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**DETERMINANTS OF THE TIMING OF LABOUR FORCE TRANSITIONS
AMONG EVER-MARRIED, EVER-WORKED, WOMEN IN CANADA**

by

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Department of Sociology

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

**Faculty of Graduate Studies
The University of Western Ontario
London, Ontario**

July, 1992

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ABSTRACT

This thesis presents a critique of two general theoretical approaches to the study of growth in female work attachment: the structural coercion approach and the voluntarist approach. Given the common practice among those who subscribe to the structural coercion tradition to oversimplify patterns of women's work, one hypothesis predicts that factors which impact positively (or negatively) on a woman's probability of entry into the work force may exert the same impact on her probability of leaving. Secondly, many structural coercionists fail to make a unique prediction of the determinants of change in attachment. In contrast, voluntarists identify the growth of tastes for market work as a key determinant. As a result, it is hypothesized that the growth in work attachment on the part of recent birth cohorts is less responsive to demographic and economic constraints and more responsive to emerging tastes for market work.

Both hypotheses are tested on work history data contained in the 1984 Canadian Fertility Survey. Using a Weibull accelerated failure time model, the rate at which ever-married women leave spells of employment and non-employment is modelled as a function of a set of demographic, economic and taste influences. To facilitate a study of trends in behaviour, this process is repeated for three separate birth cohorts.

In support of the first hypothesis, results indicated that a number of traditional constraints which have prevented women in the past from entering the labour force such as husband's income and number of children less than age six, operated to discourage them from leaving. In contrast, higher education, which has served to facilitate entry

into employment, resulted in a high rate of exit.

In terms of the second hypothesis, results were mixed. Demographic predictors such as child status and age gained strength among recent cohorts for each of the three employment transitions under consideration. However, in terms of leaving employment, the influence of marital status on work attachment diminished. Education, as a measure of tastes for market work, increased in strength among recent birth cohorts.

It is concluded that future attempts at modelling female work attachment should be firmly grounded on a more comprehensive theoretical approach which gives equal weight to demographic, economic and taste influences.

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DEDICATION

In fond memory of my late grandfather,

James Armstrong McLaughlin

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CHAPTER ONE

1.1 Introduction and Statement of the Problem

For the past several decades, researchers have been searching for an adequate explanation for the steady upward trend in the labour force participation rate of married women. Although a wide variety of theories existed to either describe or explain this trend, most could be classified under two broad general approaches: the structural coercion approach and the voluntarist approach.

Structural coercionists viewed the increase in participation as a result of an interplay between changing demographic and economic forces that had the effect of pushing women into the work force. Traditional demographic constraints to greater participation such as large family sizes were weakening allowing women more time to pursue other activities, the most important of which was paid market work. At the same time, however, periods of rising inflation and high unemployment were taking its toll on the family income. Many women did not have any choice but to enter the labour force in order to maintain the financial well-being of their families.

While not denying the role of economic influences in explaining the upward trend in participation rates, adherents of the voluntarist approach placed greater emphasis on the growth of tastes and preferences for market work particularly among more recent cohorts of women. Their position has been that with the weakening of traditional demographic constraints, recent cohorts of women have developed a strong taste or

preference for market work largely unmotivated by considerations of economic need. The decision to enter the labour force has thus been one of choice.

To date attempts at untangling the relative importance of economic, demographic and taste influences as potential underlying causal factors for the rise in the labour force participation of married women have met with little success. Empirical results have been either contradictory or inconsistent. The reason, it seems, is that each approach contains certain theoretical assumptions which, if followed too closely, lead to methodological inadequacies.

For structural coercionists, the most costly error has been to simplify women's work behaviour by assuming that the increase in women's work attachment has come about largely as a result of the entrance of non-employed (primarily never-worked) women into the work force. Recent studies have shown that growth in attachment has also been made possible because of a greater reluctance among women already working to leave and for those who have left to remain out for shorter periods of time (Boyd, 1985; Kasarda et al., 1986; Robinson, 1986). This bias in favour of one component of growth has been an influential factor in the decision of some researchers to select a dichotomous measure of work attachment as the dependent variable in their models of female labour supply. A dichotomous measure forces women to fall into just one of two groups, the currently employed or currently non-employed and thus masks over an unknown number of previous working or non-working states as well as the length of time spent in each (Appelbaum, 1981; Huber and Spitze, 1984). This "masking over" of potentially complex work histories characteristic of simple measures of work attachment

will seriously distort the effect of model predictors if the effect of a given covariate on a woman's propensity to enter the labour force has the same effects on her propensity to leave.

Secondly, the approach taken by many structural coercionists is often too static to adequately explain change in married women's labour force behaviour. One reason is that some theories contain tautological arguments which prevent a unique prediction of the key causal influences leading to greater work attachment. Another problematic area stems from the failure to incorporate as predictors in models of female labour supply certain historical and social components embedded in a woman's work history that may serve as important determinants of her current labour force status. Excluding these components has resulted in predictions of current and future labour market involvement which seriously fall short of actual levels (Nakamura and Nakamura, 1985; Townson, 1987).

