "...an inherent part of the process of social development" (Cole et al 1983:224).

The fourth requirement of the analysis is met by most approaches within the cost-of-production theory of value.

In noting that the key limitation of the cost-of-production approach is that it cannot adequately encompass the dynamic of capitalist accumulation, it is important to also reiterate the statement I made in Section 1.1, that the housing provisionist approach is the best suited to my needs, and in particular the application of this approach by Ball (1978, 1983) is the most useful. The difference is that the theory of value underlying my selected approach will be the labour theory of value since it alone directs inquiry to the accumulation process.

1.5 THE LABOUR THEORY OF VALUE

The labour theory of value is much broader than subjective preference theory which focuses upon exchange relationships. It is also much broader than cost-of-production theories which, with Ricardo, focused on the relationship between individuals and nature and is concerned with the technical relations of production.

The labour theory of value fundamentally departs from Ricardo and the cost-of-production approach by identifying labour not only as the source of value, but also as a social relation within a particular historical context. This is a fundamental difference because it

means that production is not a mere technical process producing value and proceeding inevitably to stagnation. Neither the forces of production nor productive relations can be understood separately from each other, and together they constitute the mode of production.

Within housing analysis the importance of the mode of production has been recognised and developed by analysts working within the housing provision approach. One of the clearest statements can be found in Ball (1986). This approach has been misunderstood by Kemeny (1988) and the response by Duncan (1988) provides a clearer statement of the intimacy of productive forces and relations.

The mode of production varies among societies and over time, and the history of capitalism is one of a consistent development of the capitalist mode of production. Capitalist accumulation can occur in either of two ways: extensively through an expansion of the forces of production at a given level of technology, or intensively by improving the technological level of production. There are two principal forces which drive capital to engage in intensive accumulation: competition and shortages in factors of production. The essential point to always bear in mind with the labour theory of value is that production is always for profit - nothing will be produced for its utility alone, it must also be possible to generate surpluses in the production of the commodity.

The drive for profits forces capital to compete and to strive endlessly to improve the technological level of production. However this is not a steady and unremitting process as cost-of-production theory posits, it is a dynamic process of continual changes wrought by the reactions of the social relations of production to the changing forces of production and to each other. And it is this process which gives to the labour theory of value the ability to encompass social change in the analysis and to involve a myriad of factors, both contingent and necessary (Sayer 1984:Chapter 3).

The striving to continuously improve the technical level of production creates a tendency for the rate of profit to fall. However, this is only a tendency, for example, it is not only possible but is sometimes the case that the tendency can be offset by the working out of social relations, for example by a massive reduction in living standards or the failure of a large number of competing capitals.

The important observation at this point is that this tendency for the rate of profit to fall, including all of the contingent and necessary factors involved in this, all summed up by the naming 'crisis', represents the conceptual dynamic of the labour theory of value. It is thus an essential

component of the temporal aspect of the theory.

1.5.1 The Labour Theory of Value and Self-Help Housing Production

The labour theory of value claims that production is for profit - if profit cannot be extracted then no production will occur. Yet it would appear that a considerable portion of self-help output is not for immediate exchange, but is immediately for its utility as accommodation. To date this problem has been addressed in two ways; either by recognising that accommodation is an extremely durable commodity and consequently that while exchange may not follow production, it might well follow at some later date when surpluses generated in production can be captured (eg Pradilla quoted in Fiori and Ramirez 1988), or that self-help housing production occurs in capitalistically underdeveloped areas and thus is a yet uncapitalized remnant from the previous mode of production (Burgess 1985:273-4 and Harms 1982:46).

There is a possible reformulation of these two arguments which appears more appropriate. That is, that in areas where certain essential elements of subsistence such as food or accommodation cannot be profitably produced by capital because of the factors associated with uneven development, then, in the absence of state intervention, households must produce these essential commodities themselves. This occurs because of the uneven development of capitalism, but still within the capitalistic mode of production, so that if accommodation is exchanged, then all or part of its value, including surplus, will be realised.

Unrealised value in housing will have an impact on subsistence and through this on a host of other productive and social relations such as political views and responses, household production and so on. However, unlike the cost-of-production theory of value, there is no existing literature of self-help housing based on the labour theory of value. And, unlike the subjective preference theory of value, there is no a priori political or ideological attraction to self-help by labour theory of value analysts. Consequently there is no reason to construct an approach to self-help housing based on the labour theory of value unless it is necessary for the research. In the following sub-section the labour theory of value is argued to be the most appropriate for the specific requirements of this approach and thus, in Chapter 2, an approach to self-help housing provision is developed.

1.5.2 Suitability of the Labour Theory of Value

The labour theory of value developed from the same basis as the cost-of-production theory of value, with the distinguishing characteristic being the explicit treatment by the former of the accumulation process and crisis as the dynamic of capitalist accumulation. In the review of the suitability of the cost-of-production theory of value it was shown that the housing provision

approach was only deficient in its failure to specifically address the relationship of housing to accumulation and crisis. Thus, unless there were a fundamental contradiction between the labour theory of value and the housing provision approach, that combination meets all of the requirements identified for the research, namely:

1. The approach must direct inquiry to contingent factors which affect the object of inquiry

2. The approach must consider objects as being spatial-temporal and temporal-spatial in their constitution.

3. The approach must be able to place the object of inquiry in its historical context in the accumulation process and be able to consider the impact of the object on capital accumulation.

4. Finally, the approach must be able to use the information resources which are available for the inquiry.

The housing provision approach developed and applied by Dickens et al (1985), Ball (1983) and Duncan (1986) specifically direct inquiry to contingent factors which is the first requirement for this inquiry. Both the labour theory of value and the housing provision approach consider objects within their historical context and the housing provision approach is very clear on the importance of spatial settings. There is nothing in the labour theory of value which militates against spatial settings being considered, although some authors have (to my mind incorrectly) claimed to have based their determinist views of social and economic change on historical materialism.

The labour theory of value clearly meets the third requirement that the object of inquiry is placed in the accumulation process and its impact on accumulation is assessed. And the fourth requirement that the approach must use existing qualitative and quantative material is also met.

Thus a housing provision approach based on the labour theory of value meets the requirements of the analysis as defined in Section 1.1.

1.6 SUMMARY AND CHAPTER OUTLINE

This Chapter has broadly sketched the scope of the research issues for understanding housing production in Canada. The requirements of an approach capable of providing an improved understanding were identified and three alternative theories were described and considered.

The three theories considered, which differ fundamentally on the "value" of goods, are the subjective preference theory, the cost of production theory, and the labour theory. Only the labour theory of value can meet the four specific requirements of this research. However, the

housing provision approach (which is based on the cost of production theory) meets most of the requirements of the analysis and, within the context of the labour theory of value, provides the analytical framework which is applied in this thesis.

The categories of the labour theory of value involve both the forces of production and social relations, and stress the sensitivity of outcomes to contingent and necessary factors including differences in temporal and spatial dimensions. **Chapter 2** applies the categories of the labour theory of value to self-help production of accommodation.

To determine the importance of self-help production in Canada, and thus to evaluate the extent of its impacts, it is necessary to develop national estimates of the extent of self-help production. At the same time it is necessary that these estimates for recent periods can be located in the spatial and temporal dimensions of housing production and provision in Canada. These are the tasks addressed in **Chapter 3.**

The labour theory of value identifies the intimacy of production and consumption. On the production side, accommodation is produced by the residential construction industry and through self-help production. There is a wide range of possibilities within each category. The residential construction industry includes large developers and also small companies with two or three employees who move between new construction and renovation. At the same time, self-help production encompasses households who undertake all of every task of housing production themselves, through to households whose activities are limited to the broadest general contracting and development functions. **Chapter 4** provides a description of self-help production in Canada based upon the available case studies; it identifies the character of self-help production, the potential advantages for households, and the impact upon social relations in the households.

Where both self-help producers and the residential construction industry operate in the same markets, neither sector can be unaffected by the other. The theoretical categories developed in Chapter 2 will be used in **Chapter 5** to consider the impact of self-help production on the residential construction industry.

Chapter 6 will examine the impact of self-help production on subsistence to evaluate the impact upon capital accumulation. Accommodation is the single most important element in subsistence in Canada (in money terms) accounting for 16% of all consumption[10]. Clearly the significant cost savings available through self-help production (identified in Chapter 4) could have

[10] calculated from Family Expenditure data, 1982

an important effect on subsistence, and through this on accumulation in general where self-help production is important. In Chapter 6 the impact upon subsistence is assessed using the theoretical categories from Chapter 2.

The impacts of self-help production on housing production and provision in the Atlantic Canada are integrated in **Chapter 7** to assess a number of policy options. Conclusions are presented in **Chapter 8.**

CHAPTER 2

AN ECONOMIC THEORY OF SELF-HELP HOUSING PROVISION

This thesis is concerned with self-help housing as a form of housing provision in capitalist societies, and with its implications for understanding housing in Canada. It should also contribute to our understanding of the Canadian residential construction industry and housing policy and to the development of an approach for the analysis of self-help housing elsewhere.

Much of Chapter 1 was concerned with identifying the most suitable analytic approach for this thesis - and it was concluded that a housing provision approach based upon the labour theory of value was most appropriate. However, this combination is not that common in the general housing literature and does not exist for self-help provisioning.

Self-help is one of several provisioning strategies including several forms of state provisioning, private sector and 'third sector' provisioning (eg. Cooperatives and Non-Profit Organisations). In order to develop an economic theory of self-help provisioning it is necessary to first have a general approach to housing provision which can then be adapted to the self-help sector. The basis of this approach has been developed by Ball (1978, 1983) and Dickens et al (1985) and this body of work provides the core of my approach. However, as noted in Chapter 1, this work has not sufficiently addressed self-help provisioning; an oversight which I attempt to correct in this Chapter.

2.1 THE PRODUCTION AND CONSUMPTION OF ACCOMMODATION

There is a key circular relationship between the production and consumption of housing: housing is produced by labour, and housing is also a large factor in the bundle of commodities consumed by labour. Thus, Ball states that "Central to an understanding of the role of housing (is the) influence of the value of housing on the value of labour-power and its consequential effect on the rate of surplus-value" (Ball 1978:78).

We begin by noting that the value of housing is equal to the value of the 'socially necessary' labour time expended in its production. This will not equal the price of housing for a number of reasons. In fully developed housing markets the most important causes of divergence will be factors such as extra profits from speculation and land rents discussed in the following sub-section. There are other factors which arise in markets such as Atlantic Canada and which can lead to further divergences between the value of the housing commodity and its price and these are discussed later in this Chapter. But, for the purposes of the introductory development of the approach I assume that the value of the socially necessary labour time embodied in a house is

equal to the price of the house. This is a standard starting assumption in analysis using the labour theory of value (see, for example, Pickvance 1976:43 and Ball 1978:79). The price of housing has two principal forms, the purchase price in the case of homeownership, and rent in the case of rental markets.

The value of the labour time expended on the production of the accommodation is determined by the value of an individual unit of labour time and the number of units which are required. The former is what is referred to as 'socially necessary' labour time and is the first element of the calculation discussed in this sub-section. The number of labour units required is determined by technical and social factors such as the degree of mechanisation and the organisation of the production process.

2.1.1 Accommodation and Subsistence

Accommodation is the major component of subsistence in Canada accounting for about 16% of all household income in 1982[11]. This was somewhat less than that spent in Britain, but more than Sweden (Dickens et al 1985:72). Other important components of subsistence include food, clothing, transportation, recreation, and other commodities physically and socially necessary for the production and reproduction of labor power. As with any component of subsistence, the constituent commodities in subsistence can be provided in either the 'individual' or 'social' form, that is, purchased in the market directly or provided by the state (see Pickvance 1976:44). However, unlike other commodities in subsistence, the transformation of accommodation into labour power occurs over a much longer period, and a single unit of accommodation can, over time, serve many households.

One effect of the durability of housing is that luxury housing which was not originally intended for consumption by labour may, at a later date, enter into subsistence. Usually this will have involved a change in contingent factors affecting the status of the accommodation, for example, when the character and location of urban industry shifts leaving factory owners' housing downwind or downstream of effluent. It is also often associated with the conversion of now uneconomic large single family dwellings into multiple dwellings.

In general, there has been a cheapening of subsistence as the productive forces of capitalism have developed. This has been achieved by increasing the productivity of labour so, as a consequence, it takes less labour time to produce each commodity and the value actually embodied in individual commodities has declined. Housing is a partial exception to this general process in that the value of housing has not 'cheapened' to nearly the degree of other commodities

[11] Calculated from Family Expenditure Survey data, Statistics Canada, 1982.

(Ball 1978:80, Duncan 1986, Dickens et al 1985:72-80 and Merrett 1979:Chapter 4). This can have a very significant impact on the accumulation process by constraining the cheapening of labour power and thus causing all capital in general to have to pay more for subsistence.

As Ball has observed, in many countries the relative importance of housing in subsistence and the comparatively slow cheapening has made housing an important area of struggle over living standards and this has led to pressure on the state to provide housing assistance in some form in order to lower the cost of housing for labour and the cost of labour for capital (Ball 1978:80). Pickvance has urged caution with respect to a direct connection between the needs of capital and state housing policies (Pickvance 1976:48) and Dickens et al (1985) and Duncan and Goodwin (1988) have shown that there is considerable national and local variation in state housing policies. This implies that local conditions will influence the working out of the processes, but that it is likely that the process will include the struggles predicted by Ball.

Because of its relatively high cost, often equal to two to three times the average annual money wage (for example, see Canadian Housing Statistics, annual, Tables 81 and 88 in the 1984 edition), it is usual that actual payment for housing is spread over a number of years. In the rental form it is the tenant's rent payments which pays for the ownership rights accumulating over time to the landlord. With homeownership, the mortgage is the instrument by which housing is purchased out of future income by purchasers. In both cases, debt financing is used and this implies that interest must be paid.

Dickens et al have argued that mortgage financing allows extra profits to be realised (land rents, speculative gains, etc.) and that state support encourages the continuation of this (Dickens et al 1985:67). This is undoubtedly a possibility in that the 'extra' that must be paid can be spread over a long time period thereby increasing the ability of purchasers to meet the payments.

While the payment for the production of the dwelling (leaving extra profits aside) will be equal to the value of labour in the dwelling, financing charges are not in exchange for value. This raises the question as to where does the money come from to pay for financing costs? To simplify the question, assume only three commodities each of which exchanges at its value; labour power (paid its subsistence) housing and a third commodity (representing all other commodities in subsistence). Subsistence is equal to the sum of the value of housing and the third commodity, and labour is paid its subsistence. There is clearly no room in this circuit for financing charges without having another source of value, or lowering the exchange price of housing or the third commodity below their value. All are possible situations, and imply, as Ball suggests "The surplus value appropriated through the financing of the housing realisation/consumption processes, and

through housing land costs, is a distribution of surplus value away from other sectors of capital to unproductive capitals providing loan capital or land. This redistribution is effected through wages or taxation..." (Ball 1978:87).

Thus debt financing allows the purchase of relatively high cost housing and, in many situations, accompanying payments of extra profits, but the actual costs of financing are paid out of surpluses, that is, they are paid by capital, not labour. Hence, regardless of whether the transfer is arranged through wages or taxation, the costs of financing housing are not part of subsistence. Similarly, any payments for extra profits would also not be part of subsistence, they are paid for through transfers of surplus and, like financing costs, are a deduction from the gains of capital, not a payment from labour. In practice, however, these costs to capital will reduce their flexibility in negotiations with labour, and likely result in lower wages or benefits.

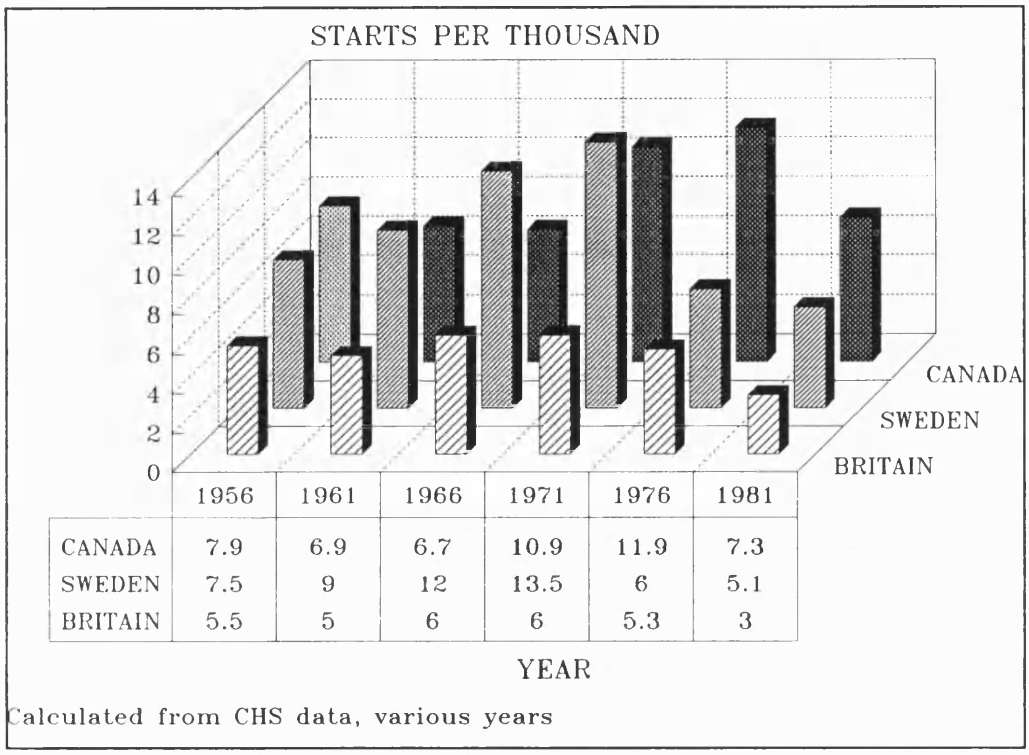
Within the strict housing component of subsistence therefore, there is only the cost (money equivalent to the value) of producing and maintaining housing. At this point then, it is appropriate to turn to the production side.

2.1.2 The Production of Housing

The production of housing under capitalism is the same as producing other commodities, with a few notable differences associated with the production and exchange of the completed dwelling. I have already noted the production differences arising from land rents and extra profits, and the effects of these on the production process will be discussed immediately below. The major difference in exchange arises from the high value of housing usually necessitating financing. This financing can either come from past income as savings (including inheritance), or from future income as debt financing using loans or mortgages, and as noted above, the interest costs of financing are a transfer away from other sectors of capital in the form of wages or taxes.

The observed slower cheapening of the value of accommodation relative to other goods has directed inquiry towards the production process for housing, where it has been observed that in some countries such as Britain the productivity of the industry is far lower than in others such as Sweden (See, for example, Merrett 1979, Ball 1978, 1983, Dickens et al 1985 and Duncan 1986). This is associated with lower levels of output according to Dickens et al (1985:71). In this regard it is useful to compare Canadian output levels with those of their comparison groups, Sweden and Britain. As can be seen in Figure 2.1, Canada is somewhere between, but clearly closer to the Swedish case than to Britain. This is an interesting situation since the malaise in Britain is attributed to land rents and speculative gains as easier routes to profit making than improvements in productivity (Dickens et al 1985:94-109). Yet land rents and speculative gains are very possible

in Canada, and certainly appear much easier than the Swedish case. Indeed, within Canada, provincial output levels are highest precisely where land rents and speculative gains are largest (see Figure 2.2).



	1956	1961	1966	1971	1976	1981
CANADA	7.9	6.9	6.7	10.9	11.9	7.3
SWEDEN	7.5	9	12	13.5	6	5.1
BRITAIN	5.5	5	6	6	5.3	3

Figure 2.1: Housing Starts Per Thousand Population, Canada, Sweden and Britain

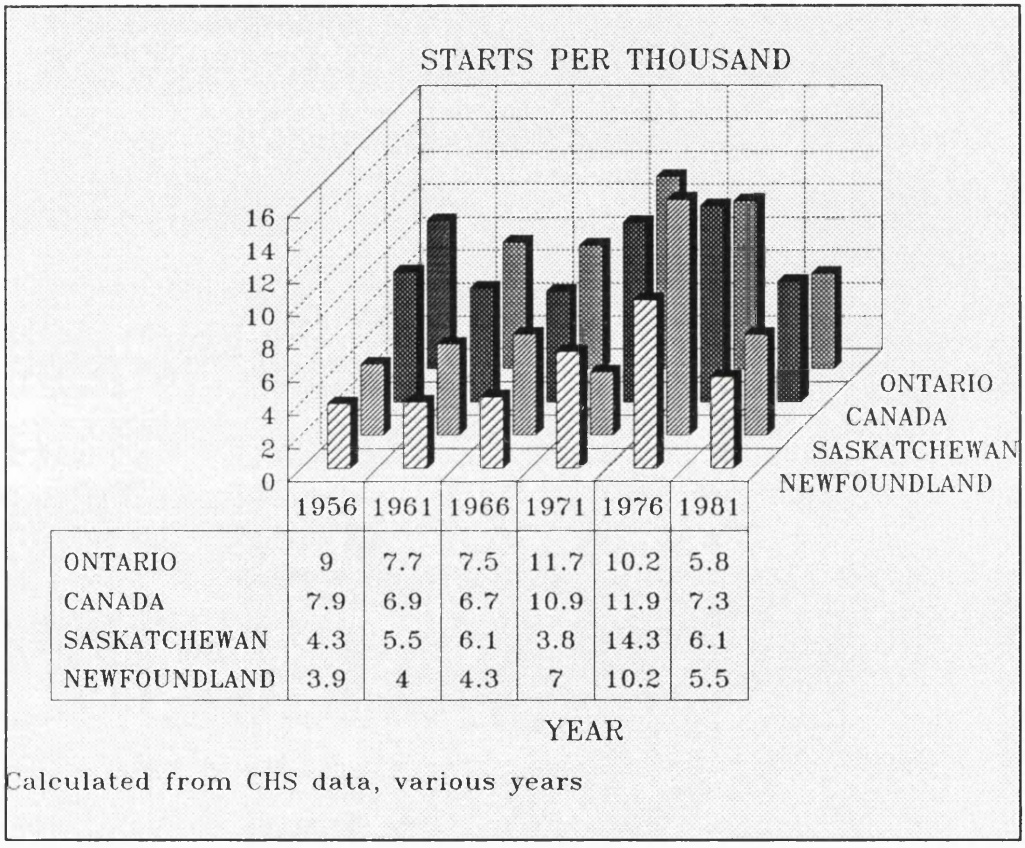
This is an interesting situation which will receive more attention in Chapter 5 where empirical information on the production of dwellings in Canada is presented. For now it is sufficient to note that, from this view, it appears that the British situation is the unusual arrangement, and that even where there are opportunities to gain significant extra profits, the residential construction industry can still produce a substantial volume of output.

This does not negate the possibility that the profitability and productivity of the industry might be low relative to other Canadian industrial sectors. Indeed it appears that productivity in residential construction has lagged behind other sectors in Canada. Using 1961 as a base, by 1980 the implicit price index for residential construction was 401.9, while the consumer price index only rose to 290.9 during the same period. Thus residential construction costs rose about 1.5 times faster than general costs over the period, a rise which is similar to the difference between the building and retail prices indexes in Britain cited by Ball (1978:84). Thus, with regard to productivity of the industry, the Canadian situation appears to resemble the British situation more

than the Swedish (see Dickens et al 1985:75 for comparable data).

In the comparisons just presented it appears that there are similar opportunities for land rents and extra profits in Canada and Britain, and the productivity of the industry appears to have developed relatively slowly as in Britain. However, output levels have been high relative to Britain.

Figure 2.2: Housing Starts Per Thousand Population, Selected Provinces and Canada



	1956	1961	1966	1971	1976	1981
ONTARIO	9	7.7	7.5	11.7	10.2	5.8
CANADA	7.9	6.9	6.7	10.9	11.9	7.3
SASKATCHEWAN	4.3	5.5	6.1	3.8	14.3	6.1
NEWFOUNDLAND	3.9	4	4.3	7	10.2	5.5

Calculated from CHS data, various years

The above suggests that without improvements in productivity, Canadian producers are likely to have encountered problems selling their output. This has, indeed, been the case (see Rowe 1981) and has only been alleviated by the development of an effective mortgage market in Canada (see Boleat 1990). Bullock and Yaffe (1975:22-26) have shown the critical importance of credit in forestalling crises by allowing insufficient profit rates to be augmented through general price inflation thereby increasing the mass of profits. It is credit expansion which allows commodities to exchange under such circumstances. With housing prices the mortgage is the credit instrument for house purchase, and, in Canada, state mortgage insurance provided mortgage lenders with a high degree of security against losses in mortgage loans (see Rose 1980).

Residential construction in Canada seems to suffer from a similar condition as the British industry, relatively low productivity compared to other industrial sectors as reflected in more rapid increases in production costs. However, unlike British industry, Canadian residential construction has achieved relatively high rates of output. This has been possible through the extensive use of mortgage credit easing the potential for realisation problems in housing sales. This view is supported by a comparison of provincial levels of mortgage financing with the rate of output. Unfortunately the implicit price index for residential construction is not available at the provincial level. Figure 2.2 provides a comparison of the rate of output for the three provinces. Ontario, with one of the highest levels of mortgage financing (65% of new starts, Rowe 1990a:34) also has the highest rate of output. In Newfoundland, where only a third of new dwellings are principally financed by mortgages, the rate of output is lowest of the three comparison provinces. Saskatchewan, where mortgages are the principal means of financing for about 40% of new housing, between Ontario and Newfoundland, has a rate of output between the other two provinces. As I will show in Chapters 3 and 5, the mortgage finance system was most fully developed in a small number of provinces such as Ontario, and was relatively undeveloped in Saskatchewan and Newfoundland. Thus a provincial comparison confirms the similarities noted in costs between Canada and Britain, but Canada managed to achieve high rates of output through an effective system of mortgage finance.

A number of analysts have noted the importance of land rents and extra profits to understanding the British industry. It is thus appropriate to turn to a discussion of this in the following sub-section.

2.1.3 Land Rents and Extra Profits in Housing Production

Residential construction must always find land on which to site its production and because of this characteristic often is forced to share surpluses with the owners of the land. This 'landed' characteristic of accommodation means that the residential construction industry is frequently only able to realise a portion of the surpluses generated in the production of accommodation (see Ball 1983). This reduces the mass of profits, and hence the rate of profit in the industry, inhibits investment, and constrains improvements in productivity.

However, land rents are not universal. Duncan (1989b) has shown how state policies can limit land rents and promote the technical efficiency of the construction industry. Further, in areas such as rural Newfoundland where land is in plentiful supply and ownership is widely distributed, then it is unlikely that land rents will be substantial. These latter areas are often associated with relatively worse economic conditions arising from the uneven development of capitalism, for example, lower and less regular incomes and higher rates of unemployment. In

these circumstances the residential construction industry often faces problems of insufficient effective demand, that is, incomes are not sufficient to allow households to pay a price for accommodation which will fully meet the money price equivalent of its value. In these circumstances it is also unlikely that extra profits will occur.

Dickens et al have referred to extra profits as occurring where dwellings are sold above their value (Dickens et al 1985:66). An example of this would be speculative builders or investors who are able to take advantage of particular shortages or market conditions as represented in the 1980's by the rapid price increases in markets such as central London, New York and Toronto to name a few. Under these conditions no value is expended but extra profits are gained by selling at higher prices. As Dickens et al note, this imbalance is covered by transfers from other sectors (Dickens et al 1985:66), just as Ball has described for land rents.

Sometimes the residential construction industry is forced to forego a portion of the total value of the accommodation in order to exchange the dwelling, or at least to share some of this surplus value with land developers. However, the major impact of land rents and extra profits is, because they are "more easily made, there is less incentive to invest capital in building production, low productivity remains and high costs are sustained" (Dickens et al 1985:67, see Ball 1983 for a more detailed description).

It is through this constraint upon the cheapening of accommodation that residential construction can effect the accumulation process in general: if housing is not cheapened as rapidly as other commodities, then the value of subsistence is higher. This affects all capital, the residential construction industry and capital involved in the production of all other commodities. The transfers to cover land rents or extra profits also provide an important link between the residential construction sector and other sectors of production since the surpluses transferred, whether as higher wages or through taxation, must come from other capital. Thus the effect of these transfers is to reduce the profitability of capital in other sectors. There are other possible outcomes "depend(ing) on the state of class struggle" (Ball 1978:87), for example, wages could be lowered, or housing conditions could deteriorate.

There is a third consideration which can reduce the profitability of the residential construction industry. The turnover time for residential accommodation is among the longest of any commodity. Whilst credit can reduce the problem this poses for the extraction of profits (Itoh 1988:99) it still places residential construction at a disadvantage compared to other industries where capital can be turned over far more frequently. The average for Canadian industry is 5 turnovers per year (Webber 1988:13), while for low density residential construction it is closer to

2-3 turnovers per year given the weather envelope available for construction in the Canadian climate.

As an illustration, assume a total capital investment of $100 and a profit rate for each turnover of 2.0%, yielding a profit per turnover of $2.00. The average Canadian industrial firm turning its capital over 5 times per year would obtain annual profits of $10.00, or 10% on its capital of $100. Residential construction, with only 2 turnovers, would only realise an annual profit of $4.00, or an annual profit rate of 4%. Clearly it is in the interest of capital to increase its annual turnovers, and this is part of the drive to increase productivity. However, with the residential construction industry this drive is tempered by the relative ease with which land rents and extra profits can be obtained serving to distract builders from the more exacting task of gaining profits from production.

Thus problems experienced in cheapening any component of subsistence are felt by all capitals, and, if such a significant component as accommodation is problematic, then all capital experiences a reduced level of accumulation.

The analysis thus far has assumed that all production is for exchange. Ball's reason for this was the following:

> *In Britain, however, housing is mainly produced as a commodity under capitalist relations of production and it is provided for consumption in the commodity form: either through private renting or purchase, or through renting from the state. Consideration of non-commodity provision therefore need not complicate this particular discussion. (Ball 1978:79)*

Dickens et al found the same situation in Sweden: "In both Britain and Sweden over 90 per cent of all dwellings are produced as commodities for sale" (Dickens et al 1985:64), however one of the authors has recently begun to address the role of self-help provisioning in Europe and pointed out that "in France and Sweden about 25% of new completions were self-help in the 1980's..." (Duncan 1990:10). However, given the high level of self-help production in Canada, and particularly in Atlantic Canada, it is necessary to address the difference that self-help makes to the analysis.

2.2 SELF-BUILD HOUSING PROVISION AND ACCUMULATION

One of the characteristics of self-building is that households provide a substantial amount of the necessary labour themselves (Rowe 1983) and occupy the dwelling for a considerable period (Rowe 1990a). Thus, while the value of the dwelling will be the average socially necessary amount, a portion of that value will have been in the form of the household's own unpaid labour (sweat equity), and the dwelling itself will not exchange for a considerable time. These two factors distinguish self-built housing from that produced by the residential construction industry. Self-

promoted housing too, does not incorporate much sweat equity, but, unlike industry production, it often does not exchange immediately. As a consequence, extra profits cannot be extracted until such time as the dwelling is actually exchanged.

The discussion in the following sub-sections focuses upon the effect of these two factors on housing provisioning. However, it is first necessary to define 'self-help'.

2.2.1 Definition of Self-help Housing Production

Self-help housing production is a generic term usually used to identify the participation of individuals in the production of accommodation. This includes 'self-promotion' where household involvement is limited to the provision of general contracting services and the actual building is done by builders or tradespeople, and 'self-build' where the household is actively involved in all aspects of the construction process. The particular definition selected for this work is intended to be as cautious as possible given the limits of the available data. Consequently, to be included as 'self-builders', households must undertake responsibility for all of the four major stages in the production of the dwelling:

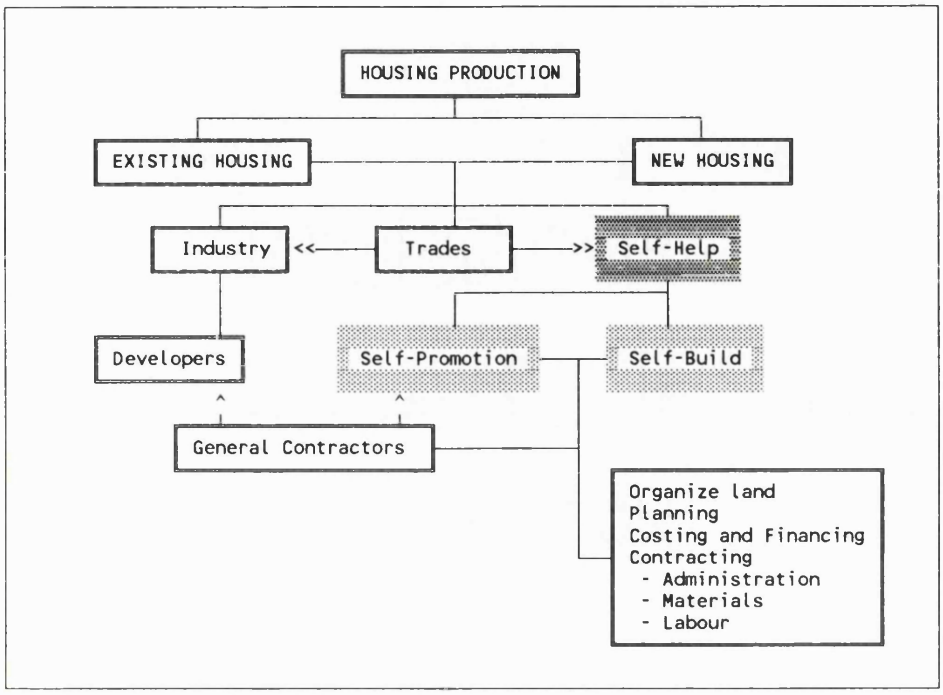
- acquisition of land
- planning the project and obtaining approvals and permits
- design selection, costing and financing
- general contracting

The final stage identified above, general contracting, has three distinct elements:

- administrative and financial tasks including sub-contracting
- organisation and provision of materials
- organisation and provision of labour

Figure 3 places self-building in the context of overall housing production. Initiative is the key to the distinction between production sectors. Some other authors (for example, Seligman 1973, Turner 1982, and Burgess 1985) have also used initiative as the distinguishing characteristic while others have focused more upon who actually does the work (see for example Fuoco 1984, Manitoba Department of Co-Operative Development 1978 and Middleton 1983). An important characteristic of self-built dwellings is that they are less expensive. Labour savings are certainly an important aspect of cost reduction. However savings are also realised in other areas such as interest charges on financing, overheads and land, and the initiatives of the household can also achieve significant cost reductions in these areas. Similarly, in the industry sector, property developers who undertake all aspects of new housing development are better placed to capture profits than are individual building firms who engage only in the construction process itself. Thus 'initiative' provides a useful distinction between sectors.

Figure 2.3
Place of Self-Help Provisioning in Housing Production



Assuming for the moment that the productivity of labour and utilisation of materials are identical, then the total value of the accommodation produced by both self-builders and the construction industry is also identical. This value can only be realised upon exchange. While it is reasonable to expect that productivity will be lower with self-help production, this will not affect the value of accommodation since only average socially necessary labour expenditures determine value.

With self-building, the value remains unrealised until the accommodation is exchanged, consequently where surpluses exist they also are unrealised. Of course, self-builders will have previously shared a portion of the unrealised value with landowners to the extent that they have encountered land rents. With self-building, the household has first access to the value generated in production, but cannot realise the value, including surpluses, until the accommodation is successfully exchanged.

Self-promotion arrangements see the household acting either as general contractor themselves, or employing a general contractor. In either case, the value contained in the completed dwelling will be realised by the general contractor or, in the case of household contracting, by the sub-trades. There is thus a ranking of situations in which the value of the dwelling is realised. All of the value is realised by the builder with industry production, most of the value is realised by the general contractor or sub-trades in self-promotion, and with self-help

the value can only be realised once the dwelling is exchanged, usually years later. There is thus an important difference between self-promotion and self-building, and I would identify self-builders as having 'potential access' to the value, and agree with Pradilla (1976) who has identified accommodation as a 'potential commodity' (cited in Burgess 1982:61).

In Canada there is a strong association between the level of self-help production and the level of economic well-being of the community: the better off an area is the less likely is there to be self-help production of accommodation. The sale prices of dwellings are significantly lower in Atlantic Canada (Rowe 1989:77) and are often below the costs of producing the dwelling (see Chapter 5). This means that whilst upon exchange the self-building household has first access to surpluses generated in production, it is likely that should the accommodation exchange, then it will be more difficult to realise its full value than would be the case for, say, industry-built accommodation in better off areas or urban self-build (for example, Stockholm where, a third of new owner-occupied dwellings are self-built (Duncan 1990:11)).

As owners, self-helpers are in a position to capture extra profits and land rents under appropriate circumstances, but in areas where market prices are lower than the costs of production they will have difficulty obtaining the full value of the dwelling upon eventual exchange. This raises the issues of subsistence, land rents and extra profits and these are discussed in the following sub-section.

2.2.2 Subsistence, Land Rents and Extra Profits With Self-Help Provisioning

The effects of self-help on subsistence are contradictory but will generally be resolved so that the cost of accommodation in money terms is lower where self-building is more active. There are two effects: the first is that the residential construction industry has problems cheapening the value of accommodation, and high levels of self-help in Atlantic Canada further reduce the opportunities for productivity improvements. The second is that self-help lowers the money costs of accommodation, and this is, in effect, a cheapening of the money cost of the accommodation component, and hence of subsistence itself.

Capital investments to improve productivity will also normally increase the capacity of the enterprise. Capital investments in the residential construction industry can also increase the potential output levels: either through off-site fabrication or increased specialisation on-site. In either case, increased sales will be required to repay the investment or achieve the economies of scale. But in areas such as Atlantic Canada where self-help provides a substantial portion of new dwellings, the residential construction firms are constrained in their potential to expand their markets. Consequently, self-help acts as a further constraint on any efforts by the residential

construction industry to improve productivity, thereby cheapening the value of accommodation.

At the same time, although self-help dwellings contain the same amount of socially necessary labour as do industry dwellings, they are less expensive because a portion of the value is only 'potential value'. Consequently, shelter costs will be lower: for example, the average Newfoundland household spent 13.1% of their income on shelter in 1982 ($3161.7) while the average Ontario household spent 16.4% ($5011.6)[12], an absolute difference of $1,800, or 25% of the Ontario price.

Thus, on the one hand, self-building makes it even more difficult to cheapen the value of accommodation, while on the other it effectively does that very thing by lowering the money costs of accommodation. The balance between these two contradictory effects on the level of subsistence will be determined by the level of self-building and by a host of contingent factors such as income level and security, level of land rents, and planning regulations and practices, all of which will condition the outcome. And that outcome will have an impact upon accumulation as is discussed in the following sub-section.

The direction of the economic impact of self-building on the household has been identified above. However there are also social and political impacts which can be of considerable importance. For example, on a political level, self-building, through lower costs of construction and non-debt financing, can reduce the dependence of households on money wages. This does not imply that the household is a petty commodity producer, simply that with free or inexpensive housing they are more independent from money wages, particularly when they have access to nature to supplement their food and heat requirements. It would appear reasonable that this could affect their political views, and their willingness to express these views. How this would work out in any particular situation would depend upon a host of factors. It is also clear that the support of both the nuclear and extended family plays an important role in the self-building strategies of many households. Adoption of these strategies must be easier given certain factors, not the least of which is physical and social proximity to the extended family (see Italian case in Duncan 1990). The empirical information available for this thesis makes it difficult to address these questions as thoroughly as the economic questions. However, where possible, the political and social implications and causes of self-building will be considered.

Self-help builders purchase land themselves prior to building, consequently, if they are building where land rents can be obtained, they will have to pay the rent to the landowner. Often, however, self-help occurs in areas where land costs, and hence rents, are very low. For example,

[12] Calculated from Family Expenditure data.

in P.E.I., a third of all 1978-81 self-help building sites were free (already owned, or through gift or inheritance from relative), and about 45% cost less than $3,000 (Rowe 1983:70). Clearly there is little land rent in these situations.

Self-helpers can also be in a position to capture land rents when they sell their dwelling at a future date if local conditions have changed so that land rents have increased. However, this would also be true of households buying an industry-produced dwelling and cannot be considered a feature of self-help. The same can be said of extra profits, while no extra profits are involved in the original provisioning process, it is possible that if local conditions change, extra profits could be available with some future exchange. However, this would also be true for households buying an industry-produced dwelling.

Thus extra profits and land rents are far less of an issue with self-help than with the residential construction industry. This means that surpluses are far less likely to be transferred from other sectors with self-help provisioning, and it also suggests lower levels of debt financing will likely be required.

2.2.3 Effect of Self-Help Provisioning on the Accumulation Process

If self-building is substantial, then the lower direct production costs (in money terms) of self-building will have an impact upon the market price of accommodation, again in money terms. This is how the market experiences the unrealised value in self-building. The impact upon the residential construction industry will be to increase their difficulties in realising the full value of the accommodation in exchange. Consequently, the mass of surplus available to the residential construction industry is reduced by self-building, and this has two results.

