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**CHANGES IN FAMILY FORMATION RESULTING FROM TRENDS IN
THE RELATIVE COST OF HOUSING, 1951-1991:
IS THERE A CASE TO BE MADE?**

by

Margaret D. Adsett

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements of the degree of**

(Doctor of Philosophy)

Department of Sociology and Anthropology

**Carleton University
Ottawa, Ontario
September 23, 1994**

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COST OF HOUSING, 1951-1991: IS THERE A CASE TO BE MADE?

submitted by

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in partial fulfilment of the requirements
for the degree of Doctor of Philosophy

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Abstract

The purpose of this work is to ascertain the plausibility of a relationship between the relative cost of housing (relative to income) and trends in family formation between 1951 and 1991. Trends in family formation include data related to both marriages and births. An acquisition approach is used to measure the cost of housing and estimates of after-tax family income per earner per family are compared with these costs over time, and with trends in family formation. Since housing is a relatively new variable in the study of trends in family formation, it is set in the context of the two most popular theoretical frameworks for investigating fertility trends in this century, Demographic Transition Theory and Easterlin's Theory of Relative Income. Housing is also set in the context of the several popular atheoretical explanations of fertility decline. The study concludes that there is a case to be made.

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Any shortcomings of this dissertation are of course, all mine. In fact, sometimes I had to fight for them.

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Glossary of Acronyms and Abbreviations

AHOP	Assisted Home Ownership Plan
CBR	Crude Birth Rate
CMHC	Canadian Mortgage and Housing Corporation
CPI	Consumer Price Index
DTT	Demographic Transition Theory
GFR	General Fertility Rate
HHLD	Household
HIFE	Household, Incomes, Fixtures and Expenditure Survey
HO	Home Ownership
LFP	Labour Force Participation
LVR	Loan to Value Ratio
MLS	Multiple Listing Service
NHA	National Housing Act
NHPI	Statistics Canada's New House Price Index
NIEA	National Income and Expenditure Accounts
OPEC	Oil Producing Embargo Countries
PDI	Personal Disposable Income
SEPH	Survey of Employment, Payrolls and Hours
SCF	Survey of Consumer Finance
STC	Statistics Canada
TRI	Theory of Relative Income
TFR	Total Fertility Rate

Changes in Family Formation Resulting from Trends in the Relative Cost of Housing, 1951-1991: Is There a Case To Be Made?

Introduction

Much has been written about declining birth rates in the Western World over the last several decades, and even over the last century. Almost as much has been written about increases in the average age at first marriage and overall declines in first marriage rates since the post World War II baby boom (see Wadhera and Strachan, 1992; Wadhera and Strachan, 1992a; Sweet and Bumpass, 1987; Neutze and Kendig, 1991; and Rodgers and Thornton, 1985) and how both trends affect fertility (see Loh and Ram, 1990; Bumpass *et al.*, 1978; Romaniuc, 1984; Cutright, 1973; Bumpass and Mburugu, 1977; and Ryder 1980). However, little attention has been paid to the role which the cost and supply of housing might have played in influencing either birth rates or marriage rates, and thus family formation in general (but see Thompson, 1939 and United Nations, 1973). In fact, housing has generally been ignored in the social sciences as an explanation of social (or demographic) phenomena (see Kemeny, 1992; and Myers, 1990). The purpose of this project is to integrate the issue of housing costs (and to a certain extent housing supply) into questions related to family formation, particularly reproduction; and then address the question of whether or not relative costs in housing have changed in a manner

consistent with the hypothesis that they have affected family formation.¹ However, first I want to demonstrate why a new explanation is needed by outlining briefly the following: (1) some of the deficiencies in the four most common explanations of present day fertility trends and (2) how housing interrelates, if not also enhances, these explanations.

One of the most popular explanations of fertility decline today is the rising cost of raising children. The literature has focused on changes in the actual or projected amount of dollars spent over the course of childhood, including opportunity costs associated with women's labour force participation (e.g. Henripin and Lapierre-Adamczyk, 1986; Henripin, 1989; Dionne, 1989; Gauthier, 1987; Borg, 1989; Becker and Lewis, 1973; Willis, 1974; Becker 1960; and Blau and Robins, 1989) and on changes in costs arising out of the changing socio-economic status of the child (Caldwell, 1980 and Caldwell, 1982). Much of the work in the former vein has been either policy oriented or in line with Gary Becker's "new home economics" approach.

In the "new home economics" approach, children are treated like any other consumer good in competition for the money and time of parents. This analytical treatment of children is an example of one of those premises which, as Busfield and Paddon (1977) explain it, takes as given, phenomena which influence childbearing;

1

Family formation is defined, for the purposes of this study, as the act of marrying and/or having children by child birth or adoption.

and therefore, phenomena which ought to be explained. How is it, for example, that children have come to compete with consumer items, for the time and money of parents? Were not the parents of the baby boomers also consumers? While the treatment of children as competing consumer goods might be valid for the present day, is it really valid for other time periods, e.g. 1950s? In part because of the treatment of children as competing commodities or consumer goods, the "new home economics" approach is not very useful in and of itself for explaining change. Busfield and Paddon put it this way: "certain premises have only a narrow historical and cultural application thereby narrowing the potential range and application of their theories." (Busfield and Paddon, 1977:44).

The "new home economics" approach can also be criticized for other assumptions about human behaviour which are required for conformity with classical economic theory, e.g. all humans behave rationally, all use contraception, all have perfect knowledge of contraception, all use contraception without failure, etc. (see Busfield and Paddon, 1977 and Caldwell, 1982). Thus, the question of why reproductive behaviour became "rationalized" is left unanswered. As Caldwell (1982) argues at some length, what constitutes rational reproductive behaviour varies across time (as well as space). Certainly the reasons for reproductive behaviour becoming "rationalized" are part and parcel of the reasons for the decline in the average number of children per family over the last several decades. In addition, the "new home economics" approach assumes more freedom of choice in decision making than

actually exists, downplaying the social and cultural context and norms which shape decision making. In other words, the choice to have a third child may have been easier to make in the 1950s than the 1970s because children were more valued, because housing suitable for families with three or more children was easier to obtain, or because home ownership was not as potent a symbol of middle class status in earlier times. In fact, the argument could be made that what is important in understanding trends in family formation is not simply the decisions of individuals within families but factors outside the family, such as the foregoing, which shape those decisions.

As for the "changing socio-economic status of the child" explanation, the argument is that children have become more expensive to raise because the increased amount of schooling needed to prepare children for adulthood has increased their number of years of dependency (Caldwell, 1980 and Caldwell, 1982). A similar argument is that children are of less value today relative to yesterday because in the past they fulfilled roles which have been overtaken by social programs such as workman's compensation and pensions (Cain, 1981). However, much of this genre of explanation can be criticized for hinging on what some would refer to as an incorrect portrayal of children in the past (see Cleland and Wilson, 1987; Smith, 1981; and Smith 1986). For example, Smith (1981) and Smith (1986) argue that children did not perform the social safety net role they are said to have performed. Similarly, Sutherland (1976) and Katz and Davey (1978) suggest that when compulsory

education became law, children were not self supporting; they were put in school in order to get them off the streets (i.e. they were not taken out of productive labour). On the other hand, the argument can also be made that children still fulfill the social security role but now do so at the group or cohort as opposed to individual level. Since this point is returned to later, I do not discuss it further here.

The "changing socio-economic status of the child" explanation as well as the "new home economics" approach, can both be faulted for not taking into consideration the possibility that an increased number of dollars might have been showered on children, especially middle class children, as parents have had fewer and fewer children on which to spend their money. There is also the possibility that parents are attempting to increase the life chances of their off-spring in the sense of class maintenance or class mobility in times of diminishing prospects. Also, if children have become more expensive to raise, it might be indicative of losses between labour and capital, in the sense that as capitalism has evolved, the increased costs of reproducing ever more expensive labour power have been borne by labour rather than industry or the state (see Freedman, 1963 and Potter, 1983). Both the "new home economics" approach and the "changing socio-economic status of the child" arguments over look this possibility. Finally, the plentiful baby boomers (e.g. those born between 1940 and the 1960s) were surely more costly to raise given their level of education and material culture than several preceding generations which produced fewer children on average per family as well as overall (those born between

1920 and 1940). These final two points lead to the issue of incomes or relative costs. In other words, is the issue the cost of children or choice between children and other consumer items, i.e. consumerism, or is the issue simply that incomes have not kept pace. There is a growing recognition of the role of the latter in fertility decline (e.g. Easterlin, 1980; Romaniuc, 1984; Berger, 1989; Kettle, 1980 and Ebanks in Veevers, 1983). As part of that growing recognition, and contrary to the focus of the "new home economics" and "changing socio-economic status of the child" approaches, this dissertation focuses on an explanation more related to changes in relative income, i.e. change in the cost of housing relative to family income as well as family income per earner in the household.

Improved birth control technology or similarly the decriminalization of abortion is a second common genre of explanation of fertility decline (e.g. Grindstaff, 1985; and Balakrishnan, 1987). However, birth control and abortion are merely a means to an end. Western society has always had the means to control population. This includes abortion (which, while less safe in the past than today, was probably no less safe in relation to the dangers of childbirth in the past), infanticide, and neglect (see Himes, 1936 and McQuillan, 1987); the tightening of societal control over marriage (e.g. late marriage for the few - see Gillis, 1985 and Andorka, 1978); contraception (see Himes, 1936 and Reed, 1978); and banishment and migration (see Chesnais, 1986). The low birth rates achieved by English-speaking societies during the Great Depression, with technology inferior to that available during the post World War II

baby boom years (and with abortion absolutely criminal), speaks to the issue. After the birth control/abortion cum technology explanation is put forth, one is still left with the same basic question: why are people choosing to have fewer children.

A third popular explanation of declining birth rates is women's labour force participation (Grindstaff, 1985; Grindstaff, 1989; Butz and Ward, 1978; Chaudhry and Chaudhry, 1985; Oppenheimer, 1970; Balakrishnan *et al* (1979) and Balakrishnan *et al*, 1991). This explanation centres around role conflict or the idea that it is difficult for women to work in the labour force and raise children at the same time (see McDaniel and Code, 1988; Stolzenberg and Waite, 1977 and Grindstaff, 1989); and besides, being more educated than ever before, women have alternative ways to achieve self fulfilment (see Eichler, 1983 and Ryder, 1990).

The first problem with the labour force explanation is causality; the causality between women's labour force participation and reproduction can not be determined with available data, mostly cross-sectional. Halli and Rao (1987), using cohort data, do conclude that the "labour force participation of women seems to have less influence on fertility compared to <the> fertility effect on labour force participation" (Halli and Rao, 1987:8). However, their work is not definitive either. In other words, it has not been established whether fertility influences labour force participation or vice versa and in all likelihood, they are interacting variables over the life course.

A second problem with the labour force participation explanation is the fact that the country with the highest labour force participation rates for women in the Western World, Sweden, also a country with socialized child care (and low home-ownership rates - see Kemeny, 1978a and Kemeny, 1978b), is the first country in the Western World to recover from sub-replacement fertility levels (see Hoem, 1990). This raises the question of whether labour force participation or social support and infrastructure for families, particularly for childrearing, is the issue. This idea is further supported by the fact that women's labour force participation has been found to have a positive effect on the fertility of urban women in the Soviet Union (because of the relationship between the housing allocation which labour force participation brings them, and the positive relationship between such housing allocations and birth rates - see Heer, 1981).

One final problem with the labour force participation explanation is the fact that most women in Canada are in dead-end low paying jobs with little room for advancement (Wilson, 1986). This latter point along with the others, raises the question of what has shaped women's choice to enter the labour force - even into dead-end jobs with little opportunity for advancement - rather than to raise children. As I argue shortly, the rising cost of home-ownership could be an important factor shaping choices.

A fourth popular explanation in the literature is not always explicit, and that is that women are having fewer children (and men and women are marrying less and divorcing more) because of increasing individualism. Included here are "women's liberation" or growing "economic independence"; greater personal autonomy or "freedom" for both sexes; and greater choice for both sexes (see Lasch, 1979; Westoff, 1986; Keyfitz, 1986; and Burch, 1987). In the age of narcissism and all consuming commodification, young adults choose other pursuits or roads to self-fulfilment, including consumerism, over children.

The basic problem with "the choice" explanation is that it assumes that what people do is what they prefer to do in an absolute sense; as I point out elsewhere, all decisions are moulded by context. For example, women might indeed choose to work full time in the labour force rather than stay home for a few years and raise children because they have chosen to purchase a house in a city where rental accommodation is unsuitable. However, if housing were less costly, if suitable rental accommodation were available, if other women were staying at home to raise children and/or if there were a universal and inexpensive child care system which included adequate paid leave from the labour force, the choice might have been different. Another problem is the assumption of increased choice. As McQuillan (1987) points out, existing theory underestimates the reproductive choice that was open to individuals in the past and overestimates the degree of choice available today. As he states with regard to the latter, "people may be free to choose the size of their family but they increasingly

all make the same choice." (McQuillan, 1987:886). Preston (1987) debunks arguments of increased individualism from a slightly different angle:

"The spread of individualism increases the domain of behaviour within which socially neutral values are assigned. The rhetoric of individualism, first legitimated within the political domain, is conveniently available to justify the dismantling of earlier values when they are no longer serviceable." (Preston, 1987:188).

Both McQuillan (1987) and Preston (1987) suggest that notions of growth in personal autonomy should be abandoned; and that attention should be paid, instead, to how social institutions and social norms influencing demographic behaviour have changed. Lodh presents a similar point of view in stating that "we need, if we are to understand the convergence among reproductive behaviours of the peoples of western nations, to examine the convergence of intellectual, moral and aesthetic disposition of societies that do not reproduce themselves." (Lodh, 1987:4).

As I suggested at the start of this introduction, trends in housing costs and supply have the potential to take into account or link all of the explanations of declining fertility just discussed. Women's rising rates of labour force participation have been linked to increases in the cost of housing; two-earners have increasingly become necessary to purchase/finance a home (Kendig, 1984; Griffen-Wuff, 1982; Roistacher and Young, 1979; Gruen et al, 1982; Miron, 1988; Neutze and Kendig, 1991; and Myers, 1985). The motive behind the use of birth control/abortion (e.g. delayed childbearing) can in part be characterized as a need for women to better plan labour force participation and interruptions from it, as their incomes increasingly

become non-optional components of the family budget, to a great extent as a result of the high cost of housing, e.g. high carrying costs or the need for large down payments (see Hohm, 1984; and Romaniuc, 1984).

Increases in the cost of housing can even be linked to increases in the cost of children, particularly from the perspective of women's opportunity costs (i.e. many women have to consider how much if any time will be devoted to childbearing/childrearing as their labour force participation becomes increasingly institutionalized as a result of the high costs of housing). Another link between the cost of housing and the cost of children concerns the cost of space/land; children require space and space is a significant component of housing costs.

As for the argument of growing individualism, despite the fact that people are increasingly making the same reproductive and labour force participation "choices" (i.e. to work or not to work), I suggest that the high cost of housing and the ideal of owning a single-family dwelling before starting a family or at least owning a home at some stage in the family formation process (which I later refer to as the "nuclear family prescription"), are two factors which have been shaping the choices being made.

Thus, the purpose of this study is to integrate the question of housing costs into questions related to family formation as I have started to do in this introduction; and

then examine changes in the relative cost of housing in Canada between 1951 and 1991 (with "relative" referring primarily to trends in family income), in order to determine whether changes in housing costs might have affected trends in family formation (e.g. average age at first marriage and at birth of first child, marriages per thousand population and births per thousand women).² The primary interest is reproduction. While declines in birth rates are a result, in part, of individual women having fewer children, birth rates have also decreased in Canada (and other English-speaking countries) as a result of increases in the average age at marriage and decreases in the percentage of the population marrying (Loh and Ram, 1990; Bumpass *et al*, 1978; Romaniuc, 1984; Cutright, 1973; Bumpass and Mburugu, 1977; and Ryder 1980). The former affects completed fertility rates in the same way that delayed childbearing does, i.e. fertility delayed is fertility denied (see Wilkie, 1981). The latter, according to some estimations, has accounted for up to fifty percent of fertility decline at various places in the West and at various points in time (see Smith,

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Note that housing in this paper is used synonymously with home ownership. However, the term home ownership is not always used because the cost of home ownership implies ongoing costs when what will be looked at is more related to the cost of acquiring a home, i.e. of becoming an initial home owner. Also, trends in residential rental markets are not taken into consideration for the purposes of simplicity as well as for the following reasons: (1) as I argue elsewhere, the proscription for families in English speaking countries is ownership of the single family dwelling (Myers, 1982); (2) at least in Canada, the cost of rental accommodation has not increased as fast as house prices or home ownership costs over the time period which concerns this study, in part as a result of rent control (see Patterson, 1977; Goldberg, 1983; Fallis, 1980; Steele, 1993 and Miron and Cullingworth, 1983); (2) the rental market serves primarily singles, single parents and seniors in Canada as well as in most other English-speaking countries (Sweet, 1990; Karn and Wolman, 1992; Kendig, 1990; and Spain, 1990); (3) most couples in Canada and other countries which speak English, aspire to own a single family dwelling, particularly parents with children (Myers, 1982; Kendig, 1984; Couper and Brindley, 1985; Cooper, 1974; Fichel, 1988; Kendig, 1990; and Karn and Wolman, 1992); and (4) Canada (with perhaps the exception of Montreal) along with other English-speaking countries, during the time period which this study addresses, has not provided a good alternative for families, to ownership of the single family home (Kemeny, 1992; Kemeny 1981; Thorns, 1988; Karn and Wolman, 1992; Forrest *et al*, 1990; and Boivaird *et al*, 1985).

1981). It is because of these links between fertility and the timing and extent of marriage in the population that marriage data are included as well.

It is somewhat surprising that the effect of changes in the cost/affordability (as well as supply) of housing, on family formation, has not been given much attention in the social sciences, particularly in recent years, and particularly where fertility is concerned, because the literature points to such a relationship from many angles - theoretical, cultural and empirical. *Chapter 1, Housing and Family Formation: Theoretical, Cultural, and Empirical Underpinnings* situates housing in two theoretical frameworks used to examine trends in reproduction and then elaborates and provides evidence of the cultural link between housing and family formation.

The two fertility-related theoretical frameworks in which housing can be situated are two of the most popular frameworks of this century for examining trends in family formation, fertility trends in particular. These are *Demographic Transition Theory* (see Sharlin, 1986; and Cochran and O'Kane, 1977; Beaver, 1975; United Nations, 1973; Thompson, 1929; Thompson, 1939; and Chesnais, 1986) and Easterlin's *Theory of Relative Income* (see Easterlin, 1961; 1968; 1969; 1978; and 1980). Both of these frameworks can produce expectations of a housing/family formation relationship. A look at the notion of a nuclear family prescription in English-speaking societies leads to an understanding that the strong drive for homeownership even at the expense of family formation is not simply an issue of

consumerism or even choice. Moreover, family formation and household formation, including home-ownership are culturally linked such that the quest for home-ownership is usually not an end in itself but by cultural prescription, has become a road to family formation. Combined with the fact that governments in English-speaking societies have promoted home-ownership since World War II at the expense of rental accommodation for families, in the opinion of some, at any cost, gives further reason to expect that changes in the cost of housing will affect family formation.

Whether or not the relative cost of housing has increased since family formation indicators have changed in directions which reduce fertility (say from the late 1950s or early 1960s, depending on the measure used) is a complex question for which, as I already point out, there is no definitive answer in either the housing or demographic literature. Part of the reason for this is measurement problems on the housing side. There are many indicators but none which alone, totally answer the question at hand. Adequate data on income after-taxes are not available either, at least not in a long enough series, and this is unfortunate since increases in income taxes have produced the largest changes in family expenditure over the last few decades (see Statistics Canada, 1989). Similarly, aggregate disposable income and other aggregate income measures commonly relied upon to investigate changes in the cost of housing relative to income are confounded by age structure effects as well as changes in women's labour force participation. In addition, there are problems in the literature when it

comes to the affordability of housing for certain elements of the population such as young adults; blanket statements are often made about affordability or changing costs for the population as a whole without acknowledging that housing costs are front-end loaded and therefore would be higher for young adults. In other words, because aggregate cost data are affected by factors such as age structure of the population or time in the housing market, they do not adequately describe the costs to newer entrants to the housing market. These and other measurement issues are discussed in *Chapter 2, Measuring Change in the Relative Cost of Housing*.

In *Chapter 3, Trends in the Relative Cost of Housing*, indicators of housing costs used in the housing economics literature are discussed, constructed and analyzed. The basic question put forth in this chapter is, as in much of the economics literature, simply whether or not housing costs have kept pace with personal disposable income (PDI per capita) over time. Part of the value of this chapter rests in its demonstration of the inadequacy of past Canadian studies in addressing the issue of housing costs in a way which would facilitate a housing cost/family formation comparison.

The next step is to reanalyse the housing cost data in ten year time segments or and then in even finer time segments. This is undertaken in *Chapter 4, Trends in Family Formation and the Relative Cost of Housing*, where several family income indicators are constructed, e.g. after-tax family income and after-tax family income per earner, using 1991 constant dollars. A comparison of trends in the relative cost

of housing (relative to family income indicators) and family formation indicators is then made.

The methodology is straightforward once the trend indicators have been established; if trends in both sets of indicators move in a direction consistent with the hypothesis that there is a relationship between the relative cost of housing and family formation, then there is support for this paper's main thesis.³ Since fertility rates increased and the average age at first marriage decreased after World War II (see Romaniuc, 1984), until the late 1950s or early 1960s (depending on the indicator used), I expect the relative cost of housing to have been low, stable or increasing slowly relative to income in these time periods.⁴ By the late 1960s, most family formation indicators turned in a direction which decreases fertility (see Romaniuc, 1984). Thus, I expect the relative cost of housing to have increased around the end of the 1960s. Two of the reasons for expecting housing costs to have increased

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Note that it is not the intention of this dissertation to establish causality. As the title of the dissertation itself suggests, I am merely seeking to establish the plausibility of a relationship based on available data. Also, it is not the intention of this dissertation to produce a statistical model of the relationship between housing costs and family formation. This work is exploratory and a necessary precursor to such a modelling exercise. Finally, this dissertation is problem driven; while the research problem has been drawn out of sociological and demographic theory, and therefore has implications for theory, the dissertation itself does not involve theory testing.

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Two additional reasons why I would expect the relative cost of housing to be low during this time period are as follows: (1) because housing prices would have been low as a result of the house price deflation which occurred during the Great Depression and (2) because of the various government housing programs for war veterans after World War II.

around the end of the 1960s are increased housing standards and in particular, demographic pressure on the price of land and housing.

In short, if there has been a relationship between family formation and the relative cost of housing since World War II as Downs (1977) and Busfield and Paddon (1977) suggest there has been in the United States and Britain, respectively, then housing costs will increase relative to income just at or before the time that family formation indicators start to vary in a direction which decreases fertility (e.g. increase in the average age of marriage or decreases in age specific fertility rates). If costs do vary as expected, there will be support for the argument that rising housing costs (and a rising standard of living to the extent housing is an indicator of it) after World War II were initially paid for through wage increases (and government subsidies) but were later born by adjustments to the family and child bearing, adjustments which are associated with lower fertility, e.g. women's labour force participation, delayed childbearing and delayed marriage. This, in a nutshell, is the project pursued here.

Chapter 5, Theoretical Implications and Suggested Avenues for Further Research puts forth the conclusions to be drawn from this study as they relate to sociological, economic, and demographic theory. Suggestions for further research are also presented here.

Chapter 1: Housing and Family Formation: Theoretical, Cultural and Empirical Underpinnings

1.0 Introduction

As I mention in the *Introduction*, a relationship between housing and family formation is implied in two of the most popular frameworks since World War II for investigating fertility trends - *Demographic Transition Theory* (DTT) and Easterlin's *Theory of Relative Income* (TRI). A relationship is also implied by cultural prescriptions concerning family formation, i.e. the nuclear family prescription. In this chapter, I discuss the various ways in which the literature leads to the expectation that increases (or decreases) in the relative cost of the housing will affect family formation.

The first two sections deal with situating housing in the DTT and TRI frameworks such that these frameworks can more readily produce expectations of a relationship between family formation and the cost of housing or at least link the relative cost of housing and family formation with some third variable such as social class. The next two sections deal with the nuclear family prescription and the empirical evidence supporting it. These two sections provide additional support for the way in which housing has been situated within the DTT and TRI frameworks as well as additional support for the expectation that trends in housing costs (relative to

income) will affect trends in family formation. I begin with Demographic Transition Theory and the housing and family formation relationship.

1.1 Theoretical Underpinnings: Demographic Transition Theory (DTT) and the Housing/Family Formation Relationship

DTT is essentially a paradigm which evolved to explain some broad empirical regularities with respect to fertility and mortality rates in the history of most Western societies (see Beaver, 1975; United Nations, 1973; Thompson, 1929; and Chesnais, 1986). Despite its paradigm status, it is often referred to as a theory of long term fertility decline. Two of the empirical regularities are as follows: (1) that mortality and fertility rates have decreased over the course of the last century or two and (2) that fertility decline has followed mortality decline. The idea that all societies can be classified on the basis of crude birth and death rates into one of several stages of the demographic transition, e.g. pre-transition, transition and post-transition; underlies, often implicitly, almost all of the theorizing within this paradigm.

The theorizing to explain these empirical regularities has wandered without clear boundaries over a wide terrain since the early 1920's (see Thompson, 1929; Thompson, 1938; Anderson, 1986; Arango, 1980; Revenga, 1980; Matthiessen and McCann, 1978; Friedlander *et al*, 1991; Van de Walle, 1986; Beaver, 1975; United Nations, 1973; United Nations, 1990; Chesnais, 1986; Sharlin, 1986; Cochran and O'Kane, 1977; Piché and Poirier, 1990; and Coale and Watkins, 1986;), importing a great deal from various fields within Sociology, especially social stratification (see

Kasarda and Billy, 1985; Sobel, 1985; Davis, 1963; Davis 1967; Blau and Duncan, 1967). However, a linear and evolutionary type of explanation bringing into high relief, concepts such as modernization, industrialization and urbanization, has been a strong undercurrent of the paradigm since World War II (see Beaver, 1975; United Nations, 1973; United Nations, 1990; Chesnais, 1986; Sharlin, 1986; and Cochran and O'Kane, 1977); and this undercurrent has generally been referred to in the literature as "modern DTT".