Thirdly, structural coercionists downplay the importance of tastes and preferences for market work as potential explanatory factors for the growth in women's labour force attachment. Tastes are excluded from labour supply models because they are considered as a consequence rather than a cause of economic change (Lesthaeghe and Surkyn, 1988). However, if tastes are at least partially exogenous to a woman's work behaviour, and if they are related to other "observed" measured covariates, then excluding them may result in model misspecification (Riddell, 1985).

Proponents of the voluntarist tradition also lean too heavily in support of certain assumptions which may have a distorting effect on study results. If structural

coercionists place too much emphasis on economic and demographic constraints in affecting change on women's work behaviour, voluntarists are guilty of overplaying the importance of tastes. Tastes and preferences for market work are rarely formed in a vacuum (Ferber, 1982). At every stage in the life cycle, even during adolescence, the process of acquiring specific tastes and the ability to maintain them is influenced to varying degrees by changing economic, social and demographic forces. Model misspecification will occur if even some of the effects of these changes are not fully taken account of.

The inherent weaknesses in both the structural coercionist and the voluntarist approach have strongly suggested the need for a more comprehensive, and hence, less restrictive approach to the study of the labour force behaviour of married women. Unfortunately, efforts to meet this challenge have been largely lacking. One exception is a recently developed framework proposed by Nakamura and Nakamura (1985) which synthesizes some of the elements of the two leading approaches in order to overcome many of problems experienced by each.

The present work proposes a test of two general hypotheses based on some of the theoretical biases in the study of female work attachment. Given the tendency on the part of those who follow the structural coercion tradition to oversimplify patterns of work among women, the following hypothesis is offered:

Variables which exert a positive (negative) influence on the rate at which a woman enters into employment may have the same positive (negative) influence on the rate at which she leaves.

Identifying these effects will help resolve the puzzle of widespread inconsistencies in previous work which has sought to ascertain the relative contribution to work attachment by demographic, economic and tastes factors.

Secondly, a great deal of research falling within the structural coercion tradition fails to make a unique prediction of the underlying causal influences of and direction of change in the rise of female labour force participation. The second hypothesis is offered as follows:

Compared to early birth cohorts, the work attachment of recent birth cohorts is less responsive to the influence of demographic and economic constraints and more responsive to emerging preferences or tastes for market work.

Both hypotheses are tested based on data pertaining to the detailed work histories of 2,901 ever in union, ever-worked women participating in the 1984 Canadian Fertility Survey. Given that most previous research has focused on current work status, two indicators of work attachment are selected which reflect the timing of labour force transitions. One indicator measures labour force retention in the first and second spells of employment, and the second, retention in the first spell of non-employment.

An accelerated failure time model (with Weibull assumptions about the distribution of event times) is applied to the data to assess the relative importance of demographic, economic and taste measures on the rate of leaving the first two spells of employment and the rate of leaving the first spell of non-employment (i.e. women returning to the work force). To facilitate cross-cohort comparisons, this procedure is repeated for three separate birth cohorts: women born between 1955 and 1965 (age 18-29 at the survey), women born between 1945 to 1954 (age 30-39) and women born between

1934 to 1944 (age 40-49). Within each cohort, the rate at which women leave employment and non-employment is modelled as a function of a set of exogenous predictor variables including age at the time of the employment transition and a period measure indicating the year in which the transition occurred.

1.2 Review of the Literature

One of the most dramatic social and economic changes in Western society since the end of the Baby Boom period has been the rapid influx of women into the paid work force. The change was most pronounced in North America although trends toward greater participation were also under way in some European countries as well as Australia. In Canada female labour force participation rates more than doubled in the twenty-eight year period between 1960 and 1988. For all women age 15 and over, participation increased from 27.9 percent in 1960 to 57.4 percent in 1988. Some age groups experienced a faster rate of growth than others. For example, during this period women in the age group 25 to 44 (the prime childbearing years) registered a more than a three-fold increase in labour force involvement. In 1960 just over one-quarter of these women were in the labour force (28.3 percent). By 1988, three in every four women in this age group were employed. Significant gains were made in other age groups as well but the actual rate of increase was substantially lower. Thus, for younger women age 20 to 24, rates rose from 47.9 percent to 76.5 percent while for older women age 45 to 64, there was a much smaller increase from 26.7 percent to 50.5 percent (Statistics Canada, Women in Canada, #89-503E, 1990).