First, every unit of accommodation provided through self-building potentially reduces the level of production of the residential construction industry by one unit - and as the empirical information in Chapter 4 will show, the income profiles of self-help households are not that different from those households purchasing an industry-produced dwelling. Thus many self-help households could have purchased a dwelling produced by the construction industry, and consequently the reduction in the mass of surplus can be substantial where self-help is an active sector.

Secondly, the lower average accommodation costs as a result of extensive self-building makes it difficult for the residential construction industry to obtain the full value of accommodation upon exchange, and it is probable that the larger the self-building sector, the greater these difficulties will be. This is the second way self-building reduces the mass of surplus

available to the residential construction industry. For the same reason, extra profits for the residential construction industry, or other speculators, are unlikely where self-help is an important form of provisioning.

The impact upon the residential construction industry does not stop there of course. If the mass of surplus for the industry is lower, so too will be the profitability of the industry. Also, given that it has to share the market with self-builders, then the turnover rate will also be lower. Together this means that the residential construction industry will face even greater difficulties in improving productivity in areas where self-building is active. The only saving grace in this situation for the residential construction industry is that it is far less likely that they will have to share surpluses with landowners - land rents tend to be inversely related to levels of self-building (although not necessarily as a consequence of self-building).

Accumulation is directly affected through the reduction of the mass of surplus caused by self-building, and indirectly through the effect of self-building upon subsistence. The former is straightforward - accumulation is inversely affected by the mass of 'potential surplus' claimed by self-builders - the greater the level of surplus included in 'potential surplus' the lower the level of accumulation. On the other hand, where the level of 'potential surplus' and self-building are highest subsistence is likely also to be lowest. Lower levels of subsistence implies lower money wages which should improve the profitability of all production at prevailing productivity rates, thus augmenting accumulation. Finally, as noted above, transfers of surpluses through taxation or wages are less necessary where self-help occurs. However such transfers are most often at the national level while extensive self-help occurs at the provincial and sub-provincial levels, consequently the overall impact of such reductions in the need for transfers of surplus will be lessened. While there are thus contradictory impacts upon accumulation, these impacts are not experienced by the same capitals. The mass of surplus will be reduced for the residential construction industry, while all local capital (including residential construction) receives the benefit of lower levels of subsistence.

One of the principal pressures upon capital to improve productivity is the general level of wages and the supply of labour. Where wages are high, and/or labour in short supply, then capital is pushed to improve productivity. Although self-building lowers the level of subsistence, and this augments accumulation at the prevailing technical levels, it is also likely to encourage capital to favour more labour intensive production. If this is the case, then while accumulation is enhanced in the short term, over time this capital will face increasingly intense competition from capital in other areas with higher productivity levels and likely greater productive capacity.

The longer run prognosis for this capital would not be optimistic - capitals with lower productivity tend to lose out. Thus, the augmentation of accumulation though lower levels of subsistence is likely to be a double edged sword, increasing the probability of the failure of local capital over time. This bears some resemblance to the British residential construction industry where continued use of self-employed or casual workers with relatively low wage rates is favoured over improvements in productivity (see Ball 1983:167-174).

Implicit in much of this discussion has been the assumption that the distribution of self-building is uneven, and this is largely due to the uneven development of capitalism, the less well-off the area, the more likely it is to have self-building. Following from the discussion above where self-building was shown to have a negative impact upon accumulation, then it follows that self-building will contribute to the continued relative impoverishment of those areas.

However, at the same time, many self-building households are better off as a result of their efforts, and also many other households in these areas will also be better off because of the downward pressure on the costs of accommodation exerted by significant levels of self-building.

2.3 SUMMARY

An objective of this research was to evaluate the impact of self-help housing production on the residential construction industry and households, and through these on the accumulation process. It was suggested that this would contribute to our understanding of housing in Canada, and self-help provisioning in both industrialised and Third World settings. As part of this process housing policy options will be considered in order to assess their impact on self-help production. This chapter has provided the theoretical framework for this analysis. The conceptual and theoretical material from this chapter to provide a preliminary assessment of the some of the objectives of the research. These are summarised in this section.

Impact on the Residential Construction Industry

Here the theoretical analysis provides an unambiguous answer. The residential construction industry suffers from the existence of self-help production. This is a consequence of the reduction of surplus available to the industry which is in direct proportion to the level of self-help activity.

An added effect is that the residential construction industry in these locations is less able to advance the technical conditions of production where self-help is strong. Thus, where the industry from areas where self-building is strong enters into competition with residential construction capital with higher levels of technical composition it can be expected to be at a

competitive disadvantage.

While the analysis provides a very clear prediction on this issue, it is very difficult to verify this prediction empirically. A principal difficulty, as always, is that most accounting is in price terms. There is considerable variation between price and value in accommodation markets where land rents, lower turnover rates, interest charges and the scissors problem exist. There is some evidence available on the characteristics of the construction industry, but unfortunately, it is not possible to obtain even provincial level data which distinguishes between residential construction and other types of construction.

Thus, while a clear theoretical prediction can be made on the issue of the impact of self-help on the residential construction industry, the empirical evaluation of this must be more tentative. This is conducted in Chapter 5.

Impact on Households

Individual households obtaining accommodation though self-help will be better off. This could also include households who obtain commercially produced accommodation where costs are likely lowered as a consequence of self-help activities. However, at a more general level, households as a group are negatively affected by some likely consequences of self-help production such as restricted mobility, and the lower wages which can be paid given lower accommodation costs.

The pool of owned and relatively inexpensive accommodation gives households in general a greater strength in times of economic crisis. This allows them to survive such periods better than households where tenure is less secure through higher real levels of rental tenure or higher costs of home ownership. In these latter locations households will not only face potential displacement from this accommodation as incomes and living standards are attacked, they are also at greater risk of losing the investment they have made in accommodation. Since housing is a major source of individual accumulation in Canada, this process is part of the transfer of wealth during crisis from the working class to capital.

These effects will be far less likely in locations where self-help is strong. Consequently in locations such as Newfoundland and the Maritime Provinces households are better placed to survive an economic crisis, while capital in those locations is in a worse position to survive crisis relative to more technically advanced capital from other locations with whom it must compete to survive. Economic crisis thus provides a critical period where the spatial distribution of economic growth becomes more skewed and self-help production of accommodation contributes to this

process.

Impact on Economic Growth

The theoretical prediction for this issue is almost as straightforward as that for the residential construction industry. The competitive position of capital is weakened by strong levels of self-help production of accommodation. However, because of concomitantly lower values for subsistence, the size of surpluses available to capital with similar technical compositions are likely to be in direct proportion to the size of the self-help sector. Taking these two elements together, the prediction would be that the strength of pressures to intensify the extraction of surpluses are in inverse relation to the level of self-help production, the absolute level of surpluses for investment is smaller and the incentive to modernise production is weaker.

Once again, while prediction is relatively straightforward, a precise empirical evaluation of the prediction is very difficult to obtain. However, if the theoretical predictions for the residential construction industry and households are confirmed, then given the necessary relationships between these and accumulation established in this chapter, it is likely that the theoretically predicted negative impact of self-help housing provision on capital accumulation can be considered as confirmed.

The following four chapters use the case study data from P.E.I. to evaluate the theoretical predictions made above.

CHAPTER 3

THE EXTENT OF SELF-HELP HOUSING PRODUCTION IN CANADA

To assess the importance of the discussion in the preceding chapters for housing analysis in Canada we need to know how much self-help provisioning takes place; this is the principal task of this chapter. A number of estimates, which are the first made for Canada, are developed. The estimates for Atlantic Canada where half of annual housing starts are self-help are more reliable and detailed than for the other regions because of the availability of two case studies and a regional survey of households which contains information on self-help housing. However, a technique is developed and described in this chapter to provide a rough indication of provincial levels of self-help housing production. While the level of self-help output is lower outside of Atlantic Canada, it is still an important source of housing production in British Columbia, Quebec and Saskatchewan and, in 1985, accounted for 14% of the value of all housing produced in Canada. Recently available data from a survey of households in Canadian Census Metropolitan Areas (CMAs) show about a quarter of new housing built between 1985-1989 in urban Canada was produced by the self-help sector. This data also confirms the predicted provincial levels of self-help activity.

These levels of activity identify self-help production as a major source of new accommodation, likely accounting for a third of new housing production in Canada, and at least half of new production in Atlantic Canada. This demonstrates the need to include self-help in the analysis of housing provisioning in Canada.

3.1 THE CASE FOR CASE STUDIES

Advocates of self-help such as Turner (1972, 1982) promote it as a means of improving housing conditions and increasing the control individuals have over their own lives. Critics of self-help such as Burgess argue that state support for self-help can only further capitalist development (Burgess 1982, 1985). The small amount of empirical work that is available has not been able to contribute to a resolution of the debate. Thus the literature is dominated by competing claims about the role of the state and the 'progressiveness' of self-help. Usually, these claims are not substantiated by empirical detail, Schlyter being an exception. She has used her work in Lusaka to attempt to evaluate the competing claims made by Burgess and Turner, and finds that while her results support Turner's positions (Schlyter 1984:79-95), that there were still questions which could not be resolved without reference to higher levels of abstraction.

> *The arguments for a total condemnation of upgrading policies, which have been put forward by the critics of upgrading in the international debate, were not convincing when tested on George. The arguments are derived from an analysis of upgrading seen as state intervention in order to ensure*

> *the reproduction of labour, the valorization of land and capital, and the maintenance of social order. The analysis raised many important questions, which could not easily be identified in an analysis based on local empirical observation only. The analysis is on a level of abstraction, from which policy conclusions should not be drawn (Schlyter 1984:93).*

As I argued in Chapter 1, both Turner and Burgess share the same 'cost-of-production' approach, and, as such, suffer from the deficiencies inherent in that theory of value. In particular, the abstractions provided by that approach were shown to be incapable of answering key questions about self-help, the most important for the debate being the role of self-help in capital accumulation. Abstractions about the role of the state and the effects of policy must be built on the foundation of self-help and capital accumulation, else they can only be composed of competing claims whose validity cannot be substantiated.

Dickens et al have claimed that the utility of case studies is that they "show that it is not possible to reduce empirical questions to structural assertion" and are able to "erect some signposts to how the 'interaction of structures with practices' can be researched and understood; how it is possible to move out of sterile structure versus agency debates towards some resolution of the two" (Dickens et al 1985:4).

Platt (1988) has identified four functions of case studies which are differentiated by the extent to which the analysis is confined to the particular case(s) being studied, and whether the analysis is used to make a point directly from the case or is used as a basis for inference. If case studies are to assist in the resolution of the sterile Turner-Burgess debate, and also contribute to an understanding of housing provision in Canada, then clearly, inferences will have to be made to extend the analysis beyond the case study itself. Thus "the case(s) studies are taken to provide a basis for inference to points not directly demonstrated and with relevance to cases not studied" (Platt 1988:12). Case studies can be used to improve our understanding of processes, and be applied to cases or situations not actually studied.

Case studies are used this way in this thesis: in this chapter they provide the key with which a distinction can be drawn between industry and self-help production, while in subsequent chapters they are used to describe other aspects of provisioning and provide the insight necessary for an evaluation of self-help itself, and an analysis of its impact on capital accumulation. Armed with this analysis it is possible to advance the issues being debated in the self-help literature, in particular the discussion about the role of the state. In general, the case studies are used "to demonstrate the importance of variation within common structures" of housing markets (Dickens et al 1985:4).

3.2 THE CASE STUDIES

The two case studies are described below along with a third source of information, a survey of Atlantic households. In order to set the scene a brief description of the case study areas is provided in the following sub-section. These case studies have provided most of the empirical material for this thesis. These studies are described in the following section: the most important is a survey of new homeowners in Prince Edward Island (P.E.I.). The basic methodology of the P.E.I. survey was applied later in Colchester County, Nova Scotia, the second case study area. Figure 3.1 locates the two case studies.

Figure 3.1

The Case Study Areas

3.2.1 The Case Study Areas

Atlantic Canada comprises the four eastern provinces of Canada: Newfoundland (population 550,000), and the Maritime Provinces of Nova Scotia (population 980,000), New Brunswick (population 860,000) and Prince Edward Island (population 130,000), and represented 7.5% of Canadian households in 1981.

Table 3.1: Selected Housing Characteristics of Regions of Canada

Characteristic	REGION					
	Atlantic region[1]	Quebec	Ontario	Prairie region[2]	British Columbia	Canada
Total households ('000)	600	2,853	4,110	1,305	955	7,913
Rural households(%)	35.3	13.9	9.9	15.6	14.9	14.6
Unemployment rate(%)	16.0	9.9	3.5	6.2	9.7	10.1
Average income($)	23,342	25,831	29,303	29,500	29,681	27,945
Transfer incomes(%)	23.9	17.4	12.7	13.2	14.0	15.1
Single detached dwellings(%)	71.0	41.8	57.0	64.1	60.5	55.7
Proportion owned(%)	75.3	55.4	64.2	67.1	64.2	63.3
Unmortgaged new SDD(%)	64.6	44.6	20.7	41.3	46.7	35.2
Avg. value new dwellings($)	42,030	52,961	73,627	66,947	100,159	68,110
Avg. annual payments by:						
- owners ($)	1,843	1,947	4,177	3,747	3,337	3,294
- renters ($)	2,540	2,576	3,171	3,496	3,809	3,072

[1] includes Newfoundland, Nova Scotia, New Brunswick and Prince Edward Island

[2] includes Manitoba, Saskatchewan and Alberta

Source: calculated from 1981 Census of Canada and Household Income, Facilities and Equipment Surveys

Unemployment is far higher in Atlantic Canada, incomes are lower and more irregular, and there is a far higher proportion of the population whose principal source of income is from government transfer payments. Despite these economic circumstances the proportion of dwellings owned is the highest in Canada (see Table 3.1), and the proportion of those dwellings which are unencumbered by a mortgage is also much higher than elsewhere in Canada. Further, even with higher construction costs, the average value of owned dwellings and costs of both owned and rented housing are lowest. Thus, the poorest region of Canada appears to have an advantage in

some important aspects of housing provision.

The two case studies areas are fairly close to each other, and also resemble each other in terms of a number of their characteristics. Prince Edward Island is the smallest of the four Atlantic Provinces, with a 1981 population of 122,506 (1981 Census of Canada). Table 3.2 presents some comparisons between P.E.I. and the entire Atlantic region. As can be seen, the P.E.I. population is very rural, but in terms of income and the characteristics of the housing stock, P.E.I. is fairly typical of the region.

Table 3.2: Comparison of P.E.I and the Atlantic Region

Characteristic	Atlantic Region[1]	Prince Edward Island
Total households ('000)	600	37.6
Rural households(%)	35.3	67.2
Unemployment rate (%)	16.0	12.0
Average income ($)	23,342	19,338
Transfer incomes (%)	23.9	20.2
Single-detached dwellings (%)	71.0	81.1
Proportion owned (%)	75.3	75.7
Unmortgaged new single detached dwellings (%)	64.6	?
Average value new dwellings ($)	42,030	40,230

[1] includes Newfoundland, Nova Scotia, New Brunswick and Prince Edward Island

Source: Calculated from 1981 Census of Canada and Household Income, Facilities and Equipment survey, micro data files.

With a 1981 population of 41,771 Colchester County is one of the more populated of Nova Scotia counties other than the Halifax-Dartmouth Metropolitan area (Bishop 1985:23) but is still predominantly rural with only 11.1% of residential construction occurring in suburban areas (Ibid:37), mainly clustered around the principal city of Truro (1981 population 12,840). The estimates developed from the Colchester County case study are thus only taken as representative of rural areas. However, as Bishop notes (Bishop 1985:21) Colchester County contained 5.4% of the provincial housing stock and can be taken as typical of non-metropolitan Nova Scotia.

3.2.2 The Case Studies

Two systematic case studies of housing production were conducted in Atlantic Canada during the 1980's. These provide most of the empirical material for this thesis and are the best sources of data on self-help housing in Canada. The first and largest case study (Rowe 1983) was initially conducted in Prince Edward Island (P.E.I.) in 1982, and the sample was interviewed again in 1989 (Rowe 1990a). Information for the P.E.I. case study was collected through a representative sample of 10% of the first occupants of new single detached dwellings built between 1978 and 1981. The survey was called the Prince Edward Island Residential Financing and Construction Survey (PEIRFCS). A second, smaller scale, survey was conducted in Colchester County, Nova Scotia in 1985, using the P.E.I. methodology (Bishop 1985). The Colchester County study surveyed households who had obtained building permits for single detached dwellings between 1981 and 1983. Bishop's results are very similar to those from P.E.I. and both the P.E.I. and Colchester County studies have been supported by the recent results of a third source, a survey of households residing in Atlantic communities with a population less than 20,000 (Corbett 1990).

The objectives of the two case studies was to determine the extent of the self-help component of housing provision, and to begin to examine the ways in which it differed from our standard ideas of housing.

The P.E.I. case study was a survey conducted in 1982 of the first occupants of single detached dwellings in P.E.I. which were started between 1978 and 1981. 286 hour-long interviews were conducted and this represented 10.6% of housing starts for the period. The sample was stratified by county and the validity of the survey was established with reference to the results of the Household Income Facilities and Equipment microdata files obtained from Statistics Canada. Appendix 3.1 contains a summary of the survey design and implementation and examines the validity of the results. The survey results are very reliable and can be used with confidence as representative of the population for this period.

In addition to the P.E.I. case study the results of a similar study in Colchester County in Nova Scotia are used. This study applied the P.E.I. methodology and is reported in Bishop (1985). The results of the two studies are generally very comparable, however there are some important differences in the findings confirming the point made by Dickens et al that case studies can demonstrate the importance of variation within structures.

The third source of information on housing provision in Atlantic Canada comes from a survey of residents of communities with populations less than 20,000 conducted by the Small Town and Rural Studies Programme at Mt. Allison University in New Brunswick. This is one of the

few general surveys to capture information on self-help production and thus provides an invaluable opportunity to explore the findings of the case studies on a wider geographical basis. This mail survey was conducted in 1985 when 3,013 Atlantic Canadian residents of rural areas and communities with populations less than 20,000 were surveyed[13]. The survey has a response rate of 65% with 1,840 completed questionnaires. The methodology is reported in Strople (1987).

3.3 HOW IMPORTANT IS SELF-HELP HOUSING?

The case studies can provide estimates of the level of self-help within the case study boundaries: P.E.I. and Colchester County, and the Atlantic survey can be used to estimate the level of self-help provisioning within the region for communities with populations less than 20,000. Thus, outside of P.E.I., it is not possible to empirically estimate the level of self-help provisioning in communities with populations over 20,000, consequently a 'best guess' approach based on key informants is used for these communities, so that provincial estimates of the level of self-help provisioning can be developed. As I will show, these estimates are not greatly affected by variation in these 'best guesses', so the provincial estimates appear to be reliable.

In addition to the empirical estimates for Atlantic Canada, construction industry data from Statistics Canada can also be used to estimate the value of self-help production for Canada as a whole, and recent data from a survey of metropolitan households in Canada provides estimates of the level of self-help in these areas. Finally, it is argued that relative levels of non-mortgage financing provide a rough indicator of relative levels of self-help production until empirical data is available. This is used to group provinces according to their relative levels of self-help provisioning. This grouping is used throughout the rest of this thesis.

It is useful to recall the definitions of self-help which were developed in Chapter 2. Self-help refers to housing provision where the household takes the initiative in building their own accommodation. There are two forms of self-help: self-build is where the household takes the initiative in all aspects of the project, from land purchase and approvals through to contracting and construction. Self-build households often contribute a significant amount of unpaid labour (sweat equity). The other form of self-help is self-promotion where the initiative is more limited, for example the households might act as general contractor.

3.3.1 Self-Help housing production in Atlantic Canada

The results of the P.E.I. survey show that 68.5% or an estimated 1,545 single detached

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[13] The data was kindly provided by the Rural and Small Town Studies Program, Mt. Allison University, Sackville, New Brunswick.

housing starts were self-built and 14.7% (331 starts) (1978-81) were self-promoted. The remaining 16.8% (373 starts) were produced by the industry sector. Thus 83.2% of all single detached starts, or 1,876 new dwellings, were produced through self-help means in P.E.I. from 1978-81. Single-detached dwellings comprised 78.5% of all dwellings produced in P.E.I. Table 3.3 summarises the estimates for the P.E.I. market for the 1978-81 period. It is assumed that all multiple dwellings, that is double attached houses (duplexes), row houses and apartments, are produced by the residential construction industry. In that duplexes and row houses can be produced by self-help means the estimates are conservative.

Table 3.3: Housing Starts by sector, PEI, 1978-81

Production Sector	Dwelling Type		Total
	Single Detached[1]	Multiples[2]	
Self-help			
Self-build	1545	0	1545
Self-promotion	331	0	331
Subtotal	1876	0	1876
Industry	373	616	989
Total	2248	616	2865

Sources: 1) P.E.I. case study data
2) CMHC (annual): Canadian Housing Statistics, Table 10

The second case study was conducted by Bishop in 1983 and used the same methodology as the P.E.I. case study (Bishop 1985:18). Bishop estimated that 77.8% of all 1981-83 housing starts in Colchester County were self-build, and that a further 13.4% were self-promoted, leaving 8.8% as the industry sector share of total production (Bishop 1985:39).

The Mt. Allison survey includes the entire stock of dwellings in communities with 1981 populations lower than 20,000 whereas the case studies focused on the first occupants of recently built new single detached dwellings, regardless of the size of the community. However it is possible to extract a sub-set from the Mt. Allison data which is more consistent with the case study data. This can be achieved by assuming that if the duration of a households occupancy of the dwelling is the same number of years as the age of the dwelling, then the responding households will have been (and still are) the first occupants of the dwelling. Consequently, their report on the sector of construction (self-build, self-promote or industry) refers to the actual construction of the dwelling. Table 3.4 shows the distribution of single detached dwellings by production sector using this assumption. A possible source of error is with inheritance or similar situations whereby the current occupants have been in the dwelling for its entire history but who were not the original household heads; such cases were identified and have been deleted.

Table 3.4: Estimates of output of single detached dwellings in communities less than 20,000, Atlantic Canada

Sector	YEAR		
	1980-85	1975-85	pre-1975
Self-build	65.4	65.9	60.5
Self-promotion	20.5	20.8	20.3
Industry-built	7.1	6.3	5.8
Source: Calculated from Mt. Allison data			

The fundamental difference between this data and the two case studies is that the Mt. Allison survey only covered dwellings located in communities with a population less than 20,000; however, this represents 61% of the population of Atlantic Canada (Corbett 1990:3). The results appear quite consistent with the estimates generated from the two case studies and other information above - self-help production accounts for about 85% of the total output of single detached dwellings in Atlantic Canadian communities with populations less than 20,000. This is an almost identical level of output as was reported in the Colchester County case study where community sizes were more similar to the Mt. Allison sample than the P.E.I. study, however there is little difference among the three sources. Table 3.5 presents the provincial estimates for the 10 year stock - that is buildings aged 10 years or less and which are still occupied by the first occupants.

The Mt. Allison survey reports that about 88% of single-detached dwellings built in the 1975-85 period were self-help, while the P.E.I. case study reports that 83% were self-help. However, the Mt. Allison survey would have excluded the Charlottetown area where self-help production is lower (59.5%) than in the rest of the province (96.1%). Thus the results of the P.E.I. and Colchester County case studies and the Mt. Allison survey are very consistent with each other.

There appears to be some variation across the four Atlantic provinces and this will be discussed further in Chapter 4. However it is clear that self-help production accounts for a considerable amount of housing production in all of the provinces of Atlantic Canada, and that the data from the three available sources of information are quite consistent in the level of self-help production measured.

Table 3.5: Production of single detached dwellings by province and sector, communities less than 20,000, 1975-1985

Sector of production	PROVINCE				Atlantic Canada
	Nfld.	NS	PEI	NB	
Self-build	80.3	62.2	58.8	56.0	65.9
Self-promotion	14.8	19.5	29.4	26.7	20.8
Subtotal self-help	95.1	81.7	88.2	82.7	86.7
Industry-built	3.7	6.1	11.8	8.0	6.3
Total	100.0	100.0	100.0	100.0	100.00
Source: Calculated from Mt. Allison data					

The Mt. Allison data can be used to generate estimates of the share of total housing production in Atlantic Canada attributable to self-help producers. For example, in Newfoundland 95.1% of single detached dwellings built from 1975-85 in communities with populations under 20,000 were self-help. Assuming that annual shares are not too different from the ten year average, then annual self-help starts in these Newfoundland communities are 0.951 times the number of single detached housing starts, with the remaining singles and multiples being industry starts.

The Mt. Allison data cannot provide similar multipliers for communities over 20,000. However, New Brunswick sources indicate that 50% of single detached starts in the three major urban areas in that province were self-help (WMS et al 1988). In addition, major mortgage lenders report that 30% of their loans in Atlantic Canada are to self-help builders (Ferrance and Assoc. 1989:44). Bearing in mind that no more than half of self-help starts in Charlottetown used mortgage financing, a suitable share for self-help starts in areas with a population of over 20,000 might be 'guessed' to be somewhere near 40%. However, as shown below, the estimates are not very sensitive to the size of the multiplier used for the larger communities.

Unfortunately housing start data is broken into starts in communities over and below 10,000 population, whereas the Mt. Allison data has 20,000 as a break. While it is possible to use the inter-censual difference in the size of the housing stock as a measure of additions to the stock (ie. starts) this has the problem that demolitions and conversions also have an important role in stock adjustment. Consequently the housing start data is used in the estimates below - the high rural multiplier is only applied to starts in communities with populations less than 10,000 when the actual multiplier should be at least 0.8 for communities with populations between 10,000 and 20,000 (see Table 3.5). This adds an additional measure of conservatism which could compensate for any overestimation by using a multiplier of 0.4 for areas with populations over 10,000. Table

3.6 presents the estimated share of self-help in the production of single detached and total dwelling starts for Atlantic Canada by year, and for each province for the 1975-85 period.

Table 3.6 Share of self-help in housing output, Atlantic Canada, 1975-1985

Year	Self-help singles	Self-help Total
1975	57.5	42.5
1976	62.8	47.6
1977	61.2	43.0
1978	65.8	53.4
1979	68.3	58.0
1980	64.8	56.5
1981	62.8	57.0
1982	63.3	52.5
1983	62.3	52.6
1984	59.9	49.8
1985	60.7	43.6
1975-1985 Starts by Province		
- Atlantic	62.5	49.6
- Newfoundland	78.3	61.6
- P.E.I.	76.3	57.8
- Nova Scotia	58.5	37.6
- New Brunswick	65.4	53.5
Source: Calculated from Mt. Allison data		

These estimates are roughly 12% higher for the share of single detached dwellings and 15% higher for total starts than have previously been estimated (Rowe 1990b) prior to the availability of the Mt. Allison data. There is always the possibility that the over 10,000 multiplier is in error since it is only an informed guess. However the total estimates are not sensitive to marginal changes in this multiplier. The rise in the relative importance of self-help starts during the late 1970's and early 1980's is consistent with the P.E.I. results and is due to a larger decline in the absolute number of industry starts due to heightened realisation problems during this period.

Table 3.7 shows the impact on the Atlantic estimates of varying the multiplier from 0.3 to 0.45. As can be seen, the value of the multiplier for the over 10,000 community size housing starts is not particularly important - a 5% change in the value of the multiplier causes about 2% change in the estimate of starts. This is because most single detached starts are in smaller communities and produced by self-help means, and, most multiple starts are in larger communities and are assumed to be produced by the industry. Thus a 5% change in the multiplier applied to the relatively smaller number of single detached starts in communities over 10,000 can have little impact. In the absence of further empirical work on self-help housing production in centres with

populations over 20,000, it would appear that about half of the housing starts in Atlantic Canada are produced by the self-help sector. This makes self-help housing the most important single source of initiative for new housing in the region, with the residential construction industry and government[14] being the others.

Table 3.7: Impact of urban multiplier on estimates of self-help production in Atlantic Canada

Value of multiplier	Self-help singles	Self-help total
0.30	58.6	46.5
0.35	60.6	48.1
0.40	62.5	49.6
0.45	64.5	51.2

3.3.2 The Value of Self-help Housing Production in Canada

Outside of Atlantic Canada self-help housing production has not attracted much interest from researchers; thus despite a growing interest in self-help production by CMHC, there is little direct empirical evidence about the scale or nature of self-help housing. In his comparative study of two counties in Ontario for the 1978-82 period Fuoco found that about 65% of new housing starts in rural areas and about 5% of starts in urban areas were produced by self-help means (Fuoco 1984:19-20). Skiburskis (1981:38) has found that almost half of new dwelling starts in rural British Columbia suburbs in the late 1970's were initiated by households themselves. In addition, the Saskatchewan Housing Corporation reports that 30-50% of new single-detached dwellings in Saskatoon are self-help (cited in Carter 1990, and confirmed in Table 3.12 below).

In addition to these sources on new construction there is a limited amount of information on self-help renovation activities in Canada (DPA 1985). While these sources confirm that there is considerable self-help activity in Canada and show that it is not confined to new construction, they are of little use in estimating the level of self-help in new construction.

There are also some sources which confirm that self-help has been important in the past in Canada. For example, Harris speculates that a considerable amount of new residential construction in Toronto (but outside the formal City of Toronto boundaries) in the early part of the century was produced by self-help means (Harris 1987). Harris has recently begun to expand

[14] While most government sector housing would actually be built by the residential construction industry, the initiative for the housing start comes from government. In Canada, government initiates housing for its own purposes (for example, police and fire station housing and housing for functionaries in rural areas) in addition to social housing.

his work and preliminary results indicate that self-help accounted for a significant amount of new construction in all Canadian urban centres at the turn of the century (Harris 1990).

In summary, it is difficult to estimate the level of self-help housing production because very little direct work has been done on this subject west of New Brunswick, and established data sources from CMHC and Statistics Canada do not identify the sector of production. While we know that self-help accounts for substantial output in the Maritime Provinces, little is known about the level of activity elsewhere except that it exists (eg. Fuoco and Skiburskis) and is not trivial. However, until empirical information is available it is useful to develop an alternative means of predicting the level of self-help housing production.

Thus far the discussion has focused on the number of dwelling units constructed by the self-help sector. However, construction industry data from Statistics Canada can be used to estimate the value of self-help production in Canada where direct survey data is not yet available. By looking at the value of production it is possible to estimate the importance of self-help housing production to the economy. In 1985, there was over 1.4 billion dollars worth of new self-help construction in Canada, roughly 14% of new residential construction (see Table 3.8).

These estimates are calculated from data presented in Zylstra (1988). Zylstra's paper is an attempt to deal with differences in the value of residential construction put in place by the construction industry as reported in two sources. The first of these is an annual census of the residential construction industry and the second is a survey of private and public investments including investment in housing. Self-building is calculated as the difference between the figures reported in the two sources.

Table 3.8: Value of New Construction by Sector, Canada, 1985

Production Sector	Total Value ($'000)	Own Account ($'000)
New Construction		
Single detached	7,152,756	
Semi-detached	345,995	
Apartment	2,626,571	
Subtotal New	10,125,322	2,359,200
Less Real Estate		933,000
Total own account		1,426,200
Repair	13,212,423	5,417,093
Total	23,337,745	7,776,293
Source: Calculated from Zylstra (1988:Appendix II)		

The investment data includes own-account building, while the construction industry figures do not. The difference was almost 2.4 billion dollars in 1985 or 23.2% of the total value of new construction (Zylstra 1988:10). Zylstra notes a number of factors that could explain the observed difference, however most of these would not generally apply to residential construction with the one exception of 'own account' building by the real estate industry (Appendix 3 and pp. 5-6). If the real estate estimates reported by Zylstra are correct then own account activities accounted for 14% of the total value of new construction in Canada in 1985 ($1.426 billion).

Own account building is defined as "owner occupied own account work" - essentially self-help production. It can be assumed that most own account building is on single detached dwellings, so about 20% of the total value of new single detached dwellings produced in 1985 were own account. Own account is more important for repairs accounting for 41% of total activity. Unfortunately comparable provincial data for repairs is not readily available from Statistics Canada.

These value estimates are likely to underestimate the share of self-help in new housing production because self-help houses are less costly than is industry housing. Recent data made available by the Statistical Services Division of CMHC confirm this. The data is from a survey of 6502 households residing in the 26 Census Metropolitan Areas (CMAs) in Canada. By selecting households who are the first occupants of the dwelling and using their responses to questions about the method of production of their house, I estimate that almost 23% of 1985-89 housing production in CMAs was self-help (Table 3.9). The share of self-help is greater if a longer time period is taken for the stock: likely due to higher rates of residential mobility by

occupants of industry built dwellings (also noted in the P.E.I. case study, see Rowe 1990: Chapter 4).

Table 3.9: Starts by Production Sectors, Census Metropolitan Areas

SECTOR OF PRODUCTION	YEAR OF FIRST OCCUPANCY OF NEW DWELLING		
	1985-1989	1980-1989	ALL YEARS TO 1989
Self-Build	14.3	15.1	18.9
Self-Promote	8.3	8.8	8.9
Total Self-Help	22.60	23.90	27.80
Industry	77.3	76.1	72.3
TOTAL	99.90	100.00	100.10
Source: Calculated from unpublished data supplied by CMHC			

Given that almost a quarter of CMA housing production is self-help, and that in rural areas self-help can exceed 80% of production, then self-help must account for at least a quarter and probably closer to a third of new housing production in Canada. Most of this will be of single-detached dwellings which run from 45-60% of total Canadian housing output (see CHS 1985: Table 10). Thus in 1985 for example, about 98,000 single detached dwellings were built in Canada (59% of total output). Assuming that all self-help production was of single-detached dwellings, then from 35-55% of all single detached dwellings produced in Canada were self-help (depending upon whether self-help accounts for a quarter or a third of total output). This represents 41,000-51,000 single-detached houses.

One consequence of this level of activity by self-help builders is that they are an important source of employment in the residential construction industry. CMHC (Hansen 1976:40) estimates that the production of a single detached dwelling requires 1.267 years of labour[15]. Thus self-help builders generated the equivalent of 52,000-70,000 full-time jobs in that year.

[15] This 1976 report is the most recent available. CMHC is currently updating these estimates.

Table 3.10: Value of Sub-contracts by Sector, Canada, Selected years

	Canada ($M)		PEI($'000)	
YEAR	Industry	Self-Help	Industry	Self-Help
1981	2,579	3,701	2,324	15,139
1983	2,247	4,205	2,332	20,091
1985	2,658	6,088	5,257	35,999
Source: Calculated from unpublished Statistics Canada data				

There is a second element which has to be taken into account in assessing the importance of own account or self-help production. That is the value of work undertaken by sub-contractors to both the residential construction industry and to self-help builders. This can be estimated by deducting the value of sub-contracts performed for the residential construction industry from the total value of all sub-contracts for residential construction[16]. Unfortunately it would require a special run using Statistics Canada data to do the necessary calculation for new residential construction alone, or to separate different dwelling types or provinces. Thus the estimates provided in Table 3.10 are for total residential construction - that is, new construction and repairs.

From the figures presented in Table 3.10, the absolute value of contracts awarded by self-help builders exceeds those of the industry, despite self-help production being only about 14% of the value of all new residential construction. Roughly calculated this means that the average self-help builder spends five times as much on sub-contractors as the average industry builder.

3.3.3 Provincial Estimates of the Level of Self-help Housing Production

The mortgage is an instrument well-suited to the purchase of a completed dwelling. A marketable dwelling provides sufficient surety to the lending institution. Construction financing, on the other hand, is more problematic for the lending institution, since a partially completed dwelling is not readily marketable. In this situation lending is a lot more risky, and banks and other lending institutions often look unfavourably on self-builders.

There are a number of very good reasons for lenders being unenthusiastic about financing self-builders. Lending institutions prefer dwellings where an easy and speedy sale can be made if necessary (confirmed by Ferrence and Assoc. 1989:). Their perception of such dwellings (as revealed by their lending preferences), appears to be suburban bungalows or other similarly located and designed dwellings. Moreover, the dwelling must be complete and fully landscaped,

[16] The possibility of this calculation was suggested by Peter Zylstra.

preferably be on a paved road and within a municipal jurisdiction. Finally, the disbursement practices of most lending institutions are not well suited to self-help production. There are usually three disbursements, one following completion of the foundation, one following completion of the framing and closing in with rough services, and the final payment once the building is complete (including landscaping) and, where applicable, an occupancy permit has been issued. This disbursement schedule is suited to industry builders who build on contract or speculatively, and usually complete a dwelling within three months. Discussions with senior mortgage loans officers at Royal Trust in St. John's indicate that since about 1985 that institution has attempted to sell mortgage loans to self-help producers by advancing monies during construction on a loan basis and rolling over the entire debt into a mortgage upon completion of the dwelling to a satisfactory stage. Royal Trust is a major mortgage lender in St. John's, but does little business outside of the metropolitan area. They estimate that about 20% of their mortgage loans for new construction are now with self-help producers.

Self-help builders often fail to satisfy lenders on one or more of these preferences. Firstly, the typical self-help dwelling is occupied before it is fully complete and it is often at least another year before the landscaping is finished (Rowe 1983:104 and Bishop 1985:46). The normal disbursement practices of mortgage lenders are ill suited to this construction schedule. While self-help designs are usually identical to those of the industry and at least as good quality construction, they are sometimes built in locations where land can be obtained at a lower price, occasionally outside organised municipalities and not on paved roads. This by no means implies that all of these features characterise every self-help start - however they are not uncommon in that sector, while they are unusual in the industry. The consequence is that most mortgage lenders are not as keen on self-help production.

At the same time, self-help builders themselves may not be keen on mortgage financing. The nature of mortgage financing allows the purchase to be made from future income over the term of the mortgage, commonly as long as 25 years. Mortgage financing thus accommodates the wide gulf between current income and savings and the cost of acquiring a dwelling. The major advantage of self-help production is that it is possible to realise considerable cost savings in land, construction, overhead and interest charges (see Rowe 1989). While some self-help households choose to take advantage of lower costs to build larger dwellings, others welcome the savings and find that the gap between current income and savings and the cost of their dwellings is not so large as to require mortgage financing. They often use a number of financing sources and finance a far lower proportion of the total (lower) cost of their dwelling.

Thus from both sides - both the lender and the borrower - there are a number of situations where mortgage lending does not suit self-help builders. This is not the case for industry-built situations where the relationship of costs to incomes virtually ensures that a high ratio mortgage will be necessary, except where there is existing equity obtained from the sale of a former home.

To the extent that these speculations hold - and clearly there will be considerable variation - then relatively larger levels of non-mortgage financing of new dwellings can be employed as a rough indicator of the likely occurrence of more self-help production as compared to areas where mortgage financing is more common. This is useful since there are regular sources of information on financing.

Table 3.11: Proportion of new dwellings with residual financing, by province

Province	Year			
	1949-56	1957-72	1973-86	1981-82
Newfoundland	92.2	62.6	69.5	79.7
Prince Edward Island	40.5	51.3	50.4	79.7
Nova Scotia	40.3	31.2	36.2	72.1
New Brunswick	66.9	34.4	53.0	80.2
Quebec	55.7	21.9	49.3	58.7
Ontario	28.3	12.3	35.0	41.6
Manitoba	40.4	20.3	27.5	26.9
Saskatchewan	69.5	35.4	40.1	38.6
Alberta	40.1	13.7	39.4	57.1
British Columbia	40.5	30.2	50.9	65.6
CANADA	41.3	29.0	43.1	54.8

Note: Total starts (1957-72), all other years single detached dwellings only
Source: Calculated from Canadian Housing Statistics, various years

Table 3.11 presents levels of residual financing for new dwellings by province for selected years. 'Residual' financing was identified as financing from sources other than a mortgage from either public or conventional lenders (Rowe 1981). The results of the P.E.I. and Colchester case studies have shown that residual financing is usually comprised of savings, short term loans and the proceeds from the sale of a former owned dwelling. While this now appears tautological, Smith (1974:82) has argued that the residual consisted of individual and estate mortgages handled by lawyers. This claim was hard to believe, even at the time, since the residual then accounted for over 35% of new single-detached starts.

In recent years financing patterns have been affected at times by factors such as high interest rates and in some locations large capital gains in housing. The impact of these factors has been uneven. For example capital gains from the sale of a dwelling can finance the subsequent purchase of another dwelling, and capital gains have been high in the Toronto and Vancouver markets, but far less important in rural markets and in other urban markets. In addition, where debt financing is less common, such as in the Maritime Provinces and Newfoundland, the impact of interest rate changes is less than in locations where debt financing is far more prevalent. Consequently Table 3.11 reflects a number of influences and should only be used as an indicator of the incidence of self-help housing provision until more direct evidence is available. However, if residual financing can indeed be used as an indicator of self-help activity, then Atlantic Canada and Saskatchewan would appear likely to have the highest levels of self-help production, while Quebec and B.C. also appear to contain considerable self-help activity. Ontario, Manitoba and Alberta appear to have the lowest levels of self-help activity.

Table 3.12: Housing Production by Sector and Province, 1985-90, CMAs.