Essentially "modern DTT" leads to expectations of a housing/family formation relationship from two major angles. The first major angle comes out of the modernization and industrialization theses of DTT. Under these theses one can find explanations of fertility decline related to the movement away from subsistence living, the expansion of the market economy, and the rise in the standard of living; all of which can be referred to as different references to the same underlying phenomenon, a rising cost of living. A rise in the standard of living leads to an expectation of a housing/family formation when the interrelation between standards and costs is acknowledged; when housing is seen as an indicator of standard of living at both the individual and societal level; and when housing is seen as a symbol/indicator of social class or to use Hirsch's (1977) term, "a positional object"⁵. A rise in the cost of housing, whether due to rising housing standards or other factors, leads directly to the

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There is a substantial body of work in the housing literature which supports the use of housing as an indicator (or symbol) of social class (Saunders, 1990; Forrest et al, 1990; Rakoff, 1977, Williams, 1987; Cooper, 1974; and Adams, 1984).

same expectation when housing is seen as an indicator or symbol of social class. The second major angle from which DTT leads to the expectation of a housing/family formation relationship arises out of the urbanization thesis. While many have written about the urbanization effect on fertility through time and across space, few have actually articulated what that effect is (but see Cochran and O'Kane, 1977). One can derive from the urbanization thesis an explanation of fertility decline related to the effect of population density (or pressure) on the value of land and/or housing. These are discussed in further detail below.

1.1.1. The Modernization or Industrialization Thesis and the Housing/Family Formation Relationship

To understand the first way in which DTT leads to the expectation of a housing/family formation relationship, the ideas of class mobility and class maintenance need to be considered (see Kasarda and Billy, 1985; Sobel, 1985; Davis, 1963; Davis and Blake 1956; Blau and Duncan, 1967). One basic argument of DTT has been that with the movement away from subsistence living and the expansion of the market economy, individuals were provided with opportunities (i.e. social mobility) which had not previously existed but which required increased levels of education and smaller families if they were to be taken advantage of. However, fertility reduction for the purposes of maintaining ones social class position, while perhaps a less popular concept as far as DTT is concerned, is an equally plausible outcome of a movement away from subsistence living, an expansion of a market economy and a rising standard of living, particularly if these changes have cost

implications, as they usually do. Taking housing as an indicator of societal and individual level standards of living leads to the expectation that people will have fewer children in order to maintain their class position as the relative cost of housing increases due to increases in standards.

A class maintenance strategy through demographic accommodation given rising standards in housing is one that might be particularly appropriate for describing the experience of young middle class adults today. Because ownership of the single-family dwelling has become a standard (in the sense of normative) in English-speaking societies, for membership in the middle class (Forrest et al, 1990; Forrest, 1983; Saunders, 1990 and Rakoff, 1977), one can expect a situation of increased pressure on young people to purchase a house regardless of rising costs. In order to afford a home in days of high housing costs, various family adaptation strategies, which I refer to as demographic accommodation, are used, e.g. women's labour force participation and delayed childbearing.

Expectations similar to those when housing is considered an indicator of standard of living arise when housing is seen as an indicator or symbol of social class. People can be expected to have fewer children in order to purchase a house suitable to their class position in days when what is considered suitable rises in terms of standards. This was essentially what Thompson, one of the grandfathers of DTT, had in mind when he wrote the following:

"Since moderate apartments or houses of a size adequate for three and four child families are beyond the means of most <Americans>, many families find themselves in the dilemma of being forced to choose whether they will maintain the standard of housing they consider essential to their position and have but one or two children or will move to poorer quarters in less desirable neighbourhoods and have more children. In a community where economic status is highly prized and is judged to a considerable extent by the housing one uses, it is inevitable that many, perhaps most, people will choose to maintain their housing status at the expense of curtailing their families." (Thompson, 1938:364).

People wishing to raise their social class would do likewise. In other words, people will have fewer children in order to raise their housing standards (e.g. relative to the type of housing their parents had) to that suitable for people in a class higher than their origin class.

The social mobility strategy through housing would be particularly applicable to describing the situation of lower middle class or "working class" Canadians since World War II. Moreover, government initiated expansions of home-ownership through the expansion of mortgage markets in English-speaking countries have meant putting home-ownership (by indebtedness) within the reach of people further down the social ladder. This entrance to the middle class through home-ownership (or this new standard for "the working class") could have required an adaptive response on the part of families, such as delayed child bearing (and the fertility reduction this usually entails) and increases in women's labour force participation.

The idea of increased standards through the expansion of home-ownership down the social ladder joined with the idea that housing serves as an indicator of social class

leads to yet another fertility reduction scenario. Increased pressure could have been placed on those in higher classes in the form of expensive housing since positional objects can only be held by a minority (see Hirsch, 1977). In effect this is another class maintenance through demographic accommodation strategy given rising standards.

Most of the above ways in which housing has been situated in DTT give salience to the concept of rising standards of living/housing, positioning costs as an intervening variable, even though cost is the operative variable, e.g. rising standards of living/housing could not be held responsible for a family adaptation strategy which results in delayed marriage or childbearing if such standards did not have cost implications. However, it is equally plausible for increases in the cost of living to occur independent of rising standards. As I mention earlier, a movement away from subsistence living and an expansion of the market economy also imply rising costs, costs which indices such as the Consumer Price Index (CPI) can not adequately measure.⁶ In fact, while rising standards have been a large factor behind rising house prices, in more recent decades, the cost of land, and more recently still, the cost of mortgage credit are also important factors. In other words, increases in the real cost of living, particularly increases in the cost of housing, have an explanatory value vis-à-vis fertility or family formation which is independent of rising standards.

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This is because the CPI attempts to measure change in the price of a constant basket of goods while what is being talked about here is a change in the size of the basket.

As a pure cost effect, the issue is change in the cost of a positional good or commodity which greatly reflects one's place on the social ladder. Either way, the consequences are the same, e.g. family adaptation for the purposes of class maintenance.

In summary, I have situated housing in several ways with in the first angle of DTT, the modernization/industrialization angle, to produce expectations of a relationship between the cost of housing and family formation. Housing costs have been positioned as an intervening variable between family formation and rising housing standards. They can also be positioned with family formation and class maintenance or social mobility. While it is not the intention of this project to deal with questions related to changes in the class structure in Canada, a key question which falls out of the DTT framework in the end, concerns class maintenance. That is, have rising housing standards, which have been linear since at least World War II, been paid for through rising real family incomes. Since housing can be used as an indicator of standard of living, a second question is have rising standards of living in general been paid for through increases in family income. If they have not, an alternative explanation might be that rising standards have been paid for through taking time out of what was once the childbearing cycle (i.e. through women's labour force participation and delayed childbearing). If there is support for this alternative explanation, then there is also support for a class maintenance through demographic accommodation argument. I have also demonstrated that a class maintenance strategy

through demographic accommodation also falls out of DTT when changes in the cost of housing are considered as the initial explanatory variable and housing is viewed as a positional good or an indicator or symbol of social class. I now turn to the second major angle from which DTT leads to expectations of a housing/family formation relationship.

1.1.2. The Urbanization Thesis and the Housing/Family Formation Relationship

Generally speaking, population pressure or increases in population density have been found to increase the value of residential land as well as the price of the housing which resides on it. The relationship between urban growth, population pressure and rising house prices in particular, is well established in the fields of urban geography and housing economics (De Salvo, 1977; and Miyake, 1992). As societies become more urbanized, population density increases and so does the value of land and therefore housing, all things being equal⁷. However, the same argument holds even when land is excluded. By virtue of simple laws of supply and demand, population pressure/density increases the demand for housing and mortgage credit and thereby increases the cost of housing, housing credit, and yet again housing (see Goldberg,

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For example, land costs, for a National Housing Act (NHA) financed house, increased by 461.5% between 1961 and 1981 while the cost of constructing the average square foot of a new NHA house increased by 256.3% (see Goldberg, 1983: 30). In addition, for 25 urban areas in Canada, land costs as a percentage of the cost of a new single detached family dwelling financed under the NHA increased from 17.2% in 1966 to 22.8% in 1971 to 28.9% in 1976. The corresponding figures for Ontario . . . 19.8%, 26.0% and 33.7% (see Goldberg, 1983: 24). Since the location of NHA homes has continuously moved further and further into suburbs, where land is cheaper and away from the core of urban areas, where land is more expensive, these statistics under-estimate the full extent of increases in residential land prices.

1983). Family formation (reproduction and marriage) can be seen to be influenced in turn, in ways discussed earlier when the relative cost of housing increases. While this relationship has not been tested over time, it was a question posed by Thompson:

"If more thorough investigation into the motives of family limitation should prove that the differential in the birth rates of urban and rural communities is due chiefly to the differences in living conditions, because of their differing densities, then the very maintenance of our population may depend on making rural living conditions available to a larger part of our population." (Thompson, 1938:365).

In addition, there is evidence of such a relationship existing spatially, even today. The cost and affordability of housing generally varies by size of urban centre in Canada, just as fertility does; and just as the cost is generally higher and affordability less in urban cores relative to fringes, so is fertility (see Balakrishnan *et al*, 1991; Che-Alford, 1990; Bird, 1990; and Brady, 1992).

Since Thompson's earlier work (1938), little attention has been paid, either within or outside the DTT framework, to the relationship between the cost of housing and family formation over time; or for that matter, between population pressure/density, the cost of land/housing and family formation. The United Nations (1973) is an exception at least with respect to the availability of affordable housing and family formation. Also, there are several studies which have confirmed that there is an inverse relationship between population density and fertility (Friedlander and Silver, 1967; Heer, 1971; Heer, 1966; Felson and Solaún, 1975; and Heer and Boynton, 1970). However, explanations other than an increase in the cost of land or

housing have often been used to explain the accompanying fertility effect, e.g. psychological stress, and the spatial dispersion of people by demographic characteristics such as age, marital status and socio-economic status.

The neglect of the cost of land in the urbanization/family formation thesis is undoubtedly related to the paucity of trend data on the value of land in English-speaking countries, as the OECD has recently pointed out (see MacLennan *et al*, 1992). The neglect of the cost of housing in this same thesis is undoubtedly for reasons posed by Kemeny (1992); housing research has been overly driven by housing policy concerns, resulting in what Kemeny calls "epistemic drift"⁸. Heer (1966), however, was close to the thesis being discussed here when he pointed out that "the cost of living space is no doubt roughly proportional to population density ... the higher the cost of space, the higher the cost of children ..." (Heer, 1966:441). However, the effect on the cost of children need not be the mechanism. As was already mentioned, the effect could also be the use of time from what was once the childbearing stage, for housing acquisition. Either way, the urbanization/family formation thesis is not investigated in this work because of inadequate data on the value of residential land (see MacLennan *et al*, 1992) and population density (see Keddie and Joseph, 1991) over time (especially as the latter relates to the processes of

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"Epistemic drift" is a term Kemeny has borrowed from Elzinga *et al* (1985) to describe "the way in which discipline-based concerns become subtly redefined by an almost imperceptible exertion of long-standing influence upon academics by policy-makers... [it] can be seen as a process of de-conceptualization..." (Kemeny, 1992: 16).

de-urbanization and suburbanization). It is now time to look at how the *Theory of Relative Income* (TRI) leads to the expectation of a housing cost/family formation relationship.

1.2 Theoretical Underpinnings: Easterlin's Theory of Relative Income and the Housing/Family Formation Relationship

Easterlin's *Theory of Relative Income* (see Easterlin, 1961; 1968; 1969; 1978; and 1980) has probably inspired more research in the area of family formation and relative income than any other framework or theory (see Behrman and Taubman, 1989; Lee, 1976; Wachter, 1989; Berger, 1989; and Kahn and Mason, 1987). TRI postulates that trends in family formation can be equated with trends in the relative wages of young men (relative to the previous generation), which in turn can be related to generational cohort size. Basically, those born into small cohorts, such as those born during the Great Depression, would have high wages because of labour supply factors and consequently, high family formation rates. Similarly, those born into large cohorts (e.g. those born in the 1950s and 1960s) would have low wages, especially relative to the previous generation, and thus low family formation rates. This creates a cyclical and interrelated dynamic between demographic and economic change over time.

An important component of Easterlin's argument is "taste for a standard of living". Easterlin (1980, 1978, 1969, 1968 and 1961) argued that each generation

aspires to have the standard of living of the previous one, with the standard of living to which individuals of new generations aspire, having been formulated in their parents' homes during late childhood or adolescence. There is probably no single commodity which determines one's standard of living more than housing; as I have already pointed out there is a substantial amount of literature upholding housing as symbol and indicator of social class. Part of the reason for this is undoubtedly related to the fact that housing is the biggest single purchase that most families will ever make (Adams, 1984) as well as the second largest component of the family budget (after food)⁹. In any case, the literature makes abundantly clear the fact that ownership of a single-family dwelling is the aspiration of the overwhelming majority of young adults in English-speaking countries, especially for those contemplating marriage or having children (Myers, 1982; Kendig, 1984; Couper and Brindley, 1985; and Karn and Wolman, 1992); and not coincidentally, that the majority of young adults, including the baby boomers, were brought up with parents who owned their own homes (see Hohm, 1984). Yet, changes in the relative cost of housing (relative to income) have seldom been an explicit focus in the works of either Easterlin's proponents or opponents (Hohm, 1984 and Levy and Michel, 1985 are two exceptions in this regard).

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Shelter costs alone constituted 22% of household income for tenants and 20% for owners with a mortgage in 1986 (see Bird, 1990 and Statistics Canada, 1989). Since the cost of home ownership is front-end-loaded, young people and other new entrants to the market often pay a substantially larger share of their income for housing than the 20% figure would suggest.

The question of changes in the relative cost of housing not only relates to Easterlin's "taste for a standard of living" but also feeds back into his "relative income hypothesis" in the form of "purchasing power". Despite the literature's focus on Easterlin's relative income hypothesis (relative to the previous generation), the intersection of costs and wages (e.g. purchasing power), particularly as it relates to housing, is probably more germane to the issue of family formation than simply relative income. This is precisely the track which Weeks (1992), Hohm (1984) and Levy and Michel (1985) take in interpreting Easterlin's theory. In fact, one can expect generational cohort size to have affected the relative cost of housing for young people in a way similar to which Easterlin argued generational size would affect the wages of young men. The large supply of labour would translate into a large demand for housing which would affect the demand for credit (and therefore interest rates), the value of land, as well as the pure cost of housing (e.g. construction costs and labour), all things being equal.

Thus far I have discussed how housing can be situated in two theoretical frameworks for explaining fertility trends, DTT and TRI. While I have given several examples of how housing can be situated in DTT, one situates fertility reduction as a class maintenance strategy in the face of rising housing standards. The class maintenance strategy is essentially demographic accommodation. However, rising housing standards need not be the sole instigator. Others are the rising cost of land, housing and mortgage credit as a result of demographic pressure. TRI can similarly

raise the question of the relative cost of housing and fertility reduction (or reduction's in family formation activity in general) but does so on a generational cohort basis and in many ways also speaks of class maintenance (i.e. taste for a standard of living and the low wages for young men from large cohorts). The analysis to be undertaken in this dissertation thus arises out of these two theoretical frameworks and it is expected that results will have a bearing on them. While most of the indicators which will be used in this study will be cross-sectional, the TRI framework clearly necessitates a cohort approach. Thus, a time segment or quasi-cohort approach is taken in Chapter 4. In the next section I discuss the concept of a nuclear family prescription in English-speaking societies which links changes in the cost of housing to changes in family formation at the level of culture.

1.3 Cultural Underpinnings: the Nuclear Family Prescription

In the previous section the argument was made that fertility decline in English-speaking societies could be a result of delayed marriage and childbearing resulting from the increased cost of housing, i.e. more and more time out of what was once the childbearing cycle is needed in the form of women's labour force participation to pay for housing acquisition, i.e. down payments and/or mortgages. In the context of class maintenance or class mobility the answer to the question of why individuals would choose to delay childbearing in order to acquire a home is more or less obvious. However, the answer is not as obvious in some of the other theoretical contexts which were previously discussed. In addition, there is more to the issue of housing "choice"

than simply class or consumerism; in some respects there has been no choice. Home-ownership of the single-family dwelling in English-speaking societies has come to be a social prerequisite to family formation, i.e. the nuclear family prescription. Because this concept is important to understanding the context in which "choices" are being made and indeed why people have been increasingly making the same "choices", I discuss this concept in further detail below.

The basis of the nuclear family is nucleation; and that means setting-up and maintaining one's own household separate from that of parents. In order to set-up and maintain a household and thereby gain adult status, proof of economic self-sufficiency (whether through ownership of property or employment) has traditionally been required (see Gillis, 1985; Smith, 1981; Lesthaeghe, 1980; Lee, 1985; Busfield and Paddon, 1977 and Gee, 1982). However, in more modern times when marriage has become a matter of individual as opposed to parental or community consent (see Gillis, 1985), these prerequisites of family formation exist more in the form of cultural prescriptions¹⁰. The nuclear family prescription is, however, deep-rooted in English-speaking societies. Like the nuclear family itself, it is intricately related to the "origins of individualism" (see MacFarlane, 1978); in fact, both are part and parcel of the ideology of liberal individualism to this day (Okin, 1979), propping-up and ensuring individual as opposed to social responsibility for childrearing.

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This proscription is nonetheless propped-up and enforced by the state in many ways, eg. intervention on the part of the Children's Aid Society in the case of homeless children or children who are not being provided with the basic necessities; and state support for single parents.

The nuclear family prescription has not always required home-ownership. For example, in the Victorian era (when fertility, not coincidentally according to this paper's main thesis, was very high), few middle class families owned their own homes or even aspired to do so (see Williams, 1987; Rakoff 1977; and Swenarton and Taylor, 1985). However, now-a-days, most people in English-speaking societies own their own home; 62% of people in Canada, 60% in Britain, 65% in the United States, 71% in New Zealand and 70% in Australia.¹¹ Thus the nuclear family prescription has come to mean home-ownership.

Home-ownership did not arrive on the scene by coincidence. The growth of home-ownership in English-speaking societies over the last century, especially since World War II, is a result of deliberate government policy (Kemeny, 1992; Kemeny, 1981; Ball, 1986; Forrest et al, 1990; and Neutze and Kendig, 1991). Governments have made home-ownership financially more attractive than renting (over the long run) through the following types of actions: (1) subsidizing mortgage rates; (2) allowing interest paid on mortgages to be tax deductible (though never in Canada); (3) keeping capital gains tax-free (at least for principal residence) and (4) keeping the imputed rental value of owner-occupied homes tax-free (Kemeny, 1990; Kemeny, 1981; and Neutze and Kendig, 1991). At the same time, rent controls and the promotion of home-ownership have contributed to the depletion of rental stock, particularly rental accommodation suitable for families with children, offering families

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These statistics from Boleat (1985) refer for the most part, to 1981.

little alternative to home-ownership (Kemeny, 1992; Kemeny, 1981; Thorns, 1988; Karn and Wolman, 1992; Forrest et al, 1990 and Boivaird et al, 1985). The situation has been such that setting-up a household for the purposes of family formation has increasingly meant purchasing a home.

As the nuclear family prescription has come to mean home-ownership it has also come to mean home-ownership of a single-family dwelling. This is because the overwhelming majority of homes available for ownership in English-speaking societies have been single-family dwellings (see Kemeny, 1992 and Kemeny 1982) and because there are few single-family dwellings available for rent (see Neutze and Kendig, 1991; and Che-Alford, 1990). This is undoubtedly why the overwhelming majority of people in English-speaking societies own or aspire to own a single-family dwelling, particularly those with children (see Myers, 1982; Kendig, 1990; Kendig, 1984; Couper and Brindley, 1985; Karn and Wolman, 1992; Cooper 1974; and Fichel, 1988). However, others argue that the single-family dwelling is in fact culturally prescribed for families with children and that it has been an underlying assumption of the housing policy in English-speaking countries (see Adams, 1984; and Myers, 1982). The fact that home-ownership usually means single-family dwelling and vice versa certainly seems to support both of these contentions.

In short, the nuclear family prescription, linking the ability to set-up a household with family formation, and ultimately individual responsibility for off-spring, has

come to prescribe ownership of the single-family dwelling as a result of deliberate and perhaps not-so-deliberate housing policy. This privatized approach to infrastructure (re: housing) is just as consistent with liberal individualism as is the privatized approach to childbearing/childrearing in English-speaking societies. Because of these cultural linkages, the hypothesized relationship between housing costs and family formation over time can be seen not as a choice model between housing and family formation (e.g. consumerism versus family) but rather as a model of family formation; housing is culturally a prerequisite to family formation. Because of this, not "choice", one can expect family formation to decline as the relative cost of housing increases and thereby increase the amount of time out of what was once the childbearing cycle, to be used for housing acquisition. In the next section, I present some of the empirical evidence of the existence of a "nuclear family prescription" in English-speaking societies today.

1.4 Empirical Evidence of a Nuclear Family Prescription

There is some evidence of a nuclear family prescription in English-speaking societies in the form of a relationship between the timing of marriage and home-ownership. Sullivan and Murphy (1984), using the Family Formation Survey (a retrospective study) and census data, found that two thirds of couples in Britain became home-owners at or just after first marriage (before childbearing had begun). The percentage was even higher for non-manual workers. Three earlier works which

came to similar conclusions about the timing of marriage and home-ownership in Britain are as follows: (1) Busfield and Paddon (1977), using data collected from interviews with couples in Ipswich England; (2) Cartwright (1976), using interview data of couples based on a random sample of legitimate births in England and Wales; and (3) Ineichen (1979), using data collected from interviews with married couples in Bristol England, who had recently been married. Regarding Ineichen's (1979) study, 10% of couples indicated that they had delayed their marriage in order to find a suitable home to purchase, while 50/232 either brought their wedding forward or delayed it for housing reasons. The results of Murphy (1984) suggest that home-ownership before or at the time of marriage has been increasing in Britain and thereby increasing home-ownership rates overall.

There is also evidence of a nuclear family prescription in the form of a relationship between delayed childbearing and home-ownership. In the United States, Rudel (1987), Myers (1982) and Myers (1985), using the Annual Housing Survey, all came to similar conclusions regarding the notion that the pursuit of home-ownership has been associated in recent decades with delayed childbearing. In fact, Rudel (1987) concluded that those who could afford to buy did so, increasingly through a delayed childbearing/women's labour force participation strategy; while poorer families, many being single-earner families with a larger than average number of children, may have been prevented from ever doing so. As for Australia, Romaniuc (1984) provides data demonstrating that a large percentage of women who were

delaying the birth of a first child were doing so in order to save money to purchase a house (see Young, 1977). Cohort evidence of a relationship between the pursuit of home-ownership and delayed child bearing from a national life history survey in Australia can be found in Neutze and Kendig:

"it was common for couples in the early cohorts <since World War II> to have their first child before they bought their first home, but among more recent cohorts the two events have tended to occur at the same time, or children have been deferred until after a home has been bought." (Neutze and Kendig, 1991:10).

In Britain, there is again, Ineichen's (1979) study where he concludes that "for many non-pregnant brides, a period of childlessness is an enforced prerequisite for house purchase." (Ineichen, 1979:138). Forty per cent of the sample indicated that they were deferring their first child for housing reasons and of these, 42/72 gave reasons related specifically to home-ownership.

There are also several studies which conclude that there is a relationship between the pursuit of home-ownership, delayed childbearing and women's labour force participation. Payne and Payne (1977), using a local survey (the Aberdeen study) and Murphy and Sullivan (1983), using the Family Formation Survey, make such conclusions of the British situation. Gruen et al, (1982) maintain that this three way relationship holds in the United States, in part on the basis of the fact that new entrants to the home-ownership market have increasingly been two-earner couples without children. In fact, their study along with Neutze and Kendig's (1991) study in

Australia point out that it is increasingly becoming difficult for any family other than a two-earner one to purchase a home. While it could be argued that this is not so much a matter of a nuclear family prescription as a matter of housing affordability or the deteriorating wages of young men, the argument can also be made that none of these countries have adequate child care systems (see Beaujot 1991). Thus the pursuit of home-ownership through women's labour force participation contributes to delayed childbearing because of a principle which also underlies the nuclear family prescription, i.e. individual as opposed to social responsibility for off-spring. Other Australian evidence of a relationship between the pursuit of home-ownership, delayed childbearing and women's labour force participation can be found in Kendig's (1984) study; using the Adelaide Survey data he concludes that "the capacity to become home-owners is most usually achieved by young adults who combine earnings in one house and save before beginning a family" (Kendig, 1984:282). There is also the more recent Neutze and Kendig (1991) study; based on the national life history survey this study comes to similar conclusions. Romaniuc (1984) suggests that such a relationship might obtain in Canada.

In short, there is mounting evidence in English-speaking countries that there is a relationship between the pursuit of home-ownership, delayed childbearing, and women's labour force participation as well as between the timing of marriage and the pursuit of home-ownership. I suspect that the relationship between the timing of marriage and the pursuit of home-ownership is weaker than the relationship between

the timing of childbearing and the pursuit of home-ownership. Either way, my argument is that these relationships reflect the operation of a nuclear family prescription in English-speaking societies where there has been little choice for family accommodation outside of ownership of a single-family dwelling.

1.5 Summary

In summary of this chapter, I have argued that housing and family formation are linked in English-speaking societies through a phenomenon I call the nuclear family prescription. I argue that this prescription is linked to liberal individualism just as home-ownership is, and that in the case of the nuclear family prescription, its *raison d'être* is to ensure individual as opposed to social responsibility for children. I have also pointed out that the prescription has come to require ownership of a single-family dwelling as opposed to simply an ability to maintain a household. With contraception, mortgage credit and the like, it has slackened such that ownership is not required at the time of marriage but it is prescribed either before or once childbearing has begun. I have suggested that the nuclear family prescription constitutes an axis on which choices regarding family formation and housing are made. With housing as a prerequisite to family formation one can expect changes in the relative cost of housing to affect family formation rather than housing choice (i.e. to rent or own), and as I have pointed out, there has not been much housing choice anyway. In some respects I am not saying much more than Thompson already said in

a journal article in the 1930s. However, I am also suggesting that the ideology of individualism (in the sense of individual as opposed to social responsibility for offspring) has been defining the path to family formation (e.g. the nuclear family prescription and home-ownership) and shaping those similar choices that so many seem to be making (e.g. delayed childbearing and women's labour force participation) rather than simply providing individuals with choices (i.e. the pursuit of self interest).

Since housing is rather new to this area of research, time has been taken to situate it in two theoretical frameworks commonly used to explain fertility trends and in the context of four of the most popular explanations of fertility decline, i.e. women's labour force participation, the rising cost and changing socio-economic status of children, the ideology of individualism, and improved contraception/abortion. The cost of housing has been situated as an intervening variable between rising housing standards and adaptive family formation responses which relate to class maintenance. It has also been situated between urbanization/population density, the cost of land and housing, and between class mobility, the cost of land and housing. When housing is viewed as a positional good or an indicator of an individual's standard of living, i.e. social class, the cost of housing can be seen as a variable which leads directly to changes in family formation.

One of the particular questions from the theoretical literature which this paper will be addressing concerns rising standards (taken as a given) and whether those

standards have been paid for through increases in real incomes or through adjustments in the area of family formation. For instance, using housing as an indicator of living standards, support will be given to the idea that increases in living standards have been paid for through increases in real incomes if the relative cost of housing has remained constant or fallen while fertility has been falling. Support will be given to the idea that increases in living standards have been paid for through adjustments in family formation if trends in the relative cost of housing have increased while family formation measures have changed in a direction which decreases fertility. If the latter proves to be true, there will also be support for the class maintenance thesis.