Although important, age was not the only factor giving rise to differential patterns in participation. Perhaps one of the most interesting and indeed perplexing changes in the minds of most labour force analysts was the steady rapid movement into the work force of married women particularly those with pre-school age children. Between 1975 and 1988 women in this category registered almost a two fold increase in their participation rates. In 1975 a little over one third (34.1 percent) were employed. Since then rates had climbed so that by 1988 almost two in every three married women with pre-schoolers (62.2 percent) were working for pay. In contrast, the participation rates of married women with children age 6 to 15 years rose from 47 percent to 73 percent. Those without children under age 16 experienced the lowest increase of all rising from 43.5 percent to 52.8 percent (Statistics Canada, Women in Canada, 89-503E, 1990).

The elevated number of working married women and as well as those with pre-school age children suggested that the traditional inverse relationship between family size and labour force involvement had either weakened or disappeared. Ciuriak and Simms (1980) contend that an attenuation in the relationship has in fact occurred but only for recent birth cohorts. They observed that up until fairly recently, the relationship between women's fertility and their labour force participation followed an M-shaped pattern. Rates would typically rise until around the ages of 20 to 24 the point at which women began having children. Steady declines occurred thereafter through the ages of 25 to 29 and 30 to 34. Since most women had completed their childbearing by age 35, rates began to rise again reaching a second but slightly smaller peak in the age range 40 to 55.

These were women returning to the work force once their children reached primary school age.

This pattern was apparently typical of women born between 1931 and 1940 and for cohorts previous to that. However, Ciuriak and Simms began to notice a shift in the pattern with the 1941 to 1950 cohort. Instead of rates falling with the onset of childbearing, women in this cohort registered a sharp increase in participation which began prior to age 24 and which continued on well past the age of 35. More recent evidence has shown an even greater departure from the traditional pattern with recent cohorts of women so that the dip in participation which previously began at age 24 has flattened out. Rates now appear much more similar to the male pattern of steadily rising participation with advancing age.¹

Further evidence of an attenuation in the dip in labour force participation rates for married women of childbearing age is also found in studies examining patterns of work activity surrounding the birth of a first child. Current generations of young women appear to be working right up to the date of their first birth and are returning to work in record numbers in the first few months immediately following the event (Shapiro and Mott, 1979; McLaughlin, 1982; Mott and Shapiro, 1983; Greenstein, 1986; Desai and Waite, 1989). O'Connell's (1989) analysis of these new patterns of work behaviour

¹A very similar shift in labour force participation patterns has been observed for married women in the U.S. According to Treiman (1985), since the turn of the century the double-peak or "M-shaped pattern in participation was typical of cohorts of women entering the labour force. Then, beginning in the late 1960s a new pattern emerged in which women who entered the labour force were no longer leaving in great numbers to bear children.

reveals that over the past two decades (from 1971-1975 to 1981 to 1984) there has been a nineteen percent increase in the number of women working while pregnant with their first child and an increase in excess of fifty percent in the number returning to work within six months of leaving work.

Recently, labour force analysts have devoted much of their time to explaining these newly emerging patterns of activity. Most have worked within the broad framework of one of two competing theoretical approaches. The first may be best described as the structural coercion approach and the second the voluntarist approach (Gerson, 1985).² The term "approach" is used here to signify that many discussions on changes in women's work are lacking in a readily definable and testable theory for explaining upward trends in participation. Popular within the literature are theories explaining women's inequality in the work force. For example, segmented or dual labour market theory or the theory of patriarchy tend to lean toward the structural coercion approach by emphasizing the way in which external forces in society (i.e. social, political and economic structures) relegate women into subordinate roles. However, cause and effect relationships are rarely specified. Other theories such as the

²A similar classification of approaches used to understand social behaviour known as the situationalist position (comparable to the structural coercion position) and the dispositionalist theory (comparable to the voluntarist position) is found throughout the social psychology literature (see Nisbett and Ross, 1980). Basically, the situationalist position says that human behaviour is determined by various characteristics of the situation or context to which the individual actor responds. The subjective intentions or states of the individual are really products of a set of stimuli that result from interaction with a set of situational constraints. In contrast, the dispositionalist theory, says that behaviour is primarily determined by what Nisbet and Ross refer to as the "consistent and enduring dispositions of the actor".

role incompatibility (or role conflict) hypothesis also suffer from a similar lack of specificity by describing how women respond to the conflict they experience when playing two apparently contradictory roles, the role of mother and paid labourer. A second point is that there are very few theories that can be neatly classified under a single approach. Economic utility theory perhaps comes closest to the structural coercion tradition. However, many of its assumptions spill over into sociological writings.

1.2.1 The Voluntarist Approach

The voluntarist approach says that the shift in women's work patterns over the past several decades can best be explained by a parallel voluntary shift in tastes and preferences for market work among recent cohorts that is more or less unrelated to motives arising from economic need. Women work because they want to not because they have to. This approach, therefore, assumes that women are relatively free to choose their level of involvement with the work force. Choices are consciously planned in advance of actual behaviour, usually around the time of adolescence, and thus well before such major life cycle events as marriage and childbearing. Less attention is paid toward possible external influences, social or economic in nature, which may place constraints on those decisions and thus alter the range of choices.