PROVINCE	SECTOR OF PRODUCTION		ALL SECTORS
	Self-Help	Industry	
Provinces predicted to have high levels of self-help			
Newfoundland	53	47	100.00
P.E.I.	-	-	-
Nova Scotia	45	55	100.00
New Brunswick	41	59	100.00
Provinces predicted to have medium levels of self-help			
Quebec	35	65	100.00
Saskatchewan	35	64	99.00
British Columbia	23	78	101.00
Provinces predicted to have low levels of self-help			
Ontario	10	89	99.00
Manitoba	16	84	100.00
Alberta	30	70	100.00
Source: Calculated from unpublished data provided by CMHC			

These estimates of the relative provincial levels of self-help are consistent with the results of the CMA survey for metropolitan areas. Table 3.12 shows the results of this survey grouped according to predicted levels of self-help. The only exception amoung the nine provinces with a large enough sample size is Alberta. The results in Table 3.12 are also consistent with the anecdotal reports for urban self-help provisioning in the Maritime Provinces and Saskatoon.

3.3.4: Validation of Residual Financing as an Indicator of Self-Help Housing Production

In addition to the validation provided for CMAs by Table 3.12, the P.E.I. case study includes considerable detail on sources of financing for new construction and this can be used to test the proposition that residual financing is positively associated with self-help housing production. At first glance this proposition seems reasonable since self-help production is less likely to use mortgage financing than is industry production - 58.3% of self-builders, 63.3% of self-provided production and 83.9% of industry production used mortgages as the main source of financing (see Table 3.13). While there is clearly a positive association between the degree of self-help and residual financing a critical reader might well remain unconvinced, claiming perhaps that the degree of separation between the three production sectors is not sufficient.

Table 3.13: Mortgage and residual financing by county, PEI, 1978-81

Type of financing/ Production sector	COUNTY			
	Queen's	Prince	King's	PEI
Mortgage				
Self-build	62.1	57.5	46.1	58.3
Self-promotion	75.0	61.5	0.0	63.4
Industry	79.0	100.0	100.0	83.3
Residual				
Self-build	37.9	42.5	53.9	41.8
Self-promotion	25.0	38.5	100.0	36.6
Industry	21.0	0.0	0.0	16.7
Source: P.E.I. case study data				

The positive association between self-help production and residual financing is even more apparent if the data is stratified by county and urban/rural area. From Table 3.13 the positive association can be seen to hold across counties - in all but one combination self-building has the highest levels of residual financing in each county[17] followed by self-promotion with industry production always having the lowest level of residual financing.

The positive association between self-help production and residual financing also holds among counties, the more rural the county the higher the level of residual financing. Queen's County contains the provincial capital Charlottetown and its suburbs and is the most densely populated of the counties. Prince County contains the second largest city Summerside and suburbs, and is the second largest and second most densely populated county while King's County

[17] The exception is self-provisioning in King's County where there were no mortgage financed starts.

has the smallest population and is the least densely populated of the three counties. While the direction of the relationship provides credence to the validity of the residual as an indicator of relative levels of self-help housing, the relationship is by no means one to one. Thus this approach can only provide a rough indication until direct empirical estimates are available.

Residual financing appears to be a reasonable indicator of relative levels of self-help production. This proposition was confirmed by the P.E.I. case study data. Using residual financing it appears that the highest levels of self-help production occur in Atlantic Canada, moderate levels occur in Quebec, Saskatchewan and British Columbia, and low levels in Ontario, Alberta and Manitoba.

3.4 SUMMARY

Self-help housing production has been estimated to account for about 60% of the total production of single detached dwellings in Atlantic Canada, and about 50% of total housing produced in the region. This estimate can be regarded as conservative since the high self-help multiplier has only been applied to communities with populations less than 10,000, whereas it is appropriate for communities twice as large. The estimate is consistent with the levels of self-help production identified in the two case studies.

The level of non-mortgage financing has been demonstrated to be a reasonable indicator of relative levels of self-help building. Self-help production is highest in Atlantic Canada, however significant levels of self-help production should be expected in British Columbia, Saskatchewan and Quebec. For the purposes of the rest of this thesis, these three provinces are grouped and termed as having medium levels of self-building, while the remaining three provinces, Alberta, Manitoba and Ontario are termed as having low levels of self-building. These categories reflect caution in the use of the non-mortgage financing indicator. It should not be used to predict the absolute level of self-building but only to indicate relative levels.

Self-help accounts for almost a quarter of new housing production in metropolitan Canada. Given the much higher incidence of self-help in non-metropolitan areas this suggests that a third of Canadian housing production is self-help. Construction industry data showed the value of this output to be about $1.4 billion in 1985, about 14% of the value of all new residential construction and 20% of the value of single detached dwelling construction in Canada was produced by the self-help sector. Self-help production is estimated to generate the equivalent of almost 70,000 full-time jobs annually. Moreover, sub-contracts to self-builders accounted for a further 6 billion dollars in 1985, compared to 2.7 billion in sub-contracts to the residential construction industry.

Self-help production accounts for half of the output of new dwellings in Atlantic Canada, and probably a third of the new dwellings produced in Canada as a whole. As a production sector alone, self-help production clearly deserves much more attention than it has received in the past. The following sections examine some aspects of self-help production using the case study information. This provides a window through which some of the characteristics of self-help production can be examined.

CHAPTER 4

CHARACTERISTICS OF SELF-HELP STRATEGIES IN ATLANTIC CANADA

The main purpose of this thesis is to understand the role of self-help provisioning in Canada. Thus far, Canadian housing analysts have not recognised the importance of self-help which, in the previous chapter, was shown to account for almost a third of all new housing produced in Canada, and for over half of all new dwellings produced in Atlantic Canada. Thus the inclusion of self-help can significantly affect the analysis of housing provision in Canada. To start with, the understanding of housing production will be dramatically altered given the predicted levels of self-help production. This is considered in Chapter 5. Also, the analysis of policy will have to change, particularly since much of Canadian policy has been directed to the production of housing. This is considered in Chapter 7.

A second objective of this thesis is to improve our understanding of self-help provisioning in general and in this Chapter I use the case study material to examine self-help as a household strategy for housing provision. The first task of this chapter, however, is to provide a basic comparative description of self-help and industry provisioning, as a basis for subsequent analysis in this and later chapters.

4.1 COMPARISON OF SELF-HELP AND INDUSTRY PROVISIONING

This comparative description of self-help and industry provisioning processes is limited by the information available from the case studies. However, the case studies were quite extensive and comparisons of the households, dwellings, construction and financing processes can be made. The P.E.I. case study data is used in this section for the comparisons (both the 1982 data and the 1989 data is used).

Table 4.1: Comparison of Household Characteristics

MEASURE	SECTOR OF CONSTRUCTION		
	Self-build	Self-promote	Industry
Average age of heads	34.9	40.8	36.1
Heads aged over 65 (%)	5.8	6.7	0.0
Heads aged under 25 (%)	3.4	3.4	3.4
Average family size	3.4	3.4	3.4
Average gross household income			
♦ Year of construction	$20,662	$21,065	$26,178
♦ 1982	$24,427	$25,075	$33,142
♦ 1989[1]	$39,907	$43,533	$46,181
Average increase in income			
♦ Construction to 1982	1.18%	1.19%	1.27%
♦ Construction to 1989[1]	1.93%	2.06%	1.76%
Previously owned a house	50.5%	64.7%	75.0%
Unemployment rate	1.0%	2.4%	2.1%

Note: All data 1982 (n=286), except [1] where 1989 data used, n=136
Source: Calculated from PEIRFCS 1982 and 1989 data

Table 4.1 compares some household characteristics from the sectors. In this table, and elsewhere, the two elements of self-help, self-build and self-promotion, are considered separately because, as will be seen, there are some important differences between the two. As can be seen from Table 4.1, self-promoting households tend to be older than either industry or self-building households, but both of these self-help categories are equally likely to be used by older households. There is little difference in the sizes of the families among the sectors, and the households can be characterised as couple headed families with one or two children, a high proportion of whom have previously owned a dwelling. While there are differences, it is important that the similarities are not understated: in general all three sectors are fairly typical younger households, aged in their thirties with one or two children. However, the incomes of industry provisioning households were higher at the time of construction (1978-81), and while the gap had narrowed by 1989, their incomes were still higher. The unemployment rates for all three sectors are strikingly low, the average rate for the province in 1982 was 12.3%.

Table 4.2: Comparison of Occupational Groups

OCCUPATION	SECTOR OF CONSTRUCTION			
	Self-build	**Self-promote**	**Industry**	**PEI population**
Professional	24.4	35.7	53.2	14.4
White collar	14.0	26.2	19.2	21.3
Agriculture and fishing	17.1	2.4	0.0	11.4
Construction trades	21.8	11.9	10.6	9.8
Processing	16.1	7.1	10.6	9.8
Retired	4.7	11.9	4.3	na
Unemployed and other[1]	2.1	4.8	2.1	12.1
TOTAL	100	100	100	100

[1] Includes 'retired' with 'unemployed and other' for total population only
Source: Calculated from case study data

As can be seen from Table 4.2, there are differences in the occupations of households in the three sectors, and these differences are consistent with the household characteristics noted above. Industry provisioning households are more likely to be in professional occupations, however a higher proportion of professionals used self-help strategies (83.3%) than industry strategy (16.7%). The more manual occupations such as construction trades, processing and primary occupations show a preference for self-building. It is interesting to compare the occupational grouping of new homeowners to the general P.E.I. population: professional and construction trade occupations are far more likely to be among new homeowners than in the general population. This suggests a number of explanations, for example the importance of higher incomes or construction skills, and these are considered later in this chapter.

Table 4.3: Comparison of Dwellings

MEASURE	SECTOR OF CONSTRUCTION		
	Self-build	Self-promote	Industry
Average size of dwelling (m^2)	107.9	111.8	114.8
Average number of rooms	6.4	6.9	6.9
Average number of bedrooms	3.3	3.2	3.3
Average number of bathrooms[1]	1.2	1.1	1.0
Average cost of dwelling			
♦ At occupancy	$42,476	$50,333	$51,700
♦ 1982	$46,917	$52,677	$51,111
Respondent estimate of value			
♦ 1982	$55,606	$60,684	$58,545
♦ 1989[2]	$83,617	$93,800	$89,166
♦ ratio 1989/1982	1.51	1.55	1.52
In need of major repair in 1989 [2]	6.6%	0.0%	8.3%
Condition rating of dwelling in 1989[2]	5.9	6.1	6.1

[1] Excludes half bathrooms (shower only)
Note: All data 1982 (n=286) except [2] where 1989 are used, n=136
Source: Calculated from PEIRFCS 1982 and 1989 data

The dwellings constructed by the three sectors are quite similar in terms of the total number of rooms, bathrooms and bedrooms, and while self-help houses are smaller, the difference is not that great (Table 4.3). However, while self-help dwellings cost far less to produce, there is little difference in the market value of the final products. In addition, the value of the dwellings produced by the three sectors appreciated at a similar rate between 1982 and 1989. In 1989, self-built dwellings received a slightly lower rating in terms of their physical condition (on a 7-point scale), but as reported in Rowe (1990a:62) "The follow-up survey showed very little quality difference between sectors. In general there is no statistically significant association between the provisioning sector and the quality of any building component, and this holds for both occupant and interviewer ratings". This result should not be considered surprising: experienced builders such as residential building contractors may do better work, but the vested interests of self-help builders in obtaining a good quality dwelling might lead to practices which offset their lack of experience. In addition, all of the dwellings were wood-frame and, in Canada, the construction methods for this type of system are quite well documented and very accessible, even to those with little previous construction knowledge or experience. Finally, almost half of the self-builders had previously worked on their own dwelling, or helped build a dwelling, and most of the self-builders used sub-contractors for much of the specialised trade work (see Rowe 1990a:61-69 for a fuller

discussion).

Table 4.4: Comparison of the Construction Process

MEASURE	SECTOR OF CONSTRUCTION		
	Self-build	Self-promote	Industry
Average sweat equity level	46.3	8.6	4.0
Percentage with no land costs	34.0	26.0	0.0
Average cost of land	$3,646	$4,026	$6,600
Sector as percentage of single starts			
♦ 1978-1979	74.0	15.0	11.0
♦ 1980-1981	75.0	18.0	7.0
Start to occupancy (months)	5.8	2.3	5.2
Percentage in urban areas	23.0	36.0	85.0
Sector as percentage of urban starts	45.0	15.0	41.0
Percentage reporting no stress	39.0	54.0	44.0
Source: Calculated from PEIRFCS data (n=286)			

In terms of the actual construction of the dwelling, unpaid labour contributions (sweat equity) of self-building households and lower land costs were important means of reducing the production costs of dwellings. As can be seen from Table 4.4, self-builders provided close to half of the required labour through sweat equity as measured by an index of necessary labour called the Sweat Equity Index (SEI) which is described in Rowe (1983:78-80), while self-promoting and industry households only provided very small amounts of labour. Given that the construction of the self-built dwellings did not take much longer than industry dwellings, these time demands must have been considerable, likely accounting for the greater degree of stress experienced by self-building households. Family and friends were the principal sources of assistance with the construction process: about a third of self-built dwellings used the immediate family as sources of labour, while immediate and extended family together with friends and immediate family and friends were the other two means of providing unpaid labour, each accounting for about a third of self-building households. The major sources of stress experienced by self-building households were general fatigue and the complexity of the planning process, followed by the time and financial requirements of the project and living with family (parents) during construction. It is interesting to note that extended family relations contributed indirectly to self-help by providing accommodation during construction for almost a fifth of self-builders. In addition, families were the most likely source of free or inexpensive (under $1,000) land for self-help households.

While about half of all urban starts in the P.E.I. case study were self-built, this accounted for less than a quarter of all self-built dwellings: three-quarters of self-built dwellings were in rural areas and self-building accounted for almost all rural dwellings.

Table 4.5: Comparison of Financing Arrangements

MEASURE	SECTOR OF CONSTRUCTION		
	Self-build	Self-promote	Industry
Percentage without mortgage	39.0	31.0	10.0
Percentage with no payments	27.0	26.0	6.0
Payments to income ratio (as percentage)			
♦ Average	18.0	19.0	24.0
♦ Percent with ratio between 1 and 15%	21.0	21.0	31.0
♦ Percent with ratio over 30%	13.0	17.0	25.0
Unencumbered value in dwelling (as percentage)	60.0	55.0	39.0
Source: Calculated from PEIRFCS 1982 data (n=286)			

The final comparison (Table 4.5) is in the financing strategies employed by the different sectors. Self-builders were less likely to use mortgage financing, which was possible because of the lower costs of their dwellings, and probably also a consequence of their lower incomes which would limit their access to mortgage financing (see Table 4.1). As a result, self-builders have a much more secure hold on their dwelling, an important consideration in an area such as Atlantic Canada where incomes are lower and unemployment is far higher. This greater level of security can be seen in Table 4.5 where the proportion of the dwelling unencumbered by debt is far higher for self-help households (both self-build and self-promote), and in their shelter costs to income ratios, that is, in the proportion of their income which must go towards housing. Self-help households have lower average ratios, are more likely to not have any payments at all, and are less likely to have ratios over 0.30, a level now considered to be the advisable upper bound by lenders.

In summary there were a number of similarities between the first occupants of industry built, self-promoted, and self-built dwellings. The dwellings themselves were quite similar in terms of size and number of rooms and the household heads are about the same age. However, there were also differences among the sectors - the costs of producing by self-build were far lower and this was principally due to the unpaid labour or 'sweat equity' provided by the households themselves. As a consequence, self-built dwellings took longer but were still normally started and occupied during one building season. All of the dwellings were of wood-frame construction, and, when finished, appeared to be at least as good quality as those produced by the residential

construction industry. The P.E.I. results are quite similar to those of the Colchester County case study.

Self-promoting households were older than industry or self-building households, however self-building also had many older households with 5.7% of self-building households in P.E.I. (Rowe 1983:57) and 15% of self-building households in Colchester County (Bishop 1985:34) either retired or about to retire. Self-builders included some quite young heads of households, for example, 7.5% in P.E.I. (Rowe 1983:53) and 9.1% in Colchester County (Bishop 1985:33) were under 25. Thus self-building appears to be physically possible for most households - the physical and skill requirements of the undertaking did not restrict participation of particular age or skill groups.

However, self-building did not appear to give the unemployed an avenue to homeownership. Although unemployment at the time of the survey averaged over 12% in both P.E.I. and Colchester County, the unemployment rate among self-builders in P.E.I. was about 2% (Rowe 1983:57) and in Colchester County 4.4% (Bishop 1985:34). This was probably because it is usually necessary to have an income in order to be able to make the necessary payments for land, materials and other inputs to the construction process. In addition, although 7.8% of P.E.I. households and 7.5% of Nova Scotia households were headed by a single parent, no single-parent households appeared as occupants of new accommodation in either P.E.I. or Colchester County during the study period (Rowe 1983:52, Bishop 1985:32).

Whilst about half of the self-builders in P.E.I. used a mortgage as the principal source of financing for their dwelling, Colchester County self-builders were far less likely to use mortgage financing: 72.1% of Colchester County 1981-83 starts were non-mortgage financed (Bishop 1985:69). The main elements in non-mortgage financing in both Colchester County and P.E.I. were savings, loans and the sale of an asset such as land or a house. Mortgage financing tended to be affected by local conditions. For example, in P.E.I. it appeared that an important reason for the greater use of mortgage financing was that mortgage lenders were not as reluctant to lend, and actively marketed mortgage loans in contrast to lenders in rural areas elsewhere in the region. One reason for this might have been that there were fewer lending alternatives for the financial institutions in P.E.I. while in the other provinces there are significant metropolitan mortgage markets with high levels of activity by the residential construction industry. In non-metropolitan Newfoundland, the conditions of settlement meant that land was often passed on without probate or record, thus making mortgage lending difficult (Rowe 1981). The substantial differences in financing strategies adopted by self-builders in these apparently similar locations is but one illustration of the amount of variability there can be in the self-build sector, and how influential

contingent factors such as alternatives for financial institutions (P.E.I.) or the quality of land titles (Newfoundland) can be.

Self-builders often had a more secure hold on their dwelling, not only because they were far less likely to use debt financing but also with the lower total costs to be financed they were able to indenture a lower proportion of the value of their dwelling. This led to lower levels of gross debt servicing for total debt financing for both self-builders and self-promoters, and the higher proportion of dwellings unencumbered by debt financing. This provides a plausible explanation for the greater resilience of self-building during the high interest rate period of 1980-81 when industry output fell dramatically compared to self-building.

Self-building presents opportunities for reducing the costs of a new dwelling, opportunities which are not available with industry production. These cost reductions are an important factor in the housing advantage of many Atlantic Canadian households (see Chapter 3), despite their lower incomes and frequently higher construction costs. It is thus useful to consider the barriers inhibiting all households from meeting their housing needs through this means.

Self-building as a form of production requires capital outlays for land, foundations, and materials, even in the classic situation where the household provides all of the labour itself. Most self-building households in P.E.I. provided between a quarter and a half of all the required labour. In order to meet the capital requirement however, self-builders must either have access to debt financing, or have previously accrued capital in some form. Debt financing is more difficult for self-builders than for purchasers of completed dwellings because of the lending preferences of the financial institutions (see Chapter 3). However, in order to obtain debt financing, or to accrue capital in advance, potential self-builders must usually have had an income, and normally this will have been earned income. Wealth based income is unusual among self-builders and transfer income levels are too low for the required level of accumulation. This requirement is reflected in the occupational structure of households, where unemployment is rare and professionals are over-represented relative to their importance in the overall occupational structure of P.E.I.

The financial barrier appears to be a fundamental restriction facing self-building. It makes it unlikely that many of the households who usually have difficulty participating in housing markets (eg. unemployed, single parent households, and the homeless) will be able to find a solution in self-building without assistance from relatives or the state. In addition to the financial barrier, the skill and time requirements of self-building will mitigate against some households building their own dwelling. Finally, the post-war boom and active regional fiscal policies during

the 1960's and 1970's facilitated household accumulation for self-building through higher employment and income levels. In the current economic situation many more households will probably find the barriers to self-building more difficult to overcome.

Harris (1987) has observed that in a much earlier period, self-building in Toronto was rare inside the municipal boundaries where building regulations required stone or brick construction, whereas outside of Toronto in the newer subdivisions, self-building flourished. Today in Canada there appears to be a similar association between self-building and municipal regulations, however it is very possible that this association is more apparent than real. For example, the requirement that only 'ticketed' (municipally approved) electricians and plumbers install services is often circumvented in all three forms of production (industry, self-provision and self-help) by having 'unticketed' individuals (including self-builders) complete most of the work with a modest payment to the ticketed person to sign the documents and complete the final hook-up. While it is undoubtably true that the vigorous enforcement of regulations will inhibit self-building, it is not clear that the mere existence of regulations has a significant impact.

4.2 HOW CAN THE SELECTION OF A PROVISIONING STRATEGY BE EXPLAINED?

In this section reference will be made to three characteristics identified above: incomes of self-help households are lower, self-help provision is almost the sole source of new housing in rural areas, and there are clear differences in the occupational profiles of the different sectors of housing provision. There are other differences in the characteristics of the dwellings (particularly in costs and financing) and in the provisioning processes, however these are consequences of the particular provisioning strategies and do not help to explain 'why' self-help provision is so important - they are more concerned with the questions of 'how' or 'what'.

The overwhelming importance of self-help provision will mean that while the average value of any characteristic might be lower for self-help, the self-help sector will also contain the whole range of values for that characteristic. For example, while the average income of self-help households is about 20% lower than industry households, about half of the higher income households who obtained new housing used the self-help sector. Thus, 70% of households with total household incomes over $30,000 obtaining a new dwelling in P.E.I. used self-help means (55% were self-builders). Equally striking is the inverse observation: while about 87% of household with incomes less than $10,000 used self-help, these low income households were about the same proportion in each sector - 29% of self-help households and 22% of industry households had incomes under $10,000. (The hypothesis that the organization of house building is unrelated to income level cannot be rejected at the 10% level of significance). Thus relative differences in incomes between areas cannot be used as a predictor of the relative incidence of housing provision

sectors.

This point can also be made about the rural/urban distribution of sectoral activity. While almost all of the industry provision was urban, self-help accounted for 60% of urban starts (Table 4.4). This contradicts speculation about 'rural' conditions such as lower land costs and more lax (or nonexistent) building controls. Since self-help provision is as common as industry provision in areas where these conditions do not exist the conditions cannot be predictors of self-help provision.

Similarity more professionals obtained housing by self-help means than from the industry, but they also purchased 53% of the output of the industry. At the other end of the scale, self-promotion and industry provision were equally probable for households whose principal earner was in the construction trades, and together these two were slightly more probable than self-building. This would seem to pose a problem for arguments that in labour markets such as Atlantic Canada with high levels of primary production and construction occupations, the population is more likely to have suitable skills to build a house. If that were a good predictor then, for these occupations, 'hands-on' self-building should be more important than 'hands-off' self-promotion or industry provision (this point is further discussed below).

The confusion created by a focus on labour markets such as occupational structures is illustrated by a third point. Self-help provision is far more important in Atlantic Canada than in, say, Ontario and one of the characteristics of Atlantic Canada is much higher levels of unemployment. However self-help producers in the case studies are far more likely to be employed than the general population. Given that unemployment is highest in Atlantic Canada it seems strange that self-help provision would be so important there.

This brief review illustrates that while the general characteristics of the different sectors of housing provision likely represent something of importance, they do not provide predictors or explanations of sectoral activity. As Duncan and Savage have argued, "notions of locality" should not "be placed in the centre of social analysis as organising principle or fundamental process" (Duncan and Savage 1989:203). Yet it cannot be denied that this form of provision does seem to be associated with particular locations - it is higher in Atlantic Canada.

Probably the best way to view the sectoral characteristics of the P.E.I. market is to say that most of the characteristics can be found to be consistent with the characteristics of new home owners (eg. age, family size) or to uneven development (eg. incomes). Since self-building provides about two-thirds of new dwellings in P.E.I. it is natural that many of these characteristics would

be present amongst the self-building population. Indeed, if self-help is viewed as a sector of housing provision as was suggested in the previous chapter, then it is to be expected that the characteristics of households and dwellings will reflect those of the market in which those sectors are producing. While there may be differences in the way different households access housing - that is in the sector they employ - an explanation of the market share held by different sectors is more likely to be found in the characteristics of the market itself. In other words, what Duncan has called 'contingent local variation' (Duncan 1986:16).

What is required to explain the undeniable association between Atlantic Canada and self-help provision is some intermediate concept which will identify the "...how and to what extent, primary causal objects interact, and hence how processes work out" (Duncan 1989a:138-139). An outline of such a conceptual approach is presented in the concluding section of this chapter.

However before addressing that issue it is useful to examine the different strategies that households employed to access home ownership in the case study. The objective here is to look at self-help provision from the perspective of the resources which, if available to households, might increase their propensity for self-help, and also which might be expected to be more readily available in less industrialised areas such as Atlantic Canada. Only if these resources can be shown to be good predictors of self-help provision, then could it be argued that the particular character of Atlantic Canada causes the higher incidence of these resources, and thus the possibility that the high incidence of self-help is attributable to locality effects.

4.2.1 Time as a Necessary Resource for Self-help

One possible factor which could lead to higher levels of self-help in areas with lower incomes and higher rates of unemployment is that many households have more time available for the self-help process. This is connected to what economists term 'opportunity cost': given that there are few alternatives which could provide much in the way of income, self-help production is a rational use of the resources which are available.

Almost all households heads who reported working less than 40 weeks in the P.E.I. survey were involved in the construction industry as skilled workers, an occupational group which appears to have a very strong propensity to self-help (see Table 4.2). Also Bishop found that in Colchester County, manual trades (including construction trades) were about 6 times more likely to be homebuilders than to be in the general population (Bishop 1985:34). In addition, while heads involved in the primary industries (fishing and farming in P.E.I.) all reported working full-time, their annual work cycle is such that they usually have blocks of time which they can use for other purposes. Only two other groups can be identified as having time available during the

construction season, and who are also sufficiently well represented in the P.E.I. data for analysis: teachers and retired households. Thus, in order to examine the strategies of households who can be expected to have free time as a potential resource for self-help, I have selected four occupational groups; teaching (n=16), retired households (n=23) and those involved in construction (n=33) and primary resource production (n=27). In addition, households occupied in sales/clerical and service occupations (n=27) who are fully employed during the construction season are included for comparison purposes.

While many households may seem to have time available for self-help activities, it is not necessarily available during the residential construction season. Indeed construction workers and fishing and farming households are often busiest during May to August, which is the principal period for residential construction. However teachers and retired households would both potentially have all or most of their time free during the construction season. It is thus interesting to note the first two rows of Table 4.6 occupational groups with time available during the construction season (retired and teachers) show a far lower propensity to self-build which is the more time-consuming self-help option.

Table 4.6: Production Options by Occupational Group, P.E.I.

Production options	Occupational group (%)					Total (#)
	Teaching	Retired	Const.	Primary	Service	
Proportion self-help	81.3	87.5	97.0	100.0	80.9	633
Proportion self-building	68.8	56.3	93.9	97.1	57.5	684
Sweat equity > 40%	37.5	31.3	72.7	47.1	31.9	380
Occupied < 60% complete	13.3	25.0	27.6	37.9	12.7	195
Occupied - no exterior finish	6.7	0.0	26.7	21.9	12.8	110

Source: Calculated from PEIRFCS 1982 data (n = 286), totals extrapolated for P.E.I. population

Construction and primary households appear to adopt a different strategy to self-building, one which sees the house started and closed in (exterior sheathing and roof completed) during the busy construction season and then finished later when there is more time available. This is evidenced by their more frequent occupation of dwellings whose exterior is not finished and whose interior is more frequently finished to a lower stage than other households. Moreover, they are more likely to provide a higher proportion of sweat equity which may be timed to coincide with the less busy period of their wage employment. Further, these households are somewhat more likely to receive unpaid assistance from friends as well as family and this may be during the big push to get the house framed and closed in during the construction season.

The fifth occupational category who are unlikely to have nearly as much time available during the construction season (sales/clerical/service occupations) still have a high propensity to self-help, however they are more inclined towards self-promotion (as evidenced by the lower level of self-building in Table 4.3). In all other respects they are quite similar to teachers, an occupational category where time is readily available during the construction season.

The apparent differences in production strategies adopted by the five occupational groups under consideration suggest that it would be simplistic to isolate time as a critical factor for self-help production. Clearly time is important, however the resource is used in a very different fashion by the four groups with time, and the comparison group with far less time selects a self-help strategy which is not very different from those occupational groups with time. This suggests that self-help (and self-builders) are a far from homogeneous group. In order to examine this in more detail Table 4.7 presents data for the four occupational groups with available time relating to the characteristics of the households and of the dwellings that they occupied.

Table 4.7: Household and Dwelling Characteristics by Occupational Group, PEI

Characteristic	Occupational group				
	Teaching	Retired	Construction	Primary	Total
HOUSEHOLD CHARACTERISTICS					
Income < $15,000	13.3	60.0	48.5	45.4	31.1
Percent aged 26 to 45	87.5	NA	66.7	64.7	70.9
Percent less than 26	6.3	NA	24.2	23.5	11.7
Percentage of households who previously:					
Owned a house	31.3	62.5	18.2	28.2	33.5
Lived with relatives	6.3	0.0	36.4	41.2	18.5
DWELLING CHARACTERISTICS					
Costs more than $40,000	36.4	40.0	74.1	53.6	50.5
Expected value over $40,000	6.3	16.7	71.9	43.3	40.4
Gross area of house < 110m^2	18.8	68.8	57.6	47.1	41.2
With bank/trust co. mortgage	56.3	6.7	25.0	24.2	53.8
Source: Calculated from PEIRFCS 1982 data (n=286)					

Households with significant time resources clearly have wide differences in other important characteristics. Teachers are older and have higher incomes, while retired households probably possess more wealth (former home) but have lower incomes, and the youngest households appear to be involved in primary resource production. What these characteristics suggest is that while time is undoubtedly an important resource for self-help, other factors such

as income and wealth may diminish the necessity to use that resource to obtain housing.

Thus while spare time supports a self-help strategy, the objective of that strategy might well differ for reasons other than time. For example, teachers with their higher income and concomitant better access to mortgage financing may tend to build larger and more expensive housing, while retired households build more modest houses and appear to use their previous accumulated wealth to help finance the new dwelling. These strategies contrast with those which appear to be adopted by the construction and primary production households who appear to place their priority on obtaining a more modest dwelling and, may have to do so without access to mortgage financing because of their lower and more irregular incomes.

From the above discussion it can be seen that time is likely to be a useful resource for self-help, but contingent factors will influence how that time is utilised as part of a self-help strategy. All four occupational groups considered have a propensity to self-help, and there are at least three clearly different strategies employed to utilise that time, suggesting caution against treating self-help, or even self-building, as a homogeneous category.

4.2.2 Construction Skills as a Necessary Resource for Self-help

There has been speculation that self-help is more likely where the household possesses or otherwise has access to construction skills. Alternatively, with a low level of construction skills, households probably face greater barriers in the self-help process. The implication of this is that if there were a desire to increase the level of self-help activity, or improve the quality of their work, then a factor in this could be the enhancement of construction skills through a variety of means.

Table 4.8: Skill Level by Production Sector, P.E.I.

MEASURE OF SKILLS	SECTOR OF PRODUCTION		
	Self-build	Self-promotion	Industry
Previous building experience			
Never built before	25.0%	43.8%	75.0%
Odd jobs only	19.2%	18.8%	16.7%
Helped others	36.5%	18.8%	8.3%
Built a house before	19.2%	18.8%	0.0%
Evaluation of own skill level (7-point scale)			
Carpentry skills	4.1	2.7	2.6
Electrical skills	2.4	1.7	2.0
Plumbing skills	2.8	1.8	1.9
Management skills	2.1	1.7	2.2
Building systems	2.0	1.7	1.0
Source: Calculated from PEIRFCS 1989 data (n=136)			

Prior experience in building greatly increases the propensity to self-build, regardless of whether this experience was formally obtained as in the sense of construction trades or informally obtained as in the sense of having previously helped someone else out with a construction project. Where self-builders had little in the way of prior experience they appeared to rank their construction skills more highly than households who selected one of the other provisioning strategies. This suggests that a household's confidence in their skills, whether validated through actual construction experience or not, is a factor influencing the selection of a provisioning strategy.

Self-build households are far more likely to have previously acquired some construction skills, and these were usually obtained by building a dwelling themselves or helping someone else build a dwelling. This can be seen in Table 4.8 where few of the households who had either built a dwelling themselves or helped someone else to build, purchased an industry dwelling, and almost all chose to build their new dwelling themselves. The averages of the self rating of their skills (on a scale of 1 to 7) also appear in Table 4.8. Self-helpers gave themselves a higher rating for every construction skill than did either of the other two groups. In addition, self-provisioning households gave themselves a higher rating than did industry purchasing households in most categories. Clearly self-help households do have more experience in building and a higher skill level prior to the construction of the dwelling. real, or at least perceived

However, there is a group of self-builders who have little in the way of previous building experience but who appear to believe themselves to have a higher level of construction skills than those who decided to self-provision or buy an industry-produced dwelling. This makes the group of previously inexperienced self-builders particularly important since they could represent the recruitment group to self-building. Once recruited, these households might then stay within the self-building mode since those who do have some previous experience in construction overwhelmingly build their own dwelling.

Table 4.9: Characteristics of Households with Little Previous Building Experience, by Provisioning Sector, PEI

CHARACTERISTIC	SECTOR OF PRODUCTION		
	Self-build	Self-promotion	Industry
Household characteristic			
Average age of heads	33.3	34.3	37.3
Dwelling cost at occupancy	$40,738	$47,000	$40,500
Value of dwelling (1989)	$90,967	$87,750	$90,000
Monthly payments	$256	$332	$467
Sweat equity index	39.0	10.2	2.2
Gross income when built	$17,527	$17,400	$21,880
Gross income (1989)	$39,533	$43,250	$48,889
Evaluation of own skill level (7-point scale)			
Carpentry skills	3.2	2.3	2.5
Electrical skills	2.2	1.6	2.1
Plumbing skills	2.5	2.1	2.0
Management skills	3.5	2.1	2.5
Building systems	3.1	2.5	2.5

Source: Calculated from PEIRFCS 1982 (n=286) and 1989 (n=136) data

We have already seen that if a household possesses, or believes themselves to be in possession of construction skills, and has previous experience in building a dwelling whether on their own or assisting others, then it is likely that they will self-build. However, where households do not have these construction skills (as in the table above) it is difficult to identify any predictors from the characteristics of the household or the dwelling.

Table 4.10: Characteristics of Production Sector by Previous Ownership of Dwelling, PEI

Characteristic	SECTOR OF PRODUCTION			
	Self-build		Self-Promotion	Industry
	Experienced	Inexperienced		
Previous owners				
Avg. age of heads (1982)	39.6	37.4	44.7	36.6
Family size (1982)	3.7	3.9	4.0	3.9
Family size (1989)	3.8	3.9	3.1	3.8
Location (Urban = 1 to rural = 5)	3.7	3.8	3.7	2.7
First time owners				
Avg. age of heads (1982)	30.1	28.9	28.0	38.0
Family size (1982)	3.0	3.1	3.2	3.0
Family size (1989)	3.4	4.4	4.3	3.7
Location (Urban = 1 to rural = 5)	4.5	4.2	4.0	2.0
Source: Calculated from PEIRFCS 1982 (n=286) and 1989 (n=136) data				

The household's own evaluation of their construction skills suggests that skill levels might still be an important factor influencing the choice of construction sectors. Households who self-build but have little previous building experience rate their construction skills higher than the other households with little experience but who chose to self-provision or purchase an industry built house. This is shown in Table 4.9 where the means of the household's own evaluation for each skill category are presented by construction sector. A 7-point scale was used for these questions, and since respondents rarely use the end points on a scale, then the effective scale width is 5: a rating of 3.2 is 28% higher than a 2.3 ((3.2/2.3)/5).

Thus it appears that the prior possession of construction skills, or at least the belief that you possess those skills, inclines a household towards self-building. Care should be taken making this generalisation though, since this includes households whose own evaluation of their skills is very negative (scores of 1 or 2 for example). These households still self-built. Thus while it can be noted that, in general, there is an association between skill level and the propensity to self-build, it would be unwise to be too categorical in drawing conclusions from this. For example, it would be incorrect to say that households who self-build always (or even usually) have prior construction experience, or believe themselves to be in possession of construction skills.

According to the rating provided by the interviewer there is no appreciable difference

between self-builders with previous construction experience and those who had little previous experience in terms of the quality of the dwelling constructed between 1978 and 1981 and evaluated in the 1989 follow-up study. While it is possible that differences in the quality of the work might have been resolved by the time the 1989 interviews were held, it is more likely that there were no systematic differences in the quality of the original construction work. Thus dwellings built by self-builders, whether experienced or inexperienced, have stood up as well as those built by the industry.

First time owners were younger and their families expanded much more rapidly from 1982 to 1989. In addition, for the three self-help categories, first time owners were more likely to locate in rural areas. (The values for location in the table range from 1 = Urban through suburban and small town to 5 = Rural)

Since we are interested in the recruitment to self-help, it is instructive to compare inexperienced self-builders to industry households. For those who have previously owned there is little difference in household characteristics except that industry production is more urban. However first time self-helpers are much younger and their families expanded more rapidly, compared to first time industry households. In addition, the rural-urban trend is more pronounced for first time owners.

It appears that there are probably different reasons for households adopting a self-help strategy. Younger households have more time and contribute more sweat equity to achieve a house with a lower debt load which is also therefore more affordable. Typically this would be their first dwelling. Older households appear to contribute somewhat lower levels of sweat equity and build a more expensive dwelling. While their incomes are not much higher they appear more likely to have some built up equity in their previous dwelling which lowers the debt load on the new dwelling.

To sum up the analysis to date, I have noted that experienced self-builders will normally continue to self-build, but that there are also self-builders without much in the way of previous building experience. However they have more confidence in their construction skills than do the other households without much previous experience. It is important then to understand the factors influencing these first time self-builder since they potentially represent new recruits to self-building who, once recruited, will stay self-builders. I have identified two groups of inexperienced self-builders. Those who have previously owned a house are considerably older and already have their families compared to those inexperienced self-builders who have not previously owned a dwelling are at a younger stage in their family life cycle. Households in the other two

self-help categories who have not previously owned a dwelling are also at a younger stage in their life cycles. All of this is reminiscent of an observation by Forrest and Murie when looking at the upper end of the owner occupier market in Britain " differentiation *within* home ownership,..., creates a highly stratified labour market and common values, aspirations and material advantages cannot be assumed" (1987:371).

4.2.3 Summary

The case study has provided the resources for some very important insights into self-help strategies. Households who have previous construction experience have a strong propensity to self-build, and inexperienced self-builders rate their construction skills more highly than households who self-provisioned or bought an industry house.

This focused attention upon these inexperienced self-builders as a potential class of new recruits to self-building who, once in the category, would remain in the future. It was found that self-help households who have not previously owned a dwelling are at a younger life cycle stage and appear to have somewhat different self-help strategies since they contribute more sweat equity and build less expensive dwellings than do those households who have previously owned a dwelling. This suggests that there are different strategies within the self-help sector which are analogous to those within the industry sector. Younger first-time homeowners build less expensive houses, older households build more expensive dwellings. The difference is that within self-help, once households are recruited to the sector, they tend to stay. And since self-help provisioning is much more affordable than industry provisioning, it is selected by most of the younger first-time homeowners. Thus by looking at new recruits to self-help the reasons for the preference for this sector could be examined.

Not all households will achieve the same levels of efficiency in self-help and it might well be that the skills possessed by certain households might facilitate their success with self-help strategies. It would be quite easy to assume that households from the construction industry will be most likely to either be in possession of appropriate skills or have privileged access to those skills and that this would contribute to the very high level of self-building by that group. However there are very good indications that the necessary skills are very widely held, and that the mere possession of the skills does not necessarily promote self-building. After all, 15.1% of the construction households in the P.E.I. case study provided less than 20% of the necessary labour themselves, and 10.6% purchased industry dwellings.

4.3 COMPARISON OF SELF-HELP AND INDUSTRY PROVISIONING

As reviewed in Chapter 1, John Turner is the strongest and best known advocate of self-help housing. His published work (particularly Turner 1972, 1982) provides a convenient focus for an evaluation of the utility of self-help. He has proposed a number of benefits for self-help which stem mainly from the control which the building household can exercise over the project. The most frequently identified benefits are that the dwelling will be more suitable and affordable, and that households who build their own dwellings will be better able to maintain that dwelling. The results of the P.E.I. case study support these claims for self-help housing provisioning.

Turner has proposed that self-help dwellings are more likely to suit their occupants than those produced by the industry. In Canada there is a high degree of homogeneity in the design of single detached dwellings. While self-builders appear to be more likely to produce 'interesting' dwellings, these are not necessarily more suitable, although it is likely that the household will have a stronger attachment to the dwelling.