A parallel question which this research will be addressing (parallel because an increase in housing standards in the above thesis is assumed) emerges from the DTT framework when change in the cost of housing is considered as an initial explanatory variable. To reiterate, change in the relative cost of housing (due to a variety of factors including increased standards, land and the cost of mortgage credit) could lead to adjustments in the area of family formation for the purposes of class maintenance when housing is seen as a positional good or indicator/symbol of social class. While the cost of housing positioned in this way does not have the flavour of a DTT explanation (because of the emphasis within the paradigm on the idea that rising standards or modernization causes people to seek alternative pursuits and opportunities rather than children), it does allow for other factors to affect the cost of housing.

Nonetheless it leads to the same end as far as a family formation response and class maintenance are concerned.

Another theoretical consideration which the analysis section of this dissertation will touch upon is Easterlin's TRI and the interaction between past family formation trends (i.e. cohort size) and present day ones (i.e. through male wages). However, changes in the relative cost of housing relative to family income in various time segments rather than changes in the relative cost of male wages, will be the focus.

I now turn to issues concerning the measurement of change in the relative cost of housing.

Chapter 2: Measuring Change in the Relative Cost of Housing

2.0 Introduction

There are a variety of approaches to measuring change in the relative cost of housing but as Fallis (1980) points out, "none of the available data sources correspond directly to what one wishes to measure". This remains true for trends in both housing and income; and not only for Canada but for other English-speaking countries as well. In fact, the measurement of change in the relative cost of housing is a contentious and ideological issue over which economists, geographers and sociologists have spilt a great deal of ink (Kemeny, 1992; Kemeny, 1981; Karn et al, 1986; and Saunders, 1990 in the British case; Goldberg, 1983; Fallis, 1977; Fallis, 1980; Bourne, 1980; Bourne, 1977; Illing, 1968; Miron and Cullingworth, 1983; Patterson, 1978; Steele, 1993; Streich, 1993; Miron, 1984; Miron, 1988; and Miron, 1993 in the Canadian case; and Feins and Lane, 1981; Achtenberg and Marcuse, 1986; Apgar, 1989; Stone 1983 and Hartman, 1983 in the American case).¹² It is in part because of the

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One of the ideological issues revolves around private property and whether or not housing is infrastructure which ought to be socially owned. The argument can be made, for example, that capital gains which accrue to individuals, are gains "hijacked" from the community. This is because it is the parks, roads and other services and facilities which the community adds to neighbourhoods which, in part, lead to capital gains (Kemeny, 1992). A portion of capital gains can also be explained by demographics. The inflationary effect on housing, of the increased demand produced by the baby boom, can be seen as resulting in money being made by one generation at the expense of another - again a socially derived gain. Kemeny (1992) would go even further and argue that the home ownership market is structured such that each generation has to pay more for housing as costs of acquisition and the costs of capital gains are passed on from one buyer to the next. In other words, Kemeny (1992) sees rising house prices as a structural phenomenon. The scarcity of land can also lead to a structural explanation of rising house prices. This makes for good fodder for theory; whether rising prices over time are attributed to capital gains, rising

ideological nature of the issue, in part because of constraints in terms of data, most of which are aggregate in nature, that questions relevant to the relationship between housing and income since World War II have not yet been resolved.

It is not the intention of this project to produce a definitive answer to the question of trends in the relative cost of housing; the data to be used in this study are not much better than those used in past studies. It is my intention to take the best course possible for the research problem at hand and to point out where shortcomings in measurement reside. Thus, in this chapter, I review the housing literature as it relates to the measurement of change in the relative cost of housing and select the indicators that are best suited for this study. However, before delving into the methods and/or indicators used by past studies, it is necessary to discuss several conceptual and measurement issues which have preceded my selection of a cost-to-income approach to the question of change in the relative cost of housing.

2.1 The Concepts of Affordability and Accessibility and Their Measurement.

There are two conceptual issues and two measurement ones which need to be discussed here, in part because of their closeness to the subject of change in the relative cost of housing; few studies analyze housing costs using the cost-to-income approach without using the terms affordability or accessibility. Yet, strictly speaking,

interest rates or rising land prices, all three boil down to the rising cost of capital (see Toffler, 1990 for a discussion on the traditional importance of land as a source of capital).

these are not identical issues. To start with, many studies using a cost-to-income approach have to do with purchasing power. However, affordability is not strictly an issue of purchasing power. Thus, the meaning of affordability and accessibility is discussed in this chapter along with two indicators which have often been brought to bear on the issues of affordability and/or accessibility: (1) the percent of households who spend more than a certain percentage of their income on shelter (the "rule of thumb" or fixed cost-to-income approach) and (2) rates in home-ownership.

Starting with the concept of affordability, while I use the term at different points throughout this paper, the fact of the matter is that the concept of affordability is a slippery one which, at least in the North American instance, has come to have a rather "official" definition (see Filion and Bunting, 1990; Fallis, 1980; Bourne, 1977; Goldberg, 1983; and Burke et al, 1981 for Canadian examples). Basically, **affordability** has come to mean the percentage of the population spending 25 percent (and more recently, 30 percent and 35 percent) of household income on mortgage payments plus property tax; and in some cases, house insurance, utilities, maintenance and repair as well (see Feins and Lane, 1981; Rosen, 1984; Thorns, 1988; Neutze and Kendig, 1991/2; and Burke et al, 1981 for examples in other English-speaking countries). However, outside of this narrow working definition, few, with the exception of Neutze and Kendig (1991), have bothered to consider what affordability might actually mean (but see Miron, 1984 and Streich, 1993). According to them, **affordability** can be defined as the relative attractiveness of owning and renting along

with the expected user costs which influence the desirability of buying a home.

However, the definition is problematic because it is at odds with most work addressing the issue of affordability or for that matter, change in the relative cost of housing. Few studies have approached the research problem from the perspective of changes in the rental market.

While very little attention has been given to the concept of affordability, even less attention has been given to the concept of accessibility. Accessibility, unlike affordability, can be measured reasonably well by home-ownership rates, particularly when broken down by age and other demographics. However, accessibility is often assumed to be identical to affordability. It is unfortunate that one of the few works which has attempted to give a conceptual distinction between accessibility and affordability has only muddied the waters. Distinct from affordability, Neutze and Kendig (1991) define accessibility as the ability to become a home-owner. This distinction suggests that what most housing economists, including CMHC, refer to as affordability (e.g. an "affordability" index measuring the percentage of the rental population who can afford to purchase a home) is actually accessibility.

Neutze and Kendig (1991) have made a good start in distinguishing accessibility from affordability but as Streich (1993) points out, more conceptual work needs to be done in defining affordability; it would help resolve some of the debates on how to measure it. Because of constraints of time and space, such a task can not be

adequately dealt with here. It can be said, however, that the concept of affordability has been used in the literature in a manner which is compatible with the concept of the relative cost of housing (relative to say, discretionary income) and which is concerned with things which are monetary in nature. However, the issue this paper addresses is not simply whether households can produce the income necessary to obtain a home and carry it with monthly payments (which would seem to be the implicit definition used in much of the literature on affordability), but also whether or not the effort and sacrifices households make to produce that money has increased. Budgets and resources can be stretched and other things given up to meet rising costs. Thus, the concern of this paper is more in line with the concept of purchasing power than the concept of affordability.

In short, the particular research problem which this paper addresses would seem to cut across the concepts of affordability and accessibility; it concerns the ability to become a home-owner, but it also concerns the longer term cost of acquiring a home to which people commit themselves upon purchase (e.g. mortgage payments including interest) in that these longer term acquisition costs can also affect family formation, i.e. women's labour force participation and delayed childbearing. It also concerns purchasing power; however, it concerns a concept or measure of purchasing power which can take into account the increased family resources needed to maintain a given level of household purchasing power. In the following section I discuss why the standard fixed cost-to-income approach to affordability, i.e. "the rule of thumb

approach" and home-ownership rates are not adequate tools for measuring affordability, accessibility or the research problem which this paper addresses.¹³

Home-ownership rates measure achievement with regard to home-ownership; they represent the percentage of the population that has been able to meet the financial requirements of owning a home. However, some such as Goldberg (1983) have brought such rates to bear on the issue of affordability. The question is, do home-ownership rates measure affordability. If they do, then rising home-ownership rates in countries such as the United States¹⁴ and Australia and to a lesser extent Canada¹⁵, present a paradox, at least for those who believe that the relative cost of

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That problem is, to reiterate, whether or not home ownership has become relatively more expensive over time, particularly for younger adults, such that the task of acquiring and initially maintaining a home could be construed as adversely affecting family formation.

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While there were no global declines in home ownership rates in the United States based on census data, there may have been declines for younger Americans. Levy and Michel (1985) provide evidence that rates declined for those under 25 years of age and between 25 and 29 years of age, between 1973 and 1983; while Hendershott (1988) points to a decline for these same age groups between 1980 and 1985. Also, while Britain does not appear to have experienced any declines, at least not at the global level, Britain is a special case since Britain has recently gone through a process of privatizing its public (or council) housing.

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I say "to a lesser extent" in the Canadian case because home ownership rates have not risen consistently throughout the post World War II era. The home ownership rate in Canada rose from 57% in 1941, to 65% in 1951, to 66% in 1961. The rate declined to 63% in 1966 and to 60% in 1971 (Miron, 1988). It rose slightly to 62% in 1976 and this increase has been used by some in Canada to substantiate that there is no affordability problem (eg. Goldberg, 1983). The slight increase can be attributed to the growth of the condominium market for the first part of the 1970s, and to women's labour force participation (and therefore their income contribution to home ownership) for the later part of that decade (see Miron, 1988). Also, while the home ownership rate remained at 62% in 1986 (Miron, 1988; and Steele, 1993), it actually decreased by four percentage points for those 25-34 years of age and by one or two percentage points for those younger than 25 and between 35 and 54 years of age (Che-Alford, 1990). In 1991 the overall percentage was close to 63 while it appears to have declined further for younger adults (Statistics Canada, 1993b).

housing has increased over the last several decades (see Neutze and Kendig, 1991 in the Australian case and Levy and Michel, 1985 in the American case).

An obvious explanation of the supposed paradox of rising home-ownership rates and rising relative costs is women's rising labour force participation rates and the increased household income which has resulted from it; working wives contributed to 10% of family income in 1967 compared to almost 20% in 1981 (Statistics Canada, 1984). There is not a single author working in the area of housing economics who would deny that women's labour force participation and earnings are what has helped families cope with (and/or fed) rising house prices (e.g. Miron, 1988; Neutze and Kendig, 1991; Sayegh, 1987; Rose and Wexler, 1993; Langlois, 1984; Patterson, 1976; Gordon, 1983; and Levy and Michel, 1985). Given women's labour force participation as an explanation of the paradox, it would seem to be a moot point to argue that home-ownership is more affordable than ever before to families (based on home-ownership rates) when families have had to expend more effort or labour or make larger sacrifices than ever before. It is true that women's labour force participation may have made home-ownership more accessible to two income families, or at least helped prop-up home-ownership rates when housing costs were rising, and in this regard home-ownership rates succeed in measuring accessibility. However,

this is not to say that home-ownership has become more affordable from the perspective of purchasing power (at the individual level).¹⁶

Another equally valid explanation of the supposed paradox between increasing levels of home-ownership and increasing relative costs of housing (for those who believe there has been such an increase) is the increasing availability of mortgage credit.¹⁷ Mortgage credit has increasingly been made available to people lower down the income scale and increasing amounts of credit (relative to the down payment, i.e. the loan to value ratio) have been made available (see Poapst, 1993; and Sayegh, 1987). As critics of the housing field such as Achtenberg and Marcuse (1986) would phrase it, housing has increasingly been made available to Americans through increasing their indebtedness rather than their wages.

There is no doubt that the expansion of mortgage credit has made home-ownership more accessible to Canadians. In this sense home-ownership rates do not fail in measuring accessibility. However, if anything, the expansion of mortgage

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Sweet and Bumpass (1987) conclude that in the United States, home ownership has become even less "accessible" to other family types, eg. single parent or single earner families and singles in general, since two salaries are now necessary to purchase a home (though the condominium market has helped relieve the problem for some higher earning singles). Neutze and Kendig (1991) come to the same conclusions using Australian data while Patterson (1976) and Streich (1993) come to similar conclusions using Canadian data.

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To give some indication of the growing importance of mortgages to home ownership, in 1961, 54.0% of those who owned homes were mortgage free compared to 53.3% in 1985 and 49.0% in 1991 (see Sayegh, 1987 and Statistics Canada, 1993a). Note that these statistics are likely to be influenced by changing age demographics.

credit has made home-ownership more costly. This is because the expansion of mortgage credit was made possible through raising the interest rates on mortgages, through increasing the amortization period of the mortgage instrument and through increasing the loan to value ratio. i.e. decreasing the required down payment (see Smith, 1981a; Poapst, 1993; and Sayegh, 1987). All of these changes make housing more expensive over the life course (e.g. the amount of interest paid) and these changes increase the time period for which monthly housing costs will remain high for individual families, e.g. they increase the time period required to establish a given amount of equity in the home. By virtue of the fact that these changes result in an expansion of mortgage credit, these factors also increase the market cost of housing because they increase the demand for housing (see Sayegh, 1987). In short, the expansion of mortgage credit has made home-ownership more accessible but it has also made home-ownership more costly over time to individuals entering the market.

Thus, the expansion of mortgage credit, and women's labour force participation and contribution to household income are explanations of the supposed paradox of rising relative costs in housing at the same time as rising home-ownership rates. In effect, what is at issue is not so much a paradox as it is an indication that there is a difference between affordability and accessibility. It is in part because of the shortcoming of home-ownership rates as an indicator of affordability and because of problems in the literature with the use of the concepts of affordability and accessibility, that a cost-to-income approach has been chosen for this study. While

home-ownership rates are blind to changes in the cost to families, personal or otherwise, of access to the housing market, the cost-to-income (unfixed) approach does not have to be, as will be demonstrated shortly.

Returning to the standard approach to affordability, this very popular "rule of thumb" or "fixed cost-to-income" approach shares with home-ownership rates, the shortcoming of ignoring the increases in family labour needed to cope with rising housing costs. However, another related problem with this affordability measure is that it fails to recognize the increases in family expenditure required to produce the extra family income through the addition of other family members to the labour force (e.g. child care and other domestic services); and this is a point which Miron (1984) has raised. Three other problems with this approach are as follows: (1) the percentage is arbitrary and normative; (2) it is more a measure of institutional lending practises than affordability when applied to the home-owner population; and (3) it becomes merely a measure of wealth when applied to the tenant population.

Regarding (1), the "rule of thumb" approach originates back in the 1920s, when the average household spent 25% of its income on shelter (see Feins and Lane, 1981). The 25% rule became prescriptive and institutional lenders adopted it as a criterion for assessing the risk of potential borrowers. The normative nature of this indicator is one of its shortcomings (see Feins and Lane, 1981; Streich, 1993; and Sayegh, 1987); while the average family may have paid (and continues to pay) about 25% for

shelter, there has always been considerable variation by household. Those with lower incomes consistently spend a greater percentage of their income on shelter than those with higher incomes.¹⁸ Meanwhile, those with higher incomes can afford to spend higher portions of their income on shelter because they have a greater amount of discretionary income to begin with. In addition, family expenditure varies by household composition (Miron, 1983; Sayegh, 1987 ; and Stone, 1983). A household with two adults at a given income level can afford more for shelter than a household at the same income level consisting of two adults and three children.

Regarding 2) the arbitrary nature of the "rule of thumb" approach combined with its status as an institutional lending rule results in an approach that reflects institutional lending practises when applied to the home-owner population, rather than the cost of housing; most home-owners with mortgages will be spending less than 25 percent (or 30 or 35 percent, depending on the lending practises of the day) on shelter except for those in peculiar circumstances (e.g. recent unemployment, separation, and so forth).¹⁹

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For example, in 1986, 92.6% of home owners in Canada with an income of less than \$5,000 spent 30% or more of their income on shelter costs. For those in the \$5,000-\$9,999 income range, the percentage was 44.8. It is only 1.7% for those in the "\$50,000 and over" income bracket (see Filion and Bunting, 1990). For similar data on the American situation (see Feins and Lane, 1981).

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There is nothing particularly wrong with the rule of thumb reflecting institutional lending practises. The problem is in assuming that it measures what people can afford or that it can address the issue of change in housing costs. In fact, it provides an approximation of the percentage who are likely to qualify for a mortgage. Even then, it is only an approximation as households might have obligatory expenses not taken into consideration (eg. alimony or debts to family) or resources at their disposal which are not included (eg. loans from parents).

Regarding 3), for the same reasons just discussed, affordability so defined will merely measure wealth in the case of the tenant population; it reveals little about the cost of housing. To reiterate, this is in part because higher income earners spend less of their income on shelter (because they have more income to begin with) and because the percentage who spend 25% (or 30% to 35%) or more on shelter increases as income decreases. This gives rise to a situation where the wealthier (or poorer) the tenant population, the lower (or higher) will be the percentage who spend more than 25 (or 30 to 35) percent on shelter, all things being equal. Perhaps this explains yet another supposed paradox in the area of housing economics; namely, why "after four decades Canadians were still spending about one-fifth of their household income on housing (Streich, 1993:258)" despite rising house prices, i.e. the indicator does not measure what it purports to measure because increases in the average income of the population can reduce the ratio even when the actual cost of housing is increasing.²⁰ Of course, an increase in the number of earners per household could also explain the paradox as could a general pattern of spending less on other things such as children (re: fewer), in order to keep up with rising housing costs.

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Streich (1993) and Miron (1988) actually see the paradox as one of rising real incomes (at a pace above house prices) and stable or increasing (as opposed to decreasing) shelter expenditure-to-income ratios. In line with what is argued above, while incomes as measured by FDI per capita or even household income might have risen faster than house prices or the cost of housing acquisition, household income per earner could have risen more slowly; and this is demonstrated in Chapter 4. So, the argument could also be made that additional earners have increasingly been used to keep family expenditure to 25% of family income in a situation of rising house prices.

Another shortcoming of the "rule-of-thumb" approach is, as many have argued (e.g. Feins and Lane, 1981; and Goldberg, 1982), that some people, especially those in higher income brackets, voluntarily "over-consume" on housing, i.e. purchase a more expensive house than others in their income bracket and spend less on other things. However, few have pointed out that it is difficult to untangle the degree to which this supposed "over-consumption" is voluntary or a result of an under-supply of cheaper housing²¹. This latter point becomes an issue in the analysis of trends in cost-to-income ratios as well. The possibility of voluntary over-consumption, particularly in the case of newly married couples without children, nonetheless provides further reasons why the "rule of thumb" approach is not particularly suited for research purposes.

Yet another shortcoming of the "rule of thumb" approach is that it assumes that income and costs will be constant over the duration of the mortgage (see Sayegh, 1987). In fact, carrying costs decrease over time as principal is paid off, or in the case of an inflationary environment, as inflation erodes the real value of mortgage payments. Incomes, on the other hand, usually increase.

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Filion and Bunting (1990) is an exception in this regard. In fact, this study concludes that there is no evidence of over-consumption. The evidence which this study presents (number of rooms by the percent of income spent on shelter), suggests that over-consumption is likely to represent a very small segment of the market. However, the situation in the United States might be different because of the mortgage interest deductibility program; it may well have encouraged an over-consumption of housing.

In summary of this section, I have discussed several reasons why affordability, measured as the percentage of the population with a fixed cost-to-income ratio for shelter; and accessibility or affordability, measured by home-ownership rates; are not suitable indicators (or concepts when so defined) for the purposes of this study. I have also pointed out that while I agree that accessibility concerns the ability of households to become home-owners, accessibility does not equal affordability. As both Sayegh (1987) and Neutze and Kendig (1991) have related, trends in these phenomena can run in opposite directions. Finally, I have pointed out that while the concept of affordability remains vague, the particular problem which this paper addresses seems to cross-cut the concepts of affordability and accessibility, fitting perhaps better under the idea of purchasing power. However, for the particular problem which this paper addresses, it would ideally be a type of purchasing power which took into consideration the increased family resources needed to provide a given level of household purchasing power. In the next section I discuss the cost-to-income approach to ascertaining change in the relative cost of housing.

2.2 The Cost-to-Income Approach

The cost-to-income approach, which provides an indication of whether the cost of housing has changed relative to income, comes in two forms in the housing literature: (1) as a cost-to-income ratio and/or (2) as a cost index with the base year standardized at 100 such that change in the cost index can be compared to a similarly

standardized income index. While more appropriate than home-ownership rates or the rule of thumb approach, this approach is no panacea. Conclusions from the cost-to-income approach remain debatable; and this is in part because the answer to the question of trends in the relative cost of housing does not come in a quick-fix package. As Feins and Lane (1981) outline, the determination of changes in the relative cost of housing also requires an analysis of changes in housing consumption (re: quality), for which there is only blunt data, and an analysis of differential rates of price increase between housing and other goods over time.

With regard to the former, I would suggest that supply data (re: housing quality) would also be ideal in order to determine whether increased consumption is voluntary or involuntary (and therefore a legitimate component of increased costs).²² With regard to the latter, the argument is that it is necessary to include an analysis of change in the price of other consumer goods because even if disposable income does not keep up with increases in the cost of housing, there could be more income available for housing if the cost of other goods and services decreases. In fact, the argument carries over to the concept of purchasing power and its measurement.

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CMHC has recently developed an indicator to measure the supply of affordable housing. Basically, that indicator is the percentage of houses in the Multiple Listing Service (MLS) which are at or below the maximum affordable house price (see CMHC, 1991). While it is all very well to conclude that a given percentage of houses for sale in a city or metropolitan area are under a specified price, in the days of two-earner families, where those houses are located is all important; most two-earner households require/choose housing in well established and well-serviced neighbourhoods which tend to be close to city cores, re: gentrification (see Miron, 1993; and Rose and Wexler, 1993). Most of the lower priced housing would be on the periphery of cities or in the suburbs, necessitating two cars and transportation costs. When these items are factored in, supply would be substantially less than such indicators would lead one to believe.

However, I find the inclusion of CPI data problematic in such an analysis, particularly when an acquisition approach is used²³. Nonetheless, the point remains that because of a lack of adequate data on housing quality or supply and because of the need to look at more than one trend at a time, particularly if a consumption approach is used, the analysis of trends in the cost of housing becomes "inexact", leaving a great deal of room for judgement.

Another reason for the lack of agreement on trends in the relative cost of housing is the variety of measures of housing cost and income used to make cost-to-income comparisons. In fact, there has been a considerable amount of debate and little agreement, over how the cost side of the ratio should be measured. At the same time, very little attention has been paid to possible problems on the income side, though Patterson (1976) and Miron (1984) are two exceptions in this regard. In the following section, the various ways in which housing costs and income have been measured, are discussed.

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Several have argued that the cost of shelter would have to be removed from the all-time CPI in order to determine whether or not other cost of living factors have increased or decreased the discretionary income available for housing (eg. Fallis, 1980). However, when an acquisition approach is used, as in this paper, the CPI becomes even more problematic. In effect, an entirely novel CPI would have to be constructed (see Fallis, 1980), a task approximating a dissertation in its own right. Thus, I assume in this paper that non-housing consumer items have followed trends in housing costs such that they have not increased the amount of discretionary income available for housing acquisition. This seems to be a reasonable assumption given that since 1945 "CPI indices suggest house prices just kept pace with other consumer prices..." (Miron, 1993a:35). Besides, in the days of mortgage credit, what counts in housing acquisition is the bank's assessment of mortgage eligibility based on family income, the price of the house and the down payment rather than trends in other prices.

2.2.1 The Income Side of Cost-to-Income Comparisons

As I point out elsewhere, most of the income data used in the literature addressing the question of trends in housing cost are aggregate level. In the Canadian case, there are four major types of income data available for the entire time frame of this study, 1951-1991. These are as follows: (1) personal disposable income (PDI) and per capita PDI from the National Income and Expenditure Accounts System (NIEA); (2) household and family household income from the Survey of Consumer Finance (SCF), (3) income, earnings or annual wage data from the Census; and (4) weekly and hourly wage data from the Survey of Employment, Payrolls and Hours (SEPH).²⁴ These data, along with their strengths and weaknesses, are discussed below.

Fallis (1980) suggests that the most useful income measure for making cost-to-income comparisons over time would be household disposable income, excluding taxes but including transfer payments. This type of measure is important in measuring general purchasing power given that the item which has increased most in

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These income data are similar to what are available in other English speaking countries on a trend basis, i.e. 1951-1991, with these other countries, like Canada, also relying heavily on a measure of disposable income from their respective national accounts systems. As in Canada, there are better data available in Britain starting in the 1970s. The British have trend data since the early 1970s on the average income of those with mortgages, including the average income of new entrants to the market and the price of the homes they purchased from the Building Societies Association (see Karn et al, 1986). The Americans have additional data from 1973 onwards as a result of their Annual Housing Survey. In Canada, there is the HIFE (Household, Incomes, Fixtures and Expenditure Survey) available from 1972 onwards. This latter survey provides important trend data not previously available such as the age of first-time home buyers and "movers-up" by income.

the family budget over the last few decades is taxes (see Statistics Canada, 1991; Love and Poulin, 1991; and Statistics Canada, 1989). Whether or not the inclusion of transfer payments (and the exclusion of tax) is ultimately desirable in measuring purchasing power when it comes to housing, is a question I address under the section on household income measures from the Survey of Consumer Finance. For present concerns, the NIEA data are the only ones available to provide an after-tax measure, **personal disposable income (PDI)** earlier than the 1970s; in fact, back to the 1920s. They exclude income tax, succession duties and estate tax, employer and employee contributions to social insurance and government pension funds; and they include transfer payments such as old age security and family allowance. Basically, personal disposable income is supposed to measure discretionary income.²⁵ Since most of the Canadian studies reviewed for this project, including Fallis (1980), were undertaken in the 1970s and early 1980's, and since a major land and housing boom occurred in the early 1970's, the NIEA data have been particularly important to the question of trends in the relative cost of housing in Canada. In fact, PDI has been used quite extensively in Canadian studies (Bourne, 1980; Goldberg, 1983; Patterson, 1976; Bourne, 1980; Miron, 1988; Fallis, 1980; and Fallis, 1985), particularly on a per capita basis.

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See pp. 305-306 of Volume 3 of the *National Income and Expenditure Accounts: A Guide to the National Income and Expenditure Accounts - Definitions, Concepts, Sources and Methods*, (1975) for further information on these data.

So, the strengths of the NIEA measure, PDI, are that it is an after-tax one and that it is available for a sufficiently long series. However, these data have several shortcomings, which, for the most part are related to their aggregate nature. Four shortcomings in using PDI (per capita or otherwise) to measure change in the relative cost of housing are as follows: (1) age composition (or life cycle) effects on income; (2) changing dependency ratios or increases in women's labour force participation; (3) increased expenditures required to earn additional income (already discussed in the context of the "traditional" affordability indicator); and 4) the possibility of generational (cohort) effects in income gains.