To explain why recent birth cohorts of women are experiencing this change, the voluntarist approach borrows heavily from Parsonian theory which focuses on the role of socialization during a child's formative years. Parsons was the first sociologist to combine elements of the psychodynamic and social learning models of personality

development. He believed that in order for the social system to survive, individual personalities had to be trained to be motivationally and technically adequate to carry out their adult roles (Gerson, 1985). The socialization process would accomplish this task by first instilling in children both the capacities necessary to perform the tasks that would be required of them as adults (the technical aspects) and secondly, the desires to ensure that the tasks would be carried out (the motivational aspects) (Gerson, 1985). Parsons felt that children would acquire these needed capacities by internalizing or incorporating into their personalities the norms of the larger society as well as the "need dispositions" appropriate to the sex roles they would eventually assume (Gerson, 1985).

As societal norms are now changing in the direction of an acceptance of the married female worker, recent birth cohorts are growing up in a family environment which is more egalitarian in terms of what it considers to be appropriate roles for men and women. Little girls are socialized to conceptualize work as a legitimate lifelong role. In this context positive values are attached to work. Once these values become internalized, the processes of early value formation are translated into actual behaviour (labour force involvement or lack of it) later in life.

Voluntarists, therefore, contend that the bulk of the increase in the labour force participation of married women has been *cohort driven*. That is, successive generations of women are spending their early formative years in an environment that is more permissive in its views of women as paid workers. The environment represents each woman's own personal life space composed of a cast of significant others including her family, peers and teachers. These "significant others" become agents in a process of

socialization which instills in women certain values (either positive or negative) pertaining to a variety of adult roles including work. Describing this process within a broader framework of change, Lesthaeghe and Surkyn (1988) note that:

"cohorts...define their value orientation during the socialization phase and retain it throughout their lives. If this holds, parents, schools and peer groups may be differentially involved in shaping these life long values of new cohorts. One can then distinguish between generations that are socialized closely in the image of their parents and cohorts that make a clear break. The latter would occur under the influence of the educational system and its content, and through peer group reinforcement [called cultural capital]." (Lesthaeghe and Surkyn, 1988: 17).

Voluntarists also believe that as traditional demographic barriers to full participation in the work force continue to weaken (these would include family size, marital status, age and geographic mobility), women from younger generations upon reaching adulthood will increasingly find themselves in a better position to choose from a variety of adult statuses including full-time or part-time work and full-time or part-time education. Supporters of the approach refer to this trend as the growth of variety and choice (Jones and Tepperman, 1988). Fewer constraints will also mean a greater freedom of movement between different pairs or combinations of states. With greater variety and movement, voluntarists hypothesize that membership in a particular status and the level of movement (i.e. rates of entry and exit from various states) will no longer be successively predicted by just a few traditional demographic and socioeconomic variables. Women will become more idiosyncratic in their decisions pertaining to work and family life. In this new environment, individual tastes and preferences for market work along with education and characteristics of the spouse will gain a greater measure of predictive

power. In the words of Jones and Tepperman (1988), "holding constant, variety and fluidity, status movement and retention [will] be predicted by few or many variables...we hypothesize that they will be increasingly be predicted by many" (Jones and Tepperman, 1988: 33).

1.2.2 The Structural Coercion Approach

The basic tenet of the structural coercion approach is that women's decisions regarding work and family life are shaped within a social and economic context which in turn places certain constraints or restrictions on their freedom to choose how they wish to spend their lives. In this sense, it is largely deterministic.

In the past, many of the traditional constraints limiting a woman's choices were demographic. Marriage to a man usually signalled the end of a woman's time in the work force (assuming she worked prior to marriage) at least until the last child had left home. If the husband's job required that he move to another location, the wife, if she was working, was expected to make the necessary adjustments by terminating her job. Within marriage large family sizes made childbearing and childrearing for most full time activities. Under the traditional breadwinner system with its emphasis on a rigid division of labour based on sex, the husband was the sole breadwinner and the wife's primary responsibility was to carry out household chores and to look after the children. Combining work and family life was a virtual impossibility. Demographic variables, then, as well as the wife's prescribed role as housekeeper and mother, placed severe constraints on the amount of time women were allowed to spend working for pay.

The decline of the traditional breadwinner system (Davis, 1984; Wilkie, 1991), recent declines in family size as well as increases in life expectancy have now reduced the proportion of a woman's total lifetime in which she occupies the traditional roles of childbearer and childrearer, allowing her the opportunity to pursue other activities, one of the most important of which is paid work outside the home. The amount of time spent within marriage has also declined owing in part to later marriages and an ever-increasing number of marital dissolutions (Davis and Van den Oever, 1982; Davis, 1984). In discussing the declining role of family size in relation to women's work, Mott and Shapiro (1983) note:

"one aspect of the declining role of children is that one would expect women increasingly to plan their lives in terms of themselves rather than their children...In this context, there is likely to be a growing awareness among young women that the bearing and rearing of young children will take place during a relatively short portion of their adult lives. More time will be available for employment during the life cycle" (Mott and Shapiro, 1983:251).