In this section of the chapter I will compare the results of self-help and industry provisioning in terms of the suitability, affordability and quality of the dwellings. This presentation is more detailed than the description earlier in this chapter and confirms Turner's proposition that self-help provisioning can produce more suitable and affordable housing of equal quality, and that self-help households are more likely and more able to maintain their dwelling.

4.3.1 Suitability

Until recently CMHC used a simple one person per room standard to evaluate suitability. However it was argued that this did not always provide sufficient privacy for household members and that a National Occupancy Standard (NOS) should be adopted. NOS is now the standard used by CMHC. There is a difference between the two crowding standards, but even when the higher NOS standard is used, there is very little crowding amongst the sample population. Less than 4% of the dwellings are crowded, and most of these are only short one room (Rowe 1990a:81).

In addition to meeting the National Occupancy Standards, it is also important that dwellings are suited to any special needs of the occupants. Thus dwellings should, if necessary, meet the needs of the disabled. There were 6 disabled residents in the 1989 follow-up survey, an increase of 4 from the 1982 results. Only one of the dwellings occupied by a household with special needs requires modification, and there are neither affordability problems nor crowding in any of the dwellings (Rowe 1990a:81). All of the dwellings occupied by persons with disability problems were self-built, half by households with previous experience, and 2 were self-built while

one of the household heads was disabled.

While the age of the person with special needs is not known, all but the household requiring modifications to their dwellings are couple-headed and between 32 and 46. In addition all but the one household requiring modification to their dwelling have children, the exception being an elderly couple (both 75) who live alone. Both were 67 when they built their own dwelling but now may be too old to carry out the necessary modifications themselves. At $10,000, their income is probably too low to be able to hire a contractor if the necessary modifications involve much in the way of expense, and they are thus likely to require public assistance.

All but one of the suitability problems were self-builders, and the other was a self-provisioner. Four of the 7 crowding problems (by NOS standards) occurred without any change in family size. Of the other 3 households, 2 increased by one person and the other by 3 people. The average size of the four households who were crowded from the outset was 7 (ranging from 5 to 8). Given aging of children of mixed sexes it is not surprising that some crowding does occur with large families. While it is possible that better advance planning might have accommodated these future requirements, this could be true of a large proportion of households, regardless of both location and provisioning sector.

4.3.2 Affordability

When it was first occupied self-help housing was more affordable than industry housing. There were a number of reasons for this such as lower total costs, households occupying the dwelling before it was fully completed, and the frequent use of non-mortgage financing forms such as savings and proceeds from the sale of an asset such as a former dwelling (see Rowe 1983:128). Seven years later self-help housing is still more affordable than industry provided housing.

Table 4.11: Comparison of the Affordability of Self-help and Industry Provisioning

Provisioning sector	Ratio of all debt payments to income		Ratio of principal owing to dwelling value	
	1982	1989	1982	1989
SELF-HELP				
Experienced self-build	.135	.066	.244	.153
Inexperienced self-build	.229	.091	.237	.145
Self-promotion	.192	.054	.174	.116
INDUSTRY	.236	.146	.328	.230
Source: Calculated from PEIRFCS 1989 data (n=136)				

Two comparisons are presented in Table 4.11; the first is the ratio of all debt payments (for the dwelling) to total household income in 1982 and 1989, and the second is the ratio of the total amount owed on the dwelling to the value of the dwelling, again for 1982 and 1989.

Whichever measure is used, it can be seen that self-help provisioning is more affordable: self-help households pay a lower proportion of their income, and have indentured a lower proportion of the value of their dwelling. Thus, not only is self-help more affordable, it is also more secure in the event of unemployment or other disruptions to income, which are frequent in P.E.I.. Households who used the self-promotion option have the most secure grip on their dwelling, and the lowest payments. This is attributable to the characteristics of self-promotion households who tend to be older and have the accumulated wealth from a previous dwelling to contribute to the financing of this dwelling.

This brief overview confirms the proposition that self-help housing is indeed more affordable than industry housing. It also shows that self-help households are more likely to be able to survive economic downturns and crisis since their level of indebtedness is far lower. Thus self-help is not only more affordable in terms of initial access to the dwelling, it also remains more affordable and the household has a more secure financial hold on their accommodation (see also the discussion around Table 4.5 above). The policy implications of this are discussed in Chapter 7.

4.3.3 Physical Quality of the Dwellings

Quality is always an important issue in housing policy and research and it is no less important when self-help housing is under consideration. Questions are frequently raised about

the quality of self-help relative to industry provisioning, particularly with self-builders[18]. There are usually two poles to these questions. Proponents of self-help argue that because the builder is going to occupy the dwelling, and because the dwelling is so important an asset in the wealth of the household, then the self-builder is bound to be very concerned with quality. Others feel that construction is a complex process and that inexperienced builders cannot perform as well as experienced builders: consequently the quality of the product of self-building cannot be as good as that produced by experienced residential builders.

Quality was not directly assessed in the 1982 survey which was more concerned with the provisioning process than with the product. However, the anecdotal evidence of interviewers and respondents, and industry and government sources, appeared to indicate that industry-produced dwellings were more likely to have quality problems. Indeed, at the time the major source of complaints to the Consumer Affairs Division of the Provincial government was by homeowners against builders (Rowe 1983:159-162).

The 1989 follow-up study obtained the owner's evaluation of the quality of their dwelling on key building components, and the interviewers also rated 5 exterior structural components: foundation walls, exterior wall structure and surface, doors and windows. The information on quality is clearly not 'expert' and, particularly with the respondents evaluation, is subject to some very important factors which likely bias the results. These biases are frequently discussed in the context of the 'need for repair' question used in Canada in the Census and the Household Facilities and Equipment Survey (see Zanasi and Rowe 1988): when asked to rate the quality of their dwelling households tend to compare their own dwelling to those in their local area and, in addition, their view is heavily affected by their expectations.

In general, asking someone about the condition of the dwelling they live in is difficult because their evaluation will be influenced by their knowledge of house building and structures, expectations and standards. In (Rowe 1990a:51-54) it was shown that self-builders appear to have higher standards and better knowledge about building systems and their own dwelling, than households using industry provisioning. Consequently, self-builders are likely to be more critical of the quality of their dwellings, and to provide a lower quality rating.

The evaluations by the interviewers should prove more reliable since they applied the same standard to all dwellings regardless of provisioning sector. The interviewers were trained

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[18] Because self-help has been neglected in Canadian housing literature, it is difficult to provide a reference for this. However, dwelling quality was the principal concern of the CMHC representatives in contracting the P.E.I. follow-up study, and, they reported, was a major barrier to the acceptance of self-help by most analysts at CMHC. The follow-up study appears to have done much to dispel this concern.

in what to look for with the five exterior building components, and were also directed towards key elements in each component by the question. The questions and approach were developed at the National Office of CMHC by the author (Rowe 1985) and tested in St. John's (Zanasi and Rowe 1988)[19].

The follow-up survey shows very little quality difference between sectors. In general there is no statistically significant association between the provisioning sector and the quality of any building component, and this holds for both occupant and interviewer ratings. While self-promoted dwellings were judged to be the best quality, followed by industry and self-build, the margins are so small that they could easily be influenced by the factors discussed above.

In the previous section a distinction was made between experienced and inexperienced self-builders. That distinction is also germane to a consideration of the current quality of the dwellings produced since it touches upon one of the basic questions about whether there are differences in the quality of the output of the different sectors. An analysis of variance for all of these measures of quality with the sector of provisioning showed no statistically significant associations. These results imply no significant differences in quality which can be associated with the provisioning sector, or, in other words, the buildings built by self-help are similar in quality to those constructed by the industry.

This is a very important result, but it should be borne in mind that none of the building components were assessed by experts. There is a reasonably significant association between the interviewers rating of the outside walls and wall finish (above foundation) and the occupants rating of the outside walls giving some confidence in the occupants evaluations[20]. This association also holds when the data is stratified by provisioning sector

The conclusion that it is unlikely there are quality differences between the sectors is not surprising. Thus experienced builders such as residential building contractors may do better work, and at the same time, the vested interests of self-help builders in obtaining a good quality dwelling might lead to practices which offset their lack of experience. All of the dwellings were wood-frame and the construction methods for this type of system are quite well documented and very accessible, even to those with little previous knowledge. Almost half of the self-builders had

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[19] The intention of the project was to develop a survey instrument which could be reliably administered by a trained interviewer. The eventual goal was to develop an instrument which could be used by the household itself. The approach was to refine existing inspector delivered instruments by reducing the number of questions and using drawings of key components to ensure an even application of the method.

[20] Chi-Square of outside wall is 38.394 with 12 DF (Probability=0.000) and Cramer's V is 0.311. For outside wall finish the Chi-Square is 22.507 with 9 DF (Probability=0.007) and Cramer's V is 0.238.

previously worked on their own dwelling, or helped build a dwelling, and most of the self-builders used sub-contractors for much of the specialised trade work.

4.3.4 Maintenance Standards and Practices

Turner (1982) and others (for example Schlyter 1984) have argued that if a house is built by the owners, then they will gain skills in the process which will better enable them to maintain their dwelling. Part of the skills said to be acquired are those of recognising problems in dwelling systems, and a subsequent raising of the standards of building maintenance (see Turner 1982:106 for the clearest statement of this argument). The survey shows that when the dwellings were examined some 7-11 years after construction started, there was little appreciable difference in quality among construction sectors. It was suggested above that this could either reflect comparable construction quality, or appropriate maintenance practices so that any unevenness in original quality has been resolved.

In fact, almost 80% of self-builders felt that their standards of maintenance and repair had increased as a result of their working on their own home. This provides support to Turner's argument, as do other results from the case study showing that self-help households are also more likely to undertake maintenance and repair work themselves and that self-build households felt that their building skills had improved far more than did industry-provisioned households.

Over 80% of the households who worked on their own home indicated that this increased their propensity to undertake maintenance and repair activities themselves, and 59% of these households reported the increased propensity was significant. This would appear to provide solid support for the arguments that self-help has impacts upon the dwelling and the households lasting well beyond the construction phase.

Self-help increases the standards households apply to dwelling maintenance, and enhances their abilities to both evaluate dwelling quality and to undertake maintenance and repair work themselves. Since self-help repairs and maintenance will be cheaper, it is likely that the maintenance and repair of self-help dwellings will be more likely than for industry dwellings. Further, since the quality of self-help work has been shown to be similar to that of the residential construction industry, then I would expect that in the longer term, self-help households will maintain their dwellings to a higher standard.

4.4 CONCLUSIONS

This chapter has examined a number of possibilities for the prediction of provisioning strategies for housing. However all of the factors examined: availability of time, skills, or income,

are only associated in a complex and contingent fashion with the sectors of provision. Since there are no outstanding differences in either dwelling or household characteristics among the three sectors, and indeed, since the picture of self-help households is very similar to first-time homeowners elsewhere, then the clear regional differences in the incidence of self-help and industry provision in Canada cannot be predicted or explained on the basis of 'local' characteristics. This suggests that the reasons for the clearly higher incidence of self-help production in Atlantic Canada are not attributable to 'locality effects': but that an answer might be found outside of the characteristics of the dwellings or households. Specifically, the difficulties which the residential construction industry faces in making profits from the provision of dwellings in areas such as Atlantic Canada might provide a more fruitful line of inquiry.

If instead of focusing upon the reasons why self-help provision occurs attention is placed upon why industry provision does not occur it is easier to find a conceptual avenue to spatial contingency. This moves us to a higher level of generalisation since industry provision is clearly capitalistic. The production of commodities in capitalism occurs in order to secure profits, and where profits cannot be realised production will not occur (however, as discussed in Chapter 2, money profits can be made through means other than production).

In 1981, average material costs for a single detached dwelling were $30,000-35,000 and labour costs for the most efficient producers ran at least 40% of total direct costs. Thus the minimum cost of provision of a dwelling would have been $50,000. Profits, interest charges, land costs, etc. have to be added on top of these direct costs. At the same time, the average expected selling price for owner-occupied single-detached dwellings built between 1979 and 1981 in Atlantic Canada was

$42,030 (compared to $73,627 in Ontario and an average of $68,110 for Canada as a whole). Clearly it was very difficult for capitalistic provision to occur in the Atlantic region since it would have been difficult to recover the direct costs of provision, let alone realise profits from that activity.

This is the key to the conceptual approach to the question of why self-building is so high in Atlantic Canada and which is developed more fully in the next chapter.

CHAPTER 5
ECONOMIC CONSEQUENCES OF SELF-HELP PROVISIONING ON THE RESIDENTIAL CONSTRUCTION INDUSTRY

Most existing work on self-help housing provision has focused on the merits of state-aided support for site and service developments in the urban areas of poor countries (see Ward 1982 and Skinner et al (1983) for representative collections and Schlyter (1984) for a critical review). The literature for industrialised countries has been mainly anecdotal despite the fact that in some countries such as Italy and Portugal self-help has been identified as an important sector of housing production (see Ambrose and Barlow 1987 and Duncan 1990). An objective of this chapter is to address this gap through the application of the categories of value theory to provide a framework in which issues such as state support and the impact of self-help production on capital accumulation can be evaluated.

The theoretical work in Chapter 2 made a number of predictions about the impact of self-help provisioning on the residential construction industry. It was argued there that an important effect was that self-help provisioning would lower the profitability of the residential construction industry, inhibiting the adoption of more productive innovations in the labour process. It was also proposed that profitability is further reduced by the loss of access to land rents for self-help dwellings. Finally, Chapter 2 also predicted that the residential construction industry would have problems realising profits from the dwellings it produced, because self-help housing was cheaper and should lower market values, hence reducing profit margins. All of these theoretical predictions are investigated in this chapter, and shown to be correct.

There are undeniable differences in the incidence of self-help housing production among different regions of Canada. As shown in Chapter 4, neither the characteristics of self-help households nor their dwellings offer much in the way of an explanation for this pattern. At the end of the last chapter it was suggested that an answer might be found if the question was turned around to "why isn't there more industry produced accommodation in Atlantic Canada?". That question is also addressed in this chapter.

5.1 HOW DOES THE RESIDENTIAL CONSTRUCTION INDUSTRY MAKE PROFITS?

In capitalist society production of commodities is for profits; if a profit cannot be earned then production will soon cease. It is more difficult to make profits from housing production in the Atlantic region compared to the other regions of Canada because the potential market for industry production is limited by the smaller number of households who are able to afford the higher costs of housing from that sector. In the absence of state intervention much of the

population can rely only upon their own resources to obtain accommodation. Thus an explanation of the incidence of self-help production may be found in the barriers faced by the residential construction industry in realising profits from their production.

The residential construction industry does not have to rely upon profits from the production process alone since there is the possibility of obtaining rents from land, excess profits, or subsidies from the state. However the greatest opportunities to capture land rents lie in the areas with the lowest predicted levels of self-building. State subsidies for house construction or consumption are not as usual in Canada as they have been, for example, with mortgage interest tax relief in Britain and the United States. However the Canadian state played a strong role in an earlier period in the modernisation of residential construction, and in establishing financing mechanisms for the purchase of dwellings.

This helped create the conditions under which profits could be obtained from residential construction. However it appears that this state aided development of the residential construction industry was strongest in those areas which have the lowest level of self-help production. Thus, not only are there barriers to profitable production by the residential construction industry in areas with high levels of self-help, but it also appears that the past preference of the state for other areas was a contributing factor in the existence of these barriers to profitable production today.

As with all commodity production the principal source of profits is the production process. In money terms this means that total revenues exceed total costs. However, housing must stand on land presenting the opportunity to obtain rents from land. And finally, there is always the possibility that the state will provide subsidies in some form to the industry, and this can affect its profitability.

Ball (1983) has shown the importance of land rents for the residential construction industry in Britain where, because of the possibility of significant rents accruing to individual firms, the production process for residential accommodation has been relatively neglected as a source of profits. As a result, the production process is extremely inefficient and the costs of production are high. By contrast Duncan (1986) has shown that in Sweden, where land supply and costs are controlled through state allocation, the construction industry has an incentive to obtain profits from the production process itself. Thus, Duncan argues, the production process is much more efficient in Sweden and hence the costs of production are much lower.

The Swedish and British examples can be used as poles on a continuum representing the

options for profit making in the production of accommodation. In Britain, profits come mainly from land rents and extra profits, and the inefficient production process yields little in the way of profits, whereas in Sweden individual firms cannot obtain much rent from land, so profits are extracted from the production process.

The Canadian case presents a third pole. Significant land rents were reported during the early 1970's in the metropolitan areas of Ontario, Manitoba, Saskatchewan and Alberta (Spurr 1976:396) and more recent data presented below indicates that land rents are available in all metropolitan areas. An active state land banking program during the 1970's allowed a proportion of land rents to be captured by the state. State land banking was applied more strongly in some areas than in others and it is difficult to say exactly what the state share of total land rents were. However given that some land rent was appropriated by the state, and that some would also have been claimed by land owners rather than property developers, then it is reasonable to expect that the residential construction industry in Canada had less access to land rent than the industry in Britain, and better access than the Swedish industry.

Thus the situation in Canada is one where land rents are available to the residential construction industry but the state claims a portion of these rents; however, earlier state assistance helped develop conditions for profitable production of residential construction, so profits are also available from production as well as land rents. The following two sub-sections provide an evaluation of the possibilities of extracting land rents and realising surpluses from the production process. This is followed by an assessment of the impact of self-help production on the profitability of the residential construction industry.

5.1.1 Land Rents

Because there is no readily available source of data on the costs of building lots for residential construction in Canada[21] the first task of this sub-section is to assess how land rent levels can be estimated.

(i) Availability and Reliability of Data

CMHC compiled information on land supply in major urban areas for about 10 years (see Rowe 1984 for an example), however prices were not included and the programme was discontinued in the mid 1980's. Both Statistics Canada and CMHC provide indexes of prices of

[21] This has been confirmed with Paddy Fuller, Director of Statistical Services, National Office, Canada Mortgage and Housing Corp., personal communication, April 3rd, 1989, and George Courage, Director of the Newfoundland Statistics Agency, Executive Council, Government of Newfoundland, personal communication, April 4th, 1989.

building lots (or plots) and CMHC has published building lot price data from time to time[22]. However neither source is considered to be representative[23]. The CMHC index is for dwellings using National Housing Act (NHA) programmes only and thus the sample size for single detached dwellings is usually 15,000-20,000 dwellings for all metropolitan areas in Canada (about 10-20% of single-detached starts). The Statistics Canada index is estimated from "contractor's estimates of the current cost of land" (Statistics Canada 62-007 annual:25) and is potentially a more reliable source, at least for metropolitan areas where the residential construction industry is the main provider of new dwellings.

However there are two problems with the Statistics Canada index. The first is that it is an index and thus can only provide a report of relative changes for given locations, and of the comparative rate of change among different locations. Thus a similar increase in an index for two locations, say from 100.0 to 150.0 shows equal relative changes, but if the absolute prices are different, then the dollar value (and the amount of potential land rent) of the increase in prices will be different. Since the focus in this chapter is upon the level of land rent the absolute value of changes is required. This could still be computed by using the more reliable Statistics Canada index and the absolute land prices from NHA dwellings reported by CMHC. Unfortunately, as the discussion below will show, there appear to be problems with the reliability of the index itself.

1976 was the earliest year that absolute prices and index values were both available. As can be seen from the final two columns of Table 5.1, it is possible to obtain recent estimates of the absolute value of changes in land prices for metropolitan areas in this fashion. However the prices predicted for 1987 do not correspond to the prices which were actually charged at the time. Table 5.2 shows residential lot prices charged in St. John's by the Newfoundland and Labrador Housing Corporation (NLHC). The policy of the NLHC is to set prices at the level charged by private developers. In 1986, NLHC lots in St. John's/Newtown averaged from $30,050 in the Power's Pond development to $42,550 in the more up-market Admiralty Wood development. At the same time lots in the two major private developments in St. John's sold at prices ranging from $30,000 to $45,000[24].

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22 See sources cited in Table 5.1.

23 Paddy Fuller and George Courage, ibid.

24 Data provided by NLHC dated 22nd October, 1986 and supplied by Newfoundland Statistics Agency.

Table 5.1: Land Prices in Selected Metropolitan Areas

CITY	Land Price Index[1]				Land Price[2]	
	1976	1979	1981	1987	1976	1987
ST. JOHN'S	100	115.5	138.8	164.9	$8,764	$12,384
HALIFAX	100	114.8	133.7	218.2	$6,954	$13,217
MONTREAL	100	119.7	141.4	275.5	$3,229	$7,430
TORONTO	100	102.6	106.4	131.1	$28,343	$36,212
THUNDER BAY	100	126.9	133.9	137.8	$19,712	$21,403 [3]
WINNIPEG	100	118.4	121.0	198.0	$16,525	$27,629
SASKATOON	100	145.1	168.9	224.1	$8,229	$12,711
EDMONTON	100	141.8	160.5	129.5	$19,142	$17,485
VANCOUVER	100	105.4	209.3	139.2	$23,114	$30,523
METRO CANADA	100	115.5	138.9	148.4	$10,665	$13,698

Sources:
1 Calculated from Statistics Canada 62-007 (various years: Table 3.1)
2 Calculated from Canadian Housing Statistics (various years: Table 90)
3 1984 price for Thunder Bay

As can be seen by comparing the data from Table 5.2 with the final two columns for St. John's in Table 5.1 there is a significant difference between the two sources. The 1976 data is fairly similar, $8,674 for NHA dwellings (Table 5.1) and $10,400 for the data in Table 5.2. However the application of the Statistics Canada index to the 1976 base gives an estimated price of $12,384 for a building lot in St. John's in 1987 (Table 5.1) whereas the actual selling prices were already three times that value by the fall of 1986 (Table 5.2 and prices cited above). Thus the Statistics Canada index cannot even provide a reliable indicator of changes in land prices, and another means will have to be found to estimate the level of land rents.

Table 5.2: Lot prices in St. John's, Selected Years

Date	Standard lot price
1973	$6,800
1976	$10,400
1978	$12,800
1980	$19,000
1983	$25,000
1985	$26,600
1986	$29,000

Source: Newfoundland Statistics Agency

Land Rent Levels

If we assume that the recent cost of servicing a suburban residential building lot is roughly $5000 for water, sewage and other services and that the cost of providing roads is about $6,000[25], then a rough measure of the potential rent is the difference between these costs and the selling price of the building lots. This would imply that land rents in St. John's are probably about two-thirds of the selling price of building lots, based on 1986 prices (ie. 11,000/30,000). Moreover, it would appear that this level of land rent is probably close to a minimum level since the absolute costs predicted for St. John's were lower than for most other areas[26] (Table 5.1 final column). Spurr's analysis of an earlier period indicates that the provincial ranking of rent potential provided by the final column of Table 5.1 can be used as an indicator (Spurr 1976:395-99). Bearing in mind what has been said about the reliability of the data it would appear that while significant land rents are available, it is not possible to say what the level of these rents are, or much about how this varies by metropolitan area.

Land rents are clearly available in the metropolitan areas, however in many of these centres the state claims a portion of available land rents through their land banking programme. In St. John's, for example, the NLHC sold twice as many residential building lots as did the major private developers. In addition, total sales of private and NLHC-developed lots accounted for about half of the total number of single-detached dwelling starts in St. John's in that year, self-help starts accounted for the rest. Thus land rents would only be available to developers or the state on about half of the dwelling starts in St. John's, and the state would receive about two-thirds of the available rent because of their larger market share. Thus while significant land rents are potentially available, the residential construction industry can only obtain these rents on a sixth (1/3 times 1/2) of annual single detached housing starts. Self-help restricts the opportunities for the residential construction industry to extract land rents, confirming the theoretical prediction made in Chapter 2.

The principal theoretical prediction from Chapter 2 is that self-help housing provisioning lowers the profits available to the residential construction industry from the actual production of dwellings, inhibiting the ability or likelihood of the industry adopting more productive production techniques. This is investigated below.

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[25] Ken Taylor, Director of Programmes, Canada Mortgage and Housing Corp., Nova Scotia region, personal communication, April 6th, 1989. These costs are similar for all regions of Canada except Newfoundland where costs are often higher because of the rocky terrain.

[26] The very low value for Montreal does not include the servicing costs of land and thus cannot be compared to the other values which include services (Statistics Canada 62-007:25).

5.1.2 Extracting Profits From the Production Process

The costs of producing a standard residential dwelling varies across Canada. Table 5.3 shows labour and material price indexes for Canada, and total cost indexes by region. The increase in costs since 1971 has been greatest in Atlantic Canada and lowest in Ontario. Since wage rates are similar across the country for unionised construction labour, this suggests that there might also be differences in efficiency in the production of housing.

The higher cost levels suggested for the Atlantic region by the indices in Table 5.3 are consistent with cost comparisons conducted by a Commission of Enquiry (1964) on housing costs in St. John's, Newfoundland. This Commission gives an unusual glimpse of the residential construction industry in the mid-1960's and provides some very useful supporting evidence for the analysis presented in this chapter. With respect to the costs of production, the Commission found that production costs in St. John's were the highest of any Atlantic metropolitan area, and that they ranged from 1.07 to 1.14 times higher (calculated from Commission of Enquiry 1964:33-34). The Commission also found that cost levels in the Atlantic region were higher than Ontario costs (see also Federal/Provincial Housing Conference 1969:2).

Table 5.3: Construction Price Indices by Region

AREA	1971	1981
CANADA		
Labour	100.0	274.1
Materials	100.0	327.6
Total	100.0	293.4
REGIONAL TOTALS		
Atlantic	100.0	317.7
Quebec	100.0	293.4
Ontario	100.0	285.7
Prairies	100.0	313.6
British Columbia	100.0	283.0
Source: Canadian Housing Statistics (1984:Table 96)		

Table 5.4 presents selected cost and production ratios which can be used to measure how firms in the different regions utilise inputs. Land costs and rents have been excluded from the data presented in Table 5.4. The ratio of profit to the total value of output is a very rough indicator of the profitability of the industry (row 1, Table 5.4). For inter-industry comparison a more precise measure should be adopted, however this rough indicator provides a quick comparison and shows profitability to be generally lower in the Atlantic provinces. Part of the reason for this might lie in the apparently less efficient production process in Atlantic Canada as indicated by the far higher levels of labour relative to materials (row 2). The less efficient production is likely a consequence of lower levels of capitalization in the Atlantic industry as indicated by the lower levels of indirect charges such as interest and depreciation in Atlantic Canada (row 3). This might also imply a lower turnover of capital; an important consideration since the level of constant value invested by residential construction firms is small relative to the value produced. All of this is consistent with the significantly greater importance of the smallest class of firms in Atlantic Canada (row 4). Statistics Canada uses firms with total output valued from $10,000-249,999 as the smallest class of firm in the residential construction industry, so these firms probably build up to a maximum of 4 houses per year.

Table 5.4: Indicators of the Performance of the Residential Construction Industry, Selected Provinces, 1985

INDICATOR	CAN	NF	PEI	NS	NB	ONT	ALTA	BC
Ratio of profit/value of output	.03	.01	.02	.05	.03	.06	.03	.02
Ratio of wage cost/material cost	.30	.42	.50	.48	.45	.29	.29	.34
Ratio of indirect costs/value of output	.14	.14	.12	.12	.11	.13	.17	.16
Ratio of output of smallest/largest firms	.14	0.25				.13	.16	.25
Source: Calculated from Statistics Canada 64-208, 1985, Table 1								

The 1964 Commission of Enquiry analyzed the reasons for the higher cost levels in St. John's by examining the costs of each building component in St. John's compared to costs for a similar component elsewhere. While Newfoundland contractors cannot be taken to be representative of the Atlantic industry, the evidence from Table 5.4 would support the view that the differences are of degree, and the Maritime producers bore a strong resemblance to those in Newfoundland.

The analysis of the Commission was directed towards the view that:

> *...the important question is not the particular amount of cost and profit, but whether or not this amount reflects the exercise of some degree of monopolistic control in all or part of the production process, or, less sinisterly, is due to market conditions which have had a similar effect (Commission of Enquiry 1964:4).*

Given that view, the Commission found excessive concentration in land supply leading to excessive land rents, and recommended that the state take a more active role in providing building lots (Commission of Enquiry 1964:30-31). With respect to the residential construction industry, they found that the industry was characterised by many contractors each producing a small number of houses annually, and that most producers had very little experience in the industry, and were poorly qualified as managers. I quote at length from the Commission in an effort to provide the flavour of the industry at that time, not only because it supports the arguments I have made immediately above, but also to provide a comparison for the discussion in the following sub-section.

Costs

> *While we are satisfied that all concerned use locally produced materials wherever it is practical to do so, a great many house-building materials have to be imported (to Newfoundland)...price is affected considerably by transport costs...cost of these materials (for an 1120 square foot bungalow) in St. John's amounts to $5,1000 and in Halifax the cost would be $4,500...the Ottawa price for these materials, on a rough estimate, would be about $4,000 (ibid. 1964:38-39).*

Innovation

> *Before leaving the subject of lumber, we wish to add a few words about the quality of it...it is not usually graded in accordance with the federal government scheme. The reason given is that no one asks for graded lumber, and if this is so we are not impressed. It is true that grading adds a little to the cost...we can see more advantages to the consumer in grading than in continuing the old practice, and we are inclined to regard the reluctance to accept it as another indication of the unnecessarily conservative approach to building in St. John's. Whatever else may be uncertain, we are quite sure that existing standards of construction have not yet reached their ultimate and a more receptive spirit would be to everyone's advantage (ibid. 1964:42).*

Design

> *A factor in plumbing costs is the inferiority of many of the floor plans. These have not been designed with a view to reducing the costs of installation, and this contributes unnecessarily to the higher costs of housing in St. John's compared with places in which overall design is more thoughtfully considered (ibid. 1964:43).*

Sub-Trades

> *Electrical work...responsibility of a licensed master electrician, and the small, one-man firm has succeeded in obtaining virtually all of the work in speculative building to the exclusion of the larger firms...prices appear to be substantially below those in Halifax. Any further comment could serve only to gild the lily and adorn the rose (ibid. 1964:44).*

Production Process

...much of the work in building a house is still carried out by direct labour, that is, by men employed by the contractor...one result of this practice is that division of labour has not developed to any considerable extent in St. John's. Here, a carpenter works in turn on framing, roofing, laying floors, and hanging doors as the work progresses; by contrast, in places where the application of mass production in house-building has been carried farthest, it is now common to find carpenters who do nothing but put on shingles, others whose one activity is framing, some who only hang doors, and so on. These differences in the organisation of work are of considerable importance in estimating labour costs (ibid. 1964:46).

Productivity

...output per hour of carpenters in St. John's compared with that in places outside the Atlantic Provinces...appreciably lower in St. John's although it was usually stated that the local carpenter was not inherently less capable than his counterpart in other places but had less opportunity to develop greater skill. No doubt the productivity of labour is affected by the small number of power tools in use (ibid. 1964:47).

Management

...the difficulty of obtaining cost conscious foremen is another factor which adds to labour costs (ibid. 1964:49).

...identified 96 different firms during the whole period (1954-1963) of which rather more than one-third had been active for only two years. Almost exactly two-thirds of the (presumably remaining) firms had been active for only three years. At the other end of the scale, only 7 out of 96 took out permits every year and a further 3 took out permits in 9 years out of the 10...management in the residential construction industry can be safely described as generally very inexperienced. We conclude that the consequences of this inexperience...increased costs, inferior quality, and a general unawareness of the latest developments in the industry (ibid. 1964:51).

Economies of Scale

...division of labour as it has been applied to house-building in larger cities outside the Atlantic Provinces. This has only been made possible by the concentration of production into the hands of fewer and larger firms which alone have the capital resources and management skill to organize operations in this way...also clear that there has not yet been a (St. John's or Atlantic) firm with sufficient volume to engage in mass production in the manner described. The greatest (annual) output by a single firm to date has been 44 units compared with 60 or 70 which would be necessary (ibid. 1964:55-56).

To summarise this, the Commission found that costs of building materials were higher in St. John's and in the Maritime cities and that this was largely due to transport costs, compounded by low volumes. They found that the house designs being used inhibited production efficiency, and also that the production process itself was inefficient in that few of the production techniques developed in central Canada were applied in St. John's or the Maritimes. In fact, none of the producers enjoyed sufficient volumes to support the adoption of these techniques, and this problem was compounded by inexperienced management unfamiliar with these new techniques and satisfied with traditional, conservative production methods.

The overall picture provided by this brief overview of current production data supported by the earlier evidence from the Commission of Enquiry is that the residential construction industry in Atlantic Canada appears to be less efficient and, as a consequence, is less profitable. At first glance this would appear to contradict Duncan's conclusion from his comparison of the Swedish and British industries where he predicted an inverse relationship between land rents and efficiency in the production process. Land rents are probably highest in Ontario where the profitability of the residential construction industry is also very high. However, it will be argued below that state policy towards the residential construction industry has not been applied evenly in Canada and is a contingent factor accounting for some of the relative advantage in the production process enjoyed in some provinces. Even more important is the impact of high levels of self-building upon the profitability of the industry. The combination of a lower level of state support and higher levels of self-help production have created conditions where it is more difficult to make money out of residential construction in Atlantic Canada, and which are likely to inhibit improvements in the production process. The theoretical prediction of lower profitability from production is thus confirmed: the theoretical corollary or reduced likelihood of modernising the production process is investigated in the following section.

In the previous section, the Canadian state was shown to claim a significant share of land rents in those areas where land rents are lowest and self-help production has reduced the proportion of building lots from which significant rents can be extracted. Thus state policy and self-help production have been contingent factors which have lowered the level of profitability of the residential construction industry in Canada. However state policy has also been used to improve the profitability of the Canadian industry and, as will be shown in the following sub-section, it appears that this policy has been applied unevenly, favouring areas which today have the lowest levels of self-help production.

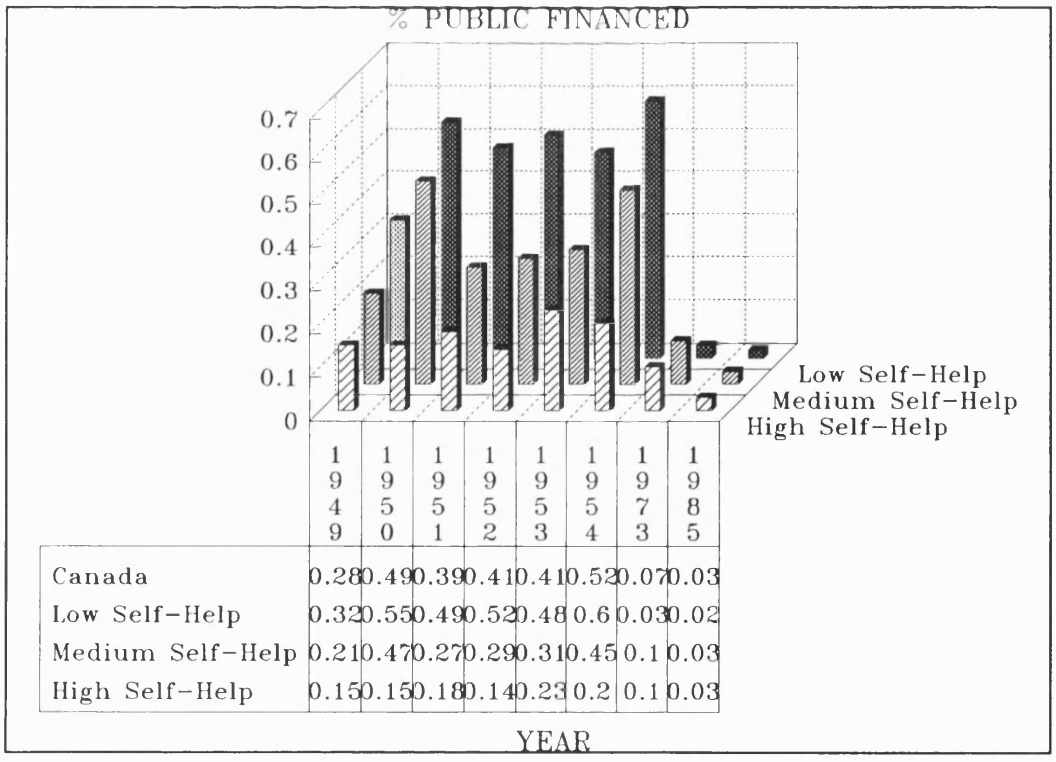
5.2 STATE POLICY AND THE PROFITABILITY OF PRODUCTION

Belec et al (1987:219-235) have established that the Canadian state played an important role in the development of profitable production processes in residential construction. They have argued that the principal means by which this was achieved was through state-sponsored development of building designs which allowed the introduction of 'Fordist' production processes in residential construction. Important elements in this were design competitions, the establishment of new methods of housing finance and new consumption norms.

Belec et al note that there were realisation problems during the inter-war and post-war period when the state was acting to improve the profitability of production; after all, commodities still have to be sold in order to realise the value embodied in them, and this includes the surplus

value. The mortgage provided a means by which realisation problems could be reduced by allowing households to use future income to buy a house, so building firms could potentially construct and sell dwellings at a profit. The Canadian state played an important role in the popularisation of mortgage financing in Canada and Belec et al suggest that the policy objectives of the state were not just fiscal as a means of post-Depression recovery, there were also objectives relating to the establishment of higher consumption norms which were seen as blocking the transition to the 'intensive phase of development' (Belec et al 1987:222). They correctly point out that by 1950 close to half of new housing starts in Canada were being financed with state assistance. They conclude that "For housing, as with other consumer goods, the creation of a mass market was promoted and facilitated through the provision of institutionalised mass credit."(Belec et al 1987:225). In contrast to this 'national' view a final piece of information from the Commission is illuminating: "We have not been able to explain the absence of approved lenders in St. John's. We have been told that only two are active, and we are certain market conditions would improve if there were more" (Commission of Enquiry 1964:70). The Provincial Commission of Enquiry observed a similar situation "The reliance on personal savings and funds loaned by local businesses has been caused by the reluctance of conventional (mortgage) lenders to do business in Newfoundland" (Provincial Commission of Enquiry 1962:A-23).

Figure 5.1: State Financing for New Construction by Level of Self-Help, 1949-56



	1949	1950	1951	1952	1953	1954	1973	1985
Canada	0.28	0.49	0.39	0.41	0.41	0.52	0.07	0.03
Low Self-Help	0.32	0.55	0.49	0.52	0.48	0.6	0.03	0.02
Medium Self-Help	0.21	0.47	0.27	0.29	0.31	0.45	0.1	0.03
High Self-Help	0.15	0.15	0.18	0.14	0.23	0.2	0.1	0.03

This resolution of potential realisation problems through state support for mortgage financing had to be an important element in the development of profitable production processes in residential construction in Canada. Figure 5.1 indicates the level of the state's contribution in the form of direct financing of single detached dwellings for home ownership. As can be seen, it was substantial indeed in the immediate post-war period (1949-54). Provinces are grouped according to the importance of self-building, the highest levels are found in Atlantic Canada and the lowest in Ontario, Manitoba and Alberta (see Chapter 3). However it can also be seen that this support was very uneven: Ontario, Alberta and Manitoba where self-help provisioning is now low were then the most favoured with about half of all single-detached starts principally financed from public sources, while Atlantic Canada (high self-help) was least favoured. By the 1970's the level of public contribution had been reduced significantly and was now usually higher in Atlantic Canada than elsewhere, but rarely exceeded 10% of single detached starts even there. The evidence from the Commission of Enquiry cited above shows that these innovations in design and production had not reached Atlantic Canada, even years later.

Residual financing, as discussed in Chapter 3 is identified as financing from sources other than a mortgage from public or conventional (eg. bank or trust company) sources (Rowe 1981) and non-mortgage financing appears to be the best indicator currently available for relative levels of self-help production (Rowe 1990b). In Figure 5.1 there is clearly a strong association between state mortgage financing in the early post-war period and non-mortgage financing (and probably self-help production) today: where the state was most active as a lender during the post-war period non-mortgage financing is today lowest, and where non-mortgage financing is today highest the state delivered less or little in the way of direct mortgage lending in the post-war period.

Belec et al cite Harris' work for Toronto during the 1899-1913 period where he notes that there were significant levels of self-help production outside of the city limits (Belec et al 1987:17-22). Belec et al refer to these developments as "shack-towns" and state that they did "little to transform overall levels of household consumption in the way that suburban homeownership financed through the state was to after the depression" (Belec et al 1987:216-7). This is a rather short-sighted and inappropriate evaluation of the situation. First, Harris' work indicates that outside the cities, where regulations requiring such things as brick construction prohibited much self-help production, it is likely that a very significant proportion of early working class housing in Canada was self-help produced. Secondly, housing lasts for generations and receives renovations and repairs throughout its history. Thus while the initial self-help housing standards may indeed have been very low (but perhaps higher than the alternatives available to many at the time), there is no reason to assume, as Belec et al do implicitly, that these dwellings would not have been improved over time with rising incomes and the development of mortgage financing.