With regard to 1), the Canadian population was rejuvenating after World War II when fertility rates were rising, but it has been aging since fertility rates have been on the decline. Older populations can be expected to earn more than younger ones, excepting perhaps populations with a large percentage who are retired, because people in the middle of their careers, say the thirties to mid-fifties, depending on the occupation, earn more than people who are starting or who have completed their careers.²⁶ This is particularly important because it means aggregate indicators of income would produce a less rosy picture of the wealth of Canadians in the three or so decades after World War II than is deserved, particularly as far as the ability to

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Peak earning power is considered to be between 45 and 54 years of age (Statistics Canada, 1984). However, by occupation, it is considerably lower for unskilled labour and often higher for certain professions such as university teaching. Also, large changes in the educational levels of successive generations can change the relationship between age and earnings.

purchase homes is concerned; and a rosier picture on the income front than is deserved in the 1970s to the 1990s. Unfortunately, this income measure is not available by age groups such that only the income of those in the age groups that most approximate first-time home buyers could be used or such that the measure could be standardized for age over time.²⁷

Regarding 2), changing dependency ratios when defined by age would amount to a discussion very much like the one above. A population with a large percentage of the retired and/or youth will produce a smaller per capita disposable income than a population with a smaller percentage of both because a greater percentage of the latter population are working relative to the former; and this is a fact which Levy and Michel (1985) underscore. However, one can also consider dependency ratios in terms of women, as Miron (1988) does. After World War II, a large percentage of women did not work and were dependent on their husbands' wage. The percentage has decreased dramatically over the 1951-1991 time period; in 1951, 9.6% of all married women were in the labour force compared to 52.0% in 1981 and 63.2% in 1991 (see Statistics Canada, 1970; Statistics Canada, 1989a and 1993). In addition, there was 1.2 earners per family in 1951 compared to 1.7 in 1991 (Statistics Canada, 1969, 1984 and 1991). Thus, as Levy and Michel (1985), Miron (1988) and

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The average age of first time home buyers varies from year to year. According to HIFE data, the average age rose from 34 in 1982 to 37 in 1988 (CMHC, 1991). About 75% of Canadian home buyers in the 1980s purchased their first home between the ages of 25 and 45 years of age, with 62% doing so between the ages of 25 and 34 years of age.

Patterson (1976) relate, a population with a higher percentage of women working will also produce a higher per capita disposable income than one with a lower one.

As for 3), disposable income, when applied to the housing question, is assumed to equal discretionary income over time. However, as household composition has changed so too have spending patterns. With households being smaller in size, less of household income is spent on basics such as food and clothing. As Levy and Michel (1985) put it, "children don't buy cars and jewellery". Yet, as Miron (1984) suggests, more money has to be spent on child care and domestic services in order to produce a higher per capita disposable income through the increase in the labour force participation of women. Whether the balance comes to more or less discretionary income for a given amount of disposable income is unclear. What is clear is that PDI is not a true measure of increases or decreases in discretionary income and thus only a crude measure of the extent to which discretionary income (and therefore purchasing power) has kept pace with increases in housing costs.

The fourth potential source of bias in using change in aggregate level PDI, per capita or otherwise, relates to Easterlin's Theory of Relative Income (TRI) and the volumes of work which have been generated around the idea that cohorts from small generations do better than cohorts from large generations. There are many who have argued that for some time now, younger adults have been disadvantaged, i.e. low wages and high unemployment because of generational size or supply factors (e.g.

Ross and Lohead, 1993; Picot and Myles, 1990; Levy and Michel, 1985; Berger, 1989 and Kettle, 1980) and it is younger adults who are first-time home buyers. The opposite was the case for young adults entering the labour force in the 1950s and early 1960s. The point is that a measure of aggregate disposable income (per capita or otherwise), does not allow for the occurrence of these generational differences in income gains over time. Consequently, measures such as these, undifferentiated by age, would make the trend in incomes for first-time buyers appear more rosy than reality would warrant. This bias needs to be kept in mind when considering what these data reflect about Easterlin's TRI in subsequent chapters.

In summary, there are a variety of reasons why PDI is a misleading measure of the changing ability of individuals, households or families to purchase housing over time. Most if not all of the potential biases are in the direction of a more favourable situation than actually exists, particularly as purchasing power relates to the purchase of housing in the 1970s to 1990s.²⁸ Since the study to be undertaken here requires housing and income data from a point in time before indicators of family formation started to turn in a direction that reduces reproduction (say the early 1950s at the latest for a starting point), since a measure of disposable income is more an indicator of general purchasing power than income per se, and since these data have been used extensively in the housing literature, these data are also used in Chapter 3 of this

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It is not necessarily a biased measure for many of the problems economists look at in the housing area such as the income or price elasticity of demand.

dissertation. In the next section I discuss the strengths and weaknesses of the Survey of Consumer Finance's measure of household income.

Barlow (1982) and Miron (1988) are two examples of Canadian works which use household income from the Survey of Consumer Finance (SCF). Barlow (1982) uses family household income while Miron (1988) uses household income from family units and unattached individuals combined.²⁹ These measures of income include wages and salaries before deductions for things such as income tax, unemployment insurance and pension funds; net income from self-employment; investment income; all transfer payment from government (e.g. family allowance, old age security, workman's compensation) and other income such as retirement pensions and alimony (see Statistics Canada, 1969). Family household income is preferable to household income because it is usually families who enter the housing market (see Adams, 1984; Myers, 1982; Sweet, 1990; Spain, 1990; and Kendig, 1990).

These measures of family household income are available only sporadically prior to 1971. These data are, however, available as early as 1951. There is a potential problem of comparability over time due to expanded coverage. For example, from 1951 until 1965, samples were small and farm families were excluded. I suspect that if changes in coverage are to bias results in consequence, it is towards a higher

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Family in the SCF is the economic family; that is, persons related by blood, marriage, common law or adoption and living in the same household.

income in the 1950s and 1960s than actually existed relative to the 1970s; incomes are higher in urban areas than rural ones. Statistics Canada (1984) nonetheless, suggests that there are no comparability problems with their SCF data between 1951 and 1991. These data are not available on an after-tax basis until 1971. However, Podoluk (1968) produced estimates of the average tax on family income for 1951 and 1971 and these estimates can be used to produce an estimate of after-tax income between 1951 and 1971.³⁰

For the purposes of this study, another problem with the SCF income data is its level of aggregation, i.e. the economic family. I have already argued that there is a need to control for the rise in the labour force participation of married women; two-earner households incurred the greatest income growth in recent decades (Statistics Canada, 1984). In fact, by some accounts, they were the only households to experience income growth (see Patterson, 1976). Using the average number of earners per family from various SCFs publications (e.g. Statistics Canada, 1969) and interpolating for missing data points allows for a reasonable control on changes in the number of earners per family. In other words, family household income can be divided by the number of earners in the household to produce a measure of average income per earner per family, as in Ross and Lohead (1993).

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Podoluk (1968) estimates that 6.8% of average family income in 1951 went to income tax compared to 8.4% in 1961. A linear progression can be assumed between census data points.

One final point of importance to note concerns the nature of the SCF measure of income. It includes many components of income which, while relevant to overall purchasing power, are not particularly relevant to house purchase (and this applies to the NIEA's PDI measure as well)³¹. Most housing is purchased with the help of a mortgage and mortgage providers do not consider many of the types of income included in this measure, as income for the purposes of establishing eligibility for a mortgage. Lenders do not, for example, consider transfer payments such as unemployment insurance, workman's compensation and so forth. In addition, few first-time home buyers would have interest or dividend income because housing is usually the first form of investment Canadians make and because any funds they might have would most probably be going towards the down payment. Other sources of income such as alimony, old age security and retirement pensions would be sources of income from people who are normally not active in the housing market, particularly not as first-time buyers. As for income from self-employment, it is treated with indifference and suspicion by lending institutions when it comes to any kind of credit, including mortgage credit. More stringent eligibility requirements are applied to this group, e.g. collateral. These shortcomings can not be remedied since the SCF does not provide individual level data or a measure of earnings from employment prior to 1971.

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On the subject of purchasing power, income measures are often deflated or transformed into constant dollars in order to better reflect purchasing power. In Chapter 4, the various income and housing cost indicators are transformed into 1991 dollars using the CPI as reported in Statistics Canada (1992).

In short, while a more comprehensive and after-tax measure of income, such as PDI from the NIEA or household income from the SCF, might be a better measure of general purchasing power, a more restrictive measure (e.g. earned income from employment or annual wages) would suffice just as well, if not better, for the purposes of the research undertaken here.³² In effect, purchasing power as it relates to buying a house in days where almost all buyers do so with the help of a mortgage, could be measured with a more restrictive definition of income than perhaps purchasing power in general. The problem here, however, is that only the census provides this type of data prior to 1972 but census data are not available on a regular enough basis for the research problem which this paper addresses; family formation indicators have not neatly changed direction in census years. Because it is usually families who enter the housing market and because the SCF data are available on a consistent enough basis between 1951 and 1991, the SCF data on family household income are used in this study, along with estimates of after-tax income and income per earner per family.

One final source of remunerative data used to assess changes in the relative cost of housing or purchasing power is that collected by the **Survey of Employment, Payrolls and Hours (SEPH)**. Only two studies have used these data to assess change

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Note that if the eligibility requirements for mortgages are taken into consideration in assessing purchasing power as it relates to housing, then gross as opposed to after-tax annual wages would be the desired measure since lending institutions judge eligibility based on gross earnings rather than after-tax or net earnings.

in the relative cost of housing; Bourne (1977) and Patterson (1976).³³ Unlike the previously discussed data sources, the SEPH data include only income from employment. Since the earnings of the self-employed are excluded, the SEPH measures represent wages, available as weekly and hourly wage rates. The wage measures represent the gross amount earned, including paid absences, commissions, salaries, shift work premiums, cost of living bonuses and piece work (see Statistics Canada, 1985). These data are not available on an after-tax basis. Thus, as with all wage data, the SEPH data are less suitable as a measure of general purchasing power than the NIEA, Census or SCF data (after 1971), but not necessarily a poorer measure of the ability to purchase housing on these grounds, for reasons already discussed.

The SEPH data exclude earned income from some industries such as agriculture, fishing and trapping and only partially cover others, such as government and health services (see Meitz, 1983). Because of sampling design features (see Meltz, 1983), the coverage of certain types of industries (e.g. services) is more thorough than others (e.g. mining). These, then, are other ways in which the SEPH data are less representative of the purchasing power of the Canadian population than the data sources discussed previously.

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It is not entirely obvious which data source Bourne (1977) used; however, he did use an average wage rate as a ratio to the all-item CPI and in 1983, many sources of wage and earnings data were consolidated into what is now the SEPH. Thus, in all likelihood, Bourne (1977) used SEPH data.

The weekly and hourly SEPH measures are less representative of actual wage earnings than other earnings related data (e.g. annual wages) because they do not take into account how many hours or weeks the population worked. In other words, it is all very well to say that the weekly or hourly wage rate has increased over time but if there has been a decrease in full-time employment and an increase in unemployment, as there has been in recent decades relative to past ones, then increases in weekly or hourly wage rates can be misleading, particularly as far as purchasing power is concerned. In effect, these wage rates would bias results to a greater purchasing power than actually exists. Since the SEPH's *hourly* wage measure excludes salaried employees, the applicability of the wage rate to the general population is reduced even further.

In summary, personal disposable income from the NIEA and family household income from the SCF are used in this study to assess change in the relative cost of housing between 1951 and 1991. PDI has been selected because it has been used in so many studies, because it is available in a sufficiently long series, and because, in being an after-tax measure, it can be used to approximate what is traditionally referred to as discretionary income and purchasing power (albeit with the many noted caveats). Chapter 3 constitutes an update of trends in the relative cost of housing as measured by PDI per capita and as normally measured in the housing economics literature while Chapter 4 uses family household income to produce, unlike any past studies in the housing area, estimates of after-tax income prior to 1971 and of average

family income per earner from 1951-1991. In the following section, I discuss various ways in which the housing cost side of cost-to-income comparisons has been measured in the literature.

2.2.2. The Housing Cost Side of Cost-to-Income Comparisons

At least six approaches have been used in the housing literature to calculate housing costs: (1) the user cost approach - a consumption approach, (2) the rental equivalence cost approach - a consumption approach, (3) the cash outlay approach, (4) the sales data approach - a purchase cost/acquisition approach, (5) the carrying cost approach - a purchase cost/acquisition approach and 6) the down payment approach - also a purchase/acquisition approach. I discuss the strengths and weaknesses of each below, particularly as these relate to the research problem which this paper addresses.

The **user cost approach** attempts to measure changes in the cost of using (or consuming) a fixed or constant quality of owned dwellings (see Markle, 1992 or Steele, 1993). In Canada, the user cost approach is the "official approach" for the purposes of the owned accommodation component of the CPI. It is based on the following five major components:

"the replacement cost of that part of the dwelling that is assumed to be used up in the year in question, mortgage interest costs, property taxes, home-

owners' insurance premiums and home-owners' repairs." (Markle, 1992:44).³⁴

Minor components of this index include transaction charges, real estate commissions, and mortgage insurance.

A primary strength of the user cost approach is that, being an "official" measure, it is readily available. A second strength is the length of the time series available (since at least as early as World War II). It is undoubtedly because of these two factors that the home-ownership component of the CPI has been used extensively to address the issue of change in the relative cost of housing. However, a major shortcoming of this approach from the perspective of the problem which this paper addresses, is that it does not take into consideration the price of land, which has risen more rapidly at particular points between 1951 and 1991 than any other housing cost factor, particularly in urban areas (see Fallis, 1980, Goldberg, 1983; and Bourne, 1977). Land is considered as capital rather than a consumable commodity.

A second shortcoming which Bourne (1977) raises is that the user cost approach does not take into consideration the reduction in dwelling unit size which has accompanied the shift to condominiums and town houses, even though the index is purported to measure change in the price of a constant quality of housing. A third

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The replacement cost is measured by annual depreciation in housing stock; the New House Price Index (with out the cost of land) is used to determine how much the housing stock has depreciated.

issue is that the official Statistics Canada index does not include that part of mortgage payments going to pay-off principal. This too is considered as capital or owner equity. Since mortgage payments can rise in an exponential fashion as a result of the effects of both rising interest rates and rising house purchase prices, this method could well underestimate the "true" rise in the cost of home-ownership, particularly for newer entrants to the market.³⁵ In effect, two of the most costly and rapidly rising components of home-ownership over the last several decades, total mortgage payments and the cost of land, are not included in the official CPI.

Another shortcoming of the user cost approach as far as the research problem with which this paper is concerned, is that it uses "the interest rates actually faced by households and therefore is an average of the mortgage rates on existing and new mortgages" (Fallis, 1980:31). Since as little as 2% of the mortgages used in the averaging are at current rates (Fallis, 1980; and McFadyen and Hobart, 1978), the user cost approach would underestimate the cost of housing for new entrants to the market, whenever interest rates are rising. The converse, would of course, be the case, whenever interest rates are decreasing. In fact, because the user cost approach is based largely on the housing experience of those who have been in the market for

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Barlow (1982) demonstrates the exponential effect in reporting that interest rates increased by 100.8% between 1971 and 1981 and house prices increased by 191.3% while mortgage payments increased by 417.8%. It should be noted that the cost of land and the "equity" portion of mortgage payments are excluded because they are not items which are considered to be consumed, i.e. the index takes a consumption approach.

some time, this approach will tend to produce conservative estimates of cost increases in housing consumption as they relate to new entrants.

The rental equivalence approach has not been used very often in Canadian studies assessing changes in the relative cost of housing. Smith et al (1984) is an exception in this regard.³⁶ However, since the Americans adopted the rental equivalence approach in 1983 as their official approach to the measurement of changes in housing cost for the purposes of the owned accommodation component of their CPI, it has grown in importance. This approach attempts to estimate the cost of consuming for home-owners, by imputing a value based on data concerning the cost of rental accommodation for similar types of dwellings. In the Statistics Canada construction (see Markle, 1992), the cost of mortgage interest, property taxes, transaction costs, housing insurance and most repairs which are incurred by landlords are assumed to be embedded in the cost of renting. The cost of tenant repairs and insurance premiums for personal belongings are then added to these costs.

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Smith et al (1984) uses the rental component of the CPI instead of the home ownership component. He does so on the grounds that there is an apparent upward bias in the latter. The study quotes McFadyen and Hobart (1979) as providing a demonstration of the upward bias. Yet, I cite this same study (and others) in the following pages as evidence of a downward bias in the rental component. There is only an upward bias in the home ownership component of the CPI if one believes that capital gains and the opportunity cost of the capital invested in the house as equity ought to be included in the index. While these items are things one would want to include in comparing the cost of home ownership relative to renting over the long term, they are not, in my opinion, factors one would want to include in the determination of whether or not earnings (or incomes) have kept pace with the cost of acquiring and maintaining ones own home or whether it is more difficult for young people to enter the market today relative to yesterday.

There are two basic problems with this type of approach, both of which are discussed in Gillingham (1983): 1) the cost of rental accommodation has risen much slower than the cost of home-ownership over much of the post World War II time period, in particular, since the mid-1970s (see Fallis, 1980 and Steele, 1993), as a result of rent control (see Bossons, 1993 for other reasons why rent remained low) and (2) owned accommodation is often qualitatively different from rental accommodation. Regarding the former, the use of the rental equivalence approach would produce an under-estimate of the real cost of "consuming" owner-occupied housing whenever the cost of rental accommodation is rising more slowly than the cost of owner-occupied accommodation. Regarding the latter, most owner-occupied dwellings are single-detached ones while most rental accommodation involves apartments, usually apartment buildings (see Che-Alford, 1990).

Other differences of quality between owner-occupied and rented dwellings include size, number of bedrooms and location (see Gillingham, 1983; Cagan and Moore, 1981; Filion and Bunting, 1990; Sayegh, 1987; and Che-Alford, 1990). In fact, Gillingham (1983) reports that owner-occupied dwellings are, on average, of higher quali

certain extent, confined to price accommodation under levels which could lead most to home-ownership.

Whether or not the cost of home-ownership can be adequately reflected by the price of rental accommodation without biasing the cost of home-ownership downwards is an open question. The fact remains that there apparently was a problem with the "official" method of estimating the cost of rental accommodation; one that led to underestimates, by 2% a year, of the true price (see Fallis, 1980; Bourne, 1977; Steele, 1993; and Lyons, 1972). Whether or not this problem has been resolved is unclear. What is clear, is that as far as the particular research problem which this paper addresses is concerned, the rental-equivalence approach has all of the shortcomings of the user cost or official approach, with the added shortcoming that it probably produces a downward bias.

The cash outlay approach, as described by Markle (1992) includes everything that the user cost approach includes, excepting replacement costs. However, most argue for the inclusion of mortgage payments as well, since it is a cash outlay (see Feins and Lane, 1981; Myers, 1985a; and Steele, 1993).³⁷ Since the cost of utilities is often included in the price of rental accommodation, it would seem only appropriate to add these factors to the cash outlay approach as well; however, not

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According to Markle (1992) a cash outlay index which includes "equity payments" is now (since 1983) available from Statistics Canada.

everyone using the cost-to-income approach has done so. This is in part because many of those dealing with the subject of change in the cost of housing are interested in such abstractions as the demand and supply elasticities of housing with respect to the price or the income elasticity of housing demand (e.g. Miron, 1988; Oksanen, 1966; Smith, 1974; and Goldberg, 1983). For these types of problems, utilities can be excused. However, when it comes to real people assessing real costs and thus whether they can afford to be home-owners, the price of utilities does matter.³⁸ It is for this reason that some such as Myers (1985a) include utilities along with mortgage payments (rather than just mortgage interest), taxes and insurance.

The cash outlay approach such as that used by Myers (1985a) has been greatly under-rated, in my opinion, in the assessment of changes in the relative cost of housing. It is the official approach for measuring the home-ownership component of the CPI in both Britain and Australia. Yet, Myers (1985a) is one of the few to argue for its appropriateness rather than other more complicated aberrations. Not coincidentally, Myers' (1985a) research problem is similar to the one being addressed in this paper. Starting with a basic cash outlay approach (or a basic user cost approach), many have argued for all sorts of inclusions such as the opportunity cost of the capital used as equity in the home, the tax rebate as a result of mortgage interest deductibility in the United States and above all, capital gains (see Apgar, 1989; McFayden and Hobart, 1979; Cagan and Moore, 1981 and Steele, 1993). A

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The CMHC now includes heating in its affordability index.

few points about some of these inclusions are in order here because the inclusion of these items has a bearing on results as they relate to change in the relative cost of housing and because these inclusions are incorrectly put forth as new and improved versions of the simpler cash outlay (or user cost) approach.

To begin, Kemeny (1992) is correct in stating that often the various cost of housing formulations lose sight of the dimension of time. Cash outlay is what has to be paid here and now on a regular, usually monthly, basis. Capital gains is something which a home-owner might acquire at some point in the future, depending on a variety of factors, e.g. whether it is a sellers market at the time he/she decides (or is forced) to sell. It is paper money, theoretical money, and usually unrealized (see Kemeny, 1981; Kemeny, 1990 and Sayegh, 1987). Similarly, while the opportunity cost of the capital used as equity in the home is an interesting idea, if the capital is put in stocks or bonds bearing a greater interest than what can be gained through housing, the household still has to live some where - presumably the household will have to pay rent instead - and this is not taken into consideration. In addition, Cagan and Moore (1981) report that the basic problem with the opportunity cost of equity concept is that the alternative is ambiguous or unknown. In fact, they claim that they obtained housing cost results that were not credible, when, using American data, they subtracted "capital gains on home-owners' equity due to increases in house prices from the assumed alternative return (rate of interest on new

mortgages) on equity" (Cagan and Moore, 1981:36). As for the tax rebate, this is not applicable to the Canadian situation.

Setting the aberrations to the cash outlay (or user cost) approach aside, there are two reasons why the basic cash outlay approach is not selected for this study: (1) the "official" cash outlay approach reflects more the experience of longer term owners than newer entrants, e.g. it includes the cost of mortgage interest from old mortgage rates as well as new ones; and (2) it pertains more to maintaining a home than becoming a home-owner. As I relate elsewhere, the research problem which this paper addresses cross-cuts the concepts of affordability and accessibility or similarly of becoming a home-owner and maintaining an owner-occupied home. As the following section reveals, various types of data from a purchase/acquisition approach come closer to where the research concern of this paper rests on the continuum of market entrance and maintenance of home-ownership.

As for the sales data and a purchase/acquisition approach, there are two types of data available: (1) data from the CMHC having to do with the price and/or estimated cost of new (and later existing) homes financed under the National Housing Act (NHA) and (2) sales data from the Multiple Listing Service (MLS) of the Canadian Real Estate Association (CREA), pertaining to the price of existing homes on the market. The strength of both types of data is that they include the price of land. In addition, both types of data are more useful than those discussed earlier for

providing an indication of the housing situation for those entering the housing market. Specific strengths and weaknesses of these two data types are discussed below.

The NHA data are normally used in the literature addressing the changing cost of housing in the form of averages, e.g. the average price of a new single-detached dwelling financed under the NHA or the average estimated cost of the same. These data are available back to at least 1951 in the case of estimated cost data. However, the publication of estimated cost data appears to have been discontinued around 1981 in favour of price data.³⁹ Since the two series of data are quite consistent in terms of trends, with the estimated cost data producing only slightly higher values in later years (see Figure 1), price data were selected for use in this study, substituting the data on prices at the beginning of the series with estimated cost data to produce a price series from 1951 to 1991. Except for the earliest years (prior to 1961), the price data refer to single-detached dwellings only, the most theoretically relevant type of dwelling for this project. Since all estimated cost data pertain to single detached dwellings, this means that only five years (1955-1960) of the 1951-1991 series include other types of dwellings. As Figure 1 demonstrates, the transition from estimated cost data for new single-detached dwellings (1951-1955), to price data for all types of dwellings (1956-1960), to price data for only new single-detached dwellings

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The price of an NHA financed home refers to the price of houses purchased from builders and the estimated cost of houses constructed by owners. The mortgage insurance fee is included. The estimated cost of an NHA home refers to estimations provided by NHA applicants.

Figure 1:
Comparison of Estimated Cost and Price Data for New NHA Financed Homes, 1951-1991

Source: CMHC's Housing Statistics, various years.

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PM-1 3½"x4" PHOTOGRAPHIC MICROCOPY TARGET
NBS 1010a ANSI/ISO #2 EQUIVALENT

PRECISIONSM RESOLUTION TARGETS

(1961-1991) is a smooth one. This is fortunate since change in the composition of dwelling types on the market can confound price data, e.g. the rise of the condominium.⁴⁰

The most serious shortcoming with these data relate to their administrative nature. According to Patterson (1976) and Fallis (1980), there have been ceilings on NHA financed homes, and in part because of this, these homes have come to represent the lower end of the housing market. A comparison of the NHA data to be used to represent new single-detached dwellings with MLS data (to be discussed shortly), which lists the price for existing houses for resale (all types of dwellings) suggests this is true (see Figure 2). One would expect new homes to be more expensive than old ones just as one would expect data for single detached dwellings to be more expensive than residential dwellings in general; yet, this is not always the case.

Two other potential problems with NHA data reported in the literature relate to the efforts which have been made to keep the cost of NHA housing down. This includes efforts to reduce dwelling size and to build dwellings further and further from urban core areas to reduce land prices. The potential problem of size can be

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The term single-detached dwelling includes bungalows, one-and-a-half and two story dwellings, as well as split levels. Row housing, semi-detached and condominiums would be excluded. Data pertaining to all types of dwellings produce slightly lower values than data pertaining to single-detached dwellings only.

Figure 2:

Comparison of NHA Prices for New Dwellings to MLS Prices for Resale, 1951-1991

Source: CMHC's Housing Statistics, various years and CREA's MLS Reports, various years.

dealt with since the CMHC publishes trend data on the average size of NHA financed homes. On the other hand, the variation in size is not necessarily a problem for the purposes of this study since the issue is not so much value for money as it is one of supply, i.e. the prices of the available supply one has to choose from. However, the bias in prices created by changing location is more problematic, in part because location is one of the most important components of housing choice. It is a potential problem, in part, because it is unlikely that the construction of non-NHA financed homes followed such a pattern. This problem is not easily resolvable. The end result is that NHA data on the price of new homes will produce a conservative picture of the price level and change in the price level of new housing. Since the alternative data, Statistics Canada's New House Price Index (NHPI), are only available since 1971 and with problems of its own, and since NHA data have been used extensively in the literature, NHA data are used in this study as well (in Chapter 3).⁴¹ Besides, the CMHC reports that "the NHA price data is a good indicator of the price of starter homes" based on market research of the typical purchase price of homes bought by first-time buyers (CMHC, 1990a).