Structural coercionists, however, maintain that although some of the traditional demographic constraints on women's freedom of choice to enter the labour force may have weakened, new constraints have emerged to take their place. Any appearance of a growth of choice or freedom to choose has thus been illusory. They claim that if greater numbers of married women with children are working, it is not because they want to out of their own volition but rather because they are forced or motivated to out of economic need. Tastes, in this context, are more likely to be viewed as a consequence and not a cause of labour force involvement. As such, coercionists place far greater emphasis on economic factors. Their argument is that rising unemployment and

spiralling inflation in the past two decades has eroded family income (i.e. husband's earnings) so that one paycheque is no longer sufficient to sustain the economic wellbeing of the family unit. Women have responded to this situation by entering the labour market in order to supplement the husband's income or in the case of those already working, by remaining at work for lengthy periods of time.

Secondly, with a majority of women now working, structural coercionists consider demographic factors such as family size, marital status, and age etc. to be of vital importance in determining the amount of time they spend in and out of the work force (Mincer, 1985). In other words, while factors such as family size may have severely restricted womens' chances of entering the labour force in the past (especially if they were married), it will continue to play a role in determining the labour force retention of those already working.

Supporters of the approach also focus attention on the way in which societal norms have constrained women's behaviour. They explain that the freedom to choose paid market work as a full-time activity may have come at the expense of removing the freedom to choose *full-time* homemaking and mothering. With the majority of women now working, societal norms have changed in the direction of an acceptance of the married female worker. As a result, the status of the full-time homemaker has diminished in recent years and this has put a great deal of pressure on the remaining minority of never-worked women to enter the labour force (Pearson, 1979). Similarly, women who are already working may find it increasingly difficult to justify a return to the home except of course for brief periods in order to have children.

Structural coercionists contend that with the exception of the very rich, most individuals simply do not have the luxury to choose whether or not to work. They also dispel the notion that the kinds of activities women are involved in during their adult years such as childrearing or full-time work are an outcome of conscious decision making processes at an earlier stage in life. In their view most people do not make life choices but are guided and directed or simply drift into them (Epstein, 1974). This is because for women, "the organization of their daily experience, their work routines, and indeed their lives are determined and ordered externally to them" (Smith, 1977a)

Last, structural coercionists tend to reject the idea of women's work behaviour as cohort driven. Unlike voluntarists, they do not restrict the source of change to just one segment of a cohort's life span. Instead, emphasis is placed on the entire life cycle of a single cohort. Various social, political and economic influences may impact at different times throughout its period of development causing major discontinuities in labour force behaviour. This will happen regardless of a woman's early work intentions or level of preference for the work role. Greater aspirations for work may also occur at different life cycle stages but mainly as a direct consequence of changes in social and economic conditions that have led the way toward increases in work attachment. Gerson (1985) provides a good example which contrasts this view of change with the cohort approach. She writes:

"Each cohort reflects and embodies to some degree the structure of opportunities that characterized the historical period in which it came of age and made its life commitments...But members of the same generation also vary in their social position and thus in the degree and type of constraints they face. A full analysis of the role

cohorts play in social change requires examining the full range of situations cohort members encounter" (Gerson, 1985: 39).

Structural coercionists contend that over the past several decades, the force of social and economic change on women's work behaviour has greatly intensified. With this view of change, it is more important to know *when* a woman entered or left the labour force (i.e. the period effects) rather than the year in which she was born (i.e. the cohort effects).³

1.2.3 Empirical Findings

Empirical findings in support of either of the theoretical approaches have been less than conclusive. In Canada the question of the relative importance of demographic, economic and tastes factors in effecting change on women's work behaviour has largely been addressed on an abstract level in textbooks or monographs (Connelly, 1978; Pearson, 1979; Phillips and Phillips, 1983; Eichler, 1983; Wilson, 1986; Townson, 1987; Armstrong, 1988; Duffy et al., 1989). A lack of good data sets is the most probable explanation. Of the few empirical studies that have been done, most have been based on cross-sectional designs (Lowe and Krahn, 1985). An analysis of change in the potency of sets of predictor variables over time or across birth cohorts is, therefore, not possible.

³Note that both the structural coercion approach and the voluntarist approach hypothesize a weakening of demographic constraints of a woman's entry into the work force. In this respect they are similar. However, structural coercionists believe that many of the constraints that kept women out of the labour force operate as powerful determinants of the length of time spent working by those who already work. In contrast, voluntarists hypothesize a weakening of demographic variables.