Finally, the national increase in housing consumption norms noted by Belec et al was not realised entirely through state support or in suburban homeownership; a considerable share, and perhaps even the bulk of this improvement must have been realised through the self-help efforts of households themselves, and without state aid in financing. This is the inescapable conclusion which follows from the geographic concentration of state support for new construction during the early post-war period as shown in Figure 5.1 above, and from the evidence from the Commission of Enquiry: clearly in Atlantic Canada, the industry was not a source of improvements in housing provision.

There is a need to explore the role of the mortgage more fully, both with respect to its relationship to self-help production and perhaps more importantly, its role in resolving realisation problems[27] which might have inhibited the efforts of the state to improve the profitability of the residential construction industry. However at this stage it appears reasonable to agree that mortgage financing was indeed important in resolving realisation problems arising from the income-price scissors during the post-war period. Given that it is clear that state promotion of mortgage financing was uneven, then the impact of the state's efforts to improve profitability must also have been uneven. Whether this was intentional or not remains to be explored. However, the clear implication is that the residential construction industry outside Ontario, Manitoba and Alberta was not afforded as much state support, and this is particularly true of the Maritime provinces, Newfoundland and Saskatchewan.

The discussion in the previous sub-section showed that current levels of profitability are lowest in those areas least supported by the state in the post-war period. The uneven state promotion of mortgage financing appears to be a contributing factor to the lower levels of profitability today. In the following section it will be argued that realisation problems are still so severe in those areas neglected by the state in the post-war period that even the 'liberalisation' of mortgage credit in the 1970's could not resolve them sufficiently and that this is a principal reason for the higher levels of self-help production which prevail in those areas. Further, it will be argued that since high levels of self-help production inevitably lead to even lower levels of profitability for the residential construction industry, then the impact extends beyond this to the accumulation process in general with the effect of increasing the unevenness of development.

5.3 IMPACT OF SELF-HELP PRODUCTION ON THE RESIDENTIAL CONSTRUCTION INDUSTRY

The principal characteristic of self-building is the 'sweat equity' contribution of the household to the construction process thereby allowing households with lower and less regular

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[27] See Bullock and Yaffe (1973), Mattick (1981) and Itoh (1988:257-289).

incomes to acquire a dwelling, and higher income households to obtain a more luxurious dwelling than would otherwise have been possible.

With self-building in Atlantic Canada accounting for a half of total output of the region, one effect of the significant sweat equity contributions is to lower the average cost of new dwellings. As an illustration, with 1981 average material costs of $30-35,000 and labour costs for the most efficient producers running at least 40 percent of total direct costs, the minimum costs of labour and materials were $50,000 in 1981. At the same time, the average expected selling price for single-detached owned dwellings built between 1979 and 1981 was about $45,000, and about $34,300 for all owned single-detached dwellings in the region, regardless of their age[28]. Thus, even the most efficient producer would have had considerable difficulty recovering production costs in many regional sub-markets, let alone overheads and profits.

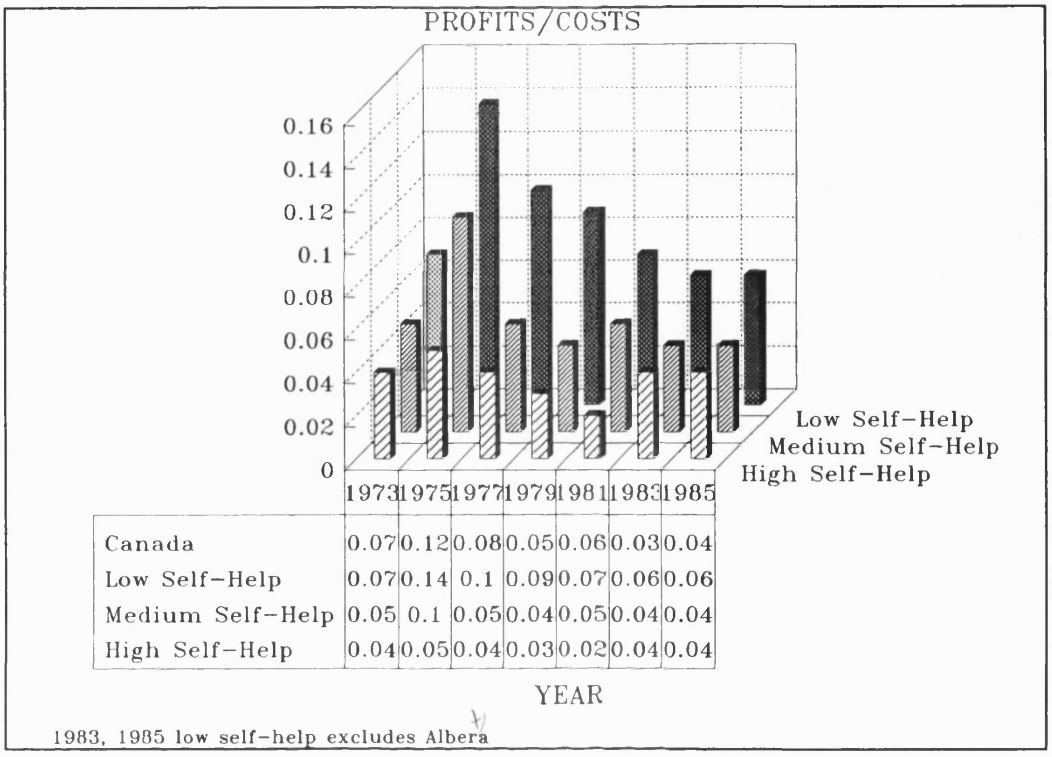
There are of course, many factors affecting the profitability of any industry, and the residential construction industry is certainly no less complex than most. However, Ball (1983) has confirmed the importance of surpluses to efficient production in residential construction and self-building negatively affects surpluses by depriving the industry of a portion of its market and also by creating or exacerbating realisation difficulties through lower market costs.

Figure 5.2 shows the rate of return on total costs (excluding land) for the residential construction industry in Canada for the years 1973-1983. For every year except 1983, accumulation levels in money terms by the residential construction industry are highest where self-building is weakest. This is also true when this is measured with respect to the value of sales. The only exception to the consistent pattern was in 1983 where in Alberta the residential construction industry was devastated by the collapse in the oil industry and the consequent drop in housing demand.

Self-building deprives the capitalist sector of surpluses and thus lowers the general level of profitability of the industry. This in turn creates obstacles to the modernisation of the capitalistic sector. The capitalistic sector will experience this as a loss of market share and will be likely to oppose any state initiatives to support self-building unless these initiatives provide inroads for the capitalistic sector into the self-build sector. This is what Canadian policy is attempting to do with the demonstration projects in the Rural and Native program which promotes self-building of industry-fabricated kit homes (CMHC 1987, and see also Chapter 7). This valorises some of the labour which, with self-building would have been unpaid labour provided by the household. The surpluses from this now valorised labour are available to sections

[28] Calculated from 1981 Census of Canada micro data file.

Figure 5.2: Ratio of Profits to Costs (not including land) By Level of Self-Help Activity, 1973-83



	1973	1975	1977	1979	1981	1983	1985
Canada	0.07	0.12	0.08	0.05	0.06	0.03	0.04
Low Self-Help	0.07	0.14	0.1	0.09	0.07	0.06	0.06
Medium Self-Help	0.05	0.1	0.05	0.04	0.05	0.04	0.04
High Self-Help	0.04	0.05	0.04	0.03	0.02	0.04	0.04

of the residential construction industry.

Harms (1982:46), Burgess (1985:273-4), and others have conceptualised self-help housing production as occurring in less capitalistically developed locations. The analysis above shows that this is only partly true and that the issue is more complex; self-help housing production is also a barrier to the full capitalistic development of the residential construction industry in Atlantic Canada. For other locations it would be necessary to empirically investigate the character of both sectors, however it seems plausible that the situation in Atlantic Canada will often be the general case.

The effect of self-building will extend beyond the residential construction industry itself. Self-building affects the exchange price of both new and existing accommodation, and through this, the price of labour, presumably lowering both[29]. Since housing is such an important component of subsistence the impact on the price of labour power can be quite important and can encourage regional capital to accumulate surpluses at the existing technological level. In the long run this

[29] Some appear to argue that there will be a reduction in the value of labour-power and accommodation. This is incorrect, the value of each remains at the socially necessary level, although lower productivity of self-builders might result in more than the socially necessary amount of labour being expended in production. However, while the value of the two commodities does not change through self-help production, they can often exchange at a price which is below their value equivalent.

makes the regional capital less competitive in comparison to capital from other areas who are encouraged to adopt new techniques to save on the cost of labour.

This process will be accentuated by the disincentives to migration provided by relatively less expensive accommodation. Thus, self-help housing production should also be seen as a contingent factor contributing to uneven capitalist development, not simplistically as a product of uneven development.

If the residential construction industry in provinces with high levels of self-building have the lowest profit rates, then this might lead to attempts by the industry elsewhere in Canada, or from abroad, to expand into Atlantic Canada. This might take the form of direct construction on site, or of kit or prefabricated construction. The success of any attempts by outside capital to move into the Atlantic Canada market will face the same constraints of incomes and prices, and competition with self-building. Thus it appears more likely that new entrants with improved techniques will compete with the existing residential construction industry in Atlantic Canada for its markets, rather than to significantly penetrate self-building markets.

If the mass of surplus available to the residential construction industry were reduced through significant levels of self-building, this would inhibit the ability of the industry to enhance their technological level thereby reducing relative construction costs further. Thus even a state with policies restricting land rents but aiming to achieve equity in distribution through efficiency in production such as Sweden (Duncan 1986), would be unlikely to actively promote self-building on a substantial scale since it would have a negative impact on accumulation and modernisation in the residential construction industry.

5.4 WHO HAS ACCESS TO SURPLUSES GENERATED IN SELF-HELP PRODUCTION?

New value, and hence surpluses, are created through the production of new accommodation, and the renovation and repair of existing accommodation. Where the production of accommodation is fully capitalistic then surpluses can be realised upon exchange of the accommodation after it is constructed, or upon receipt of payment for renovation or repair work. It is the residential construction industry which, in the first instance, has access to this surplus. However in many situations it will have to be shared with owners of land and finance capital in the form of land rent payments and interest. The realisation of surplus is distinct from money gains which can be realised in circulation and can be captured by a number of agents including developers, speculators, real estate agents and the household itself. Whilst such money gains augment personal wealth they are not part of surplus value and thus do not add to the total value in circulation.

There are two types of self-help activity: self-building and self-promotion. The latter is very similar to those renovation or repair activities which are initiated by the owner-occupier, but executed by the residential construction industry (for example, contractors, construction trades, or major builders, depending upon the nature of the work). In this case, it is the industry who will normally have access to the surpluses generated by the activity itself, and like renovation and repair, these surpluses will be realised upon receipt of payment. Some of the surpluses will likely have to be shared with finance capital if the builder has had to obtain interim financing, however this is not always the case: self-promotion contracts often specify frequent interim payments with nominal holdbacks. If the owners of the land prior to construction have a claim for rent then this will have been met at the time of land purchase by the household, prior to construction.

The situation with self-building is somewhat different because only the skilled trade members of the residential construction industry tend to be involved, and their payments are often for time only, or time and materials, except where the procedures are different because of trade practices, as with bricklaying, where payment is on a piece-work basis. The majority of the industry, independent skilled trades, is thus employed as wage labour but will often have more control over the production process than is normal for wage labour. It should be borne in mind that self-help builders are the overwhelming source of employment for the independent skilled trades; payments to sub-contractors from self-help builders is several times that of the industry, despite that fact that they only account for about 20% of new construction (see Chapter 3).

Accommodation does not normally exchange following self-help construction since the principal motive for production is usually as use-value. However with self-building, all value will remain unrealised until the accommodation is exchanged. Of course, self-builders will have previously shared a portion of the unrealised value with landowners and finance capital to the extent that they have encountered land rents or have had to use debt financing. But with self-building, the household has first access to the surpluses generated in production, but cannot realise these until the accommodation is successfully exchanged. There is thus a fundamental difference between self-promotion and self-building. Households pursuing the former do not have access to surplus, while households pursuing the latter do have access to surplus, but only upon successful exchange of the accommodation. Here it is useful to observe that the P.E.I. follow-up survey found that "industry produced houses were about twice as likely to have been sold by 1989 (and since 1982) than self-help houses (Rowe 1990a:28). It is likely that self-help producers will be less efficient than the residential construction industry, thus the level of surpluses will also differ, however this will not affect the realisation of surpluses.

5.4.1 Realisation of Surpluses in Self-help Production

There is a strong association between the level of self-help production and the level of economic well-being of the community: the better off an area is the less likely is there to be self-help production of accommodation. This means that whilst the self-building household has first access to surpluses generated in production it is likely that, should the accommodation exchange, then it will be more difficult to realise its full value than would be the case for, say, industry-built accommodation in better off areas. Thus I would identify self-builders as having 'potential access' to the surpluses, and agree with Pradilla (1976) who has identified accommodation as a 'potential commodity' (cited in Burgess 1982:61).

Self-building is likely to be most active precisely where the residential construction industry faces realisation problems, that is, where economic circumstances are most difficult. Moreover, if self-building is substantial, then the lower direct production costs (in money terms) of self-building will have an impact upon the market price of accommodation, again in money terms. This is the market impact of unrealised value in self-building. The effect of this upon the residential construction industry will be to increase their difficulties in realising the full value of the accommodation in exchange. Consequently, the mass of surplus available to the residential construction industry is reduced by self-building, and this takes two forms. First, every unit of accommodation provided through self-building potentially reduces the level of production of the residential construction industry by one unit - so long as the self-building household could have afforded an industry-produced dwelling of some type. In reality, the true reduction in the potential market will be less than one since some self-help households could not have afforded an industry dwelling, however, given the occupational and income structures in the P.E.I. case study (see Chapter 4), many self-help households could likely have obtained a mortgage. Secondly, the lower accommodation costs obtainable through self-building creates difficulties for the residential construction industry in obtaining the full value of accommodation it has produced through exchange, and it is probable that, the larger the self-building sector, the greater these difficulties will be. This is the second way self-building reduces the mass of surplus available to the residential construction industry.

The impact upon the residential construction industry does not stop there of course. If the mass of surplus for the industry is lower, so too will be the profitability of the industry. Also, given that it has to share the market with self-builders, then the turnover rate will also be lower. Together this means that the residential construction industry will face even greater difficulties in improving productivity in areas where self-building is active, making it more difficult for the industry in those areas to operate successfully in a market featuring insufficient effective demand. The only saving grace in this situation for the residential construction industry is that it is far less

likely that they will have to share surpluses with landowners - land rents tend to be inversely, although contingently, related to levels of self-building.

5.5 CONCLUSIONS

Chapter 2 identified three possible sources of profits in residential construction. The first of these was from the production process itself where the theoretical prediction was that self-help would reduce the level of profitability of the industry. This theoretical prediction has been confirmed by the empirical analysis in this chapter; profitability is lowest where self-help is strongest, and highest where self-help is far less frequent. Middling levels of profitability occur where middling levels of self-help provisioning occur.

The second source of profits identified in Chapter 2 was land rents, and it was predicted that self-help would also reduce the opportunities for the residential construction industry to obtain profits from this source. This proposal has also been confirmed by the empirical work in this chapter. Land rents do occur, and they are significant, but (like profits from the production process) the level of land rent is inversely related to the predicted level of self-help. These two conclusions would seem to suggest Canada as a third pole in the discussion of the impact of land rents upon the efficiency of the production process of residential construction.

The third source of profits are extra profits from speculation. Speculative housebuilding only occurs on a limited scale in Atlantic Canada because of the high levels of self-help and lower market prices for housing. Thus, while self-help does not directly affect extra profits, high levels of self-help are likely to reduce the average market prices of new houses and provide viable provisioning options for many potential consumers, indirectly limiting the possibilities for extra profits. This is associated with the predicted realisation problems for the residential construction industry which have been confirmed in this chapter.

The implication of the lower level of profitability of the residential construction industry as a result of self-help provisioning was that the labour process would be less productive where self-help was common (and profitability lower). This theoretical prediction from Chapter 2 has also been supported by the analysis in this chapter. The level of capital investment and of the division of labour is much lower in Atlantic Canada where self-help is the principal source of new housing.

This chapter has also presented a case for a necessary modification of the argument of Belec et al that state support in the early post-war period laid the conditions for mass consumption of housing. This support was uneven, and in Atlantic Canada, almost nonexistent.

The consequence was that the residential construction industry failed to modernise, and that mortgage lending did not develop to nearly the same extent that it did in areas where the residential construction industry has become the principal (and frequently dominant) source of new accommodation. Thus the Fordist production process in residential construction was unevenly developed in Canada, and this provides the basis of a response to the question asked in Chapter 4 "why is production by the residential construction industry so low in Atlantic Canada".

Chapter 2 argued that factors such as land rents and excess profits and concomitant lower levels of productivity result in higher than socially necessary costs for produced housing, and the need for transfers of surplus from other sectors (or through taxation) to compensate. It was also argued that self-help would result in lower cost housing (confirmed in Chapter 4), and limit the extent to which excess profits and land rents applied, and that this reduces the requirement for transfers of surpluses from other sectors. The analysis in this chapter have confirmed that excess profits and land rents are limited, and Chapter 4 has confirmed that the costs of self-help housing are lower. The final element is the examination of subsistence which is conducted in the following chapter.

The impact of self-help is not limited to the residential construction industry. First of all, the lower cost of housing has an impact on the level of subsistence. In addition, self-help will affect capital accumulation and contribute to uneven development. Finally, it is likely that it also affects the political outlook of households. These are the questions which are now addressed in Chapter 6.

CHAPTER 6

SELF-HELP HOUSING PROVISION, SUBSISTENCE AND ACCUMULATION

The level of subsistence of the population is a critical element in the accumulation process. The productivity of the working class, and the share of value that it is able to achieve through political struggle is what determines the profitability of production and thus affects the accumulation process itself. The level of subsistence thus becomes a critical field of struggle during periods of crisis when attacks on living standards intensify, whether by directly lowering wages and working conditions, or indirectly through cuts in social expenditures by the state.

In the previous chapter it was shown that with new accommodation, it is difficult for the residential construction industry to make a profit in areas where the economy is weaker. It follows that self-help provision of accommodation is necessary if the population is to be housed, and that the subsequent costs of accommodation are lower than where the industry provides the bulk of accommodation. If accommodation costs are lower, then the total costs of subsistence should also be lower and this will influence the nature of the accumulation process.

The above assumes that the sum of the costs of elements of subsistence other than accommodation is the same for different areas, and all of the realisation problems are faced by the residential construction industry alone. This assumption must be tested since other sectors of capital must also face the realisation problems caused by lower incomes, and there will be a host of contingent factors such as transportation costs and state subsidies which will influence the outcomes. Thus the net impact of self-help provision on subsistence and the accumulation process could be small, and perhaps even trivial, if the adjustment in other sectors were great enough.

It cannot just be assumed that lower incomes cause realisation problems, result in higher levels of self-help provision, in turn implying lower levels of subsistence and hence, the possibility of lower levels of money income. While such a cumulative downward spiral is possible, its existence cannot also be an explanation. Additional evidence must be found to elaborate the process, in which the critical link between the provision of accommodation and the accumulation process is subsistence.

6.1 THE MEASUREMENT OF SUBSISTENCE

Subsistence, like all marxist categories, is socially determined: its level is established through class struggle and the character of the accumulation process (Itoh 1988:137)). Thus subsistence will have both temporal and spatial variation (see Chapter 2). Also like other marxist categories, subsistence is a value category. Both of these characteristics present the usual problems encountered in operationalising marxist categories since available information is often

in price terms and rarely captures the impacts of space and time. Indeed, as Farjoun and Machover point out, the prices of commodities really only approximate value if a large set of commodities is measured (Farjoun and Machover 1983:125-137). However, the argument suggested in Chapter 4 and confirmed in Chapter 5 is that it is often not possible for the producer (whether industry or self-help) to recover the price equivalent of the embodied value of the accommodation.

The key to the measurement of the price of the housing component of subsistence is to first recognise that by its nature housing is a relatively unique commodity presenting unusually strong opportunities to capture unproductive profits through land rents or speculative gains. The price of housing alone is even more difficult to observe because there are a number of elements in price determination which makes average housing prices unacceptable as a measure of the accommodation element of subsistence. The most important of these is the impact of speculation on the price of accommodation. A second consideration is the age of the housing stock (newer industry stock seems to sell much closer to its value than does older and self-help stock), and a third is differences in land rents. Since it is very difficult to separate these different effects an alternative approach must be found to operationalise the issue.

In the previous chapter the value/price problem was circumvented by summing the costs of inputs as a proxy for the costs of new accommodation, but there the concern was with the impact of self-help upon the profitability (measured in price terms) of the residential construction industry. Likewise, also in Chapter 5, estimates were made of the costs of developing and servicing land in order to determine the likelihood of land rents. In this chapter the concern is with what households pay for their accommodation so it must be recognised that accommodation is but one (albeit usually the most expensive) component of subsistence. Households have different priorities in determining how they are going to spend their income; while some might regard adequate and suitable housing as the main priority, others might choose to spend more on the other components of subsistence. The tenure and quality choices made by households are a part of the complex process of setting priorities, and are obviously constrained by the level of income and the prevailing level of prices. To simplify the issue, it is possible to look at accommodation as one component of subsistence in the context of the entire subsistence package by applying what I am calling a 'residual income approach'. Essentially this is a procedure by which it is possible to estimate a standard level of consumption for all households regardless of location or household composition.

If in different areas it requires about the same amount of money to achieve a common standard for all non-accommodation items in subsistence and, if accommodation costs and incomes

are similar, the level of subsistence will be the same. However, incomes are lower in areas with high levels of self-help provision, and this implies that there is less income available for subsistence. Whether this shows up in lower housing expenditures, or lower levels of expenditures on other items will be a function of factors such as household preferences and the availability and cost of accommodation. But regardless of the expenditure category which this income constraint actually affects, the level of subsistence will be lower. This is discussed in the second section of this chapter.

Since many households in Atlantic Canada cannot achieve a minimal level of subsistence through normal capitalistic markets, they must obtain some of their subsistence at a price which is less than its value. Because housing is the major component of subsistence and is also a commodity which lends itself to self-help provisioning, then it is an important means of reducing the money costs of subsistence. An alternative is for the state to provide subsidies, and in Canada the principal form that this takes is transfer incomes, particularly unemployment insurance (UIC). Indeed, UIC is the most important single source of income in Newfoundland, and is almost as important elsewhere in the Atlantic region (see Chapter 3, Table 3.1). However the calculations in this chapter use all sources of income including transfers, thus state consumption support is already accounted for and the shortfall in income is post-subsidy. The third section of this chapter elaborates on the arguments presented in this paragraph.

6.2 The Residual Income Approach to Determining a Common Level of Subsistence

Marxist analysis identifies subsistence as "the labour-substance embodied in the means of subsistence necessary to reproduce labour-power...together with (the) technological conditions of production...The scope of the necessary means of subsistence is relatively independent of the technological conditions of production, and includes historical and social elements" (Itoh 1988:136-7). The specification of the technological conditions of production identify such things as the skills and training embodied in the working class, the value of the necessary health care that they have received and technological developments which have reduced the socially necessary value embodied in individual elements of subsistence and which are now part of the commodity labour-power.

The necessary means of subsistence is affected by "the lifestyle of wage-workers which is historically and socially formed" (Itoh 1988:137). And finally, subsistence must also include the means necessary for the worker's replacement, that is, the production of children to replenish the working class population. There has always been considerable room for debate about the precise definition of the value of labour-power. The principal reason for this is that there are some categories of labour, particularly state workers, whose position with respect to accumulation can

be unclear, for example, health workers. When their labour-power is expended upon subsistence it is considered productive (of surplus value), but when it is not part of the necessary expenditures comprising subsistence, it is not productive of surplus value.

That is probably why Itoh specifies the technical conditions of production as being part of "the magnitude of the labour-substance of the commodity value of a day's labour-power" thus making it explicit that labour-power also includes necessary expenditures enhancing the productivity of the working class.

As a working definition I will identify subsistence per Itoh as the value expended to produce and reproduce the working class, and the magnitude of that value will be historically and socially determined and includes the technical conditions of production. This historical and social determination of the magnitude of the value will be affected by time and location.

By the nature of this definition, the level of subsistence will be difficult to specify for any given situation since historical and social forces are always complex and often are only apparent well after the precise moment has passed. Thus an empirical measure of subsistence is almost impossible to obtain (see Webber 1988). However the essence of subsistence is that it is the level of consumption of commodities and unexchanged value necessary for the production and reproduction of the working class. Thus it is not unreasonable to specify some level of consumption as a level of subsistence but, even if it does not provide the 'minimum socially necessary' it will still serve to compare the impact of location on subsistence at a particular time. Since the real magnitude of subsistence is historically and socially determined and is unlikely to be observable except historically, then so long as the specification of the magnitude is not totally arbitrary it can provide a proxy for subsistence which can be used in relative comparisons. This is the approach which is adopted here and which is detailed in the following sub-section.

6.2.1 Determination of an Acceptable Measure of the Magnitude of Value Embodied in Subsistence

In Canada there have been three different approaches to determining the level of expenditures necessary for a socially adequate standard of living. These are the poverty measures developed by Statistics Canada, the Canadian Council on Social Development (CCSD) and the Social Planning Council of Metropolitan Toronto (SPC) respectively. The Statistics Canada and SPC approaches are based on empirical family budget data modified by a judgement of social adequacy relative to prevailing community standards. The CCSD approach is based entirely on a judgement of social adequacy relative to the national standard of living, without reference to actual family budgets.

The Statistics Canada "low income cutoff" is treated as a semi-official measure of poverty in Canada. It is defined by a ratio of expenditures on basic necessities (food, shelter, clothing) to income. This ratio is based on data from the Family Expenditure Survey (FAMEX) and has twice been revised to reflect changes in the national standard of living. The latest (1981) revision was based on the 1978 FAMEX survey which showed that the average Canadian family then spent 38.5% of income on basics, compared to 50% in 1961. Accordingly, any family required to spend more than 58.5% on basics (20% above average) is currently considered to be in "straitened circumstances." The poverty threshold incomes derived from this ratio are adjusted for family size and for urban/rural residency, and are updated annually to reflect the full change in the Consumer Price Index.

The CCSD uses a pure relative income approach, defining poverty simply as a shortfall from national income standards. The CCSD poverty lines are based on the prevailing pre-tax average family income as estimated by Statistics Canada, this value being considered to represent the income of a family of three (currently the average Canadian family size). CCSD makes a judgement that any family of this size whose income is less than 50% of that value for any given year can be considered poor by prevailing community standards. The CCSD poverty lines are adjusted for family size but not for urban/rural residency (Ross 1983).

Neither the Statistics Canada or CCSD approaches are suitable for the task at hand since both are income based while what is required is a measure of the cost of the commodities included in subsistence. In addition, actual expenditures are very different from a socially necessary level of subsistence since expenditures are a consequence of a large number of factors which will influence every expenditure decision. The SPC sets out to establish minimum adequate living standards for Metropolitan Toronto by costing a "basket" of basic goods and services necessary to maintain physical and social well-being.

Standards are established in the categories of food, clothing, rent, home furnishings, household operations, health care, personal care, recreation/reading/communication, alcohol and tobacco, and transportation, through a combination of FAMEX data, original SPC estimates and the judgements of a community panel. Using these standards, the SPC derives adequate income levels for different family types varying by age, sex, composition and family size. A brief summary of the SPC methodology is presented in NORDCO (1986:24-30), while more detailed summaries can be found in the SPC documentation (SPC 1983, 1984)[30].

[30] The NORDCO work cited in this chapter, as well as the work associated with the New Brunswick study later in this chapter, was conducted while the author was Senior Economist at NORDCO Ltd., a provincially owned research and development corporation based in Newfoundland.

In Table 6.1, households from metropolitan areas in Ontario with incomes in the lowest tercile have been selected for comparison with the SPC standards. This level of income corresponds with that necessary to achieve the SPC levels of expenditure (NORDCO 1986:31) and thus can be used as a proxy for the minimum socially necessary living standard. As can be seen, three household types have been selected for comparison: the selection is designed to represent as broad a spectrum of the SPC household types as possible whilst still retaining sufficient cases that the FAMEX data can be used. There are 80 four person (couple with two children) households, living in the metropolitan areas of Canada, and owning a home and a car, 29 single parent renting households with one child and 158 single elderly female renters.

The ratio of the necessary expenditures to actual expenditures for Metropolitan Toronto households is presented for three different household types. A ratio of 1.0 occurs where necessary expenditures equal actual expenditures, ratios greater than 1.0 imply necessary expenditures exceed actual expenditures (ie. expenditures are not sufficient to meet minimum social standards), and ratios less than 1.0 imply that necessary expenditures are less than actual expenditures. As can be seen, the relationship of actual expenditures to the SPC norm is strongly affected by the type of household: both of the typically poorest households (single parents and single female elderly) cannot achieve the level of consumption defined as minimally adequate by the SPC (ratios >1.0), while the expenditures of the couple headed household with two children exceeds the norm (ratios <1.0).

Table 6.1: Ratio of Necessary to Actual Expenditures, Metro Canada, 1985

ITEM	HOUSEHOLD TYPE		
	Couple, two children, with car, homeowners	**Single parent, one child, renting**	**Elderly female,renting**
Food	0.892	1.135	0.866
Home furnishings and	0.665	1.087	2.230
equipment	0.181	0.140	0.202
Household operation	0.670	1.148	0.825
Clothing	1.832	6.986	1.355
Health	0.857	0.873	2.107
Personal care	1.064	2.164	1.374
Recreation, communication	1.014	0.783	1.658
Alcohol and tobacco	0.675	4.720	2.570
Transportation	0.361	16.5	NA
Education/childcare	0.139	2.222	NA
Life Insurance			
Sub-total	0.780	1.357	1.145
Housing, including utilities	1.179	1.362	1.420
TOTAL	0.878	1.359	1.246

Source: Calculated from NORDCO (1986:38)

The priorities of different households are revealing and would be fascinating to investigate further: for example, single parents exceed their necessary expenditures on alcohol and tobacco and are significantly below their necessary level in health care, education and transportation. This probably reflects the social and economic isolation of such households, and the inadequacy of available public support.

Table 6.1 illustrates two important points for the analysis here. The first is that actual expenditures are not reliable indicators of a 'social norm' and are inconsistent for different types of households. The second point is that unlike most other expenditure categories, housing expenditures seem to fall below the norm, regardless of household type. Thus, measures such as average expenditures on accommodation are unlikely to prove to be useful indicators of the housing component of subsistence. The advantage of 'normalised' approaches such as that adopted by the SPC is that they are not vulnerable to these problems and instead offer a common standard of consumption which can be used as an indicator of subsistence regardless of location or household composition.

The major constraint on the general use of the SPC approach is that it is very expensive to implement and requires that a standard be established for each location where it is used. Thus it is not possible to adopt the SPC methodology for this evaluation of subsistence levels, even though this would be the most appropriate measure. Fortunately, however, a recent study of housing need in New Brunswick was forced to address this problem and developed an empirical approach to standardising expenditures.

6.2.2 Effect of Location on the Costs of Subsistence

In 1983 a CCSD Task Force on the Definition and Measurement of Poverty in Canada set out to assess the adequacy of the CCSD's poverty lines in light of several current questions in the field of poverty measurement. One question they addressed was whether the CCSD national poverty lines could be adjusted either for urban/rural residency (as with Statistics Canada's low-income cut-offs) or for different provinces. The task force concluded by recommending no change in CCSD's current national poverty threshold. In their opinion "a representative basket of goods and services in total costs nearly the same wherever a person resides in Canada. In this respect, the commonly held belief that rural living is markedly cheaper than urban living is a myth." (CCSD 1984).

Statistics Canada had assumed a lower rural cost of living in allowing for a 73% difference between rural low-income lines and those for the largest cities. The task force, while acknowledging geographical differences in incomes, felt it does not necessarily follow that the cost

of living varies in a corresponding fashion. They pointed out that while rural incomes are only 78% of big city incomes, rural households spend 88% as much as big city households in dollar terms. The implication is that either they simply spend more, or else they are required to pay higher prices for most non-housing items they purchase. For the task force, consumer expenditure data supported the latter conclusion.

Consumer expenditure data shows that rural households spend more of their scarcer dollars on transportation, shelter repairs, water, fuel and electricity, household appliances, children's clothing and prescribed medicine, while stinting on more discretionary items such as furniture, personal care, dental and medical care, tobacco and alcohol, and recreation (Table 6.2). Where there are favourable cost differences in particular categories (notably housing), they are offset by unfavourable differences in other items. The task force suggested that the wide discrepancies in low-income lines used by Statistics Canada are more the results of income than cost differences.

Table 6.2: Household Expenditures by Community Size, Canada, 1978

Expenditure item	Urban	Rural	Rural/urban
Food	$3,409	$3,011	88.3
Shelter	$3,424	$2,414	70.5
Household operations	$815	$727	89.3
Household furnishing/equipment	$868	$838	96.5
Clothing	$1,380	$1,163	84.2
Personal care	$343	$255	74.3
Medicine and health care	$400	$354	88.4
Tobacco and alcohol	$654	$531	81.1
Transportation	$2,357	$2689	114.1
Recreation, reading and education	$1,245	$972	78.1
Miscellaneous	$449	$490	109.1
Total current consumption	$14,344	$13,442	87.6
Personal taxes, security & gifts	$5,175	$3,331	64.3
Total expenditures	$20,519	$16,774	81.7
Income before taxes	$21,505	$17,021	79.1
Savings	$986	$247	25.1

Note: Urban = 500,000+, Rural < 500,000 population
Source: Statistics Canada, Family Expenditure in Canada, 1978, Vol. 3

Addressing the question of regional and provincial differences in the cost of living, the task force stated that there is a lack of comprehensive data on representative market basket costs for all provinces. They used three sources: Statistics Canada consumer price indexes for a limited market basket and for cities only: a Conference Board of Canada market basket survey geared to higher income consumers in several cities: and a special survey conducted by the task force, with

items selected for a representative low-income market basket primarily for urban areas. The task force concluded that the cost data for different provinces are marked by more similarities than differences. If it can be taken that differences in consumption levels among locations cannot be due to cost differences (since total costs are roughly the same), then either the CCSD speculation that households with lower incomes (who are more probable in regions such as Atlantic Canada), are constrained in their efforts to attain the same level of subsistence, or else must employ other means such as self-help to achieve these levels. Since the CCSD noted that housing is the one principal area where rural households and households from the poorer regions enjoy a cost advantage, and that this is a major offsetting factor equalising total costs, then households in rural areas and Atlantic Canada are likely to have to pay a higher portion of their income for the same non-shelter bundle of goods compared to urban and central-Canadian households. Moreover, since the costs of production of accommodation have already been shown to be higher in Atlantic Canada (Chapter 5), then the lower housing costs in rural and Atlantic areas must reflect a different relationship to either production costs or other value components such as economic rents or super profits.

In the following section attention turns to an attempt to use a residual income approach to determine what proportion of Atlantic Canadian households would be unable to obtain housing at local market prices if they first obtained all of the other commodities in their subsistence.

6.2.3 How Many Atlantic Households Could Afford Market Housing?

A residual income approach that took into account household's non-housing consumption requirements and which depended upon household composition and age of household members, was developed for the New Brunswick Housing Needs Study (see WMS Associates et al 1988 for a report on the study). This approach[31] compares households' non-shelter expenditure according to an established standard, with their income. If the household does not have enough income "left over" to pay for shelter after standard non-shelter expenditures have been accounted for, it was considered to have an affordability problem.

A standard for expenditures on 12 categories of non-shelter expenditures for a family of four is first established. (Those categories are the 11 identified in Table 6.1 plus child care). The average expenditures of the middle tercile Atlantic households in the 1982 FAMEX microdata base were used to establish these 'normal' expenditures. This level of expenditure is very similar in all categories to that established for Metropolitan Toronto by the SPC for a family of 2 adults and 2 children, an appropriate equality since the previous section has shown that the costs of the

[31] Developed by the author at NORDCO Ltd. The approach received very positive peer reviews from 5 leading Canadian analysts of housing need, and negative reviews from analysts at CMHC.

non-housing commodities in subsistence are similar for all regions. Atlantic households were used because the sample size for FAMEX was too small for New Brunswick calculations alone. From the point of view of the discussion here this is a fortunate circumstance since the results can be applied for the entire region.

Regression analysis on FAMEX data was used to estimate coefficients for the impact of households' differing compositions on non-shelter expenditures in each of the 12 categories of household expenditures. Compositions included the number of children under 6 years old, the number of children between 6 and 17 years, the number of adults and the number of elderly. These coefficients are then applied to each household in the data base to yield the amount of average non-shelter expenditures by household composition. These average non-shelter expenditures are set as the standard for the various household compositions. The difference between income and the measure of standard non-shelter expenditures gives a measure of how much the household can afford for housing.

For the New Brunswick study the data base was developed from a survey of 23,000 households (about 10% of all New Brunswick households). Then a measure of standard shelter expenditures is calculated. This is the lesser of what the household is actually paying for shelter, or the median cost of adequate unsubsidised dwellings. It is based on the median shelter costs for recent movers. Different medians are used for renters and homeowners, based respectively on median shelter costs for recently moved renters and recently moved homeowners. Recent movers were selected because their shelter costs represent the cost that households would have to pay if they were to change their accommodation. Medians are used since they represent the most probable cost.

A distinction was made between households which do not have sufficient income to meet their basic necessities disregarding shelter, and those which can afford non-shelter expenditures but cannot afford shelter. If a household's income is less than the standard non-shelter expenditures, it has insufficient income for basic necessities. Even if those households had zero shelter costs, they would still not have sufficient income.

The objective here is to establish a norm level of consumption which can be taken to represent a reasonable level of subsistence for purchased non-shelter items. This is a different objective from the New Brunswick study which was attempting to establish the ability of households to afford housing. However, the New Brunswick methodology is still applicable to the objectives of this chapter since it does produce a norm which can be taken to be some minimal level of subsistence for the area and time under consideration. The similarities amoung the

Atlantic provinces (see Chapter 3) means that it is possible to use the results of the New Brunswick study as an indicator of the ability of households to meet their subsistence requirements for the region as a whole.

The survey indicated that 21.7% of New Brunswick households did not have sufficient income to be able to obtain the commodities necessary to maintain their household at the norm level of subsistence even if housing was free, and a further 10.1% could afford all non-shelter commodities but could not afford to obtain housing at the median costs applicable in their residential area (see Table 6.3). Thus 31.8% of New Brunswick households could not afford even the lower median costs of housing: if new industry-produced housing were to be obtained then the percentage would be much higher.

Table 6.3: Incidence of Affordability Problems in New Brunswick, 1987

GROUP		Households with affordability problems (#)	Percentage of total	Total households
TENURE	Homeowners	46,700	27.1	172,100
	Renters	26,800	45.8	58,500
AREA	Rural	40,200	35.5	113,200
	Urban	33,400	28.5	117,400
DWELLING TYPE	Single detached	46,000	27.5	167,600
	Duplex	6,100	33.3	18,300
	Apartment	14,300	52.2	27,400
	Mobile home	4,200	41.2	10,200
HOUSEHOLD TYPE	Senior-led	20,900	51.6	40,500
	Couple with children	23,200	22.1	105,000
	Couple no children	7,400	20.3	36,400
	Single-parent	8,700	65.4	13,300
	Other family	5,700	41.3	13,800
	Other non-family	7,800	36.1	21,600
EMPLOYMENT STATUS	Full-time work	21,800	15.7	139,000
	Part-time work	13,900	52.7	26,400
	Unemployed	5,700	56.4	10,100
	Retired	17,000	50.6	33,600
	Other (transfers/business)	11,900	66.5	17,900
TOTAL		73,500	31.8	230,600

Source: Calculated from WMS et al (1988:98-108)

The results of the New Brunswick survey show renters to be more likely to have affordability problems then homeowners, however because homeowners amount to about three-quarters of total households, the absolute number of homeowners with affordability problems is almost double that of renters. Rural households are marginally more likely to have

affordability problems, although there are slightly more urban households in New Brunswick. Senior and single parent led households are most likely to have affordability problems as are, not unexpectedly, households where work is not full time and where incomes are in the lowest two quintiles.

The survey results presented in Table 6.3 are consistent with the results of other surveys of expenditure requirements in Canada (see for example, SPC 1984, Streich forthcoming and Manitoba Health 1984). It should be emphasised that the norm expenditure requirements are assessed for each household individually by first establishing the level of expenditure required for each of the 12 expenditure categories which are determined by the composition of the individual households. This gives a higher level of precision to the estimates presented in this sub-section. For this analysis, the key point is that almost a third of New Brunswick, and hence, probably a third of Atlantic Canadian households, do not have sufficient income to meet a modestly defined 'norm' subsistence.