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The NHPI index attempts to provide a measure of price change of a constant quality of stock. Nonetheless, different dwelling types, eg. row housing and single detached, are mixed together such that it does not take into account the trend towards smaller housing or the changing composition of the stock in terms of dwelling type. This index also attempts to measure price change in the typical home by excluding luxury housing and the bottom end of the market. It is unlikely that such a measure would provide a more accurate picture of the cost of the average house than MLS data (to be discussed shortly) given these exclusions and the lack of control for dwelling type. In addition and as I point out elsewhere, for the purposes of this study a constant quality price measure is not necessarily desirable since what matters more is the supply of housing at given price levels. In other words, the supply of housing by type and price levels has not necessarily remained constant.

MLS data on the price of houses for resale is available from 1969 onwards while MLS data for residential and other types of real estate are available as far back as 1956. Since the bulk of MLS activity involves the sale of homes, 90% in 1991 (see CREA, 1982 and 1991), and the direction of the bias as a result of using general MLS data as a substitute for MLS residential prices in the early years is known (average prices are slightly higher for all MLS activity compared to just residential activity) this is not a major problem (see Figure 3). Data for 1951 to 1955 were estimated based on the relationship between NHA data and MLS data between 1956 and 1957. Because of the closeness of MLS and NHA data in earlier years, this does not present any problems (see Figure 2). A bigger problem is that not all sales activity is listed with the MLS (not all houses sold become listed); it is difficult to determine the nature of bias due to imperfect coverage of the market. Hamilton (1976) suggests that MLS sales concentrate on lower and middle priced housing and under-represent expensive ones. The Canadian Real Estate Association suggests that their MLS is more inclusive in housing bust times than in housing boom times (CREA, 1982). Hosios and Pesando (1992), on the other hand, point out that the mix of dwelling types sold over time varies such that the price data, usually used as an average, does not refer to constant quality. They demonstrate this using Toronto as the case area and a constant quality index (CQ); MLS data over-estimated house price change in Toronto, with nominal prices rising 1.17 per cent faster annually using MLS data than they would have had a CQ index been used.

Figure 3:
Comparison of the Average Price of All MLS Sales to the Average Price of MLS Residential Sales,
1951-1991

Source: CREA's MLS Reports, various years.

Despite Hosios and Pesando's (1992) findings of variation between the CQ index and the MLS data, their study gives general support to the MLS index. Moreover their CQ index produced almost identical results to those from MLS data between 1974 and 1981; and the inadequacy as Hosios and Pesando (1992) saw it, was in producing signals of changes in the market related to short term as opposed to long term analysis of the data. In fact, they agreed that the differences between MLS data and their CQ index between 1981 and 1987 were not large enough to change conclusions regarding affordability. Fallis (1980) also gives support to MLS data when he concludes that it is the best available series for long term trend analysis. Thus, MLS data are used in this study in both Chapter 3 and Chapter 4. Since only a small percentage (2% average on an annual basis) of the housing market consists of new houses (Sayegh, 1987), the MLS is a more important indicator of change in housing costs than data on new house prices. In the next section I discuss the use of data on carrying costs and down payments to assess change in the relative cost of housing.

Carrying costs are an important indication of housing costs; as Sayegh (1987) maintains, monthly carrying costs are more important to home buyers who buy with credit than the nominal price of housing. This is an especially important measure of housing costs for first-time home buyers; if they can not prove the ability to carry monthly mortgage payments (plus taxes) they do not become home-owners. Barlow (1982) and Smith (1974) are two Canadian works which use carrying costs as part of

an assessment of changes in the relative cost of housing over time. Karns et al (1986) is an example of a British study which uses this approach while Levy and Michel (1985) is an example of an American one.

The biggest problem with data on carrying costs is that they are hypothetical and not terribly accurate. This, in turn, is a result of missing data (e.g. trend data on mortgage terms) and consequently, the need to make assumptions. There are at least four factors which have to be taken into account (and sometimes assumed) in producing data on carrying costs or total monthly mortgage payments: (1) average mortgage interest rates, (2) the amortization period, (3) the purchase price of the house and (4) the percentage forwarded as a down payment (based on the maximum allowable loan to value ratio). These are discussed below.

Regarding (1), three types of interest rates have been used in Canadian studies: NHA rates (Barlow, 1982), yields on long term corporate bonds (Sayegh, 1987), and conventional mortgage rates (Steele, 1993). Sayegh (1987) justifies the use of long term corporate bonds on the grounds that they would better represent changes in carrying costs as a result of variations in mortgage terms; this has not been proven. As Figure 4 demonstrates, yields on corporate bonds have been lower than either NHA or conventional mortgage rates. Since NHA rates have traditionally been lower

Figure 4:
Comparison of Rates for Mortgages of Conventional Lenders, NHA Mortgages and Corporate Bonds, 1951-1991

Source: CMHC's Housing Statistics, various years and unpublished data from CMHC

than conventional rates and since I have trend data on conventional rates (for three year term mortgages), trends in conventional rates are used in this study.⁴²

As for the amortization period, 25 or 30 years is what is usually used. Since the amortization period was even lower than 25 years in the earlier years of this study's time frame, I have chosen 25 years instead of 30 years as the period over which the hypothetical mortgage data will be amortized. MLS data and NHA data have been used to represent house prices for the mortgage cost data. The loan to value ratio used in Canadian studies varies from 75% to 90%. Several loan to value scenarios are used in this study. This includes a variable LVR scenario which adjusts LVRs overtime in accordance with actual changes in maximum allowable LVRs⁴³; and two constant LVR scenarios (assuming a 10% and 25% down payment).

Once the above four types of input have been determined, the next step is to compare results to average income as Karns et al (1986) and Barlow (1982) do. As was already pointed out, there are two basic comparison approaches: (1) a comparison of the amount of change over time in PDI (or family income) and housing costs (e.g. MLS prices or yearly mortgage amounts) with both income and cost measures

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Since I could not find the rates for conventional mortgages prior to 1961 in CMHC's annual *Canadian Housing Statistics*, I have used the NHA rates for these early years. As Figure 4 demonstrates, NHA rates were quite close to conventional rates in the earlier part of the series.

⁴³

The variable LVR scenario reflects the fact that the maximum allowable loan has varied from 60% of the value of the home in 1951, to 66% starting in 1961, to 75% starting in 1964 (see Poapst, 1993).

standardized in the base year to 100 and (2) a comparison of the relationship between income (say family income) and housing costs (say yearly mortgage amounts) in the form of changes in the ratio of the two over time. Both types of comparisons are used in this study.

The final indicator of change in the relative cost of housing to be reviewed here has been constructed to measure the average amount of cash needed to enter the housing market, i.e. the size of the down payment. This indicator is usually used side by side with the indicators just discussed. Basically, this indicator is a measure of the average required down payment as a ratio to average incomes, given the average price of houses. First, the minimum required down payment is calculated based on the maximum allowable loan to value ratio and the average priced house. This amount is then compared in the form of a ratio to average income. This indicator is also used in this study in combination with yearly mortgage amounts, to produce a measure of purchase cost; that is, the amount needed to enter the housing market in the first year.

2.3 Summary

In summary of this chapter, I have discussed the concepts of affordability, accessibility and purchasing power as well as the measurement of them. I have pointed out that while the research problem which this paper addresses is more

closely aligned with the concept of purchasing power, it nonetheless cross-cuts the concepts of affordability and accessibility. The research problem, to reiterate, is to determine whether or not home-ownership has become more costly over time relative to income, particularly for new entrants to the market, such that the task of acquiring a home could be construed to have adversely affected family formation.

I have also reviewed some of the many ways both the housing cost and income sides of cost-to-income comparisons have been measured to assess change in the relative cost of home-ownership, focusing on the Canadian situation. I selected PDI from the NIEA and family household income from the SCF for the income side of the comparisons; and I discussed reasons for these selections. In the case of PDI, it was selected primarily because it has been used extensively in the housing literature to measure changes in purchasing power and change in the relative cost of housing. It will be used in Chapter 3 to answer the simple question of whether or not trends in PDI per capita have kept pace with trends in housing costs.

In the case of family household income, it was selected because it is available in a sufficiently long enough series and on a regular enough basis so that trends in family formation can be compared to it. Family income was also selected because it is primarily families who purchase houses or enter the housing market (Adams, 1984; Karn and Wolman, 1992; Kendig, 1990; Spain, 1990; and Sweet, 1990). In addition, after-tax and average family income per number of earners in the household will be

estimated. Changes in the relative cost of housing are compared to changes in family formation indicators over time with all income and housing cost measures transformed into 1991 constant dollars, in Chapter 4.

Finally, many approaches to measuring the housing cost side of cost-to-income comparisons were reviewed and the purchase/acquisition approach was selected as the one best suited for the purposes of this study; the purchase/acquisition approach better reflects the housing cost situation for new entrants to the market (which would usually mean younger adults) than other approaches. The indicators to be used in this study include MLS data (sales data of homes for resale), NHA data (sales price data on new homes), average mortgage amounts, and total purchase costs (amount required for a year's worth of mortgage payments and a minimum down payment).

I now turn to the results of past studies addressing the problem of changing housing costs. An analysis of changes in PDI per capita relative to changes in mortgage amounts and housing prices follows.

Chapter 3: Trends in the Relative Cost of Housing Since World War II

3.0 Introduction

As I mention in the previous chapter, the results of past studies investigating the question of change in the relative cost of housing are somewhat contradictory. Conclusions depend on the income or cost indicator and/or the data source used; the study's time frame; and some times conclusions appear to be a matter of personal judgement or bias rather than fact. In this chapter, I summarize the results of past studies in terms of time frame, indicators used, and other attributes. I then present an analysis of the Canadian situation from 1951-1991, using an acquisition approach. This analysis involves data on new NHA house prices and MLS sales data on the resale market; PDI per capita; hypothetical mortgage data based on various loan-to-value (LVR) or down payment assumptions; and indexed change values for the housing cost and income data. These data do provide evidence of increased housing costs, particularly when monthly mortgage payments are considered. However, overall results are mixed. What can be concluded from the analysis is that while the housing literature has been reasonably successful in establishing what the long term trends in the relative cost of housing have been, this literature has not been particularly useful in answering the question of relative costs in a way which allows one to determine whether or not there is a relationship between housing and family formation.

3.1 Results of Past Studies

Table 1 summarizes, by country, the results of a variety of studies dealing with the subject of change in the relative cost of housing, along with the time frame of each study and the major indicators and/or data sources used in each. While more attention is given in the table to Canadian studies, the non-Canadian ones serve to demonstrate two things: (1) that the issue of change in the relative cost of housing has been a concern in other English-speaking countries, and (2) that despite differences between these countries in terms of such things as housing policy and official indicators of housing cost, conclusions are similar.

Regarding (2), the point is important because, as is demonstrated in Chapter 4, trends in family formation measures (e.g. birth rates) have been similar in all English-speaking countries. This gives further credibility to the hypothesis under investigation in this dissertation. As for (1), the inclusion of studies of other English-speaking countries underscores the point that one of the great divides in conclusions is neither country nor housing policy nor type of economy but whether or not capital gains are included in the measure of housing cost. When capital gains are included in the housing cost or affordability indicator (see Neutze and Kendig 1991; Fallis, 1985; Apgar, 1989; and Saunders, 1990) the data demonstrate, regardless of country, that incomes have kept pace. As I mention in the previous chapter, while several studies have argued that the inclusion of capital gains produces a more correct or improved

Table 1: Studies Dealing with Change in the Cost of Housing

Study	Time Frame	Main Indicators	Findings
Canada			
Steele (1993)	1945-1984 (depending on indicator)	-CPI Rent Index -New House Price Index (STC) combined with NHA cost per sq. ft. -MLS Average -Financing indicator -User and cash costs of home-ownership (HO)	Compares trends in "real" costs of renting to owning; real house prices increased by 34% while real rents fell by 46%. Does not determine if incomes have kept pace or whether affordability has decreased but does deflate indicators to produce a picture of "real" changes in house prices. The rise in non-traditional HHLDs has decreased home-ownership rates.
Streich (1993)	1946-1981 (depending on indicator)	-% expenditure on shelter -All Item CPI -House Price Index (STC) -HIFE income data -PDI per capita -Carrying cost to income ratios	Accessibility to home-ownership has declined since the 1950s. Little change in affordability of home-ownership since 1945.
Miron (1988)	1946-1981	-All Item CPI -CPI shelter -CPI HO -% expenditure on shelter -PDI per capita -HHLD income (SCF)	Shelter became "more affordable for the typical consumer" in that PDI per capita rose by far more than housing indicators, even though "consumers spent substantially more on housing".
Fallis (1985)	1961-1982	-All Item CPI -Revised CPI HO (e.g. capital gains) -Per capita income (NIEA)	Incomes kept pace with increases in housing cost.
Goldberg (1983)	1961-1981	-CPI Housing -All Item CPI -New House Price Index (STC) -MLS Average -NHA Average (new) -PDI per cap. -Family HHLD income (SCF)	Incomes have kept pace or above increases in housing costs. Sees the problem as one of rising expectations in housing quality.
Barlow (1982)	1971-1981	-MLS data -Carrying costs, capital costs, & operating costs to income ratios -Income required to purchase -All Item CPI -New House Prices (STC) -Family income (SCF)	Increases in capital costs far exceeded rate of increase in All Item CPI. Access to the housing market decreased, as reflected by trends in capital costs to income ratios and indicators of income required to purchase

Table 1: Studies Dealing with Change in the Cost of Housing (Continued)

Study	Time Frame	Main Indicators	Findings
Bourne (1981)	1969-1976	-NHA house costs (new) -MLS data -All Item CPI -PDI per capita	"Over the long term, house prices have not increased relative to income, for the same quality of housing services." During the 1970s, house prices in Canada, and most Western countries, increased in real terms (taking into consideration inflation and income growth).
Fallis (1980)	1961-1976	-CPI HO -Revised CPI HO (weighting) -NHA land costs -NHA house costs -Revised All Item CPI (excluding rent costs) -PDI per capita	House prices rose faster than incomes at least some of the time (Ontario). Overall, incomes have kept pace with house prices but not with mortgage carrying costs. However, it has increasingly become difficult for the average HHL, including middle class youth, to purchase a first home.
Patterson (1978)	1961-1976 (for the most part)	-NHA housing costs -MLS data -capital carrying costs -All Item CPI -PDI per capita -average family income -average weekly earnings	Housing prices and carrying costs have exceeded income increases, and to a greater extent wage increases, over the past 10 to 15 years.
Bourne (1977)	1961-1976 (for the most part)	-NHA house costs (new) -CPI HO components -All Item CPI -Average wage rate	Relative cost of housing fell in the 1950s and 1960s but rose sharply in the 1970s.
Smith (1974)	1957-1970	-NHA house prices (new) -CPI home-ownership -All Item CPI -carrying costs, average gross debt service and average down payment required -PDI per capita	Although shelter costs rose more quickly than other commodities, housing became slightly more affordable during the 1950s and 1960s.

Table 1: Studies Dealing with Change in the Cost of Housing (Continued)

Study	Time Frame	Main Indicators	Findings
Illing (1968)	1951-1967	-NHA estimated house costs -NHA land and construction costs	Little income or wage data used. Nonetheless, reports that land costs and interest rates affecting affordability for those on fixed incomes, the lower middle class and those in industries where wages have not kept pace.
United States			
Apgar (1989)	1965-1983	-cash cost of housing consumption as % of median family income -direct cost (net of tax saving) as % of same -total cost (inc. capital gains and interest foregone) as % of same	Cash cost method shows a dramatic rise in cost-to-income ratio. Direct cost shows an increase, but not as dramatic. Total cost (re: capital gains) shows a steady decrease in cost-to-income ratios between 1965 and 1979, followed by an abrupt (and unbelievable) increase.
Sternlieb (1989)	1950s-1980s	No hard data presented	House buying power of all Americans reduced over the past decade. Trend toward real gains in personal income during the 1950s and 1960s truncated in the early 1970s.
Bratt et al (1986)	1975-1981	-mortgage carrying costs -average price of new homes -mortgage carrying costs as a % of income -median family income -% of family income required as down payment	"Home-ownership is becoming an increasingly difficult proposition, particularly for newly formed HHLDS." Required down payment rose from 65% of family income in 1975 to 85% of it in 1981. Mortgage carrying costs rose from representing 2% less than average family income to two times the average family income.

Table 1: Studies Dealing with Change in the Cost of Housing (Continued)

Study	Time Frame	Main Indicators	Findings
Levy and Michel (1985)	1950s-1984	<ul style="list-style-type: none"> -ratio of carrying costs to earnings at 30 yrs. of age -earnings at 30 yrs. of age -average earnings at 40 	<p>Ratio of carrying costs (monthly) to earnings at 30 rose from .14 in 1949 to .16 in 1959 to .21 in 1973 and .44 in 1983.</p> <p>Purchasing power of baby boom generation has decreased dramatically relative to earlier cohorts.</p> <p>"The young middle class (principally the baby boomers) has experienced a dramatic decline in its ability to pursue the conventional American dream: a home..."</p>
Hartman (1983)	1950s-1981 (depending on indicator used)	<ul style="list-style-type: none"> -overall CPI -shelter index -average price of new homes -mortgage carrying costs -% of family income needed to buy typical home -down payment as a % of family income -median family income 	<p>Shelter index rose faster than CPI over the 1970s.</p> <p>In 1975, average house was 2% below median family income while in 1981, it was double the median family income.</p> <p>In 1975, average required down payment was 65% of median family income; in 1981 it was 84% of it.</p>
Stone (1983)	1950-1981	<ul style="list-style-type: none"> -overall CPI -median sales price of new houses -existing house prices -average required mortgage payment -% of families that can afford typical new house -median family income 	<p>Affordability of housing decreasing.</p> <p>2/3 'rds of families could afford a new house in the 1950s compared to 1/10 'th in 1981.</p> <p>While overall CPI and median family income rose together over the 1970s, the price of houses and cost of mortgage payments rose much faster, especially for the first-time buyer.</p>
Gruen et al (1982)	1960s-1980	<ul style="list-style-type: none"> -price of housing -monthly mortgage costs -household income 	<p>During the 1960s and early 1970s, Hhld incomes outpaced the cost of housing but since 1973, the price of housing has outpaced HHLd incomes.</p> <p>Between 1977 and 1980, average monthly mortgage payments increased by 7.4% to 32.4% of Hhld income.</p>

Table 1: Studies Dealing with Change in the Cost of Housing (Continued)

Study	Time Frame	Main Indicators	Findings
Feins and Lane (1981)	1960-1979	<ul style="list-style-type: none"> -shelter-to income ratios -cash outlay approach -shelter costs, combining opportunity cost of equity -CPI Housing -All Item CPI -Annual Housing Survey data -household income 	<p>Between 1960 and 1973 "supposed" increases in housing consumption said to represent > 50% of the real increase in housing costs; no supply data are used.</p> <p>Shelter-to-income ratios rose every year since the 1960s.</p>
Frieden and Solomon (1977)	1970-1976	<ul style="list-style-type: none"> -median price of new and existing houses -total monthly HO costs -mortgage payments -operating and maintenance costs -required annual income for HO -% of families able to afford a median priced home -CPI -family income and income of home buyers 	<p>Affordability has decreased since 1970, largely as a result of escalating house prices and interest rates.</p> <p>The single-family home market has switched from a mass market in the 1960s to a specialized segment (top fourth of the income bracket).</p> <p>The hardest hit are those with average or below average incomes who are entering the market for the first-time.</p>
Britain			
Forrest et al (1990)	1954-1986	<ul style="list-style-type: none"> -Average price of houses -All properties index -Retail Price Index 	<p>Not concerned with affordability.</p> <p>However, does provide data to demonstrate that there has been several years (1970, 1974-1977, 1980 and 1981) when change in the average price of houses has not kept pace with inflation, in order to point out that home-ownership not always a good investment.</p>
Saunders (1990)	1949-1988	<ul style="list-style-type: none"> -Retail Price Index -House Price Index -Disposable Income 	<p>One of main purposes of study to demonstrate that home-ownership produces and redistributes wealth.</p> <p>Data show that while incomes seldom rose faster than house prices, house prices rose faster than incomes in 1971-1974 and 1979-1981.</p> <p>Nonetheless, suggests that growth in HHLD income has enhanced the capacity of the British population to become home-owners, particularly those in the working class.</p>

Table 1: Studies Dealing with Change in the Cost of Housing (Continued)

Study	Time Frame	Main Indicators	Findings
Karn et al (1986)	1970-1984	-ratio of mortgage payments to income (and to male earnings) -average income of first-time buyer -median gross annual earnings of male full-time employees	Demographics in part responsible for the increase in housing costs, including mortgage costs to income or earnings ratios. Pressure on mortgage credit and the housing market should ease in the 1990s as a result of demographic change.
Australia and New Zealand			
Neutze and Kendig (1991)	1930-1960 for cohort data and 1950-1985 for cross-sectional housing data	-retrospective life history data collected in 1986-87 (Australian Family Survey) -median age as first-time buyers -median time after marriage that a person becomes a home-owner -years of average income needed to purchase a median priced home -average earnings as a percentage of income necessary to carry a mortgage	"...it has become more difficult to become a home-owner since the mid-1950s, particularly for people of modest financial means, mainly as a result of rising interest rates and reduced government assistance." Accessibility has fallen while affordability (when including capital gains) has, until very recently, increased. Despite rising real costs of home-ownership, there has been a trend towards buying at earlier ages.
Thorns (1988)	1971-1981 for Australia and 1975-1985 for New Zealand	-size of down payment required for average price home -number of years average HHLN needs to acquire down payment -average mortgage carrying costs as a percentage of average gross weekly earnings	Weekly mortgage payments as % of weekly earnings increased from 49 in 1975 to 73 in 1985, in New Zealand for new houses; and from 42 to 63 for existing houses. As for Australia, "In 1975, it took 42% of average gross weekly earnings to buy an average priced house, and 49% to buy a new house." By 1985 the percentages were 63 and 73, respectively.
Kendig (1981)	1921-1977 (in some cases)	-yrs. required to save for down payment -average earnings -mortgage carrying costs -house prices, new and existing	Prices of new and existing homes rising faster than average earnings since the early 1970s, largely due to land costs. Interest rates raised mortgage carrying costs, creating problems for first-time home buyers, women's labour force participation and delayed child bearing.

estimate of the "real" cost of housing, I disagree for the purposes of this study (i.e. the ability to enter the housing market is an issue of cash and mortgage payments, not an issue of capital gains (or losses) which might or might not accrue in the future)⁴⁴.

Another regularity in conclusions across countries occurs when trends in monthly mortgage payments are considered (see Streich, 1993; Barlow, 1982; Patterson, 1978; Bratt et al, 1986; Levy and Michel, 1985; Hartman, 1983; Stone, 1983; Gruen, 1982; Frieden and Solomon, 1977; Karn et al, 1986; Thorns, 1988; Neutze and Kendig, 1991 and Kendig, 1981). In all of these studies, the rising cost of housing is seen as a problem in this regard, particularly for first-time buyers. Comparisons of change in housing prices to change in PDI per capita, and the use of fixed cost-to-income ratios; on the other hand, tend to produce ambiguous results either within or between studies (see Miron, 1988; Steele, 1993; Streich, 1993; Goldberg, 1983; Bourne, 1981; and Saunders, 1990). This is probably reflective of the problems with aggregate income measures and fixed cost-to-income measures which were discussed in the previous chapter.

The parents and grandparents of the baby boomers undoubtedly made large capital gains from the baby boom generation and also experienced negative real mortgage rates when they were locked into long term low interest mortgages before inflation started to soar. Market during periods of high real mortgage interest rates and during or after the period of high house price inflation. These latter cohorts will not be making huge capital gains as a result of the baby bust, i.e. reduced demand for housing (see Mankiw and Weil, 1989).

The time frame of the study was also mentioned as a dimension along which conclusions of investigations into change in the relative cost of housing have varied. The late 1960s or early 1970s appear to be the time period for which most studies report a growing problem in housing costs (Bourne, 1981; Bourne, 1977; Sternlieb, 1989; Levy and Michel, 1985; Stone, 1983; Frieden and Solomon, 1977; Forrest *et al*, 1990; Saunders, 1990; and Kendig, 1981). While this is looked at more closely in the next chapter in the context of family formation indicators, the early 1970s in fact marks the time period for which Canada started to have below-replacement fertility levels.

Few studies have addressed the issue of change in the relative cost of housing in the 1950s or 1960s and even fewer have compared the housing cost situation of the 1950s and 1960s to that occurring in the 1970s and 1980s. However, Smith (1974) contends that there were actual gains in "affordability" in the 1950s and 1960s; this is a time period when birth rates were high and rising and the average ages of brides and grooms at first marriage were falling. Unfortunately, he does not provide sufficient data to prove his case. In fact, many studies (e.g. Bourne, 1977; Sternlieb, 1989; Stone, 1983; Frieden and Solomon, 1977; Levy and Michel, 1985; and Neutze and Kendig, 1991), including several not reviewed in Table 1 (e.g. Down, 1977; Carliner, 1974; and Chevan, 1989), allude to the combined trend of more "affordable" housing in the 1950s and 1960s followed by rising costs relative to income in the 1970s and 1980s, (i.e. a V-shaped pattern in the relative cost of

housing). Unfortunately, few of these studies provide hard data either. Stone (1983) does relate that two-thirds of families in the United States could afford a new house in the 1950s compared to only one-tenth in 1981. Similarly, Frieden and Solomon (1977) report that the single-family home market in the United States switched from being a mass market to one targeted to the top fourth of the income market (but which appeared to nonetheless be booming as a result of an increase in the number of families in the home-buying age ranges, i.e. as a result of age demographics). However, these, like many other studies, demonstrate a linear progression in the relative cost of housing (or affordability/accessibility) since World War II, rather than a V-shaped one.

While a V-shaped pattern in the relative cost of housing in English-speaking countries since World War II has not been demonstrated using housing cost data, the existence of such a trend is nonetheless often assumed, using a combination of the following trends and circumstances:

- (1) the growth of home-ownership after World War II, followed by a decline in the late 1960s, particularly when data are standardized for age composition of the population or when age-specific home-ownership rates are taken into consideration (e.g. Chevan, 1989; Miron, 1988; Che-Alford, 1990);

(2) real increases in wages up to the late 1960s, followed by real wage decreases, especially for young adults, stagflation, and at the very best, a decline in the rate of increase in real wages (see Sternlieb, 1989; Myles et al, 1990; Levy and Michel, 1985; Rashid, 1993); and

(3) the fact that these countries were just coming out of the Great Depression, which caused housing and land prices to decrease until around the time of World War II.

Part of the problem in demonstrating a non-linear trend is a lack of data back in time, particularly prior to the 1970s; and this is discussed in detail in Chapter 2. What is available back in time is not as refined as what is needed, e.g. long term data on the net income and age of first-time home buyers. Nonetheless, it is probably safe to assume that home-ownership was more accessible/affordable after World War II relative to before it. More hard data on the pre-World War II time period would also be useful in strengthening the argument that there is an association between family formation activity and housing costs. On the other hand, the possibility remains that the effect of housing costs on family formation rates is not totally incremental but at least partially, a matter of degree; when housing was "affordable", young adults married early and had children early but when housing became difficult to obtain, there started to be delays in both. Given the paucity of data this can not be known at this time. In fact, because of inadequate data, the working hypothesis of this study is

more realistically relevant to the relationship between declining family formation activity and rising housing costs, rather than the more general relationship between family formation and housing costs.