One exception is a study by Jones and Tepperman (1988) which examines changes in the effect of education, marital status and child status on the employment behaviour of married women belonging to separate birth cohorts. Utilizing a diverse array of data, the authors found that education, and to a lesser extent marital status, had a progressively diminishing effect on current labour force participation with each successive birth cohort. The effect of parity, however, was most powerful for the most recent cohorts. When a woman's cumulative participation in the work force was used as a measure of work attachment, different findings emerged. The effect of marital status (presence of a spouse) was most pronounced for the most recent cohort of women (born 1960 and after), while education had the weakest effect. The effect of number of children revealed no discernible pattern.

Richer sources of data are available in the United States. However, changing attachment is usually described across time (periods) rather than across birth cohorts. Findings pertaining to the effect of child status on employment have varied ranging from no change at all (i.e. women were as deterred from employment in later decades as they were in earlier ones) (Ericksen and Klein, 1981), to an apparent attenuation of the relationship (Waite, 1976; Gilroy and Rytina, 1977; Shaw, 1985; Mincer, 1985) to a strengthening of the relationship (i.e child status was a greater deterrent to employment in later decades compared to earlier periods) (Eggebeen, 1988).

Other demographic variables have also produced similar inconsistencies. Waite (1976), for example, found a noticeable decline in the effect of age on the probability of a married woman's labour force participation between 1940 and 1960. Others have noted

a similar decline in the effects of age independent of the effects of child status and marital status. Ericksen and Klein (1981) found that women in 1970 were more likely to work over their childbearing years than women in 1960. They note, "successive cohorts of women are starting out with higher rates, and these rates remain higher as the women age" (Ericksen and Klein, 1981: 18). A decline in the negative impact of age is noted elsewhere but over an even larger period (1960 to 1980) (Eggebeen, 1988).

With regard to marital status, Ericksen and Klein (1981) found that in 1970 women were not as deterred from employment by the presence of a husband as they were in 1960. For the period 1960 to 1980, Eggebeen (1988) notes that:

"as anticipated, having a married rather than divorced, separated, widowed or single mother reduces the chances of maternal employment significantly. The effect, however, was found to vary over time. Having a husband present decreased the probability of a child's mother being employed by 16 percent in 1960. This increased slightly to 19 percent in 1970 and then declined to just 12 percent in 1980" (Eggebeen, 1988: 152).

Husband's income has been used extensively by sociologists and economists as an indicator of a woman's economic need (or lack of it) to work outside the home. Holding constant variables such as child status and attitudes toward work, Shaw (1980) found a noticeable decline in the negative effect of this variable throughout the 1970s, while others, focusing on the twenty year period from 1960 to 1980 (Eggebeen, 1988), observed no change. Similar declines in the inhibiting effect of husband's income have been found by Fields (1976) for the period 1940 to 1970.

In a more recent study, Blau and Robins (1991) discovered that economic variables (including husband's income and non-wage income and wife's wages) accounted

for approximately one-third of the increase in the labour supply of married women between 1982 and 1986.

Womens' tastes and preferences for market work have typically been measured using various attitudinal indices concerning the "appropriate" roles for women or proxy measures such as educational attainment. Most studies have found an increasing effect of education on women's employment (Shapiro and Shaw 1983; Eggebeen, 1988). However, there has been only limited treatment of attitudinal indices in longitudinal research. One exception is a study by Shapiro and Shaw (1983) in which attitudes increased in importance in predicting women's employment between 1967 and 1978.⁴

1.2.4 A Critique of Both Approaches

The conflicting empirical findings present throughout the labour force literature may partially reflect an overly strict adherence to the underlying tenets of a single approach. There seems to be an unwillingness to work within a more general framework which combines the best elements of each. Regrettably, a conceptual bias in favour of α approach at the exclusion of the other opens up the possibility for certain methodological inadequacies some serious enough to produce results which are either highly contradictory or inconsistent. This is not to imply that both approaches are

⁴There are nearly as many cross-sectional studies which focus on the issue of the relative importance of structural versus attitudinal factors in the decision of married women to enter the labour force (see for example, Arnott, 1972; Dowdall, 1974; Ferber, 1982; Lowe and Krahn, 1985). However, these studies, because of their design, cannot comment on the changing potency of predictors over time in affecting an influence on women's work behaviour.

completely complementary, in the sense that, by combining them, the inadequacies would suddenly disappear. Some of the theoretical shortcomings are shared in varying degrees by each and thus led to the same methodological problems. Nevertheless, a critical examination of each approach with the backing of empirical research should go a long way toward identifying what these problems are and how they might contribute to inconsistent findings in the literature. Once this is achieved it then becomes possible to move in the direction of a more general synthesized approach.