Further, almost a third of the households are engaged in full-time employment (21,800 of 73,500). Embedded in these results is an important methodological consideration which means that these estimates are very conservative, that is, the concept of 'prevailing local prices' of housing. In the model described above the local cost of recently occupied housing was used as a standard. It was felt that this reflected the options available to households if they wished (or had) to move. Thus situations where the mortgage principal had been fully paid off, for example, were excluded since recent movers were unlikely to have obtained and retired a mortgage within the two year time frame used. However situations where recent movers had built their own house and enjoyed lower housing costs as a consequence were included. Self-help is therefore an important factor in lowering 'prevailing local housing prices'. If self-help did not occur, then the proportion of households who were unable to afford local housing would be significantly greater. Of less importance are considerations such as the likelihood there might be geographic variation in the occupational structure of movers. Overall, the one-third estimate is very conservative.

6.2.4: Summary

The empirical work presented in this and preceding sections has attempted to assess the theoretical proposition that lower housing costs brought about through self-help provisioning will lower the value of subsistence. While housing costs are indeed lower in areas with high levels of self-help (see Chapter 4), this was not taken to be a sufficiently strong validation of the proposition: it was suggested in the introduction to this chapter that the same realisation problems brought about by lower regional incomes, and self-help responses by households, could mean that other commodities in subsistence might also be exchanging below their values and

these, in sum, might outweigh the contribution of self-help housing provisioning.

However the empirical work presented above shows that a significant proportion of Atlantic households do not have enough money left over from their income after paying for other commodities to be able to afford housing, and that most of these were working couples with children. In a situation such as this, self-help provisioning must often become a necessity. In such situations too, it is clear that housing cannot exchange at its full value.

6.3 CONCLUSION

A general purpose of this thesis is to examine the impact of self-help housing provision on accumulation. In Chapter 2 a theoretical argument was developed which showed that self-help housing provision reduces the profitability of the residential construction industry. It was also argued that self-help provisioning reduces the cost of housing, and this would lower the costs of subsistence. This chapter has confirmed this second theoretical proposition. The theoretical argument was that if subsistence costs were reduced, then this would reduce the requirements for money wages to be sufficient to pay for the full value of subsistence - while the costs of housing (and hence subsistence) are lowered by self-help, the value remains at the socially necessary level. This is possible because in many areas self-help housing exchanges for less than its value. Thus all of the main theoretical propositions from Chapter 2 have been confirmed.

Self-help has a contradictory effect on the costs of accommodation. First, as shown in Chapter 5, self-help lowers the profitability of the residential construction industry and thus inhibits improvements in productivity in the industry preventing a cheapening of the value of accommodation through improved efficiency in the production process. At the same time self-help lowers the actual money costs of accommodation, and this chapter has shown that this is, in effect, a cheapening of subsistence itself. Thus, on the one hand, self-help makes it even more difficult to cheapen the value of accommodation, while on the other it effectively does that very thing by lowering the money costs of accommodation. The balance between these two contradictory effects of the level of subsistence will be determined by the level of self-help and by a host of contingent factors such as income level and security, level of land rents, and planning regulations and practices, all of which will condition the outcome. Given the far lower costs of accommodation in Atlantic Canada (Chapter 4), the outcome is clearly in favour of the cheapening effects.

As argued theoretically in Chapter 2, that outcome will have an impact upon accumulation. This is discussed in the final chapter of this thesis. However, before addressing that issue, I will turn to one of the other major topics it is the purpose of this thesis to contribute

to: improvement of the analysis of housing in Canada. The following chapter reviews housing policy in terms of policies which have been employed in support of self-help, and an analysis of the impact on self-help of the main Canadian approaches to policy.

CHAPTER 7
POLICY OPTIONS FOR SELF-HELP HOUSING

The analysis in Chapters 3 to 6 has evaluated self-help in relation to most aspects of the provisioning process except for policy and the role of the state. This final analytical chapter will deal with these topics.

State housing analysts are increasingly interested in encouraging self-help housing as a means of relieving the responsibilities of the state. Such a move is now underway in Canada with CMHC looking to self-help for the first time as an opportunity for housing development. This can be seen with the new forms of the Rural and Native housing Program and the increased interest by the Planning Division of CMHC in self-help[32]. Previously, self-help programs were initiated by the provincial housing agencies while the federal agency focused on issues of greater concern to central and metropolitan areas. The new interest by CMHC is consistent with the observation by Harms that state interest in self-help revives during periods of economic crisis (Harms 1982:46-48).

This chapter evaluates Canadian self-help housing programs in the light of the analysis developed in Chapters 3-6. These are categorised by their approach to self-help: that is, whether their impact is to (a) reduce realisation problems facing the residential construction industry by expanding industry access to surpluses, or whether the impact is (b) promotion of self-help by individual (or collective) households.

This review indicates that there is state support for self-help in Canada and while some of the programmes may extend the profitability of the residential construction industry others are principally of benefit to the individual self-help household. It was shown in Chapter 6 that in places such as Atlantic Canada, self-help production is likely to continue as a major source of housing production, with or without state assistance, due to the poorer economic conditions of the area. As well, full capitalist production of accommodation cannot occur in this region because self-help production has created a market structure which capitalist production cannot fully penetrate. Indeed, it is a structure in which the residential construction industry is likely to face increasing difficulties in even maintaining its current position.

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[32] CMHC had not funded any studies of self-help since Middleton (1983) until 1989 when two studies with an approximate value of $60,000 were funded. The 1990 budget for self-help research and planning contracts is reported to be $200,000. Also in 1990 CMHC initiated a public review of the largely self-help Rural and Native Housing Demonstration Program with the objective of including important elements of that program in the regular Rural and Native Housing Program.

This raises the question of the impact of future policy directions towards the self-help sector. The important question for housing analysis is whether there is a sufficient understanding of housing provision to be able to contribute to the impending political debates. This is the focus of the final part of the chapter which begins with a brief review of the barriers to self-help provisioning and an assessment of the cost advantages of self-help.

7.1 BARRIERS TO AND ADVANTAGES OF SELF-HELP

This sub-section provides some general characterisations of the barriers to self-help and the advantages in terms of cost savings which are available to self-help households. This material is important background for the development of the analysis of the policy options.

Self-help as a form of production requires capital outlays for land, foundations, and materials, even where the household provides all of the labour itself. During the 1978-81 period covered by the P.E.I. case study, this amounted to about $30,000, which was 1.5 times the average annual income in 1981 (see Chapter 4). Also, as reviewed in Chapter 4, the average self-building household in P.E.I. provided almost half of all the required labour and the average self-promoting household provided about 10 percent of the required labour themselves[33]. In order to meet the capital requirement however, self-builders must either have access to debt financing, or have previously accrued capital in some form.

Debt financing is more difficult for self-builders than for purchasers of completed dwellings because of the lending preferences of the financial institutions (see Chapter 3). However, in order to obtain debt financing, or to accrue capital in advance, potential self-builders must usually have had an income, and normally this will have been earned income. Wealth based income is unusual among self-builders and state transfer income levels are too low for the required level of accumulation. This is reflected in the occupational structure of households presented in Chapter 6 where professionals were very common amoungst self-help households, and the unemployment rate for new homeowners was a sixth of the provincial level.

The financial barrier is a fundamental restriction facing self-building. It makes it unlikely that many of the households who usually have difficulty participating in housing markets (eg. unemployed, single parent households, and the homeless) will be able to find a solution in self-building without assistance from relatives or the state. In addition to the financial barrier, the skill and time requirements of self-building will militate against some households building

[33] In PEI 15 percent provided over 75 percent of their labour requirements themselves (Rowe 1983:85) and in Colchester County 31 percent of homebuilders provided over 80 percent of required labour themselves (Bishop 1985:59).

their own dwelling (see Chapter 4). Finally, the post-war boom and active regional fiscal policies during the 1960's and 1970's facilitated household accumulation for self-building. In the current economic crisis many more households will probably find the barriers to self-building more difficult to overcome with increased unemployment and lower real incomes.

The capital requirements of self-help housing production are somewhat analogous to other 'informal sector' household activities in the reproduction of labour power and in the production and exchange of commodities in general. Recent studies have shown that those who engage in such activities are also likely to have wage-labour employment (see Pahl 1984, Gaskill et al 1988). Thus, just as the informal sector is not an answer to unemployment, self-help housing is not a solution to homelessness or other severe forms of housing disadvantage.

It is also necessary to have a building lot in order to construct a dwelling. In Britain, for example, building land is generally expensive, held by large institutions, and is often subject to strict planning controls. Thus, land access is a problem which appears to restrict self-building in Britain to the more affluent who can obtain and afford the available land (Rhoades-Brown and Fraser 1986), unless councils provide access to land for self-building as in the London Borough of Lewisham (Ospina 1987), or a household builds their new dwelling on the same land that their currently owned dwelling stands.

Access to land is not generally a problem in Canada, particularly not in areas such as the less densely populated case study area. However there certainly are very high land prices in some areas such as Toronto and Vancouver (see Chapter 5). Thus even where land is more generally available, state promotion of self-build would require controls on land rents in certain areas at least. Hence, the opportunity for individual capitals to capture substantial land rents, whether land ownership is concentrated or not, is a major factor limiting (but not excluding) self-building. It is also likely to limit the appeal of self-building at the ideological and policy levels. If the 'new right' governments were to truly and consistently pursue their claimed economic ideologies then, of course, they would adopt tax and regulatory measures to limit land rents and improve the availability of building sites for individuals. There is no evidence of such policies.

Harris (1990) has observed that in a much earlier period, self-building in Toronto was rare inside the municipal boundaries where building regulations required stone or brick construction, whereas outside of Toronto in the newer subdivisions, self-building flourished. Today in Canada there appears to be a similar association between self-building and municipal regulations, however it is very possible that this association is more apparent than real. For example, the requirement that only 'ticketed' (municipally approved) electricians and plumbers

install services is often circumvented in all three forms of production (industry, self-provision and self-help) by having 'unticketed' individuals (including self-builders) complete most of the work with a modest payment to the ticketed person to sign the documents and complete the final hook-up. This activity is particularly common in renovation activities in metropolitan areas. While it is undoubtably true that the vigorous enforcement of such regulations will inhibit self-building it is not clear that the mere existence of regulations has a significant impact. This is illustrated by the following comments from respondents in the 1982 P.E.I. case study.

> *Respondent had trouble getting access to the road. Department of Highways said that they would have to put in a slow speed zone in the area if the respondent put his driveway there. But respondent felt that he had to put his driveway there. He found a loophole in the regulations saying that he could put in a subdivision for up to 4 lots and they couldn't refuse him. So respondent had to subdivide his land in four. He says government is a mindless bureaucracy with no logic to it (Rowe 1983:160).*

> *Tradespeople should be certified. Supervisors should be required to be on the site. Should be building code in P.E.I. Need for government inspector to check work in house. We had no mortgage so there was no inspection (Rowe 1983:169).*

Although the benefits of self-help are considerable, and it is a provisioning strategy that can be pursued by many households (see Chapter 4), many households still would have difficulty in using this option. For example, it is mainly employed households who use self-help because of the need for money to buy construction materials. Consequently many households with the greatest housing need are unlikely to be able to consider self-help as an option, even though they might have many of the necessary non-monetary resources to undertake the activity. In situations such as this it appears that state assistance would be required to expand self-help provisioning. The following section provides the empirical and conceptual basis of a framework for the evaluation of options for state assistance.

7.2 COST ADVANTAGES OF SELF-BUILDING

Self-building provides opportunities for substantial savings in the production of a dwelling. These savings are fully captured by the household through reduced construction costs. This is the principal reason for the relative advantage of many Atlantic Canadians in housing: higher levels of security through lower levels of indebtedness and lower housing costs, despite lower and less regular incomes (see Chapter 4). In this section the P.E.I. case study is used to describe how these savings are realised. Table 7.1 provides a rough estimate of the savings which were made in each cost component for the three sectors. Since industry households provided an average of 0.04% of the necessary labour themselves, Table 7.1 includes a fourth element where the full costs of the dwelling is calculated based on the assumption that none of the labour is provided by the household itself. No distinction is made for different sized dwellings, or

differences in the quality of finish materials, both of which affect costs. However, the material presented in Chapter 4 indicated that there is not much of a difference in the sizes of dwellings constructed by the three sectors, and information from the interviewers indicate that there were no observable differences in the quality of the finish materials among the three sectors.

Three types of savings occur through self-building:

- savings on inputs (land, labour and materials)
- savings on organisation (overheads, margins and profits)
- savings on cash flow.

7.2.1 Savings on Inputs

Savings on land are only available to households who buy the land themselves; savings on land are therefore possible only for self-builders or for households who employ a builder to build on land they have previously purchased (self-promotion).

Table 7.1: Estimated Component Costs by Sector, P.E.I.

Component	Production Sector			Fullcost Production
	Self-build	Self-Promote	Industry	
Land[1]	3645	4025	6600	6600
Materials[2]	22540	22540	22540	22540
Labour[3]	11585	20600	21640	22540
Profits[4]	0	860	885	900
Total cost	37770	48025	51665	52580
Estimated[5]	42475	50330	51700	

1 Average price
2 Calculated as 50% of net dwelling cost (excluding land and profits)
3 Calculated as 50% of net dwelling cost (excluding land and profits) times average SEI value
4 Calculated as 2% of costs (see Chapter 5)
5 Respondents estimates of the costs of the dwelling when occupied
Source: Calculated from PEIRFCS 1982 data (n=286)

In P.E.I. the absolute difference in land costs between the three sectors was only about $3,000 on average. Land costs were $3,645 for self-builders and $6,600 for the construction industry. However, 31.6 percent of building sites in P.E.I. for self-builders were obtained free, frequently from relatives. In addition, a significant amount of purchased sites were also obtained from relatives or other individuals as opposed to developers or real estate dealers. For self-builders the average cost of land obtained from relatives was $285, and from other individuals $1,465. Thus many self-building households save considerably more than the $3,000 average through alternative land purchases.

The land prices quoted above are very low compared to more metropolitan areas in Canada (including Atlantic Canada), where a building site will usually cost $25,000 to $35,000. However, even in these locations, self-builders are still not uncommon. For example, in Saskatoon, Saskatchewan (population 200,000) self-builders are known to be very active in the construction of new single detached dwellings (Carter 1985).

Significant savings on labour costs were made by self-builders who provide about 46 percent of total labour requirements themselves in P.E.I.. This is, of course, the advantage of self-building as opposed to self-promotion or industry produced housing. For the years of the P.E.I. study this represented a saving of about $11,000, compared to households who do not supply any labour themselves. Many households contributed far higher levels of labour to the construction of the dwelling and, consequently, the reduction in costs would also be far greater. The most common type of labour provided by the household was rough carpentry such as framing and closing in of the wood-frame detached dwellings. However it was not unusual to see households also completing rough plumbing and electrical tasks, and a considerable amount of finish carpentry (Rowe 1983:83-85 and Bishop 1985:56).

Savings on materials are very difficult to estimate because of the variety in designs and the range of options in finish and materials. About 25 percent of self-building households obtained materials at reduced prices from alternative sources. The majority of these were wood related. Few households purchasing a dwelling from the residential construction industry have an opportunity to realise any savings on materials. However contractors have greater opportunities to negotiate discounts on material purchases, some of which might be passed on to the purchasing household.

In addition to these savings, self-builder's costs do not include the profits of industry builders. However, in areas where self-help is frequent, the actual industry profit levels are quite low, averaging 0.02% (see Chapter 5). Thus the average contractor is estimated to make a $885 profit on an industry dwelling, slightly less on a self-promoted dwelling, and nothing on self-built dwellings.

In sum, significant savings in inputs are possible for self-builders. Land is an average of $3,000 cheaper in P.E.I., and self-building households save on average $11,000 on labour costs. In addition, savings on material costs were also available to some self-builders. The total savings calculated in Table 7.1 do not quite equal the average reported cost of the dwelling for self-builders. Unfortunately it is not possible to determine which category is in error: the possibilities are the amount of unpaid labour, cost of the dwelling, or land costs.

7.2.2 Savings on Cash Flow

Savings in cash flow are not reductions in costs. Rather, these savings are ways self-building households reduce the current financial demands of construction. Problems with cash flow occur at two distinct stages of construction: in the initial stages, when the foundation and materials must be paid for, and towards completion, when households have frequently exhausted their savings or credit limits and the effects of underestimating construction costs are felt.

Many households either live with relatives during construction or arrange inexpensive accommodation near the building site so that it is possible to commit more of their current income to construction. Of self-building households, 24 percent lived with relatives during construction, 36.8 percent in a dwelling they owned, and 37.3 percent in rented accommodation. By contrast, 6.8 percent of households purchasing a dwelling lived with relatives during construction, 52.3 percent in a dwelling they owned, and 40.9 percent in rented accommodation. This difference is not attributable to differences in the ages of the households (Rowe 1983:74).

Towards the end of construction many households circumvent problems in cash flow by occupying their dwelling before it has been completed. Early occupancy allows the household to save on current costs of accommodation or extend the duration of the project and therefore pay for construction costs out of current income. Nearly one-third of self-building households (27.8 percent) occupy their dwelling while there is still a significant amount of work remaining to be done. The corresponding figure for households purchasing a dwelling is 2.2 percent.

7.2.3 Summary - Cost Savings

For self-builders the average total savings on inputs were about $14,000 ($11,000 on labour and $3,000 on land); with another $900 saved on profits and overheads. The average self-building household can therefore save about $15,000 or about 27% of the cost of an industry produced dwelling. The savings available to self-promoting households are limited to overhead and profits, or $4,500, both compared to the full costs of $52,500 for households purchasing a dwelling built by the construction industry. This provides a rough indication of how the differential in total costs of construction reported in Chapter 4 occurs. In housing markets such as P.E.I. where self-building dominates, this has an important downward impact on the costs of accommodation, in addition to the clear cost advantages for individual households. It also means that the residential construction industry must face self-building as a competitive means of housing provision. It clearly finds it difficult to meet this challenge and this is why self-building remains so important in Atlantic Canada. The effects of this upon the residential construction industry were sketched in Chapter 5: generally the industry is deprived of the surpluses required to modernise its production. Consequently there is little likelihood of the residential construction

industry being able to improve its competitive position with respect to self-building and thus self-building will, in all likelihood, continue to be a major form of housing provision in Atlantic Canada. Given that self-help represents almost a quarter of total housing production in Canada and half of new production in Atlantic Canada (see Chapter 3), it is perhaps surprising that there has been so little housing policy support for self-help. This is reviewed in the following section.

7.3 CANADIAN HOUSING POLICY

Housing strategies have differed widely between industrialised nations: in Britain, for example, there has been increased state support in the form of 'subsidised consumption' for home ownership (Ambrose and Barlow 1986) and for easier access by the construction industry to land and development profits (Ambrose 1987). Swedish policy, on the other hand, has been directed more towards a point of purchase subsidy through cheap land and cheap loans for purchase, and regulation of both housebuilding and land supply under a strict planning regime (Duncan 1986).

Critics have argued that the shifts in social housing expenditures and the redistribution towards higher income home owners, combined with 'privatisation' of 'social' housing, will increase problems such as homelessness, accessibility, affordability and adequacy (for example, Doling et al 1986). Some also suggest that this will be accompanied by a shift of housing resources to areas of greater relative wealth between and within regions (Barlow 1987), and a redistribution of wealth among income groups (Murie 1976).

By contrast, Canadian policy has traditionally included considerable support for the production of new owner-occupier housing through low cost loans for builders, mortgage loan insurance for lenders, and subsidised interest rates for selected non-profit and private developers who undertake to house lower income households (Belec et al 1987).

Rose (1980) has provided the most comprehensive review of the development of Canadian housing policy which he dates from the passing of the National Housing Act in 1944. He characterises the formative period 1940-1968 as one of overriding focus on the "production of one main product: the single family detached house on vacant land, the only type eligible for National Housing Act financing" (Rose 1980:36). Rose claims that the clear goal of government during that period was "the attainment of homeownership by every family (Rose 1980:35)".

From 1940 to 1964 there had only been 10,000 to 12,000 public housing units constructed in Canada, a period when total annual production ranged from 100,000 to 150,000 units. Rose attributes this to the difficulties in negotiating agreements between federal, provincial and municipal governments in an environment when the clear preference of the state at all levels was

for homeownership (Rose 1980:36-38). However, 1964 amendments to the National Housing Act cleared the way for increased production of public housing units, and a federal Task Force on Urban Development (1969) recommended sweeping changes to national housing policies to address urban housing problems more effectively (see Rose 1980:Chapter 4 for a review). This was followed by a period of uneven but greatly increased local and provincial activity leading to increased output of urban low income rental housing. However homeownership policies are still the key to housing initiatives in Canada and have helped to maintain the dominance of this form of housing.

The Importance of Policy Instruments

The favoured instrument for homeownership programmes is the mortgage, whose early development was promoted by massive direct lending policies in the early post-war period (see Chapter 5). Indeed, the Canadian mortgage finance system appears to be regarded as a model for other countries to follow, particularly in terms of the integration of the financial system and financial markets. The distinguishing characteristic of the Canadian system is the involvement of CMHC in mortgage finance (Boleat 1990). Housing programmes sometimes use the mortgage as a means of delivering subsidies through adjustments to interest rates, required downpayments and amortisation periods. To date there is no adequate account of the history and the role of the mortgage in housing policy in Canada.

In 1973 the definition of income eligibility requirements for mortgages was changed from 100% of the male 'head of household's' income and up to 25% of the spouses income to 100% of both incomes. Although this change was accompanied by rhetoric lauding the end of 'sexist' policies in mortgage financing, it significantly eased realisation problems which were restricting the ability of the residential construction industry to sell any of their potential output. This was probably regarded as a serious problem by the federal government since Canadian housing policy has often been used for employment creation and other fiscal objectives (Rose 1980:28-29). Without these adjustments in mortgage eligibility in the economic recession of the early 1970's, the federal government was deprived of an important fiscal tool by the realisation problems facing the residential construction industry.

7.3.1 Self-help Housing Programmes in Canada

Much of the international literature on state policy for self-help has focused on the impact of state support for unassisted self-help. Some, (such as Burgess 1982), have argued that the effect of state support is to extend capitalist production. Proponents of state support focus on the material and political benefits of self-help (eg. Turner 1982) and feel that any widening of self-help represents improvement. This literature has already been discussed in some detail in

Chapter 1 where it was argued that it is indeed inevitable that state support will extend capitalist production, but that policy and a number of other important considerations which can only be analyzed on the basis of an understanding of the effect that self-help housing has upon the accumulation process.

State support for self-help provisioning has always been initiated at the provincial level in Canada, however CMHC has often joined the provincial initiatives with funding and, sometimes, direct programme support. The absence of federal initiatives probably reflected the national or central concerns of CMHC and a failure to understand self-help as an important source of housing provision.

A recent review of state support for self-help housing CMHC (1989) identified eight programmes supporting self-help builders of single-detached dwellings. While these do not represent the entire history of self-help programme support in Canada, they do appear to cover the range of policy options which have been attempted. Thus while programmes such as the Small Loans Programme operated by the Newfoundland and Labrador Housing Corporation in the early 1970s are omitted, the omission is not particularly important since the type of programme is similar to others covered in the CMHC review.

There is considerable variation amoungst these programmes, however they are grouped here according to whether they extend the profitability of the residential construction industry or not. In either situation the construction of a dwelling will usually involve the use of capitalistically produced building materials, as does self-help without state assistance[34]. However if the subsidy raises the cost of dwellings which would otherwise have been built by self-help means, then the main impact is to extend the market for the residential construction industry. If, on the other hand, the cost of self-help produced housing is reduced, then this can reduce the barriers to self-help described above. In this situation state policy can be viewed as more progressive in the sense that it has served to directly improve housing conditions, likely for households who would otherwise had to stay in less satisfactory accommodation.

The key to all of this is the labour content of the dwelling since building materials will generally be supplied capitalistically for both industry and self-help production. Where household labour is replaced by paid labour then the costs of the dwelling rise, access is more restricted, as is the security of the households' tenure, and the profits of the residential construction industry are augmented since it is labour power which is the source of surplus.

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[34] There is a certain amount of builder input in materials supply with self-help. This ranges from using government equipment to obtain sand from the beaches in P.E.I. to cutting logs to be sawn at small local mills in Newfoundland.

7.3.1.1 Programmes Which Extend the Market of the Residential Construction Industry

If state support for self-help provisioning encourages or requires households to use the industry to build all or part of the dwelling, or if state support extends the role of the industry through the use of kit or manufactured housing, then the principal impact of the state support is to extend the market of the residential construction industry. The Shell Housing and Homeownership Assistance Plan reviewed below are examples of state programmes which enhance the profitability of the residential construction industry.

Shell Housing

Shell housing refers to the construction of a housing 'shell' by an industry builder, usually under contract to a federal or provincial housing agency. A household then purchases the incomplete dwelling and finishes it itself. The strategy is thus to reduce the total costs of entry to homeownership to improve affordability.

Shell housing began in Newfoundland in 1969 under a federal/provincial agreement and was later extended to Nova Scotia and New Brunswick. Contractors usually built a number of shell dwellings (5-20 units per year) and these were sold by the federal/provincial partnership to the household.

Purchasing households were usually "young, one-wage earning family employed in an industrial labouring or service occupation" (CMHC 1989:A1) and were provided with preferential interest rates and sometimes with further assistance for finishing the dwelling.

CMHC's evaluation was that the programme was quite successful in improving the affordability of homeownership, but there were some problems with the quality of the shell constructed by the industry. Quality problems arising from the finishing of the dwelling were less common (ibid. 1989:A3). The success of the programme appears to have varied by province, however there is no indication of why this was.

Shell housing extends the market for the residential construction industry by circumventing realisation problems through the sale of a partially completed dwelling, complemented by the provision of interest rate subsidies. Essentially, because the capital costs are lower, then more households can afford to purchase a shell dwelling than a more expensive, fully completed dwelling. Thus while the value produced by industry is lower, what value is produced is profitable under the conditions of the state programme.

Shell housing potentially replaces unpaid household labour with paid labour which, in

turn, is the source of surpluses for the residential construction industry. Thus while shell housing may improve access to homeownership compared to industry production, the costs of the shell are higher than if produced through self-help means.

Homeownership Assistance Programme

Under the Homeownership Assistance Programme (HAP) the Territorial Government in the Northwest Territories (NWT) provides all of the materials necessary for the construction of a dwelling which meets local and national standards to qualifying households. The costs are forgiven (ie. do not have to be repaid) over a five year period. The materials are provided in a kit form and once the five year period has passed the household has clear title to the dwelling.

The incomes of recipient households are fairly high, usually about $30,000 (ibid. 1989:A4) although many NWT households have incomes well below that level. CMHC estimates that the level of public funding is reduced by about $117,500 (about 58%) over the life of the building through owner provision of construction labour and maintenance and repair once the dwelling is complete (ibid. 1988:A5).

As with shell housing, the fabrication of the kits generates profits for a section of the residential construction industry who do the framing and rough services, and reduces realisation problems through the extension of affordability by state subsidies and lowering total costs. The P.E.I. case study showed that the most frequent household contributions were in framing the dwelling, and that finish carpentry and plumbing and electrical trades were least likely to be provided by the household. Thus it is possible that shell housing does less to reduce the costs of the dwelling than would be the case if the state support were provided in other elements of the dwellings' construction.

7.3.1.2 Programmes Which Encourage Self-Help Directly

All of the other programmes reviewed by CMHC do little to further the profitable production of accommodation by the residential construction industry. However, elements of the programmes could do so where they either support self-promotion or where they provided subsidised interest rates for the mortgage or loan purchase of industry produced accommodation. While these elements are present in a number of the programmes reviewed below, they are usually peripheral to the main direction of the programme.

The following programmes assist households in self-help provisioning by removing or reducing some of the barriers to this form of provision. This is achieved by making financing

available, by direct subsidies for the materials for self-building, by providing training for the acquisition of construction and project management skills, and by support for collective self-help activities.

Do-It-Yourself Construction Assistance

The Yukon Housing Corporation (YHC) provides two-year construction mortgages to self-builders who meet programme criteria regarding construction and management skills, income, and who are planning to build a dwelling which meets the standards of the YHC and which is sited on approved building lots. Recipients are expected to obtain a conventional mortgage once the house is completed and occupied.

The YHC provides all inspection services and also training courses in construction skills for applicants whose skill level is unsatisfactory.

This programme is designed to address some of the barriers to obtaining conventional mortgage financing which self-help builders encounter arising from the reluctance of lenders to provide financing to them, or for rural and remote housing in general (see Chapters 3 and 4). It does little to affect the distribution of value or to reduce realisation problems except to the extent that users of the programme are induced to obtain mortgage financing instead of other forms of financing, thereby increasing the interest payments to financial institutions.

Rural and Native Demonstration Programme

The Rural and Native Housing (RNH) Demonstration Programme bears many similarities to the HAP programme described in Section 7.3.2 above. Approved participants are provided with materials and are expected to provide labour themselves. The cost of the materials is forgiven over time (currently 25 years). Unlike the HAP programme, however, the RNH includes an allowance for electrical work and for the services of a construction manager and, importantly, materials are provided in 'raw' state, that is they are not assembled into kits.

To qualify, applicants must be in 'core need'. Core need is a Canadian housing allocation model whereby households who reside in a dwelling which is inadequate for their needs or whose condition is unsatisfactory, and whose income is less than a defined threshold, are termed to be in 'core housing need' (See NORDCO 1987 for a description and critique of this model). In effect this means that the RNH programme is directed towards those households who would not be able to afford an industry produced dwelling.

Thus the effect of the RNH programme is to reduce realisation problems, but the benefits

are principally available to the building supply industry since the programme provides materials only, and these are not in the form of a kit. Some additional benefits will go to electrical contractors and independent electricians and, of course, to those households who occupy the dwelling and whose consumption is subsidised by the programme.

Building Co-Operatives

Building cooperatives were established first in Nova Scotia in 1937 for the purpose of the planning, construction and financing of dwellings for homeownership The concept was promoted by the Extension Service of St. Francis Xavier University as an important component of their community development work and as a means of improving social conditions. Individual cooperatives received loans from the provincial government and contributed their own sweat equity. The cooperatives were dissolved once the dwellings were completed.

Building cooperatives were formed in other provinces by the mid 1960s. CMHC suggests that the formation of the Cooperative Housing Federation (CHF) was an outgrowth of this movement and that the CHF increasingly became concerned with providing housing in urban areas and thus with rental accommodation and continuing cooperatives.

The state provided loan financing (later mortgage financing) and through the university extension service, organisational support as well. This probably allowed many more households to self-build, however it does not reduce the advantages to the household of self-building and provides few additional benefits to the residential construction industry.

Building cooperatives no longer exist, having been replaced by the high density urban cooperative housing program which focuses more on improving the affordability of consumption of housing. The building cooperative programs were never large, most built between 10 and 50 units.

Self-Help Housing Programme

The Nova Scotia government has provided support for cooperative self-help housing since 1938 (ibid. 1989:C6). Under its earlier forms the programme provided support for sweat equity builders who were organised into builders cooperatives. Originally construction was done in groups but over time individual households increasingly provided the necessary labour for the construction of the dwelling. In 1980 the Nova Scotia cooperative programme (see above) was revised to provide subsidies directly to individual households with mortgage financing at rates slightly below those available with conventional mortgages and, unusually, the rate is fixed for the

entire 25 year amortisation period[35].

Currently there is an upper income limit of $40,000 and only modest dwellings will be supported, however, the programme not only supports the construction of new dwellings but also the purchase of existing dwellings so long as they are less than 10 years old. Applicants are expected to provide sweat equity for the construction or renovation of the dwelling.

While some of the households qualifying for the programme might not have been able to obtain mortgage financing elsewhere, particularly for self-building, the programme does not significantly affect realisation problems, nor does it alter the distribution of value and surpluses from the prevailing situation.

Rural Home Assistance Programme

This programme is supported by the Alberta government and provides support to local non-profit housing associations to coordinate the construction of new dwellings by individual households. Assistance is provided in the form of a grant up to $20,000 for the purchase of materials and for the provision of rough plumbing and water and sewer connection.

Households must have incomes of less than $18,000 to qualify and must provide labour to the project, however, self-promotion is accepted. Funding is available for new construction and for renovation and repair of existing dwellings.

Cooperative Housing Action Programme

This programme is offered by the Alberta government and provides mortgage financing for both self-builders and self-promotion. The mortgage interest rate is subsidised and only minimal downpayments are required. Potential self-builders are required to attend a construction management course offered by the government in the evening.

7.3.1.3 Summary: Canadian Self-Help Programmes

Programmes such as shell housing, or the provision of materials in kit form, extend the market for profitable production by the residential construction industry. State subsidies such as on interest rates would have the same effect if it encouraged households to reduce the level of self-building. However state programmes which provide financing do not necessarily reduce sweat equity contributions and in many cases they probably allow households to self-build who would not otherwise be able to do so. Other state programmes such as the provision of materials, advice

[35] It should be noted that the programme was revised in 1980 when interest rates were very high and this probably accounts for the decision to fix interest rates.

and training yield little in the way of benefits to the residential construction industry but do improve the access of households to self-help provisioning.

The key is the impact of the state programme on the level of sweat equity. In the rest of this chapter this is the focus of the analysis of policy options for self-help.

7.4 FRAMEWORK FOR CONSIDERATION OF POLICY OPTIONS

Chapter 4 showed that the barriers to self-building inhibit the participation of those households who have the greatest difficulty improving their housing conditions, and also it was predicted that the residential construction industry would continue to face difficulties in both realising their full costs of production in these markets and in lowering those costs where self-help was an important source of new housing. This leaves the state with the responsibility for those who cannot currently provide for themselves.

In this section policy options for the state are considered in anticipation that there might be an attempt to force or encourage self-building as a solution to the housing problems of households who currently have housing need. There are indications that this is occurring, for example, the needs of the self-help sector were given an extremely high profile at a recent national conference on housing finance sponsored by the federal Minister of Housing[36]. This should not in any way be construed as advocacy by the author of self-help. Rather, it is a recognition that in capitalist societies the political agenda of the state is often at odds with that of progressive planners and others who must respond to state initiatives.

In order to evaluate the impact of changes in policy it is useful to create an abstract model which will facilitate the comparison of self-built production with production by the residential construction industry.

To make things easier it will initially be assumed that all dwellings are mortgage financed. This would be unrealistic for many areas such as Atlantic Canada where self-help is strongest, so this assumption will be relaxed at a later stage in the analysis. In order to simplify the presentation only self-building and industry production will be treated in the analysis which follows.

Assume (for the convenience of calculation) that for both self-building households and households purchasing a dwelling from the construction industry, direct costs (land, labour and materials) are identical, and there is a 10 percent charge by the general contractor for overhead

[36] National Housing Finance Conference, Toronto, October 31-November 1, 1990.

and profit. The only sources of variation between the two sectors are profit and overhead charges and the amount of unpaid labour supplied by households themselves.

The maximum and minimum costs are presented in Table 7.2. There it has been assumed that purchasing households will provide a maximum of 10 percent of labour requirements themselves. Based on the results from P.E.I. and Colchester County this exaggerates the labour provided by households themselves in the residential construction sector. However it simplifies the calculations and provides a very conservative model for comparison of the two sectors. The differences presented in this section are thus understated.

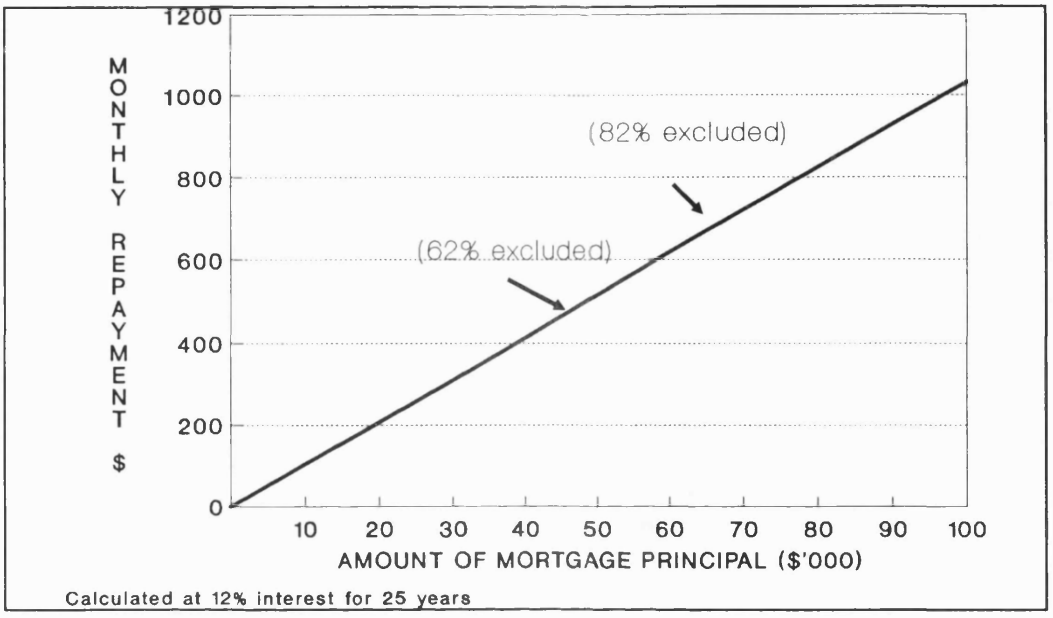
Table 7.2: Range of Construction Costs for Self-builders and Purchasers in the Elementary Model

Type of cost	Self-build($)		Purchasers($)	
	Minimum	Maximum	Minimum	Maximum
Land	5,000	5,000	5,000	5,000
Materials	30,000	30,000	30,000	30,000
Labour	0	30,000	27,000	30,000
Sub-total	35,000	65,000	62,000	65,000
Overheads	0	0	6,200	6,500
Total costs	35,000	65,000	68,200	71,500

As can be seen from Table 7.2, the potential range of costs for self-builders is much broader than it is for purchasers. Under the assumptions made, this is entirely due to the much wider options that self-builders have in the provision of labour. Once overheads are included, it can be seen that the most expensive self-built house costs less than the least expensive purchased dwelling. This is not an unrealistic observation given the distribution of house values in the P.E.I. case study. There, all dwellings costing less than $30,000 were self-built and represented about 10 percent of total production. However, at cost levels above $40,000 the distribution is similar for self-build on the one hand, and self-promote and industry-built dwellings on the other. In reality, many self-builders use the cost savings to construct a larger or more comfortable dwelling. However, the simple model used in this paper assumes a standard dwelling where all savings are realised in reduced total costs and none are used to enlarge or modify the dwelling.

In Figure 7.1 the range of total building costs from Table 7.2, and the associated monthly payments are represented. As we have seen, self-building costs are lower than the costs of purchasing the dwelling so that in general, a self-built dwelling will always occupy a lower position on the curve than a comparable industry built dwelling. The left hand axis represents the monthly payment necessary to purchase a dwelling whose corresponding total costs are shown on the

Figure 7.1: Monthly Repayment Schedule for Simple Model



horizontal axis. Initially it will be assumed that the dwellings are 100 percent financed at 12 percent interest over a 25 year period. Thus to obtain the average self-built dwelling costing $50,000, the household would be required to pay $526 per month, while the monthly costs of the average priced industry built dwelling would be about $737 per month[37].

In Figure 7.1 also, the proportion of households in Atlantic Canada who could not afford to make the monthly payments are indicated in parentheses to the right of the cost curve. This has been determined according to the currently prevailing rules in Canada which are that the maximum payment level is 30 percent of total household income. The $50,000 self-built dwelling could potentially be within reach of about 38 percent of the population of Atlantic Canada, while only about 18 percent of the Atlantic population could obtain the average purchased dwelling at $70,000.

This simple model is used to evaluate the impact of different policy options on both self-help and industry provisioning of accommodation.

7.5 POLICY OPTIONS FOR SELF-HELP

There are two general ways in which policy can be applied to affect the construction costs of accommodation: either directly affecting costs through subsidies or tax measures, or by affecting the costs of financing through interest rate policies and subsidies. There are of course a number

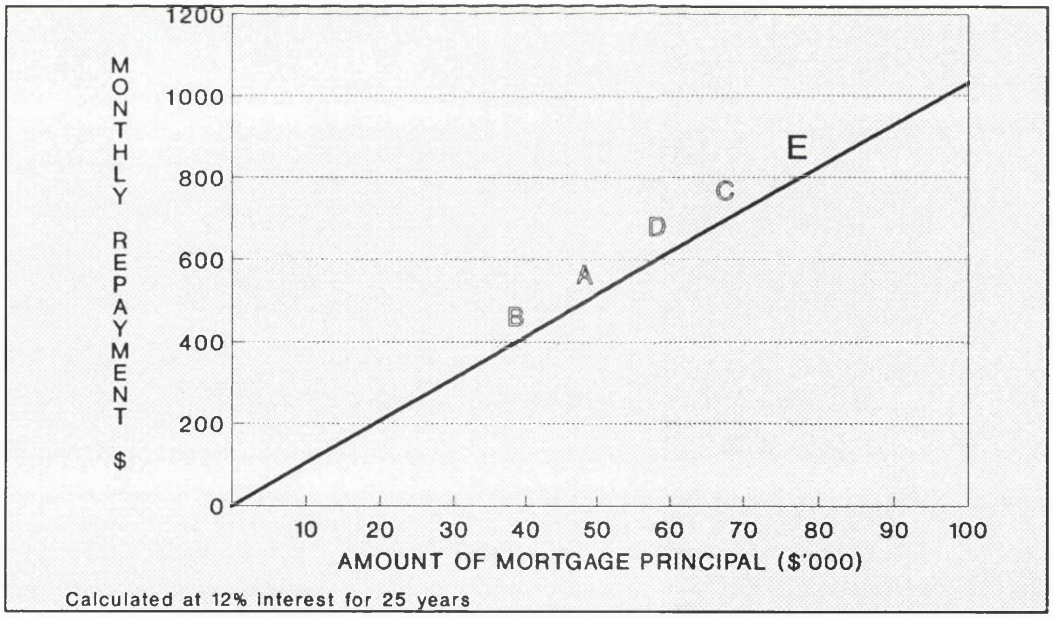
[37] The specific calculations are for mortgage financing, however the observations would also hold for other forms of debt financing such as loans.

of options by which the state could achieve either of these, for example, the prices of inputs can be influenced by sales and other taxes, by stumpages on timber, or by a variety of direct subsidies to building material suppliers and purchasers. Both of the general options are examined in this section.