Another point worth making with regard to the literature summarized in Table 1 relates to the changing nature of the conclusions as studies become more recent, and this relates in particular to the Canadian case where a wider range of studies were reviewed in terms of publication dates. For example, the earliest Canadian study reviewed in Table 1, Illing (1968), reports housing costs as a problem only for a few segments of the population, such as the lower middle class, those on fixed incomes, and those working in industries where wages had not kept pace with the rising standard of living. However, as the studies become more recent, the problem becomes more often defined as a middle class one; in particular a problem for young middle class adults trying to enter the housing market; and more particularly still, specific generational cohorts of young middle class adults entering the housing market. The notion that certain generations have gained in the housing market at the expense of others, is also expressed more frequently as studies become more recent.

While demographics undoubtedly have played an important role of a causal nature in shaping the relative cost of housing (as is discussed elsewhere), there is some suggestion and evidence in the literature that change in government housing

policy might also be responsible for generational differences in housing market access or affordability (see Smith, 1981a; Thorns, 1988; Neutze and Kendig, 1991; Sayegh, 1987; Oberlander, 1993; Chevan, 1989; and Harloe and Paris, 1985). In the Canadian case, a number of studies contend that housing policy switched in the late 1960s or early 1970s, from a concern with housing the middle class (including war veterans) to a concern with public housing, including the housing of the elderly; and from an indirect to a more direct involvement in the housing market (e.g. Smith, 1981a and Sayegh, 1987). Sayegh (1987) describes the re-orientation of government housing policy in the 1970s as follows:

"Since the formation of CMHC, and until mid 1964, Canadian housing policy was dominated by a desire to increase the construction of single-family homes... By controlling lending terms, especially the maximum loan per dwelling, CMHC was able to ensure that most loans financed moderately-priced houses for middle-income people... In the mid-1960s, the government's approach began to change... Attention shifted from market failure to income redistribution, and the government became much more directly involved in the housing market. The emphasis was put on public housing." (Sayegh, 1987:146).

Smith (1981a) draws a similar picture of what Canadian housing policy came to represent in the 1970s:

"The overall thrust of policies affecting housing in Canada and Ontario in the 1970s has been very clearly to encourage and assist home-ownership by Canadians, to discourage and restrict private ownership of rental housing (replacing it with government or non-government ownership of rental housing), and to redistribute income toward lower-income households. Much of this followed naturally from the assumption that housing is special, and that Canadians have an inherent right to consume housing services which must be protected from the vagaries of the marketplace." (Smith, 1981a:351).

There are indications that change in government policy might have affected market access in other English-speaking countries as well (Thorns, 1988; Harloe and Paris, 1985; Chevan, 1989; and Neutze and Kendig, 1991). The following quote from Neutze and Kendig highlights some of the policy changes which occurred in Australia over the post World War II period:

"During the 1950s and early 1960s, between a third and a half of mortgages were provided through the War Service Homes Scheme or other government sources at well below the rates of interest charged by other lenders... State housing authorities sold more than 200,000 dwellings during the post-war period to families eligible for public housing, generally at less than market value and on very favourable terms with low interest rates... These sales began soon after the war, peaked from the mid-1950s to mid-1960s, and fell off sharply after the mid-1970s... In summary, it has become more difficult to become a home-owner since the 1950s, particularly for people of modest financial means, mainly as a result of rising interest rates and reduced government assistance." (Neutze and Kendig, 1991:8).

Given the Reganomics and Thatcherism that existed in the United States and Britain in the 1980s, there is every indication, despite a policy of mortgage interest deductibility in the United States, that policy changes in the United States and Britain have been similar to those experienced in Canada and Australia, at least by the late 1970s and early 1980s, i.e. greater government support for middle class first-time buyers following World War II relative to the 1970s - 1990s (see Chevan, 1989; and Harloe and Paris, 1985). However, even for Canada and Australia, the case is difficult to prove.

In short, studies addressing the issue of change in the relative cost of housing in English-speaking countries have produced ambiguous results. However, much of the ambiguity has to do with the consumption approach to measuring housing cost and whether or not capital gains is included in the indicator. There is less ambiguity when it comes to the acquisition approach and the situation for first-time home buyers; despite crude data, the literature lends considerable support to the notion that there has been a growing problem for people entering the housing market, particularly after the early 1970s. While some have attributed the problem to demographics (i.e. increased demand) and the effect which this has had on interest rates, the cost of land and housing construction; others have ignored demographics entirely. Still others have included government changes to housing policy. There are also those who argue that the main problem is one of income; the economy has increasingly not provided new entrants to the labour market with the purchasing power or job stability that it has provided past entrants (e.g. Myles et al, 1990; and Levy and Michel, 1985). However, this can in turn, be related back to demographics and the relationship between wages and the supply of labour (e.g. Easterlin, 1968). Regardless of reasons, the literature provides every reason to expect that, at least as far as housing acquisition is concerned, housing costs will have increased relative to income by the late 1960s or early 1970s. It is now time to take a fresh look at what the Canadian data demonstrate in this regard between 1951 and 1991.

3.2 An Analysis of Trends in the Relative Cost of Housing in Canada Using PDI per capita, 1951-1991

In this section, trends in the relative cost of housing as evidenced by trends in the resale market (MLS data), hypothetical mortgage data and PDI per capita (from the National Income and Expenditure Accounts) are compared in terms of the degree and pace of change over time, much along the lines of analyses used in previous Canadian studies. As is pointed out in Chapter 2, PDI per capita is used as a measure of purchasing power despite its numerous shortcomings, because it has been used in so many other studies. A second analysis section using new NHA house prices follows, paralleling the first one which used MLS prices. As I pointed out in Chapter 2, NHA data are used because they have been used in so many other studies and also because they are considered a good measure of starter house prices, at least in recent decades.

3.2.1 Trends in Housing Cost as Represented by the Resale Market (MLS Prices) and PDI per capita

Table 2 presents MLS data, primarily for single detached dwellings (SDD), from 1951-1991, along with hypothetical mortgage data, based on the assumptions of a 25 year amortization period and a variable loan to value (LVR) scenario and two constant LVR scenarios (75% and 90%). A comparison of the change in PDI per capita to the change in the average price of an MLS home (both indexed to 100 in 1951) indicates that the former has generally kept pace with the latter, with the amount of change in PDI per capita (1554.95) ending up being slightly less than the

Table 2: Change in MLS Prices and Mortgage Amounts Compared to Change in PDI per capita, 1951-1991

Year	MLS Average Price (\$)	Monthly Mortgage Amounts (\$)			Change in			
		based on			MLS Prices	Mortgage Amount		PDI per capita
		(25y/var%)	(25y/75%)	(25y/90%)		(25y/var%)	(25y/75%)	
1951	9,370	34.32	42.90	51.47	100.00	100.00	100.00	100.00
1952	9,722	36.46	45.57	54.69	103.76	106.24	106.22	106.29
1953	10,160	38.10	47.63	57.15	108.43	111.01	111.03	108.28
1954	10,840	39.70	49.62	59.55	115.69	115.68	115.66	105.93
1955	11,069	39.58	49.47	59.37	118.13	115.33	115.31	111.66
1956	11,993	43.92	54.90	65.88	127.99	127.97	127.97	120.15
1957	12,781	49.06	61.33	73.60	136.40	142.95	142.96	124.02
1958	13,823	53.06	66.33	79.60	147.52	154.60	154.62	129.14
1959	14,208	58.40	73.00	87.60	151.63	170.16	170.16	132.08
1960	14,186	58.31	72.89	87.46	151.40	169.90	169.91	135.06
1961	14,127	66.00	74.21	89.05	150.77	192.31	172.98	134.88
1962	14,303	66.82	75.14	90.16	152.65	194.70	175.15	144.37
1963	14,420	67.37	75.75	90.90	153.90	196.30	176.57	150.86
1964	15,064	79.13	79.13	94.96	160.77	230.57	184.45	158.10
1965	15,917	86.58	86.58	103.90	169.87	252.27	201.82	170.73
1966	17,536	99.96	99.96	119.51	187.15	291.26	233.01	184.61
1967	19,111	114.19	114.19	137.02	203.96	332.72	266.18	195.96
1968	21,272	133.14	133.14	159.77	227.02	387.94	310.35	209.02
1969	23,234	161.77	161.77	194.12	247.96	471.36	377.09	223.84
1970	23,376	158.71	158.71	190.46	249.48	462.44	369.95	234.70
1971	24,581	153.86	153.86	184.63	262.34	448.31	358.65	254.79
1972	26,595	168.04	168.04	201.65	283.83	489.63	391.70	287.97
1973	29,636	198.97	198.97	238.75	316.29	579.75	463.80	333.30
1974	33,939	260.53	260.53	312.63	362.21	759.12	607.30	387.41
1975	47,201	362.58	362.58	435.09	503.75	1,056.47	845.17	448.71
1976	50,807	373.86	373.86	448.64	542.23	1,089.34	871.47	501.26
1977	52,796	363.02	363.02	435.62	563.46	1,057.75	846.20	545.95
1978	54,716	410.02	410.02	492.02	583.95	1,194.70	955.76	609.42
1979	58,967	505.83	505.83	606.99	629.32	1,473.86	1,179.09	680.66
1980	66,866	646.84	646.84	776.21	713.62	1,884.73	1,507.79	761.27
1981	76,082	827.87	827.87	933.45	811.97	2,412.21	1,929.77	877.56
1982	72,986	647.69	647.69	777.23	778.93	1,887.21	1,509.77	960.99
1983	76,795	586.29	586.29	703.55	819.58	1,708.30	1,366.64	1,000.76
1984	76,544	611.34	611.34	733.61	816.91	1,781.29	1,425.03	1,080.66
1985	80,775	589.37	589.37	707.24	862.06	1,717.28	1,373.82	1,147.59
1986	94,935	673.13	673.13	807.75	1,013.18	1,961.33	1,569.07	1,198.49
1987	111,365	807.96	807.96	969.55	1,188.53	2,354.20	1,883.36	1,268.02
1988	131,484	1,023.80	1,023.80	1,228.56	1,403.24	2,983.10	2,386.48	1,367.51
1989	148,736	1,151.10	1,151.10	1,381.33	1,587.36	3,354.02	2,683.22	1,477.00
1990	143,379	1,155.00	1,155.00	1,386.00	1,530.19	3,365.38	2,692.31	1,532.07
1991	149,720	972.08	972.08	1,166.59	1,597.87	2,832.40	2,265.92	1,554.95

Source: CREA's MLS Reports, various years, with mortgage data computed (see Chapter 2) and Statistics Canada (1992)

amount of change in MLS house prices (1597.87), by 1991. These results are in agreement with those of Patterson (1976) and Fallis (1980). They do not agree with those of Goldberg (1983).

While the change in the average MLS price of homes relative to the change in PDI per capita is very close in degree and therefore ambiguous or unrevealing, this is not the case for mortgage payments. When indexed to 100, the change in monthly mortgage payments for an average MLS home reached 2832.40 when a variable LVR was used and 2265.92 when a constant 75% LVR was used. Regardless of the LVR, these values are well above those representing the degree of change in PDI per capita by the late 1960s (see Table 2). Based on past studies in both Canada and other English-speaking countries, these results were anticipated; there is no ambiguity about the increase in monthly mortgage payments compared to increases in PDI per capita. Notice that mortgage amounts have recently decreased as a result of declining interest rates and that the change in mortgage payments was about double the change in PDI per capita starting in 1979.

In short, change in PDI per capita has more or less kept pace with change in house prices, measured by MLS residential price data. However, the conclusions one would draw in this regard depend on the study time frame chosen. On the other hand, there is a substantial difference between increases in PDI per capita and increases in monthly mortgage payments, starting in the late 1960s or early 1970s (see

Figure 5). Regardless of the LVR used, PDI per capita has not kept pace with mortgage costs. As I mention elsewhere, monthly mortgage payments are a better indicator of housing costs as they relate to accessibility or affordability in days where most housing is purchased with the help of credit; and this is particularly true for first-time buyers. I also mention elsewhere that PDI per capita is biased upwards, starting in the late 1960s and early 1970s, as a result of increases in the percentage of the population working, which is in turn related to age demographics and women's labour force participation, among other things. The large differences between change in monthly mortgage payments and PDI per capita despite upward biases in the PDI are therefore all the more noteworthy. In the next section, trends in the relationship between housing costs and PDI per capita as reflected in NHA data are examined.

3.2.2 Trends in the Cost of Starter Houses as Represented by NHA Price Data and PDI per capita

Table 3 presents trends in the price of new NHA financed single detached dwellings (SDD); monthly mortgage payments calculated with both a 90%, 75% and variable LVR, and a 25 year amortization period; and PDI per capita⁴⁵. The

⁴⁵

Since the mid-1980s, the majority of NHA borrowers have taken a mortgage with LVRs between 85.1% and 90.0% (CMHC, 1990a). Over the 1970s, the majority of NHA borrowers took a mortgage with an LVR of between 90.1% and 95.0% (CMHC, 1987). Thus, 90% is a good choice to represent NHA borrowers over time, at least since the 1970s, and for this reason CMHC uses 10% (eg. Barlow, 1982 and CMHC, 1990). However, judging from NHA data on average down payments and average new dwelling costs between 1956 and 1971, NHA down payments were larger in the past. For example, the average down payment as a percentage of the average price of a new NHA dwelling was 24.06% in 1956 (CMHC, 1964). In 1971 the percentage was 17.66 (CMHC, 1971). Throughout the 1956-1971 time period, the lowest average down payment was 16.34% of the average NHA dwelling price. Because of this, because NHA data are being used here to represent starter house prices rather than NHA operations, and for the purposes of comparability with the MLS data, the LVRs used for MLS data are also used for

Figure 5:
Comparison of Changes in MLS Price Data, PDI Per Capita and Monthly Mortgage Amounts,
1951-1991*

Source: CREA's MLS Reports, various years, Statistics Canada (1992), with mortgage data computed (see Chapter 2).

Table 3: Change in NHA Prices and Mortgage Amounts Compared to Change in PDI per capita, 1951-1991

Year	NHA Average Price (\$)	Monthly Mortgage Amounts (\$)			Change in			
		based on			NHA Prices	Mortgage Amount		PDI per capita
		(25y/var%)	(25y/75%)	(25y/90%)		(25y/var%)	(25y/75%)	
1951	10,948	40.10	50.12	60.14	100.00	100.00	100.00	100.00
1952	11,300	42.38	52.97	63.56	103.22	105.69	105.69	106.29
1953	11,738	44.02	55.02	66.03	107.22	109.78	109.78	108.28
1954	12,418	45.48	56.85	68.22	113.43	113.42	113.43	105.93
1955	12,647	45.22	56.25	67.83	115.52	112.77	112.23	111.66
1956	13,571	49.70	62.13	74.55	123.96	123.94	123.96	120.15
1957	14,647	56.23	70.28	84.34	133.79	140.22	140.22	124.02
1958	14,510	55.70	69.63	83.55	132.54	138.90	138.93	129.14
1959	14,761	60.67	75.84	91.01	134.83	151.30	151.32	132.08
1960	14,618	60.08	75.11	90.13	133.52	149.83	149.86	135.06
1961	14,765	68.98	77.56	93.07	134.86	172.02	154.75	134.88
1962	15,171	70.88	79.70	85.63	138.57	176.76	159.02	144.37
1963	15,574	72.76	81.81	98.17	142.25	181.45	163.23	150.86
1964	16,210	85.15	85.15	102.18	148.06	212.34	169.89	158.10
1965	16,955	92.23	92.23	110.67	154.87	230.00	184.02	170.73
1966	18,381	104.78	104.78	125.73	167.89	261.30	209.06	184.61
1967	19,784	118.21	118.21	141.85	180.71	294.79	235.85	195.96
1968	20,505	128.34	128.34	154.01	187.29	320.05	256.07	209.02
1969	21,058	146.62	146.62	175.94	192.35	365.64	292.54	223.84
1970	21,847	148.33	148.33	178.00	199.55	369.90	295.95	234.70
1971	21,979	137.57	137.57	165.08	200.76	343.07	274.48	254.79
1972	22,686	143.34	143.34	172.01	207.22	357.46	285.99	287.97
1973	24,802	166.51	166.51	199.82	226.54	415.24	332.22	333.30
1974	27,482	210.96	210.96	253.15	251.02	526.08	420.91	387.41
1975	33,289	255.71	255.71	306.85	304.06	637.68	510.20	448.71
1976	37,877	278.72	278.72	334.46	345.97	695.06	556.11	501.26
1977	41,542	285.64	285.64	342.76	379.45	712.32	569.91	545.95
1978	44,050	330.09	330.09	396.11	402.36	823.17	658.60	609.42
1979	49,024	420.54	420.54	504.64	447.79	1,048.73	839.07	680.66
1980	54,675	528.91	528.91	634.69	499.41	1,318.98	1,055.29	761.27
1981	63,370	689.55	689.55	827.46	578.83	1,719.58	1,375.80	877.56
1982	64,097	568.81	568.81	682.57	585.47	1,418.48	1,134.90	960.99
1983	68,881	525.87	525.87	631.04	629.17	1,311.40	1,049.22	1,000.76
1984	74,707	596.67	596.67	716.00	682.38	1,487.96	1,190.48	1,080.66
1985	81,248	592.82	592.82	711.38	742.13	1,478.35	1,182.80	1,147.59
1986	85,333	605.04	605.04	726.05	779.44	1,508.83	1,207.18	1,198.49
1987	95,498	692.85	692.85	831.41	872.29	1,727.81	1,382.38	1,268.02
1988	105,592	822.19	822.19	986.63	964.49	2,050.35	1,640.44	1,367.51
1989	110,583	855.83	855.83	1,026.99	1,010.07	2,134.24	1,707.56	1,477.00
1990	120,085	967.36	967.36	1,160.83	1,096.87	2,412.37	1,930.09	1,532.07
1991	124,948	811.24	811.24	973.49	1,141.29	2,023.04	1,618.60	1,554.95

Source: CMHC's Housing Statistics, various years, with mortgage data computed (see Chapter 2) and Statistics Canada (1992)

conclusions to be drawn regarding mortgage costs are similar to those drawn for MLS data. The change in monthly mortgage payments (1618.71 for a constant LVR, and 2023.04 for a variable one) has exceeded change in PDI per capita over the 1951-1991 time period (which to reiterate, reached an indexed value of 1554.95). Thus, PDI per capita has not kept pace with monthly mortgage amounts based on NHA price data either.

In terms of change in house prices, PDI per capita has more than kept pace with the average price of an NHA home; the index of change for new NHA financed homes only reached a value of 1141.29 in 1991. Since actions have been taken to keep the cost of NHA homes down (e.g. by reducing the size of houses and the lot space, and by locating the homes where land is cheaper) and since NHA homes have come to represent the lower end of the market (Patterson, 1976), this should not be surprising. Also, both Patterson (1977) and Fallis (1980) found that PDI per capita exceeded changes in NHA house prices between 1961 and 1976.

In short, like MLS data, NHA data demonstrate that PDI per capita has not kept pace with the cost of financing a home. However, when it comes to housing prices, NHA data, unlike MLS data, do not produce ambiguous results; PDI per capita has increased at a much faster pace than NHA house prices, prices reflective of starter homes. A comparison of NHA data with an age-specific income measure would

provide a better test of the hypothesis that incomes have not kept pace with starter home costs. Moreover, changes in PDI per capita are unlikely to reflect changes in the incomes of first-time buyers, i.e. younger adults (see Myles and Picot, 1990 or Ross and Lohead, 1993). Unfortunately, no such data are available on a frequent enough basis. Either way, it is of little consolation that changes in PDI per capita have moved at a faster pace than changes in starter home prices in days when virtually all first-time home buyers would be entering the housing market via a mortgage, given that PDI per capita has not kept pace with changes in mortgage amounts required for a typically priced starter home.

3.3 Conclusions

In summary of this chapter, the results of comparing PDI per capita to MLS and NHA price and mortgage data are very much in line with expectations generated from the housing literature. Because an acquisition as opposed to a consumption approach was used and because capital gains was not included, results are unambiguous with regard to changes in mortgage amounts over time; changes in mortgage amounts based on MLS house prices (the resale market) or NHA house prices (new starter home prices) have greatly exceeded the pace of change in PDI per capita. Results are more ambiguous with regard to house prices per se. MLS house prices rose slightly faster than PDI per capita but PDI per capita rose much faster than NHA prices. While it is not surprising that PDI per capita rose faster than the price of new starter homes as represented by NHA data, it is surprising that despite the biases inherent in

PDI per capita, changes in PDI per capita did not quite keep pace with changes in MLS house prices. It is also noteworthy that the late 1960s and early 1970s mark the time when there emerges substantial differences between increases in monthly mortgage amounts based on MLS or NHA prices and PDI per capita. This is because, as is discussed in the next chapter, this is the start of a time period of demographic pressure on the housing market. The question is, could this housing "problem" have affected family formation. I attempt to address this question in the next chapter where family household income and a time-segment approach are used.

Chapter 4: Trends in Family Formation and the Relative Cost of Housing

4.0 Introduction

In the previous chapter, trends in housing costs were analyzed in much the same way that previous Canadian studies have analyzed the problem of housing costs. However, the common treatment of change in housing costs versus income over large segments of time is not entirely suitable for the research question which this paper addresses (and in some cases not suitable to more "traditional" economic formulations of the research problem either) because the purchase of a house is a life cycle event. As I point out elsewhere, people purchase houses in specific age ranges and usually in relation to specific life cycle events (e.g. around the time of marriage or the birth of the first child). Cohorts entering the housing market at one point in time (say the 1950s) will not necessarily experience the same housing costs relative to income as cohorts entering at another point (say the 1970s), especially when one can expect interactions between housing costs, demographics and income (e.g. population growth in the house buying age range and/or an increase in marriages related to a previous boom in reproduction). The analysis of changes in housing costs over smaller time segments is particularly important when comparisons are being made to trends in family formation, trends which have not been linear. Thus, in this chapter, trends in the relative cost of housing are re-analyzed in either 10 year segments and/or on a

more or less continuous basis, in combination with trends in family income and family formation data.

Regarding the analysis of housing costs to be undertaken in this chapter, SCF data are used and the increase in the number of earners per family is quasi-controlled by dividing the average family income by the average number of earners per family as Ross and Lohead (1983) do (see Chapter 2 for further details). Estimates of after-tax family income prior to 1971 were produced using Podoluk's (1968) estimates of the average tax on family income in 1951 and 1961, allowing for an after-tax measure for the entire time frame of the study. In addition, housing cost and income data have been transformed into constant 1991 dollars. While not important in analysing cost to income ratios, the removal of the effects of inflation is important in comparing trends in housing costs and income separately. Also, the removal of inflation transforms after-tax income into a measure of purchasing power.

I begin this analysis chapter by empirically describing trends in family formation since 1951 using average age of brides at first marriage, average age of grooms at first marriage, median age of mothers at birth of first child, total number of marriages and various measures of reproduction (e.g. total fertility rates, general fertility rate and age-specific fertility rates). This is then followed by a section looking at trends in family income, the price of housing and family formation; a section on trends in family income, the cost of financing a home and family formation; and conclusions.

4.1 Trends in Family Formation

In previous chapters I pointed out that rising housing costs have been a concern of all English-speaking countries, particularly since the 1970s; that all English-speaking countries have had policies which provide strong support for home-ownership as the route to housing its citizens (with Britain being a newcomer to the home-ownership route after several decades of flirtation with a large public housing sector); and that these countries have all experienced similar trends in family formation. Figure 6 presents trends in the total fertility rates (TFR) of these countries.⁴⁶ While the trend for all of these countries is quite similar, Britain is again the anomaly, having a much lower and later peak in fertility than its former colonies. The TFRs of Canada and the United States peaked in 1959 and 1957, respectively; those of Australia and New Zealand peaked in 1961; while Britain's did not do so until 1965. Having provided but a brief example of one of the many similarities between English-speaking countries in terms of trends in family formation, it is now time to focus on Canadian trends. Note, however, that Canada's turn from high to low fertility is the most dramatic of all English-speaking countries.

⁴⁶

The TFR is a synthetic cohort measure of fertility which removes the effects of age distribution differences on fertility. It is thus a good measure for comparisons across time or space. Specifically it is the sum of age-specific fertility rates (number of births per 1000 women) for each of the five age groups between 15 and 44, multiplied by five. When again divided by 1000, the TFR becomes a measure of the total number of births per woman. In effect, the TFR is a synthetic cohort measure of the average number of children per woman or per 1000 women, assuming women will reproduce over the life course in accordance with the current age-specific pattern (Weeks, 1992:118). Also note that the age-specific rates are multiplied by 5 only when the data are grouped into five year intervals. If data by single years were used, no such adjustment would have to be made.

Figure 6:
Trends in the Total Fertility Rate (TFR) of English Speaking Countries, 1951-1982

Source: Romanic (1984)

To continue with trends in Canada's TFR, the baby boom, from trough to peak, stretches from 1940 to 1959 (see Figure 7). These years, therefore, are bench marks for demographic pressure twenty to thirty years down the road in terms of labour and housing markets. From trough to trough, the baby boom stretches from 1940 to 1966 (and thus has been misnamed as a "post" war phenomenon). The outer trough can be regarded as a return to the long term downward trend line (as proponents of the Demographic Transition paradigm see it) and/or Depression level fertility (as some economists would see it). Since the TFR fell below the level necessary for population replacement in 1972 (Canada requires a TFR of 2.11 to keep its population from aging and eventually decreasing, excluding immigration) the 1972-1991 time period can be regarded as the period of sub-replacement fertility levels. In effect, the baby bust can be defined as the fall from the peak of the baby boom to the present day (1959-1991); the return to the trend line set by the Depression (1967-1991); or the beginning of sub-replacement fertility levels (1972-1991). I prefer to see these three delineations as stages in the decline with the first (1959-1967) being as much associated with the baby boom as it is associated with the baby bust. As is demonstrated shortly, there is some justification for seeing these as separate stages of the decline. Note that the GFR (General Fertility Rate measuring the number of births per thousand women 15-49 years of age) and the TFR produce almost identical depictions of fertility trends (see Figure 7).

Figure 7:
The Baby Boom: General Fertility Rates (GFR) and Total Fertility Rates (TFR),
1951-1991

Source: Romaniuc (1984), Veevers (1983) and Wedhens and Strahan (1992b and 1992c)

Looking now at fertility trends by age group, **Figure 8** suggests that the age group most responsible for the dramatic turn from high to below replacement fertility levels is the 20-24 year one (though women 25-29 years of age would be a close second); the age group switched from being the one with the highest fertility rate (during the baby boom) to second and ultimately third place during the baby bust period. The prolongation of schooling would seem to be an obvious explanation for the fertility trends of this age group. However, the fact that late marriage and late child bearing prior to World War II were the norm, undermines such an explanation. In addition, all age groups experienced similar trends, at similar time points (the fertility rates of women in the three youngest age groups all peaked in 1959), though none experienced change as dramatically as the 20-24 year age group.