Economic utility theory is probably the best example of a theory that falls within the boundaries of the structural coercion tradition. Although widely used by economists to understand female work behaviour, a number of sociologists leaning toward the structural coercion approach, explicitly or implicitly follow some of the theory's tenets.⁵ Moreover, the theory contains certain elements which overlap to some

⁵Economic utility theory "views households as economic units that attempt to maximize the utility derived from their joint consumption of income, on the one hand and leisure or other non-market uses of time on the other....[The theory] posits a woman's decision to enter or not enter the labour force as primarily an outcome of two competing effects on the allocation of time among household members: an "income effect" and a "substitution effect". The income effect says that if the husband earns a high enough income in the marketplace, he will be able to purchase more leisure time for himself and for his wife. Since leisure is the most sought after good, the wife will respond by choosing to remain out of the labour force. Her consumption of this good will increase but at the cost of spending less time engaged in other nonmarket activities. Alternatively, it is assumed that if the wife is already a member of the paid work force as a result of her husband's low income, she will respond in a similar fashion by returning to non-market activities on the event that his economic position improves. The substitution effect is more complicated. Economic theory compares the wife's value as a specialist in the production of non-market goods for the family, known as her "home wage" or "shadow price", with her value as a potential skilled labourer in the market place or her "market wage". The home wage is determined by her home skills and the households demand for those skills while her market wage is determined by her level of market skills and the market's demand for those skills. Both the home wage and the market wage are

degree with other structural coercionist theories, one example of which is the theory of patriarchy. Utility theory has thus made a strong impact in the area of women's work in general and for this reason will be referred to frequently to describe and clarify many of the problems of the general approach within which it lies.

1.2.5 Theoretical and Methodological Problems of the Structural Coercion Approach

One problem with the structural coercion approach, is the assumption that market work and home work are the separate domains of men and women. This assumption has its origins in economic utility theory, however, on a lesser scale its presence is implied in other writings by sociologists or demographers where certain economic predictors such as husband's income are the major focus of concern.

Under utility theory, the roles of mother and paid worker are viewed as incompatible. Women entering the labour force are said to "substitute" paid market work for home work. This implies that women will postpone or limit childbearing until a later time when the economic situation of the family improves and they are able to return to

seen as representing separate costs to the household. For women specializing in the production of home goods, a decision not to enter the labour force entails certain "opportunity costs" in the form of lost wages or foregone earnings. The production of market goods by women choosing to enter the labour force also bears certain costs. If a couple has children, these costs may be in the form of child care. Other costs to the household might include the wife's role in maintaining close kinship ties with the family or her role as a homemaker responsible for the tasks of cooking, cleaning and shopping. Economic utility theory says that, all other things being equal, the higher the opportunity costs of remaining out of the labour force, relative to the home costs associated with remaining in, the greater the likelihood that a woman will *substitute* paid market work for unpaid home work" (Greenstein, 1986:188).

home production. The possibility of a combination of both roles is not given serious consideration. Laws (1976) refers to this belief as the "fallacy of monism" because of the notion that it is inconceivable that women could handle two sets of activities. Easterlin (1978) makes this assumption in his work on the effects of cohort size on the life chances of individuals. According to his theory, women married to economically disadvantaged men who come from a large birth cohort will temporarily forgo childbearing and enter the labour force to supplement the family income.

The assumption that family and work roles are incompatible for women is based on the observation that work occupies a substantial portion of men's lives while for women childbearing and childrearing are the most time consuming roles.⁶ Therefore, as the theory holds, it is only natural that such a division exists. This way of thinking may have been tenable in the 1950s and 1960s, the period in which economic utility theory first became popular in the demographic literature. During that time the Baby Boom as well as the traditional breadwinner system operated against diversity and variety in women's work patterns. Empirical observation would therefore have shown

⁶Utility theorists also posit work and family roles for women as incompatible because they view a division of labour based on sex as functional for the well-being of the family unit. They acknowledge that such a system places married women in a position of economic dependency but stress that dependency "is the natural outcome of rational decisions intended to maximize the resources of the family" (Sorensen and McLanahan, 1987: 660). This way of thinking bears a close resemblance to structural functionalist theories in sociology such as Parson's theory of sex role segregation which emphasizes the functional benefits accrued to the family from having the wife specializing in emotional and expressive tasks and the husband specializing in instrumental activities. Both perspectives see the wife's position of dependence as healthy for the family's survival and both emphasize a fair and equitable exchange of services in the husband-wife relationship.

that the amount of time women occupied in the paid work force was substantially smaller compared to the amount of time spent by men. However, today women spend a much greater proportion of their childbearing years in the work force and are slowly moving in the direction of attaining the same levels of participation as men. The structural coercion approach, therefore, is somewhat outdated in this respect because it no longer adequately describes the current situation of women with respect to the amount of time they spend in market versus non-market activities. As one author notes:

"the theoretical models posit a single, lifelong career but we are...now in a position to conclude that such a pattern is [neither] modal or optimal...empirical investigation of multiple-career, interrupted career, and noncareer work histories would enlarge our understanding of all workers, including women" (Laws, 1976:44).