7.5.1 Impact of Changes in the Prices of Inputs: Labour, Materials and Land

Figure 7.2 depicts a situation where $10,000 has been deducted from the total costs of the dwelling moving both sectors down the repayment schedule. This can arise from, for example, free land, provision of sweat equity, or through acquiring less expensive materials. Comparing the previous average self-built dwelling A with its new costs B, we can see that the monthly payments have fallen. The effect this has on access will depend upon the particular costs of the dwellings being considered. For example, if the cost of the self-built dwelling was originally $50,000 (A) and was reduced to $40,000 (B), then a further 12.2 percent of Atlantic households would be able to afford accommodation. However if the $10,000 decrease was on an industry built dwelling costing $70,000 (C) lowering its costs to $60,000 (D), then access would be increased by only 8.7 percent.

Figure 7.2: Effect of Changes in the Price of Inputs



Generally, the higher the costs, the fewer the number of households are who will be able to benefit from a cost decrease. This is because incomes are skewed towards the lower levels. Thus an equal decrease in the price of two differently priced dwellings will always give more people access to the now less expensive lower priced dwelling than to the now less expensive higher priced dwelling. However the impact of income skewing is partially offset by the impact of interest charges as costs rise.

Since self-builders will always occupy a lower position on the curve than a comparable industry built dwelling, then any change in the prices of inputs which raises or lowers the price of the dwelling will have a greater impact on self-builders than on industry builders. This is an important observation because, given the lower costs of self-build, it might otherwise be assumed that self-build is less affected by the impact of economic forces and policy on the pricing of inputs.

Figure 7.2 shows that self-builders are more sensitive to changes in the prices of inputs than are purchasers of industry built dwellings. There are also other factors which could bring about a reduction in costs. The most important of these is state support in the form of direct grants[38]. The analysis above indicates that this would increase access to housing more through self-build housing production than through industry production.

High land rents would shift both sectors up the curve substantially. Even modest metropolitan land costs of, say, $30,000, would move the average self-build dwelling to position E ($80,000) where 87.7 percent of all Atlantic Canadian households would be ineligible. Land rents can therefore be an absolute barrier to self-building for most households, leaving this sector of production to those households with sufficient income or wealth to pursue self-building as a preference, not a necessity.

This is similar to the situation which seems to prevail with self-building in southern England. This is because the cost reductions available through self-building are insufficient to improve access to homeownership for many households at higher levels of total costs. Kit homes also reduce the potential savings available through self-building. Consequently Harms' concern for social efficiency and Canadian policy initiatives in the Rural and Native Housing Program could both reduce the benefits of self-building.

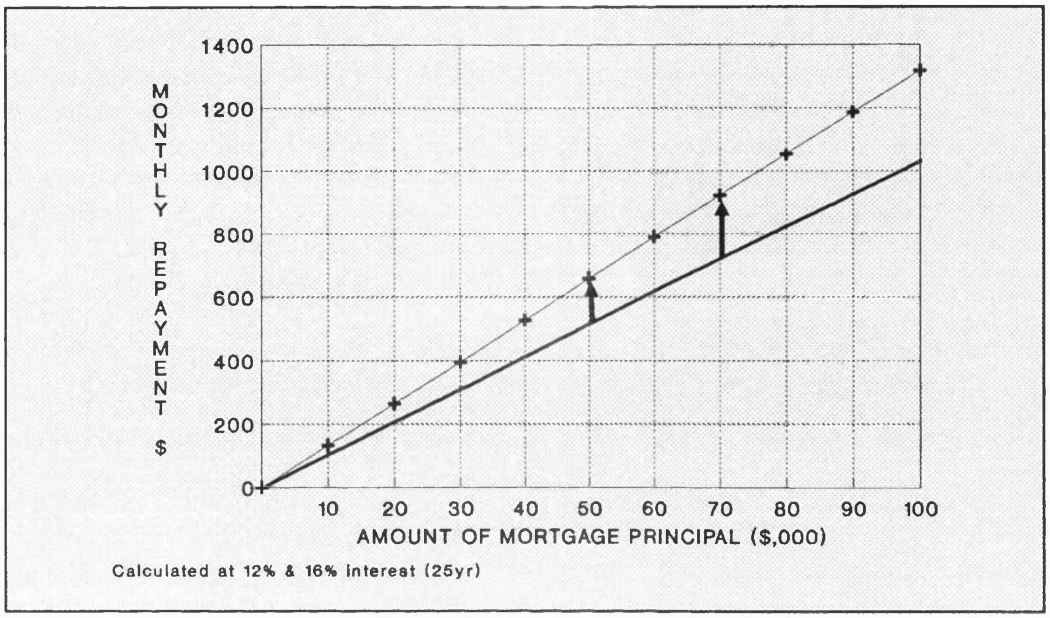
7.5.2 Impact of Changes in Financing Costs

Another major factor in the total amount paid for owned accommodation is the amount that has to be paid in interest - the financing charges. The total amount of interest paid has two determinants: the first is the rate of interest and the second is the level of downpayment - the greater the downpayment the smaller the principal amount on which interest has to be paid.

Because of the greater frequency of debt financing for industry production it might appear that it would be more affected by interest charges. However this is not necessarily the case. This

[38] Direct grants to either the producer or consumer are unusual in Canada where public assistance is more often delivered to the consumer through the mortgage instrument and to producers through the tax system or interest subsidies. Mortgage-delivered options will be considered below.

Figure 7.3: Effect of a Change in Interest Rates



is considered in Figure 7.3. We have seen the lower curve earlier in Figures 7.1 and 7.2; the upper curve is produced under exactly the same assumptions except that interest rates have been increased to 16 percent from 12 percent.

With the increase in interest rates (represented by a movement from the lower curve to the upper curve), access to the average self-built dwelling is reduced by 15.2 percent, while 10.5 percent of the Atlantic population would lose access to the average industry-produced dwelling. The skewness of the income distribution is more important in inhibiting access at the lower cost positions while the compounding effect of interest charges becomes more important at the higher cost position.

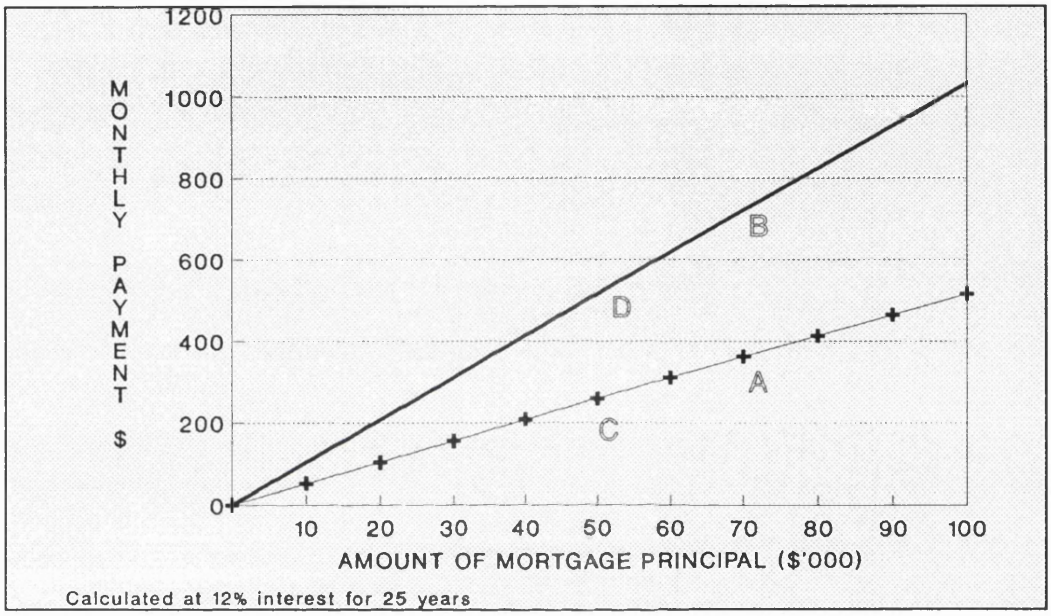
Different areas will all have differently skewed income distributions, consequently the balance between the impacts of income skewing and interest compounding will differ from location to location. For Atlantic Canada, however, state policies which attempt to lower or subsidise interest rates either directly, or indirectly through the tax system, will potentially be of benefit to both sectors. But because of the lower levels of debt financing for self-building, many self-building households will not have access to these potential benefits. Thus current British and U.S. policies allowing mortgage interest as a tax deduction would not be as much benefit to self-builders as to the residential construction industry.

7.5.3: Impact of Changes in the Level of Financing

So far, the analysis has assumed 100 percent mortgage financing. While this simplification has enhanced the presentation, it is unrealistic and unduly understates the advantages of

self-building. The actual financing arrangements used by self-building households in P.E.I. were often quite complex. However, in general, self-builders in P.E.I. debt financed a much lower proportion of the total cost of their dwellings than did purchasers of industry production. The lower curve in Figure 7.4 shows the effect of a 50 percent downpayment (usually funded from savings or the sale of an asset such as a former dwelling) on access to homeownership.

Figure 7.4: Effect of a 50% Downpayment



The impact of rising costs with high levels of debt financing are dramatic. Compare the effect of a change in price from $50,000 to $70,000 at 100 percent debt financing and at 50 percent debt financing. With 100 percent debt financing, monthly payments increase by $211 from D to B, rendering 19.6% of Atlantic households ineligible. However with 50 percent debt financing, monthly payments increase by $53, from C to A, disqualifying only 13.1% of Atlantic households. What this means is that sensitivity to costs increases directly with the level of debt financing. Recall that self-builders are always more sensitive to changes in the prices of inputs compared to purchasers of industry production with comparable dwellings and financing arrangements. A reduction of the debt portion of financing flattens the curves.

In general, since debt financing is less frequent for self-builders, their curves will be flatter than the residential construction industry curves. However, the significant differences between the financing arrangements in P.E.I. and Colchester County advise against attempting to generalise beyond this. Thus, while flatter self-building curves through larger downpayments mean a reduced sensitivity to changes in the prices of inputs or interest rates, the situation in any location would be determined by how flat the curves actually are, that is, by contingent factors. Further, at any level of downpayment, self-builders will always occupy a lower position on the curve then will

purchasers of a comparable industry built dwelling. And, as demonstrated above, this implies that at any level of downpayment, self-builders will tend to be more sensitive to changes in the prices of inputs and to financing costs than will industry production.

7.6 CONCLUSIONS

Self-builders save on average about $15,000 by providing sweat equity contributions in terms of direct labour and management of the project, or about 27% of the cost of an industry produced dwelling. The savings available to self-promoting households are limited to overhead and profits, or $5,500, both compared to the full costs of $55,000 for households purchasing a dwelling built by the construction industry. This provides a rough indication of how the differential in total costs of construction reported in Chapter 4 occurs. In housing markets such as P.E.I. where self-building dominates, this has an important downward impact on the costs of accommodation, in addition to the clear cost advantages for individual households. It also means that the residential construction industry must face self-building as a competitive means of housing provision. It clearly finds it difficult to meet this challenge and this is why self-building remains so important in Atlantic Canada. The consequences of this upon the residential construction industry were sketched in Chapter 5: generally the industry is deprived of the surpluses required to modernise its production. Consequently there is little likelihood of the residential construction industry being able to improve its competitive position with respect to self-building and thus self-building will, in all likelihood, continue to be a major form of housing provision in Atlantic Canada.

Past and current state programmes such as shell housing, or the provision of materials in kit form, extend the market for profitable production by the residential construction industry. State subsidies such as on interest rates would have the same effect if it encouraged households to reduce the level of self-building. However state programmes which provide financing do not necessarily reduce sweat equity contributions and in many cases they probably allow households to self-build who would not otherwise be able to do so. Other state programmes such as the provision of materials, advice and training yield little in the way of benefits to the residential construction industry but do improve the access of households to self-help provisioning.

Self-help provisioning is more sensitive to changes in the prices of inputs than are purchasers of industry built dwellings. There are also other factors which could bring about a reduction in costs. The most important of these is state support in the form of direct grants. The analysis above indicates that this would increase access to housing more through self-help (particularly self-build) housing provision than through industry provision.

For Atlantic Canada, however, state policies which attempt to lower or subsidise interest rates either directly, or indirectly through the tax system, will potentially be of benefit to both sectors. But because of the lower levels of debt financing for self-building, many self-building households will not have access to these potential benefits. Thus current British and U.S. policies allowing mortgage interest as a tax deduction would not be as much benefit to self-builders as to the residential construction industry.

CHAPTER 8
CONCLUSIONS

The principal objective of this thesis as outlined in Chapter 1 was to understand the implications of self-help housing provisioning in industrialised economies and, based on this understanding, to examine the importance and implications of self-help housing provision in Canada, including housing policy. This work should also contribute to our understanding of self-help housing provision in the Third World where most of the debate has heretofore been focused. Chapter 2 developed a theoretical understanding of self-help provisioning and proposed certain theoretical implications arising from this understanding. Chapters 3 through 7 used the case study data and other available data to examine these theoretical propositions, as well as certain established propositions which were described in Chapter 1.

The purpose of this chapter is to summarise the results of the empirical examination of the theoretical propositions, and to draw conclusions from the research. The analysis has been limited by the availability of information and our current understanding of the issues associated with self-help housing provision, consequently there are bound to be shortcomings in the research and these are also discussed in this chapter. Finally, the analysis has indicated a number of aspects of self-help which still need to be examined. These are also discussed in this chapter as well.

The following section summarises the main findings and draws conclusions from them. This is followed by a discussion of the shortcomings of the research and of future research possibilities and requirements. The final section contains some more speculative conclusions about self-help housing and economy and society in general.

8.1 THEORETICAL PROPOSITIONS

Figure 8.1 provides a summary of the objectives of this research and of the theoretical propositions which have been developed and examined empirically. The three boxes at the top of Figure 8.1 contain the purposes of the research. The overall objective was to examine the implications of self-help housing provision in industrialised economies. This has not received much attention from housing analysts in the past, despite the importance of self-help provisioning. Thus this thesis should provide a direct contribution to the understanding of housing provision in countries such as Canada and this was the second objective of the research. A subsidiary output of this research is an improved understanding of self-help housing provision in industrialised economies should provide a useful contribution to our understanding of self-help housing provision in the Third World, and this was the third objective.

Figure 8.1: Summary of Main Theoretical Propositions

OBJECTIVES OF THE THESIS			SUBSIDIARY OBJECTIVE
What are the implications of self-help housing provision in industrialised countries?		*What is the importance and impact of self-help on housing provision in Canada?*	*What are the implications for an understanding of self-help housing provision in the third World?*
THEORETICAL PROPOSITIONS			
HOUSEHOLDS	RESIDENTIAL CONSTRUCTION INDUSTRY	CAPITAL ACCUMULATION	
Self-help lowers the total money requirements of subsistence.	Self-help lowers the profitability of the industry thus reducing the likelihood of capital investment and improvements in productivity.	The rate of accumulation will be negatively affected by self-help provisioning.	
PROPOSITIONS FROM THE LITERATURE			
Self-help households are better off (Turner). Self-help housing stock is better (Turner).	Most state support will end up supporting capital (Burgess).	Self-help occurs where the economy is less developed (Harms, Burgess).	

Figure 8.1 also provides an overview of the theoretical propositions which are examined in this thesis. Three of the propositions were developed in Chapter 2 and are central to an understanding of self-help housing provision. The first of these is that the residential construction industry suffers from the existence of self-help production because it will have a smaller market from which to make profits. Thus the profitability of the industry should be indirectly related to the level of self-help activity. An added effect is that the residential construction industry in these locations is less able to advance the technical conditions of production through investment in machinery and equipment, and is less likely to adopt progressive innovations in the production process.

The second theoretical proposition developed in Chapter 2 was that individual households who obtain accommodation though self-help will be better off because the costs of their housing will be lower. This could also apply to households who obtain commercially produced accommodation since average housing costs might be lower where self-help is an important source of housing. However, households as a group may be negatively affected by self-help production since the average wage level might be reduced because the costs of the housing element of subsistence is reduced through self-help. At the same time, the pool of owned and relatively inexpensive accommodation gives households in general a greater strength in times of economic crisis. This allows them to survive such periods better than households whose tenure is less secure because of they rent or have higher costs for home ownership. In these latter locations households will not only face potential displacement from their accommodation as incomes and living standards are attacked, they are also at greater risk of losing the investment they have made in accommodation.

The third theoretical proposition follows from the first two: the competitive position of capital in regions where self-help flourishes is weaker because of self-help production of accommodation. There are a number of forces at play here and the actual outcomes will depend on how the balance is struck, and contingent factors will influence this balance. On the one hand, industry is better off because self-help lowers the money level of subsistence, reducing the required level of money wages. The reduced requirement for money wages offers regional capital the opportunity to expand their accumulation in an 'extensive' fashion by employing more labour and other necessary factors of production at the same technological level. However, regional capital lives under the threat of increased competition from capitals based outside the region, and these capitals have usually faced labour shortages, or other pressures which have increased the money wages in their region. To survive they modernise their production processes and started

accumulating in a more 'intensive' fashion by increasing the productivity of the factors of production they employ. When faced with competition from more modern producers, capital from regions with high levels of self-help housing provision will likely lose out. Thus while the immediate effect of self-help is beneficial, the longer term prognosis is negative. This puts a new twist on the proposition of Harms that self-help occurs in regions where the economy is less developed (Harms 1982) and suggests that self-help itself is a contributing factor in uneven development.

Three other claims about self-help housing provision are examined in this thesis. Two are associated with the Turner-Burgess debate which dominates the self-help literature and which was reviewed in Chapter 1. Turner (1982) has claimed that self-help is 'progressive' because households have more control over their housing and, as a consequence, their housing will be more affordable and suitable, and that they will maintain their housing better. On the basis of this Turner calls for state support of self-help, a call which is disputed by Burgess (1982) who feels that state support will only serve the interests of capital, in particular capitalistic suppliers of materials and land. These claims do not arise from a clear theoretical basis (see Chapter 1), however Turner's position is consistent with the second theoretical proposition developed in Chapter 2 (households are better off because housing costs are lowered), and Burgess' argument is associated with the first and third theoretical propositions (effect on the residential construction industry and capital accumulation). Consequently these claims are considered along with the theoretical propositions themselves. A third claim mentioned in the previous paragraph which is also investigated in this research is that self-help is most likely in areas where the economy is less developed (Harms 1982). This claim is also associated with the third theoretical proposition about capital accumulation, which suggests that self-help and capital accumulation should be inversely related.

In the remainder of this sub-section each of the theoretical propositions and claims will be reviewed in light of the empirical material presented in Chapters 3-7.

Self-Help and the Residential Construction Industry

The investigation of this proposition (Chapter 5) provided unambiguous support for it: the economic performance of the residential construction industry is inversely associated with the level of self-help housing provisioning. The profitability of the industry is lower in Atlantic Canada, and the levels of capital investment per worker and productivity are also lower. The highest levels of profitability, capital investment and productivity are found in regions with the

lowest levels of self-help, and in regions with middle levels of self-help the industry has middle levels of profitability, productivity and investment.

The observed association is consistent with the theoretical argument developed in Chapter 2. That argument runs as follows: first, profitability will be lower because there is a smaller number of dwellings constructed by the industry. The industry in Atlantic Canada has only half of the market for new housing (Chapter 3). Profits are also gained from land rents and extra profits from speculative production of new housing. The smaller market also reduces the number of dwellings from which these other types of profits can be gained. In addition, Chapter 5 showed that a large proportion of potential land rents are gained by the state through state land banking and development, thus reducing the potential for industry gains from land rents even further. Also, self-help housing is cheaper and has the effect of lowering the average costs of new housing which limits the potential for super profits through the reduction of speculative margins . Thus the empirical work has clearly shown that self-help will reduce the profitability of the residential construction industry.

It was not possible to be as rigorous in the examination of the associated effects on industry; namely that the level of capital investment and productivity would be reduced. However, given what we already know about the industry elsewhere (eg Ball 1978), and that there is a clear negative association between productivity and capital investment and the level of self-help in a region, then it is likely that the associated propositions are also true.

This first proposition is an important one, which has implications for both our understanding of housing in Canada and self-help housing elsewhere. In Canada, it suggests that self-help will likely remain as the principal source of new housing in the Atlantic region, and remain important elsewhere such as Saskatchewan, Quebec and British Columbia. Yet Canadian housing policy is designed to support industry-produced housing and has little (or sometimes even negative) impact on self-help (see Chapter 7). Thus this theoretical proposition shows a requirement to rethink housing policy in Canada.

Belec et al (1987) have shown how post-war housing policy was used to significantly expand the market for new housing. I have shown that these policies were applied in only a few provinces (Ontario, Manitoba and Alberta) and that today these are the provinces with the lowest levels of self-help housing provision. In varying degrees, self-help remains as an important source of housing provision in the rest of Canada, and the modernisation of the residential construction

industry and the development of the mortgage financing sector was spatially limited. On the one hand this suggests that housing policy can have important effects, while on the other it suggests that we need to be very conscious of spatial differences in the examination of housing in Canada. That neglect of regional differences has been a shortcoming of Canadian housing research is confirmed by this research.

Self-Help and the Subsistence Levels of Households

There were a number of propositions associated with the subsistence levels of households and, to a certain extent they are contradictory. First, it was proposed that self-help households would be better off in terms of the affordability, suitability and quality of their housing. This was all confirmed by the empirical material presented in Chapter 4, and provides unequivocal support for Turner's propositions (Turner 1982). Second, it was proposed that self-help would lower the money value of subsistence since housing costs would be lower, and that this could reduce the level of money wages. The empirical material in Chapter 4 does show that housing costs are lower for self-help households, and that average housing costs are inversely associated with the level of self-help. This provides support for the proposition; additional support is provided in Chapter 6 where all of the elements of subsistence were examined and it was concluded that once these had been paid for a significant proportion of households would be unable to afford the full costs of housing. Since there are only limited means of reducing the costs of other elements, self-help housing is a critical method of narrowing the gap between the costs of subsistence and the ability of households to purchase the constituent elements of subsistence. In this sense, the empirical work in Chapter 6 suggests that self-help housing provision is **necessary** if subsistence levels are to be maintained.

Self-Help and Capital Accumulation

The proposition here is that self-help housing provision has a negative impact upon capital accumulation by reducing the incentives of regional capital to modernise, which decreases the profitability of the residential construction industry both directly and indirectly. Essentially, this says that self-help housing provision widens uneven development. Such a proposition is difficult to assess directly because there are so many specific factors contributing to accumulation. However, this third proposition arises from the first two propositions which have already been confirmed: namely that the profitability of the residential construction industry will be lower, and that the money costs of subsistence are lower. Thus the first half of this proposition is true, and the second is likely to be true. Thus while I cannot say that self-help does causes a widening of uneven development, I can say that it is likely to do so.

As noted above, this is a widening of Harms' proposition that self-help is more likely to occur where the economy is less developed: self-help **must** occur in these areas else the level of subsistence would be lowered, but it also weakens the competitive position of regional capital which further impedes regional economic performance.

Other Theoretical Propositions

Confirmation of Turner's propositions about the positive benefits of self-help upon the housing situation of households and the housing stock have already been noted. In addition, Harms' proposition of the association between uneven development and self-help provisioning has been confirmed and extended; self-help widens uneven development. Thus of the propositions identified in Figure 8.1, only Burgess' claim that state support for self-help would only (or at least predominantly) assist capital in the form of land owners, small contractors and building material suppliers, has yet to be assessed. The material presented in Chapter 7 showed that state support would have a greater impact on self-help as opposed to industry provisioning. Beyond this Burgess' claim almost becomes a tautology. Much of the household's sweat equity contribution takes the form of potential value which is unlikely to be easy to realise; thus capitalist providers of labour do not benefit from the production since it would not have otherwise occurred, and so the impact on capitalist suppliers of construction labour is neutral. Except where building materials are provided by the household itself, such as sometimes occurs in Newfoundland (see Rowe, 1973), then capitalist suppliers of building materials benefit from housing construction regardless of the provisioning sector. Contingent differences such as a plentiful supply of building land (eg Atlantic Canada) will reduce the opportunity for capital to benefit from self-help provisioning. However in general Burgess is correct with respect to landowners. This does not contradict the earlier proposition that regional capital is likely worse off where self-help housing provision occurs, it merely says that some elements of capital such as building material suppliers will benefit from new housing production regardless of who produces the dwellings.

It is interesting that this research has provided support for the propositions of both Turner and Burgess: Turner is right in that households are better off and Burgess is right in that capital will receive benefits from self-help provisioning, although the residential construction industry itself and regional capital in general are worse off. Thus one of the advantages of this analysis is that it places the Turner-Burgess debate into a wider perspective which is capable of providing a resolution on both a theoretical and empirical level. While Burgess is correct, the importance of his claim is diminished by the wider impact of self-help on uneven development. Essentially, Burgess' argument is partial and simplistic, but the issue it concerns, the effect of self-

help on capital, is important, and has been addressed in the main theoretical propositions of this thesis.

Implications for Housing Analysis in Canada

It has already been suggested that one of the shortcomings of Canadian housing analysis has been a neglect of spatial differences in housing provision. The importance of spatial differences has been demonstrated in a number of areas in this thesis. First, self-help has been shown to be a very significant sector of housing provision in Canada, but that there are very strong regional differences in the level of self-help. Related to this is the whole area of housing policy analysis. I have argued in Chapter 7 that post-war housing policy was unevenly applied, and that this is strongly associated with the current regional distribution of self-help housing provision. It was also shown in that chapter that the impact of policies can vary depending on the provisioning sector. Thus for both historical and current policy analysis in Canada it is necessary to examine spatial differences.

The importance of spatial differences in housing analysis in Canada is demonstrated by the impact of self-help on the residential construction industry and capital accumulation. This was considered in Chapter 5 where it was shown that self-help clearly affects the economics of the residential construction industry and can also affect the character and strength of the accumulation process. Since the extent of self-help differs regionally, there will clearly be an association between uneven development and self-help housing provision, and this association should be considered as part of the analysis of housing provision in Canada.

Another shortcoming of Canadian housing analysis has been the often implicit assumption that new housing purchase is industry-produced and the purchase is supported by a mortgage. This thesis has shown that self-help accounts for a third of all new housing in Canada, and that non-mortgage financing supports the purchase of more than half of the new dwellings built in Canada. The extent of these two factors, and the degree to which they have previously been ignored, calls for a substantial reappraisal of the analysis of housing in Canada.

Implications for Self-Help Analysis

The analytical approach used in this thesis can also serve the analysis of self-help housing provision in the Third World. This has been the major focus of self-help analysis however, as discussed in Chapter 1, there is little empirical material and theoretical developments have been very limited. One of the major advantages claimed for the case study areas examined in this thesis

was that there was a relative wealth of empirical material, and that contingent factors such as land rents and government policy do not play so large a role in the efforts of households to obtain housing. This is quite different from other situations where self-help occurs, such as in many other industrialised countries, and very different from Third World urban settlements. Specifically with reference to Third World settlements, the Atlantic Canada case studies do not feature the extreme land shortages of Third World urban areas, and there is little or no involvement of local or national governments, nor international agencies. In this sense the analysis developed in this thesis provides an abstraction from the situations in which self-help frequently occurs. Like any abstraction, account must be made of the effect of the temporal and spatial changes when analysis is applied, however the analytical framework can still prove extremely useful.

As an illustration, I have already shown that the Turner-Burgess debate has little substance; both are correct and both share the same analytical approach (cost-of-productionist). Yet the debate has featured largely in the literature since the late 1970's. Essentially, the question they address is whether state support for self-help is good, Turner claiming 'yes' on the basis that it is much preferable to other state schemes or no state support, and Burgess saying 'no' because most of the benefits go to capitalistic firms. The position adopted in this thesis is that there is no universal answer such as they propose. However, that should not deter analysis and if the framework developed in this thesis is applied, then consideration would be given to a much broader range of elements than has been included in the debate so far. For example, the relationship of housing to accumulation and the difference that self-help makes in this should be a prominent issue in analyzing self-help housing provision in the Third World.

The framework developed here also shows that there is a likelihood that high levels of self-help are not just a product of uneven development but also contribute to the uneven development of regional economies. In this sense a valid consideration within the question of whether state support for self-help in urban Third World settlements is beneficial, is the extent to which occupants become a low wage pool of labour and the role that this plays in the economy and the desirability of maintaining or changing this role. In other words, self-help is part of a much wider process than just getting housing, it is intimately linked to economic and social developments and must be considered in this context.

At this point it is important to flag one of the shortcomings of this particular research for discussion in the following section. In Chapter 1, one of the requirements of an analytic approach was that it be capable of addressing the dynamic of economic change, capitalist crises,

and this was a consideration in the selection of the labour theory of value as an approach for this thesis. Unfortunately, it has not been possible to incorporate this into the analysis and, until this is done, the analytic framework is limited in its applicability to Third World situations.

Harms has shown that self-help becomes attractive to government in times of economic crisis, a point which I have partially considered in Rowe (1989), where the effects of different state policies for self-help were considered in anticipation of an increased interest by the state. However, while we can predict from past crises, and confirm the reliability of the prediction from growing state interest in self-help in Canada as the economic crisis develops, the reasons for this have yet to be incorporated into a theoretical understanding and tested with empirical sources. This is analogous to the observation by Harms and others that self-help occurs most often in areas where the economy is weaker. The analysis in this thesis has shown that self-help itself contributes to uneven development, and this understanding is probably more important than observing spatial differences in self-help activity. The same can be said of crisis; it is not sufficient to be able to predict a rising interest by the state in self-help as economic crisis deepens, it is important to be able to understand this within a framework of housing provision to be able to fully consider the question of state support for self-help whether in Third World or industrialised situations.

The discussion thus far, and much of the international literature, has focused on urban self-help settlements. However a large proportion of rural Third World housing must also be provided through self-help means, and here the analytical framework developed in this thesis should also have direct relevance.

Summary

The three objectives of the research have been achieved. The three major theoretical propositions developed to understand the implications of self-help housing provision in industrialised economies have all been examined and are supported by the empirical material from the case studies. Thus we can say that:

- Self-help reduces the profitability of the residential construction industry and lowers the likelihood of capital investment and productivity improvements in that industry

- Self-help reduces the requirement to meet subsistence out of money wages, but at the same time improves the housing conditions of the households using self-help, and also improves the condition of the housing stock, and

- Self-help likely has a negative influence on capital accumulation directly through

the effect on the residential construction industry and indirectly by reducing the likelihood that regional capital will have to modernize to improve productivity because of the effect of self-help in reducing wage pressures and in inhibiting mobility.

The importance of self-help housing provision in Canada has been established; up to a third of new housing construction is through self-help means. This calls for a reassessment of the current analysis of housing provision in Canada to include self-help. It has also been shown that self-help is more important in some regions of Canada than in others and demonstrates the importance of including consideration of spatial differences in housing analysis in Canada. The importance of spatial differences has also been shown by the analysis of post-war housing policies in Canada which contributed to the development of a modern construction and financing sector in the regions in which where they were applied, but where that strong state intervention did not take place self-help is the most important source of new housing today. This suggests that 'national' approaches to housing provision and housing policy are wanting. Canadian housing analysis must be reassessed to include self-help, and this must specifically consider spatial differences in housing provision, including policy.

The third objective was to consider the implications of the analysis for our understanding of self-help housing in the Third World. It has not been possible to apply the analysis to actual Third World situations within the context of this research, however the analytical framework has provided a resolution to a long-standing factional debate in the literature, and broadens the whole issue by placing self-help housing in the wider context of capital accumulation. In the same sense, the analytical framework should be applicable to rural Third World housing although, once again, this cannot be tested within the limits of this thesis.

Thus the theoretical and empirical work contained in this thesis has met all three of its objectives, and should provide a useful and appropriate approach to housing provision which can include self-help, whether in Canada, other industrialised countries or in the Third World.

However the framework is not without shortcomings. One of these, the lack of consideration to economic crisis has already been mentioned. The following section discusses the other shortcomings of the analytical framework, and poses issues for future research.

8.2: LIMITATIONS OF THE CURRENT RESEARCH AND DIRECTIONS FOR FUTURE RESEARCH

Two important limitations of the research have been the treatment of temporal and

spatial differences in housing provision and the relationship of these to the accumulation process. In terms of the analytical framework developed in Chapters 1 and 2, temporal differences enter through treatment of economic crises which are the temporal dynamic of economies, and spatial differences enter through uneven development. These two elements are necessary for a more complete analytical framework and will enhance the applicability of the analysis to other situations.

In addition, the more macro-economic focus of the research has caused a number of other considerations to be overlooked. The most important of these are gender differences and the role of the household in self-help, and the effect of self-help on the politics of individuals, households and communities. These considerations are influenced by uneven development and by the position in the temporal path of accumulation - whether it is in a boom or crisis period. Finally, while considerable attention has been given to the effect of self-help on the residential construction industry, there are still a number of important issues which arise from the analysis that should now be considered. For example, a more detailed comparative examination of the effect of self-help on industry structure and behaviour is called for.

Economic Crises and Self-Help Housing

Harms has observed the proclivity of states to turn to self-help housing provision during periods of economic crisis (1982) and my observation that the Canadian state is increasingly interested in self-help supports his observation (1989 and Chapter 7). However, as noted above, it is not adequate to simply observe this phenomenon; analogy was made to another observation of Harms' that self-help is most likely in economically less developed areas. While this thesis has confirmed this observation it has also developed a theoretical analysis which shows that self-help can also contribute to uneven development. A similar analysis of the effects of economic crisis on self-help is also required, and the potential impacts are wide ranging. As the first aspect, the interest of the state has been observed in both the previous period of crisis (1920's and 1930's) by Harms, and in this period of crisis by myself. To fully understand this the analysis must specifically include an analysis of economic crisis, the state, and survival strategies of households during crisis. If our analysis of crisis is that it is brought on by declining rates of profit (re Bullock and Yaffe 1975, Itoh 1988, and Mattick 1981 as examples), then we would understand efforts to cut state expenditures as an attempt to improve the profitability of capital by reducing their contributions to the state. In this sense self-help can get the state 'off the hook' for housing, however the analysis must also consider the impact of self-help on the residential construction industry and regional capital in general. Thus while it gets the state off the hook and contributes to improved profitability in general, self-help also directly reduces the profitability of the residential construction industry, one of the preferred sectors for Keynesian fiscal policies to counter economic downturns. Also, we now know that self-help can inhibit modernisation of industry, and that economic crisis accelerates the uneven development process. Thus state support for self-help might further accelerate uneven development.

Economic crisis is also a feature in other elements of self-help which have not been addressed in this thesis. For example, it is possible that self-help households or communities can develop (or already have) a distinctly different political consciousness. Indeed, Turner has claimed increased self-reliance as one of the positive benefits of self-help (Turner 1982). However, once again, claims such as this are likely to be simplistic. On the one hand, self-help households are likely to be more self-reliant, however we do not know to what extent this has figured in the selection of self-help households, or whether it is a result of the self-help process itself. We do know that it is very difficult to predict who will use self-help (see Chapter 4), and that self-help appears to be the only way that households can obtain housing in many areas. Consequently it is likely that uneven development is the cause of greater self-reliance, and that self-help housing provision is but one (albeit important) element in this. But what is the specific effect of self-help

housing provision? On the one hand money wages are likely to be lower in areas where self-help is important, and in this sense households are probably worse off. But on the other hand, these households have a more secure economic hold on their dwelling, and are less reliant on money wages for their subsistence. (Bear in mind that a third of Canadian housing production and almost a quarter of metropolitan housing production in Canada is self-help, so I am not just discussing marginalised communities here). Thus the question of what the effect of self-help is on the households must be associated with the position in the accumulation process. During periods of expansion, the effect is probably a reduced level of political consciousness in economic matters as witnessed by the lower money wages. However, the reduced reliance on money wages can also contribute to a more independent political consciousness and, particularly during periods of crisis when, because of the greater security of self-help provisioning, there is far less threat of them losing their dwellings, they could be in a better position to support strong and independent political responses to economic attacks. All of this is speculative, and is intended to illustrate the intimacy of housing provision to temporal economic change as wrought by economic crises.

Gender

The basic unit of analysis in this thesis has been the household, despite the fact that recent research has clearly shown that this focus obscures gender differences, and that these differences can significantly alter the analysis. This limitation has occurred because gender was not an issue for the funding agencies for the original case studies which were designed in 1979. However, gender issues are clearly an important factor in self-help housing, as is the role of extended families. As an illustration, no female-headed households gained new housing in either of the case studies, whether through self-help or industry provisioning, yet female headed households are significant in number, and form a large proportion of households with housing need in both case study areas. Also, the case study focused on the actual production of the dwelling and neglected other areas such as changes in childcare and other aspects of household maintenance which had to be maintained under the difficult conditions prevailing during the construction period. As an illustration, a major source of stress for many households was living with relatives during construction in order to ease cash flow problems. It is entirely likely that if consideration had been given to individual household members then the information gained about stress and other aspects of the self-help process would have differed. Likewise, it would be useful to directly address the issue of low levels of female participation in self-help through additional research to illuminate the barriers experienced by women and, in this context, it would be important to examine options for collective as opposed to individual self-help. Related to this are other questions associated with gender which occur at a higher level of generalisation. For

example, to what extent is self-help housing provision a gender defined social concept? That is, is building your own house a male concept and, if so, what would form of provisioning would achieve the same benefits for women? The analytical framework which has been developed in this thesis does not encompass any of these questions and issues and is deficient in this regard. The antidote to correct this deficiency is likely to be additional research which considers the issues raised within this framework in addition to those more specifically suited to gender.

Uneven Development, Self-Help and the Informal Sector

Uneven development has been considered at a number of junctures in this thesis, and self-help has been shown to contribute to uneven development. However housing is only one area of self-help, and the framework developed in this thesis can contribute to an improvement in our understanding of household production and the informal sector. The importance of this can be illustrated with reference to current trends in Newfoundland where the state is showing a growing interest in directly supporting household production of all types, ranging from knitting for craft markets to retrieving cod tongues and cheeks for sale by Social Assistance recipients. These activities are now seen as traditional economic activities in Newfoundland, and are encouraged as means of promoting rural economic development and increasing self-reliance. This is very different from the situation during the economic expansion of the 1950's and 1960's when the state response was to import large industrial developments and encourage rural residents to join the 'modern' economy by abandoning traditional economic activities. This development in Newfoundland parallels increased interest in the informal sector in the Third World and industrialised countries.

Much of the analysis of household production and informal economic activities can be characterised by household 'survival strategies'. This approach is limited by its narrow focus and, just as has been illustrated with self-help housing, cannot provide answers to questions about the state, the accumulation process or other broader effects of self-help activities. The framework developed in this thesis can be applied directly to other household and informal activities. For example, within this framework it is fairly easy to understand what the Newfoundland government is attempting to do with its current promotion of traditional economic activities, and to anticipate that the impact might well go against the their longer run interests in that reliance on self-help will likely widen uneven development and, possibly, support the development of independent political consciousness in rural Newfoundland.

There are a number of unfinished strands in this research, most notably those associated

with the accumulation process (such as spatial differences in the effects on the residential construction industry, and the relationship to economic crisis) and those associated with the difference that self-help provisioning makes to gender issues in housing provisioning and to the political process in areas with high levels of self-help provisioning. Finally, given the importance of the self-help sector in terms of the number of housing units produced, the value of that production and the employment generated, it would be very useful to compare the fiscal effects of industry and self-help provisioning with a view towards the development of alternative and more effective housing policies.

With respect to the first set of issues it is important to provide more detail on how self-help affects firms in the residential construction industry, possibly on a comparative basis so as to obtain a view on how spatial contingencies affect this. By developing the links between the residential construction industry and capital accumulation it should be possible to better understand the role of housing on capital accumulation in Canada.

The second set is issues, accounting for the difference that self-help provisioning makes on issues such as gender and political responses, have barely been mentioned in this thesis. However, given the impact of self-help on capital accumulation, and the findings in Chapter 6 that self-help provisioners should be less dependent on money wages and hence able to express political views with less risk, it is likely that there are some very interesting and potentially important political implications which arise from self-help provisioning. Similarly, a number of gender related issues arise such as access to housing in areas with high levels of self-help and the effect of self-help provisioning on gender roles within households.