It has not all been down hill between 1959 and 1991. For example, since 1975, women 30-34 years of age (and since 1981 in the case of women 35-39) have experienced an up-turn in fertility rates. This is probably indicative of delayed childbearing; this is certainly Kettle's (1991) interpretation. Had this group not experienced an upturn in fertility, Canada's baby bust would have been unbelievably if not embarrassingly lower. Note that all age groups under 40 appear to have experienced an upturn in fertility rates since the mid to late 1980s. Whether this is a real phenomenon remains to be seen. According to Kettle (1991), it is at least in part a result of census under counts (1986 Census) of young women and that consequently, real birth rates were actually lower between 1986 and 1990 than the "official"

Figure 8:

Trends in the Fertility Rates of Women under 40 Years of Age by Age Group, 1951-1991

Source: Romanovic (1984), Wadhwa and Strachan (1992c) and Statistics Canada (1993d).

statistics would suggest. The downturn in the TFR for women under 20 and 20-24 years of age in the 1991 census seems to reaffirm Kettle's (1991) assessment of the situation. Either way, women presently under 30 years of age are unable to produce a baby boom of the magnitude of the post War II one; their cohort size is now too small (see Kettle, 1991). On the other hand, increases in the fertility rates of these younger age groups over the next ten years (a time period when house prices can be expected to fall in real terms because of the decrease in the number of people in the "first-time home buyer" age ranges - see Mankiw and Weil, 1989) could bring fertility levels closer to replacement levels.

While fertility rates have been falling, since 1959 in the case of the TFR (or even total births), the total number of marriages, a good indicator of potential demand for home ownership has generally not done so.⁴⁷ In fact, in 1961, the total number of marriages (and marriage rates) started to increase steadily, peaking in the same year that fertility fell below population replacement levels (1972). In terms of both number of marriages and marriage rates, the time was ripe for high fertility like never before in Canadian history (see Figure 9). Even trends in the average age of brides at first marriage were suited to high fertility, i.e. in the sense of an eventual high completed cohort fertility. The decline in the average age of brides, which started with the post World War II rise in fertility, continued after the down turn in fertility

⁴⁷

Marriage rates had been on the decline as early as 1942, as is discussed shortly, and they also fell during the recession of the 1980s as well as the recession of the early 1990s.

Figure 9:

Trends in the Number of Marriages and the Number of Marriages per 1000 Population, 1951-1991

Source: Dumas (1990), Wadhwa and Strachan (1992 and 1992a) and Statistics Canada (1992a)

rates. It continued to decrease such that by 1972, the year fertility dropped below replacement levels, brides were younger on average than at any time in Canada's recorded demographic history (see Figure 10). The situation was similar for grooms at first marriage (see Figure 10). What happened?

Figure 11 suggests that delayed childbearing is part of the answer. Though both the median age of mothers at the birth of first child and the average age of brides at first marriage had been on the decline since 1951 (in fact since World War II), the median age at birth of first child started to increase in 1967, five years before the average age of brides at first marriage started to increase.⁴⁸ This resulted in the average delay between first child and first marriage being larger in 1972 and 1974 (1.84 and 1.89 years, respectively) than at any other time since World War II (in 1951 the average delay was 0.54 years; in 1953 it was even lower, 0.49 years). By the time the average delay between first marriage and first child had returned to 1950 levels, the average age of marriage was approximately 2 years higher than the early 1950s. Delayed marriage thus became a characteristic of the sub-replacement fertility time period (1972-1991), while delayed childbearing, which initially brought fertility to sub-replacement levels from the Depression trend line (i.e. 1967), continued to play an important role in suppressing fertility in conjunction with delayed marriage, until at least the early 1980s.

⁴⁸ This is also two years before important legislative changes allowed legal access to new contraceptive technology such as the pill and abortion. However, note that this comparison can be misleading because these data are aggregate level and because they have not been lagged.

Figure 10:
Trends in the Average Age of Brides and Grooms at First Marriage,
1951-1991

Source: Statistics Canada (1992a) and Wedhars and Strechan (1992 and 1992a).

Figure 11:
Trends in the Median Age of Mothers at the Birth of First Child and the Average Age of Brides at First Marriage, 1951-1991

Source: Statistics Canada (1992a and 1993a), Romanic (1984), Wedhara and Strachan (1992, 1992a and 1992c)

The other part of the answer as to what happened is a decrease in the percentage of births which were third order or more between 1962 and 1975 (see Figure 12), and particularly in the percentage which were fourth order or more in the same time period (see Figure 13). In other words, there was also a decrease in the birth rates of more established families. However, part of the decrease in third or greater order births could be related to both delayed child bearing which became evident in 1967 and later, delayed marriage (starting in 1973). Either way, higher order parities explain how rising birth rates were achieved despite declining marriage rates between 1951 (in fact, since 1942) and the early 1960s; and despite a relatively constant number of total marriages per year between 1951 (in fact, since the late 1940s - see Wadhera and Strachan, 1992) and the early 1960s. Declining marriage rates were in turn, probably a result of age demographics, i.e. declining birth rates between 1920 and 1939 resulting in a lower number in the first marriage age range in 1961 (when those born in 1940 would be 21) than in 1951 (when those born in 1930 would be 21) or 1941 (when those born in 1920 would be 21).

The next obvious question is what caused the slow down in reproduction and marriage (i.e. delayed childbearing and marriage). Put in another way, what caused the slow down in family formation starting in 1967 and the decrease in third or higher order births starting around 1962. As I argue below, there is some empirical support for an explanation revolving around the interaction between demographics and economics; particularly between demographics and housing economics.

Figure 12:
Trends in the Percentage of Births which Are First, Second, or Third and Higher Order
1951-1991

Source: Romanovic (1984), Wachter and Strachan (1992b and 1992c) and Statistics Canada (1993a)

Figure 13:
Trends in the Percentage of Births which Are First, Second, Third, and Fourth or Higher
Order, 1951-1991

Source: Romaniuc (1984), Wadhera and Strachan (1992b and 1992c) and Statistics Canada (1993e)

Figure 14, which displays the relationship between the total number of marriages and the general fertility rate (births per 1000 women 15-49 years of age) brought forward twenty years, provides the starting point for seeing a demographic and housing economics interaction. It suggests that the marriage boom of the late sixties through to the seventies (and even the eighties) has been fed by the fertility rates of the preceding post World War II baby boom. The correlation (Pearson's r) between these two trends, however, is only .53, in part because of a poor match between the two trends from the 1980s onwards (see **Figure 14**). **Figure 15** carries the argument further. It suggests that the reduction in fertility and the increase in the median age of brides just at the point where marriages reached their peak in terms of absolute numbers (as well as rates), might well be related to competition between baby-boomers for the resources required for family formation in English-speaking societies, i.e. a job with sufficient income to maintain a household and/or support dependents, home-ownership and so forth. The increase in the median age of mothers at the birth of first child, starting in 1967, and the increase in the average delay between marriage and childbearing could well be related to the same processes.

In subsequent sections I look at possible interactions between changes in family income, housing costs and family formation, for all three stages of the decline in fertility, including a segment of the baby boom (i.e. 1951-1959). Trends in the labour force participation of married women and/or the number of earners per family are also taken into consideration.

Figure 14:
Comparison of the General Fertility Rate, Advanced 20 Years, to Total Number of Marriages,
1951-1991

Source: Dumas (1990), Wadhwa and Strachan (1992, 1992a, 1992b and 1992c), Vecovers (1983) and Romanovic (1984).

Figure 15:
Comparison of General Fertility Rates, Marriages per 1000 Population and the Average Age of Brides at First Marriage, 1951-1991

Source: Dumas (1990), Wadhwa and Strachan (1992, 1992b and 1992c), Vevers (1983), Romerius (1984) and Statistics Canada (1992a)

4.2 Trends in Family Income, the Price of Housing and Family Formation

Figure 16 presents trends in family income in constant 1991 dollars. As expected, there is a growing disparity between gross and after-tax family income, particularly when the 1950s and 1960s are compared to the 1980s and 1990s.

Although family income appears to be growing quickly throughout the late 1960s and early to mid-1970s, Figure 16 also suggests that this is largely a result of the growth in the number of earners per family; the trend in income is considerably flatter when both personal taxes and the number of earners are taken into consideration. In fact, after 1976, there has been no growth in family income independent of the growth in the number of earners per family⁴⁹. This latter finding is consistent with the findings of Ross and Lohead (1993).

When trends in family income are compared to trends in MLS house prices, house prices appear to have followed the pattern of the trend in family income but not the pattern of the trend in family income per earner (see Figure 17). "Family income per earner" remains flat while MLS house prices and family income rise and fall together over much of the series. Consequently, the Pearson's r between MLS house prices and family income (.91) is higher than the r between MLS house prices

⁴⁹

There has been no increase in the gross earnings of men working full-time since then either (see Statistics Canada, 1991).

Figure 16:
Trends in Average Family Income, After-Tax Family Income, After-Tax Family Income per Earner and Family Income per Earner, 1951-1991

Source: Statistics Canada (1993d) with after-tax and per earner data estimated (see Chapter 2)

Figure 17:
Trends in Average Family Income, After-Tax Family Income, After-Tax Family Income per Earner and MLS House Prices, 1951-1991

Source: Statistics Canada (1993d), CREA's MLS Reports, various years, with estimates of after-tax and per earner data (see Chapter 2).

and family income per earner (.90) and after-tax income per earner (.86). This is probably a reflection of the fact that mortgage eligibility (and therefore access to the housing market) is determined on the basis of gross family earnings rather than "after-tax family income per earner".

These same data, in ten year segments or as cohorts, demonstrate more clearly what has been happening to MLS prices relative to family income. Figure 18, for example, shows that gross family income more or less kept pace with increases in MLS house prices over the course of the 1950s and in fact exceeded increases in MLS house prices over the course of the 1960s. However, family income fell behind increases in house prices in the 1970s and even further behind over the course of the 1980s. This is consistent with expectations arising out of the thesis being put forth in this paper; that is, cohorts with lower birth rates (i.e. more recent cohorts) would be in a poorer position as far as housing acquisition is concerned, than cohorts with higher birth rates (earlier cohorts), in part as a result of the higher birth rates of the earlier cohorts (re: Easterlin's Theory of Relative Income).

A closer look at these data produces a more revealing picture as far as a possible relationship between changes in house prices and family formation are concerned. Family income kept pace with changes in house prices in the early part of the 1950s, a period of economic expansion (see Smith, 1974), but not in the later part of the 1950s, a period of economic contraction. In fact, things were so bad in 1957 and

Figure 18:
Comparison of the Percentage Change in Average MLS Prices and Family Income, 1950s to 1980s
 (in constant 1991 dollars)

Source: Statistics Canada (1993d) and CREA's MLS Reports, various years

1959 that changes in "after-tax family income per earner" were negative; it was not to be negative again until 1977, after the gross full-time earnings of men and "family income per earner" ceased to grow (see Figure 19). House prices would have been rising because of the pressure on the housing market from the flurry of family formation which occurred in the first decade or two after the war⁵⁰; from the increase in home-ownership rates; from the back-log in residential construction created by the Depression and the war; but also from turning back on the immigration tap - between 1948 and 1957, 1.5 million new Canadians arrived (see Palmer, 1983 and Smith 1974). In addition, credit tightness produced a drastic decline in housing starts in both 1957 and 1959, which would further exacerbate the demand/supply situation in housing (Smith, 1974). As Smith put it "the monetary authorities virtually froze the money supply in 1958" and "this tightness was further increased by the ill-timed conversion loan of 1958 which ushered in not only a period of much higher interest rates but one of widespread and continuing instability in the financial markets." (Smith, 1974:64). Recall that it was just after this point in time that the TFR started to fall⁵¹. These times of recession, high interest rates and high unemployment as described by both Palmer (1983) and Smith (1974), with

⁵⁰

Pearson's r s of .73 and -.65 were obtained for MLS house prices and the total number of marriages and MLS house prices and marriage rates, respectively.

⁵¹

A Pearson's r of -.81 was obtained for MLS house prices and the TFR. It was even higher when considering house prices and the fertility rate of women 20-24 years of age (-.84) or the percentage of births which were 3rd order or higher (-.93).

Figure 19:
Comparison of the Percentage Change in Average Family Income and Average MLS House Prices, 1951-1991
 (in constant 1991 \$)

Source: Statistics Canada (1993d), CREA's MLS Reports, various years, with estimates of after-tax and per earner data (see Chapter 2)

unemployment almost reaching 1938 (Depression) levels (Palmer, 1983) were hardly the good times Krotki would have us believe (see Veevers, 1983 or Appendix A).

Like the 1950s, family income kept pace with changes in MLS house prices only over the first half of the 1960s. Even "after-tax family income per earner" kept pace in this period, described by Palmer (1983), Smith (1974) and Dowling (1992) as one of economic expansion. These were clearly good economic times by all accounts, with housing starts reaching record levels in 1965 (Smith, 1974). Why then did fertility continue to fall? The relationship between housing prices and family income does not explain this. Yet, if the situation was as good as the house price and family income data suggest, why did home-ownership rates fall for the first since World War II, from 63% in 1961 to 60% in 1966?

One of the several explanations for declining home-ownership rates during this time period offered by Miron (1988) is that the "large typical family size" of the times resulted in "modest-income families finding it difficult to acquire the savings for a down payment that would make ownership affordable." (Miron, 1988:172).

Figure 12 shows third order or higher births starting to fall in 1962 while Figure 8 shows that 1964-1965 is the period of sharpest decline in the TFR for women between the ages of 20 and 34.⁵² Thus, declining third or higher order births could have, in

⁵²

Interestingly, 1962 was the only bad economic time in the 1961-1965 time period, characterized by Smith (1974) as one of monetary restraint spurred by a foreign exchange crisis. Also, Pearson's *rs* for MLS house prices and the fertility rate of women 20-24, 25-29 and 30-34 years of age are -.84, -.78 and

turn, been a result of the rising cost of housing in a time period when women's labour force participation (at some point in the life cycle) was becoming increasingly important to keeping pace (see Figure 20).⁵³ Another possible housing related explanation of the decline in third or higher order births and the increase in first and second order ones can be found in the Hellyer Report of 1969 (The Federal Task Force on Housing and Urban Development); one of its five areas of investigation was the failure of the housing industry to build accommodation for large families, to build rental housing and in particular, apartments for families with more than two children (see Oberlander, 1992). In other words, there is some evidence that despite good economic times and a record number of housing starts, there was an inadequate supply of housing (rental or otherwise) for larger families.

Family income did not keep pace with increases in house prices in the late 1960s. Part of the problem was inflation and high interest rates, particularly in 1967 (Dowling, 1992 and Smith, 1974). The Hellyer Report reflects the times given that one of its five areas of investigation was "The failure of Canadian house building industry, Canadian financial institutions and various levels of government to build adequate supplies of housing at prices that a substantial majority of families could afford to pay" (see Oberlander, 1992). Recall that it was in the late 1960s when the

-.71, respectively.

⁵³

Recall that there is an overall negative correlation of 93 (Pearson's r) between house prices and the percentage of births which are 3rd order or higher.

Figure 20:

Trends in the Labour Force Participation Rates of Married Women by Age Group, 1951-1991

Source: Statistics Canada (1970; 1989a; and 1993)

median age of mothers at the birth of first child started to increase; when fertility returned to the Depression trend line, i.e. the beginning of sub-Depression fertility levels; and when those born during the earlier years of the baby boom would be entering both the labour market and the housing market.⁵⁴ The late 1960s was also a time period which experienced major changes in the area of mortgage lending (to be discussed shortly) which undoubtedly arose in response to a squeezed credit market but which did not make housing finance any cheaper for families in the long run.

By the time the 1970s rolled around, house prices had increased to a point where most of the gains in family income that occurred in the early 1960s had been erased. Changes in "after-tax family income per earner" did exceed changes in house prices between 1969 and 1971. However, this apparent gain does not take into account the economic contraction of 1970 since there was no SCF in 1970. House prices actually decreased between 1969 and 1970, as did the number of housing starts and even MLS unit sales (see CREA, 1982). Either way, the gains in "after-tax family income per earner" in this time period were not sufficient to off-set earlier losses. Thus, the only reason family income had kept pace with changes in house prices up to this point in time was the increase in the number of wives working (see Figure 21).⁵⁵

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A Pearson's r of .78 was obtained for MLS house prices and the median age of mothers at the birth of first child.

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Trends in the labour force participation (LFP) rates of married women are used as a substitute in the chart for the percentage of earners per family on the basis that the trends between the two between 1967 and 1991 are quite comparable and that the LFP rates for the period prior to 1967 are likely to be more reliable than the number of earners per family, re: small sample size and a possible urban bias of earlier

Figure 21:
Average MLS House Prices as a Ratio of Average Family Income and Average After-Tax Family Income per Earner and the Labour Force Participation Rates (LPR) of Married Women, 1951-1991

Source: Statistics Canada (1970, 1989a, 1993 and 1993d), CREA's MLS Reports, with estimates of after-tax and per earner data (see Chapter 2)

The 1971-1974 time period was a reasonably good one from the perspective of changes in house prices and family income (including after-tax family income); changes in family income exceeded changes in house prices by a considerable amount. This resulted in changes in family income being ahead of changes in house prices by 1974. By 1974, family income had risen by 83.29% (since 1951), after-tax family income had risen by 72.95% and house prices had risen by 68.41%. Not surprisingly, this was also a period of economic expansion (Dowling, 1992). Again, "family income per earner" (gross or after-tax) kept pace in the time period (1971-1974), but again the gains were not sufficient to off-set earlier losses. "Family income per earner" had risen only 50.81% since 1951 while "after-tax family income per earner" had risen only 40.82%.

As for an explanation of trends in family formation in the early 1970s, trends in house prices relative to family income do not offer an immediate explanation as to why there was sub-replacement fertility despite a demographic situation conducive to high fertility. However, the housing data have to be questioned here and I suspect the problem is condominiums artificially bringing down the cost. As Miron (1988) reports, there was a condominium boom in the early 1970s (single detached dwellings decreased as a percentage of the owner occupied housing stock between 1971 and 1976), resulting in a rebound in home-ownership rates, from 60% in 1971 to 62% in 1976. The condominium explanation for artificially low housing prices relative to

income is given further weight in the public record. Ron Basford, Minister of State for Urban Affairs reported in 1973 that high land prices were underlying a housing affordability problem; and Sinclair Stevens was recorded in the *House of Commons Debates* in that same year as saying that land prices were prohibiting the average family in Canada from owning a house (see Gordon, 1985). In other words, 1971-1974 may have been a period of economic expansion with favourable MLS prices relative to family income but the real situation of house prices (excluding condominiums) relative to family incomes was not favourable to the acquisition of housing for families. In fact, whether this period of economic expansion constituted "good times" is also debatable as it was a period of stagflation, i.e. high inflation and high unemployment. Either way, I demonstrate shortly that these were not good times in terms of housing finance.⁵⁶ In days when almost all first-time home buyers purchase a house with a mortgage, housing finance is more important than absolute price.

Between 1974 and 1975, house prices skyrocketed. It was not a period of good times by any accounts; the economy was contracting, the OPEC oil embargo had a large inflationary impact (in fact, Levy and Michel (1985) claim that the two major oil price increases each reduced the American standard of living by 5%); and the Canadian unemployment rate rose to 6.9% (Dowling, 1992). Many attribute the

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They were not "good times" in terms of rental accommodation either. According to Oberlander (1992), there was a growing rental supply problem.

skyrocketing to increases in the labour force participation of wives.⁵⁷ I do not deny the plausibility of this. However, I think the escalation in house prices at this time was related to the 1974-1975 land boom which occurred in most, if not all English-speaking countries (see Bourne, 1981 and Scheffman, 1978). In Canada, Gordon (1985) reports that the rapid increase in land prices between 1974 and 1976 outpaced increases in the 1950s and 1960s. At least part of this escalation can be related to the pressure of demographics on land and/or housing (recall that all English-speaking countries experienced a baby boom).⁵⁸ In fact, this demographic pressure on the housing market (and on the price of land) can equally be seen as that which led to the increase in women's labour force participation.

Another possible explanation for the rapid increase in house prices between 1974 and 1975 is "market correction". As Figure 22 demonstrates, house prices, which had been increasing with the increase in the number of marriages, appear to be low in the early 1970s relative to "demand"; thus, the large increase between 1974 and 1975 could have been a "catch-up" increase. Either way, house prices rose by 25.55% between 1974 and 1975 while family income rose 1.09%, family income per earner rose 2.95%, after-tax family income, 1.39% and "after-tax family income per

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A Pearson's r of .87 was obtained for trends in the average number of earners per family and MLS house prices.

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Craig McKie has pointed out that the land boom could have been in part, related to the OPEC oil price hikes since it would have increased the cost of commuting and therefore increased the value of housing (re: land) in cities. This in turn contributed to gentrification, the economization of space and increased heating costs.

Figure 22:

Trends in the Number of Marriages, the Labour Force Participation Rates (LPR) of Married Women and Average MLS House Prices, 1951-1991

(in constant 1991 \$)

Source: Statistics Canada (1970, 1989a and 1993), CREA's MLS Reports, various years, Dumas (1990) and Wadhwa and Strachan (1992)

earner", 3.26%. This means that house prices had risen by 93.96% since 1951, family income by only 84.38% and "after-tax family income per earner" by 44.08%. Thus, market correction or not, with 1976 marking the time after which there has been no further gains in "after-tax family income per earner" (or even "gross family income per earner"), MLS prices expressed as a ratio to family income, appear as a shock to the system (see Figure 23). The introduction of wage and price controls in 1976, which controlled wages more than prices in a very inflationary environment, may have been what flattened family income per earner and the full time earnings of men from 1976 onwards, even though the controls only lasted until 1978.⁵⁹

Although house prices decreased in value from time to time after 1975 (in 1991 constant dollars), the net change after 1975 was one of increase; family income has never caught up with the 1975 escalation in house prices let alone caught up with further net increases. Between 1976 and 1991, MLS house prices experienced a net increase in the order of 15%. The comparable figures for family income are 12% for gross family income; 6% for both "family income per earner" and "after-tax family income"; and of course, 0% for "after-tax family income per earner". As for the economic situation, it has oscillated from periods of expansion (1976-1980), although with double digit inflation and high mortgage rates; contraction (1980-1982), with the highest interest rates in the post-war period; expansion (1983-1989), although with

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Levy and Michel (1985) report a stagnation of American wages and family income from 1973/1974 onwards. I believe they may have had wage and price controls slightly earlier than Canadians.

Figure 23:
Average MLS House Prices as a Ratio of Average Family Income and Average After-Tax Family Income per Earner, 1951-1991

Source: Statistics Canada (1993d), CREA's MLS Reports, various years, with estimates of after-tax and per earner data (see Chapter 2)

large increases in the tax rate for families; and contraction (1990-1991), with the removal of many tax funded family benefits. With family income per earner remaining stable over the time period it is hard to see any of these time periods as "good times", certainly not like the early 1950s or 1960s. On the family formation side, birth rates have been more or less stable since 1975 (see Figure 7); the average age of brides and grooms at first marriage as well as the median age of mothers at the birth of first child has continued to climb (see Figure 10 and 11) and the total number of marriages (including rates) has generally been decreasing (see Figure 9).

In summary, high fertility in the 1950s and 1960s relative to the 1970s and thereafter fits reasonably well with the relative cost of housing thesis. It also fits reasonably well with a "good times-bad times" thesis. The onset of a decline in fertility in the late 1950s and the increase the median age of mothers at the birth of their first child in the late 1960s does not present a problem for these two arguments because during these time periods, family incomes lagged behind increases in house prices. Regarding the late 1950s, credit tightness and high unemployment would have exacerbated the family income to housing cost situation. However, since the price of housing improved relative to income in the early 1960s, and since the early 1960s were good times economically, neither the relationship between family income and house prices nor the "good-times-bad-times thesis" explain why fertility would have continued to fall during this time period. Since one characteristic of the first stage of the baby bust is the onset of a decrease in third or higher order births, one possible

explanation is that it was only good times for families who could produce an additional earner, at least at some point over the life cycle, and that this put pressure on families to have fewer children. Another possibility is a lack of housing for families with more than two children and the inability of families with more than two children to afford such housing even if it were available in sufficient supply (re: Hellyer Report).

The marriage boom in the late 1960s, which peaked in 1972 in terms of numbers and rates, in part a result of the "baby boomers" coming of age, would have contributed to the inflationary times and put increased pressure on housing and credit markets, which would have, in turn, put increased pressure on women to enter the labour market. This demographic competition among baby-boomers for the resources for family formation, especially housing, could be responsible for the delayed childbearing (i.e. increases in the median age of mothers at the birth of first child) which took fertility levels from sub-Depression to sub-replacement levels; as well as the delayed marriage (i.e. increases in the average age of brides and grooms in the early 1970s) which, as I demonstrate elsewhere, came to be a defining characteristic of the sub-replacement fertility stage of the baby bust. However, the relationship between changes in housing prices and family income does not explain why a time conducive to high fertility in demographic respects, produced instead, sub-replacement and sub-depression level fertility (i.e. the early 1970s). Yet, it is obvious from the public record that there was a perceived housing "affordability" problem in the early

1970s. In the next section I demonstrate that the problem does show up in terms of mortgage amounts and purchase costs. However, before moving on, I want to conclude this section by reiterating that the housing cost and income data from 1975 onwards also support fertility remaining at sub-replacement levels as a result of changes in the relative cost of housing.

4.3 Trends in Family Income, the Financial Costs of Housing Acquisition and Family Formation

Mortgage interest rates followed a pattern similar to MLS house prices until the late 1970s (see Figure 24), suggesting that demographics (e.g. trends in the number of marriages) have also affected mortgage rates. A Pearson's r of .85 for conventional mortgage rates and the total number of marriages gives further support to this. Not surprisingly then, yearly mortgage amounts have followed a pattern in relation to family income that is similar to that of house prices, at least until the late 1970s, albeit in a more exaggerated fashion (see Figure 25).⁶⁰

As with MLS house prices, family income kept pace with changes in mortgage amounts at the beginning of the 1950s but not at the end of the 1950s; at the beginning of the 1960s but not at the end of the 1960s; and in 1971 (see Figure 26). However, unlike MLS house prices, mortgage amounts outpaced changes in family

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The correlations have also been similar, albeit somewhat higher; ranging from .92 for yearly mortgage amounts with family income to .88 for yearly mortgage amounts with after-tax family income per earner.

Figure 24:
Trends in the Total Number of Marriages, MLS House Prices (in constant 1991 \$) and
Conventional Mortgage Rates, 1951-1991

Source: Dumas (1990), Wadhwa and Strachan (1992), CMHC's Housing Statistics, various years, and CREA's MLS Reports, various years.