The third strand for future research arises from the documentation of the economic importance of self-help (see Chapter 3). Given the employment and income effects from both new construction and repair arising from self-help, it is urgent that housing policy be adapted to provide support for this sector. By doing this both social and fiscal benefits can be realised, the benefits of which favour the less economically advanced areas of Canada, but which are not restricted to these areas. It is very possible that housing programs which can be used by self-help provisioners will yield superior social and fiscal results than do current programs.

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APPENDIX 3.1: SURVEY METHODS

1.0 THE UNIVERSE

The universe consisted of all building permits issued for single detached dwellings (SDD) in Prince Edward Island between 1978 and 1981. These years include more than a full year prior to the substantial increase in interest rates, and two full years of the higher regime of interest rates[39].

Building permits are issued once the applicant has secured land, chosen a plan and located this plan along with sewage disposal and water supply on the site. Thus the construction project is already well into the planning stage by the time the building permit is issued. For this reason permits represent an admirable and relatively inexpensive universe from which one can identify new SDD's. In addition, when making an application, the applicant is required to specify information which is useful to the classification of potential dwellings. The applicant's name, address, the location of the proposed dwelling, dimensions of the dwelling and lot, services and estimated cost should all be included in the application, as well as the property number of the proposed site. This provides an opportunity to link the information from the building permit with information associated with the records of the P.E.I. Assessments. All of this information greatly facilitated the design and evaluation of the sample, since a wide range of characteristics are available for every case.

1.1 Problems with the Universe

There are, however, problems associated with using building permits as a listing of new housing activity. For Canada as a whole, permits clearly overestimate actual starts by somewhere in the order of 10% (see Appendix 3.2). There are a number of reasons for this such as: change of plans due to job transfer, death, divorce and difficulties in obtaining financing. The reasons for potential homeowners not acting on building permits in Prince Edward Island was examined as a complementary project associated with the PEIRFCS (Rowe 1983).

A second problem with building permits is that in some cases it is quite difficult to locate a completed and occupied dwelling because of an inadequate address on the application. This is primarily because no specific address exists until the building is actually completed. This problem obviously arises in the countryside, but it is a more common problem in urban areas where a

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[39] See STATISTICS CANADA, "Financial Institutions", fourth Quarter, 1981, Catalogue 61-006, Chart 10.

contractor has developed a fairly large number of units, or a large parcel of land. In these cases the sdd name of the occupant and first owner is not the name which appears on the permit. Instead the contractor's name appears, and they often have difficulty knowing which precise dwelling is referred to since permits are often applied for en masse. The procedures used to locate the dwellings are discussed below, along with suggestions for future studies of this kind.

1.1.2 Creating a Universe of Building Permits

Building permits are recorded at two points in Prince Edward Island. All permits to build outside either incorporated areas or areas with an approved Community Development Plan are issued by the provincial Department of Community and Cultural Affairs through their regional service centres[40]. Inspections and approvals are handled by the service centre staff and the actual permit is held in the service centre. Conveniently, a master listing of all building permits issued by the Department of Community and Cultural Affairs is compiled by the Department and held in the main office in Charlottetown. This list includes all building permits, thus permits to repair, or to build a bait shed, cottage or apartment dwelling are included with single detached dwelling on this listing. Fortunately, the purpose of the permit is also identified and thus unsuitable permits could be deleted. Of the 2,687 permits in the universe, 2,086 were obtained from this source.

Permits to build within communities entitled to issue permits by virtue of being incorporated or having an approved Community Development Plan are held by the community, usually in the council offices. A list of these permits was obtained by a research assistant directly from the community records for the more active areas and for those close to Charlottetown, and by mail from the remainder of the councils. 601 cases were obtained in this fashion.

Statistics Canada reports 2,681 permits issued for SDD construction during the study period. Their survey does not cover the entire population but by 1981 it was so close to 100% that few housing starts were missed (see Appendix 3.2). In addition to the 2,687 permits included in the universe, a further 91 permits were identified as SDD from the records of Community Affairs but were eliminated because of obvious ambiguity. Some of these appeared more likely to be permit renewals since a similar permit appeared elsewhere in the universe for a previous year. Others were valued at $1,000 and appeared to be for the resiting of an existing dwelling, and still others did not contain the location information necessary for stratification and, should

[40] There were five such centres in 1982. They were located in O'Leary, Summerside, Charlottetown, Montague and Souris.

those cases be chosen, for locating the respondent. Further to these 91 cases, additional errors were discovered within the 2,687 cases left in the universe. These additional errors came to light in the sample as a consequence of contact with the respondent or one of the sources used to locate the respondent and they are described in more detail below. Such coding errors totalled 4.8% of the sample, or about 130 permits for the entire universe. These errors would also affect Statistics Canada's census of permits, since their methods are very similar to those employed here.

1.1.3 Description of the Universe

Five characteristics were obtained for each case from the master lists. These included county, community (or area when there was no community), value and year and month of permit issues. Locations were classified as urban, suburban, town, village and rural, as described below. In addition, the tax rates for each location in the year of permit issue were determined and included. There were thus seven characteristics available for each case in the universe.

Table A31.1: Building Permits by County

County	Universe[1]		Households[2]		Population[3]
	#	%	#	%	% Change
Queen's	1,448	53.9	16,195	49.2	+7.2
Prince	801	29.8	11,565	35.1	-1.0
King's	430	16.0	5,170	15.7	+3.4
TOTAL	2,679	99.7	32,930	100.0	

Source: [1] PEIRFCS
[2] 1976 Census of Canada, 93-805, Table 17
[3] 1981 Census of Canada, 93-802, Table 1

Queen's county, with the provincial capital of Charlottetown (metropolitan population 26,505) and adjacent communities, is the most urbanised county in Prince Edward Island and it attracted the majority of building permits as can be seen in Table 1. Prince County contains the second largest community, Summerside (population 14,640)[41] and is itself the second most populated county in Prince Edward Island. However the proportion of permits in Prince County is less than the proportion of the population residing there. This is consistent with the 1981 Census which indicates that the number of households declined in Prince County during the intercensal years including the study period, as can be seen in Table 1. The number of households in Queen's and King's Countries grew during the intercensal period. The distribution of building

[41] STATISTICS CANADA "1981 Census of Canada", Volume 2 - Provincial Series, Catalogue 93-902, Table 2.

permits by county appears to follow the direction of population change for the countries, as should be the case. This reflects positively upon the reliability and utility of the permit universe.

Table A31.2: Comparison of Sample and Universe by Community Size

Community Type	Universe[1]		Population[2]
	#	%	%
Urban	119	4.4	36.3
Suburban	752	28.0	
Town	88	3.3	63.7
Village	141	5.2	
Rural	1,587	59.1	
TOTAL	2,687	100.1	100.0

Sources: [1] P.E.I. case study data
[2] 1981 Census of Canada, 93-902, Table 3

Prince Edward Island is a largely rural province but, paradoxically, it is also the most densely populated of all Canadian provinces. As a consequence, the entire province is scattered with many towns and villages with a population of several hundred to two thousand. The larger towns, such as Montague in King's County and O'Leary in Prince County are important government and commercial service centres despite their small population. However these centres do not attract much housing activity as can be seen in Table 2. The majority of building permits were issued for proposed dwellings outside the identifiable boundaries of these communities, with most of the rest falling within the suburban areas of Charlottetown and Summerside.

In preparing the sample and classifying the location of building permits it was quite clear that the suburban and rural areas of the province were important locations of new housing. However, it was not clear how much housing activity occurred in the villages and towns. To avoid possible errors later, the categories of town, village, and urban (Charlottetown and Summerside proper) were specified. Any identifiable small community with minimal services, such as a store and service station, was classed as a village. Towns had more services available in the community, such as sewage disposal, garbage collection, banking facilities, medical facilities and more than one shopping alternative.

As it turned out there was little need for these categories since the actual amount of

construction corresponded to the level of permits issued for such categories. The low level of housing activity in these areas is probably affected by their mature character, whereby most of the land has already been occupied up to a perceived suitable density[42]. In addition, tax rates are higher in these areas but there is usually no significant advantage in services since they are also available to those in the surrounding areas.

The Prince Edward Island market for SDD's is clearly a dual market divided between the two major communities of Charlottetown and Summerside on the one hand, and spread outside the boundaries of any identifiable community on the other. Of course, many people may live in a rural setting and commute to the urban areas for work. This is a very likely alternative given the compact nature of the province and it effectively spreads the demand for residential land beyond the boundaries of the locations where work is available (Rowe 1984). However, one should be cautious in ascribing distinctly different characteristic to each of the two sub-markets. As will be discussed elsewhere in this report, they both have a great deal in common in terms of financing, and construction techniques.

Table A31.3: Building Permits by Year

YEAR	BUILDING PERMITS				STARTS	
	PEIRFCS[1]		STATISTICS CANADA[2]		CMHC[3]	
1978	920	34.2	907	33.8	990	42.3
1979	996	37.1	1,029	38.4	801	34.2
1980	467	17.4	449	16.8	348	14.9
1981	304	11.3	296	11.0	201	8.6
TOTAL	2,687	100.0	2,681	100.0	2,340	100.0

Source: [1] P.E.I. case study data
[2] Statistics Canada, 64-001 (various years), Table 1A
[3] CMHC (1981): Canadian Housing Statistics, Table 4

One of the main objectives of the study was to determine the effect of interest rates on residential construction in Prince Edward Island. There is a clear inverse relationship between interest rates and housing activity, as indicated by both sets of building permit data and by housing starts (Table 3). This relationship is precisely what most analysts would expect. The relationship is explored in considerable depth in the PEIRFCS report and it should not be taken to be as

[42] For example, very large lots seem to be accepted as common in communities such as New Glasgow, Murray River, Hunter River, etc. Consequently, infilling is unusual and the density of settlement within the communities appears unlikely to increase. However, there is considerable new construction in the areas adjacent to these communities.

elementary as suggested in the table or in standard notions of housing supply.[8] What should be noted here, though, is the consistency both among the three data sources, and with the expected inverse relationship. This lends confidence to the universe used in this study. It might be pointed out in passing at this point that it is difficult to account for CMHC's estimate of housing starts in 1978, which exceeded each of the individual censuses of permits. This is discussed in Appendix 3.2.

There are, fortunately no surprises in the data from the building permits. The geographic distributions are consistent with population and population change and the distribution by years is consistent with changing interest rates. The number of building permits in the universe is almost identical with those reported by Statistics Canada, and their annual distributions are comparable. The only discontinuity is with CMHC's housing start estimate for 1978, and it seems more likely that this is due more to problems in the starts estimate than with the building permit universe.

1.2 THE SAMPLE

The universe of all households in Prince Edward Island was estimated at approximately 33,000 in 1982. Annual housing starts were approximately 900 in the late 1970's and 300 to 400 in 1980 and 1981. The primary sampling units therefore, were estimated to comprise 1% to 2% of the universe for 1982. To ensure at least a 5% confidence or tolerance level in the estimates of financing, construction and demographics, a sample of nearly 3,000 housing units (SDD's) would have been required. Obviously, the cost per unit of information would have been extremely high. Consequently, an alternative sample design other than a systematic random sample was chosen.

The type of sample chosen was designed to maximize the efficiency per unit cost and ensure the lowest degree of variability in a somewhat erratic universe. Since a universe of building permits could be constructed with a relatively low margin of error in listing units, it was decided to stratify the universe into several strata to ensure representativeness and case variability within the strata. Previous studies and research suggested that the critical strata were county, type of community, and year of construction. These variables were assumed to be associated with several major fluctuations in the housing market within the past four years. Therefore stratification would ensure representativeness in an especially small universe and sample.

Based upon previous research at the University of Prince Edward Island, several pilot

interviews, and recent surveys in Prince Edward Island, estimates of the relative coefficients of variation (e.g., for income) suggested that a stratified sample within the range of 250 to 200 would be sufficient for the level of precision required. Income, for example, was chosen because of its close statistical association with housing and financing.

However, given a relatively fixed cost and known non-monetary costs of information, a sample range of 5% to 20% of the universe was appropriate. A level of precision, 5%, was considered adequate since the study was to some degree exploratory and within accepted survey limits of precision.

In addition, statistical calculations within the survey required an adequate number of cases for manipulation. Since much of the data were categorical or nominal in nature, the sample size had to at least ensure a sufficient number of cases for statistical estimates. Crosstabulations were estimated at between 3 to 4 values and 2 to 3 variables per crosstabulation. Therefore, approximately 200 to 300 cases were required, or a 10% sample of the permit universe.

Due to the possibility of coding errors in the universe, previous experience in survey refusals, and the difficulty in identifying some of the primary sample units, a 15% sample appeared to be sufficient for the purposes of the survey and resources available. The final sample was therefore approximately 500 cases.

The type of sample was a multi-stage stratified sample proportional to the universe distribution of primary sampling units with a systematic selection procedure in each Stratum instead of "true random". This decision would ultimately decrease the variance of the sample estimates.

The systematic selection procedure utilized was mechanical with a sampling fraction equal to Stratum/universe ratio. The procedure was based on the SAMPLE subroutine available with the SPSS computer package. Since there was a known systematic bias in the universe listing of the primary sampling units, the listing units were randomly numbered and re-ordered on the computer files.

1.3 SURVEY METHODS

The questionnaire was administered in the respondent's home by a trained interviewer. It was designed to be a maximum of one hour's duration, and in most cases it required about

forty-five minutes to complete. For many cases it was considerably shorter because of the individual characteristics of the respondent.

There were two pretests; the first with 20 cases and the second 5 cases. These were drawn from the universe after the sample was removed. They were all located in the Charlottetown area. One half lived in urban and suburban locations and the other half in rural locations.

Respondents were initially contacted by letter to explain the purpose of the study and to outline the nature of the interview. This was followed, usually one to two weeks later, by a telephone call from the interviewer to arrange a time for the interview.

1.3.1 Locating the Respondent

In order to contact the respondents, it was of course necessary to determine the address and telephone number of those in the sample. In many cases this was relatively easy. The universe named the location of the dwelling, and it was therefore possible to use since a number of the dwellings were still under construction or had only recently been occupied, some would not be listed in the current directory. The Island Telephone Company allowed us to use their own listing to attempt to locate these.

After this, there were still almost 200 cases from the sample of 504 who we had been unable to locate or where we were uncertain that we had located the correct person. These cases were taken to the provincial assessment officers responsible for that area, and for some they were able to identify the construction as a bait shed, cottage, etc. These were replaced by permits with similar characteristics. (Choice of replacements was by random systematic selection).

Those permits which the provincial assessment officers had identified as housing starts were then examined to obtain a property number. With this number the provincial assessment files could be accessed to obtain an address and telephone number.

It would have been much more effective to have obtained property numbers for all cases in the sample and to have used the assessment officers and assessment records to determine whether a start had been made and to obtain complete addresses. This would have taken one research assistant one week, approximately two-thirds faster than the procedures used.

1.3.2 Training Interviewers

Five interviewers were employed, only two of whom had previous interviewing experience. No students were used. Both of the experienced interviewers had long records of work with Statistics Canada and with surveys conducted from the University of Prince Edward Island. They were thus very useful in training and advising the inexperienced interviewers. In addition, two of the inexperienced interviewers had recently built their own home. Four of the interviewers were female and two were bilingual.

A two day training session was held. On the first day the interviewers were introduced to the project and the instrument and the second day was devoted to instrument orientation.

In the first day of training interviewers were introduced to the purposes of the project, and to the interviewing and recording procedures to be used to ensure consistency and accuracy in the application of the instrument. A seminar on the mortgage as a financial instrument and discussion on other possible instruments for financing residential construction was given by an experienced local mortgage officer employed by Royal Trust. A second seminar was given by a building inspector from the Charlottetown office of CMHC. There was also a thorough discussion of house structures and construction techniques for owner-built and for contractor-built dwellings, as well as of the building code, building practice, and regulations in Prince Edward Island. The objective of both of these seminars was to familiarize the interviewers with residential financing and construction practices, which were the central concerns of the questionnaire they were to apply.

The second day of training was devoted to the development and improvement of interview skills and use of the questionnaire. Two volunteers who had recently built or purchased a dwelling served as respondents in these sessions. They were coached in advance to adopt roles which would present potentially difficult responses for the interviewers.

1.3.3 Scheduling Interviews

Interviewers were assigned sufficient cases within an area to allow them to maintain a consistent daily schedule. Most respondents preferred evening interviews and this obviously limited the number of interviews per day. In the original telephone contact, the interviewer first determined whether the dwelling had been started, and if the respondent would agree to an interview. If they did, then they were asked which language they preferred. The instrument was available in both English and French and the original letter was in both languages. However, all

interviews were conducted in English at the wish of the respondents. This is likely a result of the Quebecois bias in both the instrument and the bilingual interviewers which wasn't very suitable to the largely Acadian french speaking population in Prince Edward Island. At the time of the original telephone contact an interview time was also arranged and, if necessary, a more precise address obtained. (Many respondents also kindly gave warnings of road conditions and difficulties which might be encountered enroute).

Respondents' questions concerning the survey were answered to the limit of the interviewer's ability, and respondents were requested to telephone the principal researcher if they wished to discuss this further. A small number did this. Respondents who declined to participate were asked why and an attempt was made to explain any problems they felt were barriers to their participation.

The unusually severe winter in the Maritimes delayed interviewing until early March. This led to problems towards the end of the interview period in late April in King's County. It had been planned that interviewing would be completed by early April, before fishing and farming households began their intensive seasonal work. By late April many of these people were willing to be interviewed but were unable to schedule an interview because their first priority was to plough or to haul traps whenever the unpredictable spring weather permitted. Thus, in the final stages, interviewing in King's County became exceedingly difficult, and as a consequence the completion rate was lower there than for the other two counties. This is discussed further in the following section. The procedures used for coding, entering and storing the data are discussed in the section dealing with the data base.

1.4 SAMPLE SUCCESS

For a number of reasons the completion rate of the interviews was considerably lower than expected. It had been anticipated that slightly over 10% of the permits in Prince Edward Island would not have resulted in a housing start, and that a further 10% would refuse to be interviewed or be too difficult to locate. This would have resulted in about 400 interviews, or about 15% of the universe. Two hundred and eighty six interviews were actually completed, or 10.6% of the universe. Given the quality of the universe, a 10.6% sample falls well within standard error limits. This is discussed further below. However, the reasons for this lower than expected completion rate may be of interest to others involved in similar field surveys. The discussion below outlines some of the main characteristics of the incomplete interview population, and compares them with the sample and the universe.

Table A31.4: Evaluation of the Sample

MEASURE	SAMPLE		UNIVERSE	
	#	%	#	%
County				
Queen's	272	54.0	1,148	53.9
Prince	151	30.0	801	29.8
King's	81	16.1	430	16.0
Community Type				
Urban	23	4.6	119	4.4
Suburban	142	28.2	752	28.0
Town	18	3.6	88	3.3
Village	27	5.4	141	5.2
Rural	294	58.3	1,587	59.1
Year				
1978	193	38.3	920	34.2
1978	180	35.7	996	37.1
1980	74	14.7	467	17.4
1981	57	11.3	303	11.3
Source: P.E.I. case study data				

1.4.1 Reasons for Incomplete Interviews

The interviews were planned for February - April 1982, a period when it is generally easier to find people at home in Prince Edward Island. Unfortunately, Eastern Canada and particularly Prince Edward Island experienced an unusually unpleasant winter. As a result, interviews were more difficult to obtain towards the completion of the interview process. Although the weather conditions affected the timing and duration of the interview process, there are no indications that they had any impact upon either the quality of individual interviews, or presented significant difficulties in achieving the planned number of interviews. In total, only 21 lost interviews can be attributed to the delays caused by the weather. These were mainly in Eastern King's County, where there were a number of respondents who had already begun to fish or farm and were not available by the time the interviewers reached that area. This is apparent in Table 5 where the proportion of non-interviews in King's County is larger than King's share in the sample or the universe.

Table A31.5: Comparison of Complete and Incomplete Interviews, Sample and Universe

MEASURE	INTERVIEWS				SAMPLE		UNIVERSE	
	Incomplete		Complete					
	#	%	#	%	#	%	#	%
County								
Queen's	114	53.0	157	55.0	272	54.0	1,448	53.9
Prince	55	25.6	97	34.0	151	30.0	801	29.8
King's	46	21.4	32	11.0	81	16.1	430	16.0
TOTAL	215	100.0	286	100.0	504	100.0	2,679	99.7
Community Type								
Urban	11	5.1	12	4.0	23	4.6	119	4.4
Suburban	53	24.7	89	31.0	142	28.2	752	28.0
Town	8	3.7	8	3.0	18	3.6	88	3.3
Village	11	5.1	16	6.0	27	5.4	4	5.2
Rural	132	61.4	161	56.0	294	58.3	1,587	59.1
TOTAL	215	100.0	286	100.0	504	100.0	2,687	100.0
Year								
1978	82	38.1	111	39.0	193	38.3		34.2
1979	72	33.5	107	37.0	180	35.7		37.1
1980	30	14.0	43	15.0	74	14.7		17.4
1981	31	14.4	25	9.0	57	11.3		11.3
TOTAL	215	100.0	286	100.0	504	100.0		100.0

Source: P.E.I. case study data

Building permits issued in 1981, the last year of the study period, were less likely to have been successfully interviewed. This appears to be a result of the higher incidence of non-starts presumably due to the influence of high interest rates. This is discussed further below. In general, with the exceptions noted, there were no particular biases in the completed and incomplete interviews.

Table A31.6: Reasons for Incomplete Interviews

REASON	# of Incomplete Interviews	% of Incomplete Interviews	% of Sample	Estimated # in the Universe
Didn't Build	81	37.7	16.1	433
Refusal	45	20.9	8.9	239
Moved	21	9.8	4.2	113
Coding Error	24	11.2	4.8	129
Can't Locate or Dead	12	5.6	2.4	65
Unsold by Contractor	8	3.7	1.6	43
Excluded by Time	21	9.8	4.2	n/a
Written to, no reply	6	n/a	1.2	n/a
TOTAL	218	98.7	43.4	n/a
SOURCE: P.E.I. case study data				

Although non-starts constituted a higher proportion of the sample than had been anticipated, refusals and cases which couldn't be located were roughly as expected (Table 6). The two together were not the cause of the lower than expected returns. These were due more to the coding problems with the universe (4.8% of the sample) and the unexpectedly high number of households who moved after first occupying their house (4.2%). These, together with unsold and unoccupied contractor-built homes, caused an additional 10.6% shortfall in the sample. The expected sources of incomplete interviews; non-starts, refusals and those who couldn't be located, accounted for 27.4% of the sample, about 7% more than expected. In addition the early termination of interviews due to the late start caused 4.2% of the sample to be missed.

Briefly, non-starts appear to increase with interest rates. However, they do so in a non-monotonic fashion - refusals are greater in the more densely populated areas; many of the coding problems appear in urban Prince County; and the problem of contractors being unable to sell completed dwellings is most common with 1980 starts in Queen's County. A summary table of the reasons for incomplete interviews, stratified according to the variables used in the sample design appears as Table 7.

1.4.1.1 Non-Starts

Non-starts were high in King's County and low in Prince County. In both Queen's and Prince Counties, non-starts were mainly a rural/village phenomenon (65.9% and 75.0% respectively of all non-starts), and King's County had 90.1% of the sample in rural/village

locations. Non-starts appear to be mostly rural. This is somewhat surprising since one would assume that non-starts are strongly affected by rising interest rates and that the impact of these would be stronger in the urban areas where it is normally assumed, mortgage financing is more common, as compared to the rural areas. However, as will be seen later, this last assumption needs to be qualified, at least for Prince Edward Island.

Table A31. 7: Characteristics of Incomplete Interviews

CHARACTERISTIC	Reason for Incomplete Interview					
	Non-Start	Refusal	Moved	Coding Error	Can't Locate	Unsold by Contractor
County						
Queen's	16.2	10.7	4.0	4.4	2.2	2.6
Prince	13.2	7.3	2.7	6.0	3.3	-
King's	21.0	6.2	7.4	3.7	-	-
Community Type						
Urban	17.4	13.0	-	8.7	-	8.7
Suburban[1]	11.3	11.3	3.1	3.1	3.8	3.1
Rural[2]	18.4	7.5	5.0	5.3	1.9	-
Year						
1978	13.5	8.3	5.7	4.7	4.2	1.0
1979	15.6	8.9	2.8	5.6	1.1	1.7
1980	14.9	9.5	2.7	4.1	1.4	4.1
1981	28.1	10.5	5.3	3.5	1.8	-
TOTAL	16.1	8.9	4.2	4.8	2.4	1.6

Source: P.E.I. case study data

Certainly non-starts do increase with rising interest rates. However, the pattern is not linear. Non-starts appear to increase sooner in King's and Prince Counties. From Table 8 it can be seen that non-starts increase in these counties in 1979, and decline in frequency in 1980. In the more urban Queen's, non-starts do not impact until 1980. In all three counties there is a substantial rise in non-starts in 1981. Of the reasons for incomplete interviews one would assume that non-starts are the most sensitive to interest rates. It would appear also that the rural areas are more strongly affected by interest rates than the urban areas, in terms of the effect of interest rates on households' decisions to follow through with their intentions to act on their building permits.

Non-starts had a bi-modal distribution over the expected costs of construction listed on the building permits. They are over-represented in the cost categories below the medians for the universe ($34,850) and the sample ($34,989), substantially under represented in the $41,000 - $50,000 category, and somewhat over represented again in the $51,000+ category. This information appears in Table 9. Caution should be exercised in using this table since the value of planned construction does increase over the four years of the study. In addition, the value of planned construction was found to be a different absolute value than the actual value of construction for those who completed a dwelling.

Table A31.8: Starts by County by Year

COUNTY	Year of Housing Start				
	1978	1979	1980	1981	1978-81
Queen's	16.1	12.9	18.2	26.1	6.2
Prince	7.1	18.4	11.1	21.0	13.2
King's	16.0	20.0	14.3	41.7	21.0
TOTAL	13.5	15.6	14.9	28.1	
Source: P.E.I. case study data					

The actual value of construction is, of course, not available for non-starts. The value distributions do, however, suggest some points of interest. The reason for the higher proportion of non-starts in the highest value of planned construction may be that the projects in this range are more likely to prove impossible once financing is sought and detailed costing completed, which is usually after the building permit is obtained. Similarly, the large number of non-starts in the lowest value category suggest that once the proposed dwelling is actually costed it was found that the cost was greater than expected, and not possible as planned. Finally, those households building or purchasing a standard sized and priced dwelling already built by a contractor, may be more likely to follow through with their planned project because of better information on costs, and more straightforward financing possibilities. These dwellings are more likely to fall into the planned value categories containing the median and that immediately above it. However, all of this is speculative.

Table A31.9: Value of Proposed Dwelling by Interview Status

INTERVIEW STATUS	VALUE OF PROPOSED DWELLING					Total
	0-20,000	21,000-30,000	30,001-40,000	40,001-50,000	50,001+	
Completed	10.5	27.6	34.6	13.3	14.0	100.0
Non-Start	19.8	30.9	27.2	4.9	17.3	100.1
Refused	15.6	17.8	22.2	20.0	24.4	100.0
Moved	14.3	38.1	19.0	9.5	19.0	99.9
Coding Error	25.0	12.5	37.5	8.3	16.7	100.0
Can't Locate	8.3	8.3	66.7	8.3	8.3	99.9
Contractor Unsold	0.0	25.0	50.0	25.0	0.0	100.0
TOTAL	13.2	26.4	32.7	12.2	15.5	100.0
Source: P.E.I. case study data						

1.4.1.2 Refusals

Refusals occurred mainly in suburban Queen's, that is, in the Charlottetown area. Consistent with this is that refusals tend to be associated with permits with a higher planned value of construction (Table 9) which one would expect to find in the urban areas. Interestingly, in Prince County where the refusal rate was relatively low, 81.8% of all refusals came from rural/village areas, and only a small proportion from suburban Summerside. This is at least partly due to a run of refusals from one particular area, where the interviewer suspected that the respondents had collectively decided not to participate. This was associated with what appears to have been an unhappy experience with a co-operative program several years prior to this study.

Apart from the above, there did not appear to be any dominant reason for people being unwilling to participate. There were a number of people who felt that "it's nobody's business"; others who felt wary about how the information would be used, and seemed to suspect that government would somehow use the information against them. There were also a number of people who inquired about the financing of the research and, upon being told that the funds were provided by CMHC refused to participate citing previous bad experiences, either their own or of friends. Both the Co-op and the AHOP programs seemed to be involved. On the other hand, some people probably participated hoping that they would be able to find assistance with their own particular housing problems.

In any case, refusals were not a major problem in this study, and the pattern of refusals

does not appear to contain any particular characteristics which warrant further analysis.

1.4.1.3 Moved

Only first owners of the dwelling were interviewed in the survey, since the purpose was to establish how housing starts are financed and to evaluate the effect of interest rates on this. When a dwelling in the sample was occupied by other than the first owner/occupant, the interviewer attempted to locate the original owner. It was often possible to do this since many were still living in Prince Edward Island. If we were not able to locate them, they were recorded as moved. If we couldn't locate the dwelling, or the dwelling was unoccupied, they were recorded as "can't locate".

Because respondents classified as moved weren't interviewed, it is impossible to deduce much from this very interesting category. It appears to be more frequent among rural/village respondents; 76.2% of all movers were from this category. There is also a concentration of movers among the $21,000 - $30,000 dwellings, but since we do not know if they moved seeking work elsewhere or perhaps lost the house through inability to meet payments, it is difficult to speculate about the nature and importance of movers.

1.4.1.4 Coding Errors

All but one of the 24 coding errors were from the universe, that is, from the lists obtained from the Department of Community Affairs or from the local communities. This is quite important, because these sources are the same ones used in other surveys - for example, Statistics Canada's census of building permits, and CMHC's starts survey. The roughly 5% error in these data are far from statistically insignificant. Table 10 presents these errors by community type and county. The most serious errors appear in rural Prince. These permits are the responsibility of Community and Cultural Affairs.

As a result of the downturn in housing activity since mid 1979, most builders in Prince Edward Island are out of business, or operating at a fraction of their pace of earlier years. There were relatively few large scale builders operating on a speculative basis during the 1978-81 period, and as was discussed in Chapter 1, none of these are operating today. Because of the small number of speculative builders and, in turn, the relatively small-scale operations of those who did build speculatively, there were not many unsold speculatively built homes in the sample.

The underlying reason for this situation is that the characteristics of the Prince Edward

Island market do not provide much opportunity for speculative builders. Many of the dwellings built speculatively were directed towards AHOP or were eligible for the provincial land subsidy, which decreased the probability that they would remain unsold. Speculative building is confined to the urban areas. Thus, six of the eight unsold dwellings were in the Charlottetown suburban area, one was in the Summerside suburban area, and the remaining unsold dwelling was near the boundary of the Charlottetown suburban area.

1.4.1.5 Cannot Locate

Surprisingly, a significant number of the dwellings or first occupants which could not be located were in the suburban areas. This arose from the methods used to locate the sample. Where a contractor had been issued a building permit, the interviewer was instructed to interview the first purchaser of the dwelling. However, contractors found it difficult to identify a particular dwelling from amongst a number they had built. Property numbers were also of limited use since the number appearing on the permit would have been the number assigned to the entire parcel prior to development and subdivision. (It is only necessary to formally subdivide the parcel when a sale is made). In the course of the non-start survey, methods were developed for circumventing this problem which would be useful to others involved with this type of research. This is reported on separately.

1.5 RELIABILITY OF THE SAMPLE

The model of sample error, although a highly misleading term, is based upon Kish's notion of total error or Total Survey Error. This includes both variable error in estimates due to sampling and non-sampling sources, as well as, bias (primarily due to measurement errors of a sampling and non-sampling nature). The sample errors (standard errors), as previously noted, were relatively low. The low standard errors also reflect the low non-sampling errors.

Non-response, in general, was equally distributed across the sample and randomly in the Strata with the exception of a part of the stratum in Prince County. However, stratum means did not appear to be affected on other variables (eg., value of dwelling, etc.).

The sampling strata were nearly equal to the Census results as noted in previous tables in this chapter. Moreover, we should note the 2nd and 3rd moments of the distribution of a number of variables reflect similar tendencies in skewness and kurtosis.

Since non-starts comprise a major percentage of the non-response in the sample and are

not significant to the findings or estimates, their effects are assumed to be negligible on the standard errors due to their random distribution. In addition, field bias was considered to be negligible since interviews were structured, supervised and reviewed periodically.

Processing bias, on the other hand, appears to be a bit more variable. Difficulties were noted on several questionnaire items and are noted in the discussion of the results. We expect that this has raised the standard errors slightly, although it was not systematically examined. Coding errors were exceptionally low (under 1%) due to strict coding policies.

The precision of the sample based upon variable error (standard error), although not calculated for all variables in the survey, is apparently low. In some cases the differences between standard errors of the Census and other surveys was calculated at 2% to 6%. In fact, we may conclude that the variable error underestimates the population values in many cases. Accuracy, on the other hand, varies with the variable in question. Constructed variables appear to have slightly more problems with measurement reliability than do standard items (age, income, occupation, etc.). In fact, questionnaire items and coding policies seem to indicate a negative bias in the overall survey.

APPENDIX 3.2
EVALUATION OF CMHC HOUSING STARTS ESTIMATE

There are two measures of new construction activity: CMHC's annual estimate of new dwelling starts and the Statistics Canada survey of building permits. The CMHC survey is the one commonly used as an economic indicator and in housing research. However there have been problems with that survey and this has raised questions about alternatives. The purpose of this Appendix is to illustrate that there were serious problems with the CMHC survey in the Maritime Provinces, Newfoundland and Saskatchewan.

This is important in this research because residual financing is taken as an indicator of relative levels of self-help provisioning (see Chapter 3). As its name implies, residual financing is a catch-all of financing sources who share one element in common: they are not from sources approved to issue mortgage loans under the National Housing Act. Thus the residual may include some mortgage financing, but in general is comprised of non-mortgage sources.

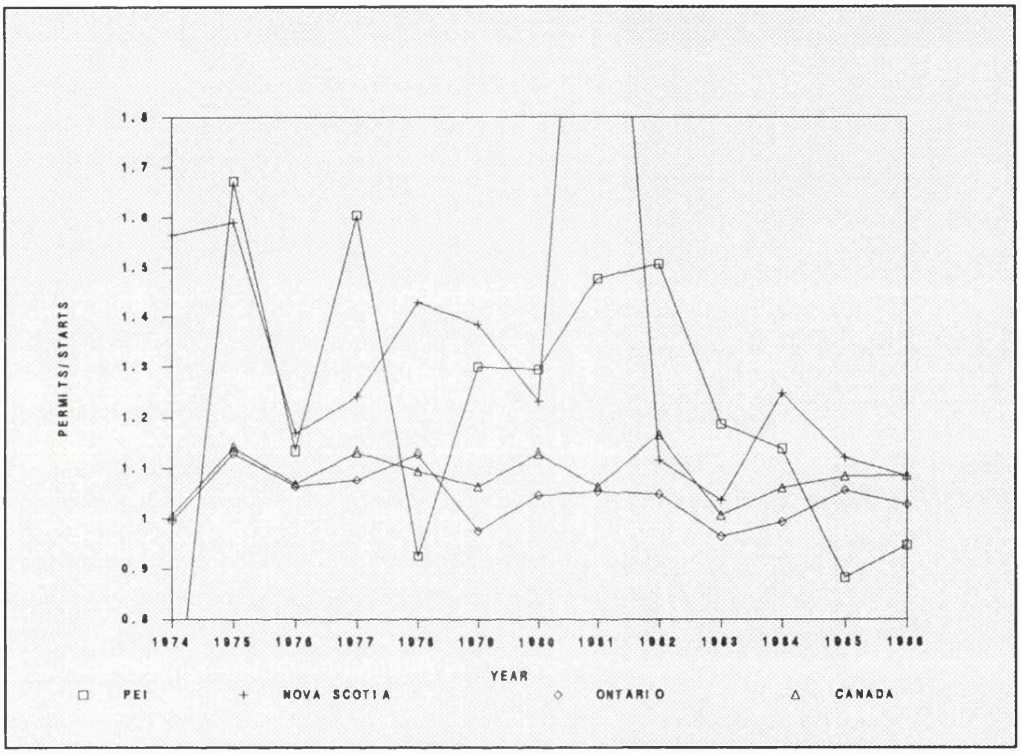
The residual is calculated by deducting starts financed from NHA sources from total starts. This residual calculation gives the name to residual financing (Rowe 1981). It is thus critical that the estimate of total starts is as accurate as possible. Unfortunately, as will be shown below, the estimate of total starts is not always as accurate as one might wish.

Until the early 1970's, the coverage of the building permit survey was too small to permit its use in evaluating the reliability of the starts survey. However, by the early 1970's it covered 88 percent of the Canadian population. Unfortunately, in both New Brunswick and Newfoundland, the coverage was (and is) still too low in the early 1970's to allow comparison. Consequently those two provinces are excluded from this discussion. However since both provinces have expressed great concerns with the survey (New Brunswick conducted its own survey for several years) and since those concerns are very similar to the ones voiced by P.E.I., it is likely that the results of this analysis will also hold for New Brunswick and Newfoundland. In addition, the coverage in Manitoba and Saskatchewan is also too low to allow separate analysis and they have been aggregated with Alberta as the Prairie Provinces.

Not all building permits will result in a new housing start. Consequently the building permit survey (BPS) will overestimate actual housing starts. But with the high proportion of the population covered, the BPS should bear a consistent relationship to the housing starts survey (HSS).

The first step in the analysis is to inflate annual building permits to 100 percent coverage using annual provincial estimates of coverage. For example, if permits recorded for Province X were 500 in 1975, and coverage were 90 percent, then the inflated estimate of total permits with 100 percent coverage would be 500/.9=555.55 or 556 permits.

Figure 9: Ratio of Building Permits to Starts, Single Detached Dwellings, 1974-86



Secondly, inflated provincial building permits are then divided by estimated starts from the HSS. The resultant should be greater than one since permits should logically exceed starts. There are no apparent reasons why there should be very great differences in the ratio of permits to starts amoung provinces, yet as indicated in Figure 9, there are some wild oscillations including ratios below one. Only Ontario and Canada are presented for comparison in Figure 9, however, the results for Ontario, Quebec and B.C. are consistently about 1.1, similar to those for Canada as a whole where the impact of the rather dramatic results for P.E.I., Nova Scotia and the Prairies are dampened.

Where there are wild fluctuations it can either be that building permits are overestimated, or that housing starts are underestimated (or both). Since the P.E.I. BPS reached 96.49 percent

of the population in 1974 and the Nova Scotia BPS 95.69 percent in 1975 they are more likely to be reliable than is the HSS which is based on a stratified sample whose results are weighted differently for each of four strata (low and high urban and rural population growth). Weights are based upon inter-censual population change and strata are selected in consultation with local offices of CMHC. Any sudden change in population growth in an intercensal period would throw off the weighting system. This occurred in P.E.I. in 1974-75, where Crossroads was selected as a low rural growth strata and thus was heavily weighted, and was the centre of rapid and sudden suburban growth. This had considerable impact on the HSS estimates for P.E.I. in 1974 and 1975.

It is also likely that CMHC overreacted in subsequent years leading to the very low residual then.

Table A32.1: Comparison of Coefficient of Variance for Starts and Permits, by Province

Province	Source of Data	Mean	Standard Deviation	Coefficient of Variance
P.E.I.	Starts	332.8	71.13	.8147
	Permits	398.4	147.30	.3697
Nova Scotia	Starts	593.2	459.57	.7747
	Permits	2,052.0	235.68	.1149
Quebec	Starts	13,027.67	1964.14	.1487
	Permits	14,166.17	2038.07	.1439
Ontario	Starts	7,201.17	4055.03	.5624
	Permits	8,629.00	3979.11	.4611
Prairies	Starts	7,896.33	2256.99	.2858
	Permits	16,912.33	2806.89	.1660
British Columbia	Starts	8,616.83	1295.26	.1503
	Permits	9,443.67	1178.38	.1248
CANADA	Starts	41,147.50	8992.59	.2186
	Permits	52,883.17	5930.07	.1121

The two sources can also be evaluated by calculating the coefficients of variance for provincial and national estimates for the two sources. Moreover, since starts from conventional and public sources are reliably known, most of the error, if any, in the HSS will show up in the residual. Table 1 presents selected statistics for both surveys by province, where appropriate.

There is a very significant reduction in variance if building permits are used as an estimate of housing starts in Nova Scotia P.E.I. and the Prairies. This would support the view that the HSS underestimates new housing construction, and consequently, also underestimates the size of the residual. This would explain the very low residual, for example, in P.E.I. for the 1973-85 period. It would also explain some of the volatility which can be noted in some provinces, for example, in Nova Scotia in 1973, only 3 of 3570 starts were residually financed, while two years later 1314 of 4432 single detached dwellings were residually financed.