Figure 25:
Average Family Income, After-Tax Family Income per Earner and Yearly Mortgage Amounts,
1951-1991

Source: Statistics Canada (1993d), CREA, various years, with estimates of after-tax and per earner data (see

Figure 26:
Comparison of the Percentage Change in Average Family Income and Average Yearly Mortgage
Amounts, 1951-1991

Source: Statistics Canada (1993d), CREA, various years, and hypothetical mortgage data (see Chapter 2)

incomes in the early and mid 1970s. This adds to the explanation as to why a time period ripe demographically for high fertility produced below replacement levels. It also provides an understanding of why CMHC's Vice President of Programs reported in 1989 that CMHC had introduced the Assisted Home-Ownership Plan (AHOP) in 1973 (to assist families with children to become home-owners by reducing the cost of mortgage financing) because "home-ownership was slipping out of reach for large numbers of the baby boom generation" (Warne, 1989).

Another mortgage related item which attests to the credit and housing cost squeeze but which could have indirectly contributed to lower fertility is the 1968 changes which allowed NHA lenders to consider up to 50% of a wife's earnings in calculating the maximum gross debt service ratio. Prior to this, none of the wife's earnings could be considered. In 1972, lenders were allowed to consider all of a wife's earnings. These changes would have provided additional incentive for women to work (note the abrupt increase in the labour force participation rate of married women between 1969 and 1971 in Figures 21 or 22). Another significant event in the mortgage area, also related to the high demand for credit, was the removal of the 6% ceiling in 1969, on lending rates (see Poapst, 1993). This meant that mortgage rates were now free to move where ever the market might take them. Note the increase in mortgage rates in 1969 and their volatility thereafter in Figure 24.

In 1976, changes in family income actually out paced changes in mortgage amounts, a rare occurrence. This, like 1971, is a year when house prices actually decreased (in constant dollars). However, it is also the year following the sky-rocketing of house prices. Since the decrease was small, the amounts involved were not enough for family income to catch-up with years of slower change. Between 1978 and 1981, unlike the case of house prices, mortgage amounts again outpaced family incomes. They also outpaced family incomes between 1986 and 1989. In fact, family income has only outpaced mortgage amounts since 1954 when changes in mortgage amounts have been negative, excepting 1965; and these negative changes in mortgage amounts are usually signalling that a period of economic contraction has just occurred.

In short, by the time fertility hit sub-replacement levels (1972), family income had fallen even more behind yearly mortgage amounts than it had fallen behind MLS house prices; and as with MLS house prices, there is no catch up in sight. Meanwhile, all of the family formation bench marks line up with changes in mortgage amounts relative to family income, just as they did with changes in MLS house prices relative to family income.⁶¹ The same goes for purchase costs; that is, change in the required down payment (which is assumed to be 25% of the price) plus a year's worth of mortgage payments at prevailing interest rates (see Figure 27). The only

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The correlations between yearly mortgage amounts and indicators of family formation are similar in value to those obtained for house prices and indicators of family formation.

Figure 27:
Comparison of the Percentage Change in Family Income and the Purchase Cost of an Average
MLS House, 1951-1991
 (in constant 1991 \$)

Source: Statistics Canada (1993d) and CREA, various years, with estimates of after-tax and per earner date (see Chapter 2)

major difference between the MLS price and mortgage amounts (or purchase amounts) data is the 1971 to 1982 time period, when mortgage amounts (and purchase costs) more consistently outpaced changes in family income than did house prices.

4.4 Conclusions

To reiterate, the purpose of this chapter was to establish the plausibility of a relationship between trends in family income, the cost of housing acquisition and family formation. Specifically, the expectation throughout this paper has been that there would be a relationship between the relative cost of housing (relative to family income) and family formation over time. More specifically still, the expectation was that when housing is easy to acquire and incomes keep pace with the cost of housing acquisition, family formation is "unproblematic" and fertility is high. However, when housing becomes problematic because family incomes do not keep pace with the cost of housing acquisition, family formation becomes problematic and fertility is low. Given that housing is part and parcel of family formation in English-speaking societies (re: nuclear family prescription), given the obvious rise in housing standards and given that these societies have, as a matter of policy, promoted private home-ownership for families, in some respects, to the detriment of alternatives, these are reasonable expectations⁶².

⁶²

A policy of rental accommodation for families would not necessarily have produced different results. However, then the object of study here would be the rental market. A more competitive mix of private rental accommodation for families, private home ownership, and socialized housing might have helped keep

On the most general level, this paper's core expectations have been borne out by the data. Over the 1950s and 1960s as a whole, family incomes kept pace with housing costs, the average age of brides and grooms at first marriage was falling, as was the age of mothers at the birth of first child; and fertility was high. The reverse was true in the 1970s and 1980s; with family incomes falling even further behind in the 1980s, especially when "after-tax family income per earner" was taken into consideration. In fact, on the most general level, and considering the significant cost of housing over the life course when compared to other items, these data support the "good-times-bad-times" hypothesis and the conclusions of Levy and Michel (1985):

"The decade of the 1970s was thus the reverse of the 1950s. In the 1950s, wages were rising smartly but per capita income grew slowly because families were feeling sufficiently prosperous and optimistic to buy the most important consumption good of all - children - and in large quantities. In the 1970s, wage stagnation left individuals with two choices: decrease consumption or increase income through "quality of life" demographic accommodations. They chose the latter." (Levy and Michel, 1985).

However, I would rephrase what the choices were. I suggest that the choice was largely between upholding the nuclear family prescription (in a time period of inadequate alternatives to home-ownership; rising housing costs, which were to a great extent demographically induced; and rising housing standards) through demographic accommodation or state support (in terms of subsidized rental housing and/or single parent's allowance). I also suggest that the choice was largely between

prices from escalating as fast as they did. Rent control, as I point out elsewhere, did not help create a competitive mix. It merely lead to the depletion of an already inadequate supply of rental accommodation suitable for families.

status maintenance and demographic accommodation on the one hand or downward class mobility on the other. These are the same choices Thompson (1938), one of the grandfathers of Demographic Transition Theory, saw shaping fertility in the United States during the period of fertility decline which preceded World War II.

When the data are looked at in even finer time segments, there is additional support for this paper's central thesis. For example, fertility as measured by the TFR (or GFR) actually started its steady fall downwards in 1959. Between 1954 and 1959 house prices (and mortgage amounts) climbed ahead of family incomes. However, the finer data also present problems for the main thesis of this paper as well as the "good-times-bad-times" thesis. For example, the situation between family income (as well as after-tax family income per earner) and house prices (and mortgage amounts) improved considerably between 1962 and 1966 but fertility continued to fall. On the other hand, and as I pointed out in this chapter, there still could have been a housing problem in this time period for families in terms of supply and affordability (i.e. to find housing large enough for families with more than two children and then to find such housing that was affordable to a large family), and the Hellyer Report and Miron (1989) both suggest that there was.

All in all, the 1962-1966 time period was the only problem the finer data presented to this paper's main argument. However, because a housing explanation can nonetheless be constructed for this time period, the relative cost of housing thesis

performs better than the "good-times-bad-times" one. The data even behaved as expected (re: a cost of housing and family formation relationship) for the first two data points involving the baby boom, i.e. 1951-1954. However, this analysis only amounts to a first shot at a neglected research problem in Sociology. There are holes in the data; qualitative problems (e.g. the inclusion of condominiums in the definition of "house", which are not always suitable for children: and no measure of supply) and a longer segment of the baby boom would have been preferable (i.e. prior to 1951).

Another central component of this paper's thesis is an Easterlin type of proposition concerning demographics and market place competition. That is, the relative cost of housing would rise as the baby boomers entered the family formation stage and therefore the housing market. In other words, the expectation was that demographics (e.g. the number of people 25-35 years of age or the number of marriages) would interact with housing and mortgage markets to affect fertility in particular, or family formation in general. Housing prices relative to income, mortgage amounts, interest rates and even women's labour force participation all started to "take-off" in the late 1960s; and in the case of mortgage amounts and house prices, remain ahead of family incomes in the early 1970s, just as the total number of marriages started to increase, i.e. the baby boomers get married. While comprehensive data do not exist to demonstrate it, there is every reason to believe that the parents of the baby boomers, born during the Depression era as a baby bust, experienced the reverse, i.e. low land and house prices as a result of the Depression,

though the prices of both rose over the their life times. The generation preceding that one (which produced the earlier baby bust) was itself a product of an earlier baby boom (starting out with high land and housing prices which then fell rapidly, along with incomes - see Gordon, 1985). This, however, is not to argue that only demographics were at play. The oil price shocks of the 1970s and rising housing standards would have exacerbated the effect of demographics on the cost of housing.

In conclusion of this section, trends in housing costs and family income data line up reasonably well together with family formation data to suggest that fertility decline (and overall slow downs in family formation) could be a result of changes in the relative cost of housing. These findings were produced despite the fact that the increased costs incurred by families to earn additional income (e.g. child care, other domestic services, increased transportation and clothing costs) were not taken into consideration. Were other items such as house insurance, legal fees, property taxes, and the cost of utilities (particularly fuel since OPEC) included on the housing cost side, the results would have no doubt been even more astonishing. One has to also consider that total family income as opposed to the family income of younger families was analyzed when it is known that the incomes of younger families have not kept pace as well as the incomes of older ones between 1973 and 1991 (see Ross and Lohead, 1993). In addition, there is the fact that mortgages have changed over time (e.g. loan to value ratios) such that housing ends up costing more over the life course than it used to, i.e. the measure of affordability used here, while appropriate for

giving an indication of the situation for the first-time house buyer, does not give an indication of life time costs. Then again, the weakness of the results presented here is not in the magnitude of differences over time in the relative cost of housing; large differences were found. Nor is it so much in the timing of changes; changes in family formation and relative cost data line up quite well in time. The problem is in the methodology itself, which, while suited to the only data available, is simply not strong enough to make a strong statement. I believe I have nonetheless established the plausibility of this paper's thesis and its importance to Sociology, to justify further research. In the closing section I elaborate on the wider theoretical importance of this research and where future research in this vein would best be directed.

Chapter 5: Theoretical Implications and Suggested Avenues for Further Research

5.0 Introduction

In this section, the wider theoretical implications of situating the problem of family formation, in particular, fertility decline, in the context of trends in the relative cost of housing, are discussed. Suggestions for further research are also put forth. However, first I want to reiterate the main conclusions of this dissertation and how they fit in a broader context; in particular, in the context of future trends.

This dissertation has demonstrated, in a modest way, what several Canadian demographers and sociologists have suggested in passing (e.g. Romaniuc, 1984 and Ebanks in Veevers, 1983); that there is a relationship across time between changes in the relative cost of housing and changes in family formation. Although the data presented here do not prove that there is a relationship between the two, since the requirements of the scientific method are quite rigid when it comes to causality, they have nonetheless established the plausibility of the hypothesis. The fact that the Canadian government saw a relationship between rising housing costs and family formation when the CMHC introduced the AHOP in the early 1970s, underscores the validity of the empirical results found in this study (see Warne, 1989).

This dissertation has also demonstrated, again not strongly, that there is demographic feedback involved, i.e. the family formation rates of previous generations affect the housing costs of subsequent generations (i.e. an Easterlin type hypothesis operating through housing rather than simply through wages). However, it is not at all clear that the relative cost of housing will behave cyclically with demographics as it appears to have behaved in the past (e.g. depressed costs during the Great Depression followed by increasing costs) and as proponents of Easterlin's work would lead us to expect. This is because there is a great deal of wealth invested in housing and a lot to lose, including the standard of living of all but those not yet in the housing market, should house prices decrease. Had Easterlin explicitly considered the relative cost of housing, he might not have made the predictions that he did, i.e. an increase in fertility in the 1970s or 1980s. Moreover, political variables could well undermine the expected cyclical upturn.

Another uncertainty of some theoretical importance concerns the housing cost/income situation. It is not at all clear whether the issue is housing costs, as I have argued through out this paper, or inadequate income gains. From a policy perspective, the question of whether the "housing problem" or the "family formation problem" is related to rising housing costs (given rising housing standards and/or demographic pressure on the price of land and/or housing) or inadequate increases in real incomes is oddly enough, not that important. The problem might be one of housing costs; however, one would expect government action to be taken to keep real

house prices from falling as a result of demographic decline, rather than to allow them to fall for the sake of family formation. The problem might also be one of incomes interacting with demographics (i.e. labour supply). However, one would expect immigration to be pursued as today, to keep wages low in an environment of declining labour supply. Thus, while it is normally important to locate the proper policy variable, there are reasons to believe that, whether the variable is housing costs or income, there are powerful interests at play which will cause governments to mediate the interaction of demographics and economics in a way that is inconsistent with the interests of family formation. In effect, the importance of distinguishing the policy variable might rest more in understanding why Easterlin-type-expectations will not materialize and why low fertility or the "family formation problem" can not be framed as a policy issue at this time. The findings of this study nonetheless suggest that there could be a demographically induced downturn in housing prices (in real dollars) in the near future, as argued by Manikew and Weil (1989), along with a housing induced upturn in fertility rates, all things being equal.

5.1 Theoretical Implications

As is discussed in Chapter 1, the issue of housing, while neglected in sociological and demographic theories of long term fertility decline in the West, is potentially of central importance to them. For example, the process of urbanization has long been held as an explanation within the framework of Demographic

Transition Theory (DTT), of long term fertility decline. Yet, how or why urbanization should affect fertility rates is more often than not left to the reader's imagination (see Lodh, 1987). As this work suggests, the urban effect could be simply the effect of population growth or pressure on the cost of residential land and housing (in an environment where homeless families are not allowed - re: the nuclear family prescription). This is an interesting proposition, because the problem viewed in this way suggests that a population decentralization policy is what is needed, a policy which might be possible in the coming era of information highways.⁶³ It also suggests that immigration, commonly held as a solution to the problem of sub-replacement fertility levels, could be exacerbating the family formation problem to the extent immigration puts pressure on land and housing markets (see Miyake, 1992). There is a need for more work on the urban effect.

Another common explanation of fertility decline used by proponents of DTT which was discussed in Chapter 1 concerns increases in living standards; people, when provided with the opportunity to increase their material well being, choose to put their energy in other pursuits (e.g. career and consumerism), rather than children (or even family). The idea which proponents of DTT generalized from this and attempted to transport to the Third World "over-population problem" was that

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By the same token, suburbanization (a decentralization process which helped lower or keep down the relative cost of housing before the days of OPEC) could be seen as a process which allowed for the post World War II baby boom.

economic development was the best contraceptive. At the same time, the notion that increased standards might imply an increase in the cost of living has been seemingly absent from DTT or down-played. To the extent trends in the cost of housing (which undeniably reflect, in part, increased standards) relative to trends in the purchasing power of families (i.e. deflated family income per earner), can be used as an indicator of change in a country's standard of living since the late 1960s or early 1970s, the results of this study suggest that increases in Canada's standard of living have been paid for through increasing the number of earners per family in the labour force; and ultimately through demographic accommodation (e.g. fertility reduction through delayed childbearing). This is an interesting proposition because it suggests that the West is currently in limbo as regards any future increases in standard of living; there are limits to the extent families can accommodate increased standards both in terms of the addition of earners and fertility reduction. It is also an interesting proposition because it implies that the best contraceptive is not economic development per se but escalating housing costs, an accompanying institutionalization of the dual-earner family and little state support for child bearing and child rearing.

The proposition regarding the limits of demographic accommodation also has implications for explanations related to the changing socio-economic status of the child, i.e. children once provided a type of economic security to the family which various social programs have now overtaken such as unemployment insurance, workmen's compensation and pensions. It brings home the idea that while the socio-

economic status of the child may have changed, the socio-economic functions of children as a group did not; the change was one of fulfilling the role on an individual basis to one of fulfilling it on a group basis (i.e. in the form of taxes once they entered the labour force). Combined with the idea that the West is currently in limbo as regards its standard of living because of the limits to demographic accommodation, the idea that the socio-economic function of children was socialized rather than eradicated leads to the understanding that demographic accommodation was in effect a "pay later" approach to increasing the standard of living for society as a whole. In other words, the suggestion emanating from the research undertaken in this paper is that not only was the increase in Canada's standard of living achieved through a demographic accommodation which is soon to be exhausted, but also that once exhausted, the music will still have to be faced.

Another noteworthy implication of this study relates to the more ahistorical and atheoretical explanations of fertility decline which the modernization thesis of DTT has ironically given license to, in the case of the baby bust, by postulating an end to the demographic transition upon reaching a crude birth rate of less than 20, i.e. a post-transition stage. The social science journals are replete with studies arguing that the baby bust was "caused" by increases in women's labour force participation, delayed child bearing, women's liberation, abortion, the contraceptive pill, consumerism, materialism or even hedonism. However, a focus on changes in the relative cost of housing allows one to see these explanations in the context of a

sequence of changes instigated by changes in the domain of housing which ultimately affected family formation and fertility. For example, the increases in the cost of housing arising out of increases in standards, demographic pressure, increases in the cost of land, and the cost of financing a home led to increases in women's labour force participation. This in turn, increased the relative cost of housing and women's labour force attachment. This in turn, necessitated more fool proof control over reproduction, a need for better education among women, delayed childbearing, as well as delayed marriage. The latter two social phenomena both contributed to decreased fertility and at least the appearance that there was a shift in values antithetical to family life (i.e. hedonism, materialism, and consumerism).

Regarding the appearance of a shift in values, there is little doubt about the fact that Canadian values have changed over time with regard to the family (e.g. a greater acceptance of common law relationships, divorce and childlessness). However, studies and surveys repeatedly confirm that Canadians attach more importance to their family relationships than to nearly anything else in life (see Vanier Institute, 1990; Ekos, 1994; Glossop, 1990; and Reid, 1994). They also confirm that most people still long for a family with a stay-at-home parent even though only 13% of all families have a parent who stays home full-time while the other works in the labour force (Reid, 1994). In addition, these studies reveal that most young people expect to marry, to have at least 2 or 3 children and to never divorce (see Glossop, 1990). More importantly, there is little evidence with which to deny the fact that most men

and women have been busily trying to jump the hurdles which this society places in front of them as prerequisites to family formation. Said in another way, there is little doubt that explanations of hedonism, women's liberation, consumerism, and materialism add insult to injury in the case of the many stressed-out Canadian families who for reasons of absolute necessity or class maintenance, are trying to cope with raising children in a home where both parents work, or where there is only one parent (see Duxbury and Higgins, 1994; Higgins, Duxbury and Lee, 1993; and Mirabelli, 1990). The data presented in Chapter 4 demonstrate quite clearly that the purchasing power of families (on a per earner basis) has stagnated since 1976 (and in fact increased little since 1971) and has not kept pace with increases in the cost of housing since the late 1960s. Thus, there is little doubt that the stagnation in family incomes (per earner) and the rising cost of housing are factors outside the sphere of individual influence which have played an important role in influencing the family-related choices which individuals have been making.

In effect, a look at the relationship between housing costs and family formation moves one away from the simplistic notion of individual choice or freedom of choice and into an arena where ideology and economic realities shape choices. The ideology of individualism has been the engine driving family formation (i.e. the quest for private property in a society where the propertyless are disadvantaged or less than total citizens; the belief that children are an individual responsibility and that one does not produce more than one can afford; and the belief that one should be able to

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maintain a household (re: ownership) before or once family formation has begun).

The notion that individualism is antithetical to family formation pursuits (e.g. women's liberation and hedonism) only makes sense when one assumes a very narrow view of what individualism means and when one assumes that the pursuit of happiness and self-fulfillment does not take place within the context of families. In effect, the plausibility of a relationship between changes in the relative cost of housing and family formation established in this dissertation opens some fresh avenues for sociological and demographic theory and research concerning fertility decline at a time when established routes have increasingly been leading to over-trod and dead-end trails. In the following section I provide several suggestions for further work on the research side of things.

5.2 Directions for Future Research

There are a variety of avenues which could be taken to clarify the relationship between family formation and the relative cost of housing. To start with, this study could be replicated and then further refined. Refinements could include one or all of the following: (1) the inclusion of heating costs on the housing cost side of the equation; (2) a calculation of life time costs using real down payment and interest rate data; (3) the inclusion of additional amounts of income required to gain more family income through women's labour force participation (e.g. child-care costs, transportation, clothing, and other expenditures which would be available from family

expenditure studies) in the determination of real family income per earner over time; (4) the addition of other taxes in kind such as unemployment insurance, property tax and sales tax in the calculation of after-tax income in a study using a shorter time frame (e.g. the early 1970s to the present); and (5) an analysis of changes in the relative cost of housing over time which takes into consideration family income by age of household head. Since the reasons for these refinements have already been discussed, mostly in Chapter 2, I do not reiterate them here.

A second avenue of research could focus on the changes in the relative cost of housing in one or several selected major metropolitan areas using historical records available from municipal governments which have been kept for the purpose of property tax collection and legal entitlement (i.e. deeds). A localized study such as this would produce a more accurate picture of changes in the cost of residential land, of individual houses over time and of property taxes. Since most of this information is not yet computerized, it would be an arduous but worthwhile data collection exercise. Such a study would rule out many extraneous factors and type of dwelling (e.g. single-family dwelling) could be controlled. The major drawback with this type of approach is on the fertility side; there are few measures available - necessitating the use of "number of children under 5 years of age" as a surrogate. Marriage data would be less problematic.

A third avenue of research, already under-way in Britain and Australia could be pursued through the new Family History Survey presently being planned by Statistics Canada. This would involve probing the relationship between women's labour force participation, home-ownership and delayed childbearing. The date of first marriage; the date of birth of first, second and subsequent children; the date of first house purchase; and the date respondents entered (left and re-entered) the labour force could be probed. At the same time, respondents could be asked direct questions related to the issue. For example, to women (and men) of childbearing age who have not yet had a child but plan to have one in the future, a question of the following sort could be asked: "does the need to acquire the money for a down payment for a home or to "pay down" the mortgage play a role in your decision not to have a child at this time". Respondents could also be asked about whether they thought home-ownership was by cultural prescription, part and parcel of family formation, as I have argued in this paper. Respondents who have had children could be asked whether or not they delayed childbearing or marriage for housing reasons. The question could be limited to respondents who married or have had a child in the last ten years. More specific reasons could then be probed (e.g. housing acquisition or the mortgage) as could the length of the delay.

In short, much work remains to be done in Canada in the area of housing and family formation. The study carried out here constitutes a mere start. Whether or not there is in fact the relationship that the data used in this study suggest there is, is

of central importance to the DTT paradigm, which in many respects has been floundering. The residential land/housing cost issue could revive it and elucidate on the urbanization question, i.e. why does urbanization affect fertility and family formation. Further work in this area could also help clarify the relationship between standard of living and fertility. As I point out, Canada's standard of living appears to have been achieved, in part, through fertility reduction and/or at the cost of family formation. If this is true, the future in terms of both family formation and standard of living is bleak and in need of some urgent rethinking. Finally, further work in this area could help clarify whether or not Canada is in for another sustained increase in fertility in the near future (i.e. the Easterlin hypothesis revised to explicitly include housing). However, the answer to this question is as much political as anything else; the state has more to do with what goes on in the bedrooms of our nation than most care to believe.

Postscript

It is a sign of the times when the need arises to clarify that one is not putting forth a right wing view just because one has written a conclusion that seems to be pro-family. I am not simply pro-family, I am also pro-families and pro-labour. I believe families are not reproducing because too much has been taken out of them and not enough is being put back into them. I believe families are not forming, because the price of doing so has come to be too high. In fact, I believe the family has been over-exploited. I do not think that this view of the family fits a right wing perspective any more than it fits a left wing one. In fact, I do not see either the right or the left as being particularly pro-family. The right would return responsibilities and functions to the family which it can no longer cope with, that would, theoretically at least, widen the space outside of state control. However, it would also increase inequality and human misery. The left would further empty the family of responsibilities and functions; the family is a threat to state allegiance and to the emergence of a new order. Somewhere between these two extreme positions sits every day Canadian families, over-taxed and under-nourished. They need more resources in order to flourish. Whether they should be private or public resources or what the balance between the two should be is a moot point when the problem of family formation remains unframeable in policy terms. Perhaps that in itself, speaks volumes.

APPENDIX A: THE HARD-TIMES-SOFT-TIMES-DEBATE

Veevers (1983) reports on a "hard-times-soft-times" debate which took place in Ottawa in 1981. Basically this debate is over whether or not fertility varies with the well being of the economy. Since the relationship between family formation rates and the relative cost of housing is a variant of that debate, I am in certain respects, reviving it here.

In Veevers' (1983) report of the now decade old Canadian debate (which was not new even in 1981), Krotki is quoted as saying that the notion that an alleged deterioration of the Canadian economic position (re: standard of living) since the late 1950s has caused fertility decline is to be considered "one of the most absurd suggestions in the history of human thought" (see Veevers, 1983:22). Apparently, one of the indicators of Canada's economic well being which Krotki used was national income per capita. I have already discussed at some length, the inadequacies of this indicator in Chapter 2; thus, I do not reiterate them here. Other indicators used by Krotki were the number of colour televisions (an item which, incidently, can be found in the barrios of Mexico and Peru or the ghettos of American cities in great numbers - as early as the 1970s), international travel and the number of families with two cars. What I find absurd is that one would ignore the role of reduced fertility and increases in women's labour force participation (or the number of earners per family) in generating the alleged increase in Canada's standard of living.

The debate over the role of the economy centres around arguments as to whether or not the late 1950's to the 1960s (and even later) were good economic times in Canada. Krotki obviously is arguing that these were good economic times; and they might well have been for certain cohorts and certain families (i.e. small ones). However, I take Ebanks' position in the debate seeing the economy as having been weakened by inflation and as Ebanks singles out, suffering from an escalation in housing costs. Yet the argument must ultimately be cast in cohort terms. While particular cohorts would certainly have gained from inflation in the housing market, such as those who purchased housing before prices were driven up by an inflation which had to have been at least in part, demographically driven, younger cohorts would have lost. Looking at trends in the number of marriages (recall Figure 9), those who would have gained would be those in the housing market before 1971 and especially those in the housing market before 1964.

I also see the economic position (or purchasing power) of younger cohorts deteriorating as a result of the expansion of the market economy (i.e. the commodification of life), an increase in taxes (of all kinds), an increase in the cost of making a living (e.g. two cars or transportation costs for two-earners, child care, work attire for two, and an increase in standards and regulations, which usually come with a price tag such as the case of housing). Yet, one is lucky to find a

contribution to the debate that is based on any thing more than gross family income and possibly the All-Item CPI, which measures none of these things.

One further shortcoming of the hard-times-soft-times debate is the frame within which it is cast. It is not simply whether or not the late 1950s were good or bad economic times as Krotki seems to frame it, but whether or not certain cohorts (or even all Canadians) felt that their standard of living was deteriorating or improving (subjectively or objectively); and this is how Levy and Michel (1985) frame the problem. Either way, as I demonstrate in Chapter 4, the 1960s can be construed as being better economic times than the 1970s; however, it appears that purchasing power as it relates to housing had already started to deteriorate.

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