This simplistic treatment of women's work behaviour has had a direct impact on methodological practices. Those who model female labour supply under the structural coercion tradition often specify a dependent variable with just two outcomes corresponding to a woman's presence or absence in the labour force at one point in time. This is undoubtedly a very crude way of measuring a woman's level of work attachment.⁷ The reason is that current participation rates do not capture the full diversity or dynamics of work patterns over the life cycle and thus may over-or under-

⁷Obviously, for many individuals the choice of a measure of work attachment would have been dictated by the type of study design. Prior to 1980, most of the data pertaining to the employment behaviour of women was cross-sectional and simply did not allow one to capture the length of time spent working in past or current states. Since that time a variety of longitudinal data sets on female employment and retrospective data on women's work histories have been available. Yet, with a few exceptions (Long and Jones, 1980; Blau and Robins, 1989), economists have largely confined themselves to the analysis of cross-sectional data.

estimate true levels of attachment for certain select groups of women.⁸ Sweet (1972), for example, discovered that the married female labour force participation rate obtained from the 1960 U.S. census could be decomposed into four separate components: the proportion who have ever worked, the proportion having recent work experience, the proportion returning to work since the birth of a child and the proportion continuing to work at the time of observation at the census date.

The participation rate also represents a purely cross-sectional measure of a woman's current work status, and therefore, as a summary measure of work attachment, does not reflect the full extent of female work continuity over extended periods (Finnegan, 1975; Huber and Spitze, 1984; Kasarda et al., 1986). Finnegan's analysis of the 1970 U.S. Current Population Survey data revealed that out of 23 million women who held a job at some point in that year, only 17.5 million were captured by the survey conducted in the month of March.

These statistics show that there are several competing components of labour force attachment which give rise to a woman's current work status. The problem is that

⁸Measures which capture the duration of time a woman spends working or not working do provide some indication of the degree of continuity in her employment behaviour. In this respect they are improvements over simple dichotomous measures. However, for some women, employment over time may be interspersed with periods of labour force withdrawal while for others it may be continuous with little or no interruptions. A cross-sectional measure would simply combine both groups of women into a single measure of "years of employment". Consequently, a woman reporting as having worked say ten years over a period marked by numerous labour force interruptions, would be equated with another also working the same number of years but on a continuous basis. Clearly, the woman working ten years on a continuous basis is demonstrating a stronger attachment to the labour force.

researchers often mistakenly assume that rising rates of involvement are due only to greater numbers of non-employed workers entering the labour force from year to year and thereby ignore the effect of other components such as the duration spent in the working state for women already working. However, labour force retention rates in the work state may now be more important in explaining rising labour force involvement than rates of first entry in light of recent evidence that shows the female work force to be stabilizing. What this means is that if each year fewer women are observed to enter and then exit the labour force, greater attachment will necessarily follow. On the other hand, if rates of first entry are countered by equally high rates of first exit (with little chance of re-entry), work attachment will decline. The result is a decline in the average experience of female workers (Bianchi and Spain, 1986).

Models which employ the labour force participation rate as measure of work attachment will tend to produce results which are widely conflicting with results from models which employ measures that capture a greater portion of a woman's working life including periods of both employment and non-employment. This is perhaps the most important reason why researchers have such difficulty in arriving at a consensus on the changing potency of various sets of predictors on the newly emerging patterns of female work behaviour. Conflicting results will occur, however, for a variety of different reasons each relating to the limitations of the rate as a descriptive measure of work attachment.

One problem is that the selection of a dichotomous dependent variable can prove to have adverse effects on the explanatory power of a labour supply model as well

as weaken the effects of individual covariates of interest to the researcher. Shaw (1985) discovered that compared to "presence or absence in the labour force", duration based measures of attachment on the dependent variable increased significantly the explanatory power of her labour supply models and that covariates of interest were generally better predictors of attachment. Using the same set of predictors in two separate models, one using a duration measure and the other not, she found that the goodness of fit (R squared) of the model with duration present was ten percent higher than the model without.

Another problem with using the rate as a dependent variable is that the interpretation of the effects of certain covariates on a woman's current work status may not be directly comparable to the effects of the same covariates on her propensity to stay in (or leave) the labour force. Long and Jones (1980) claim that this problem is not yet fully recognized among econometricians, many of whom tacitly assume that labour force participation relationships are always symmetrical or reversible. In other words, factors that affect the probability of labour force participation are assumed to have equal but opposite effects on the probability of non-participation. Based on longitudinal data from the U.S., Long and Jones (1980) explored each of these relationships separately and discovered that some factors such as husband's income and acquisition of job skills, responsible for predicting a woman's entry into the work force, had a reduced impact on her probability of leaving.

Along similar lines, other authors have observed that factors which predict presence or absence in the labour force at one point in time may have *different* effects

on the rate of moving in or out of the labour force. For example, Felmlee (1984) describes the differential effects of education on work attachment first by referring to a model of current work status (i.e. employed, not employed) and then to a model of labour force retention. Comparing the effects of education in each model, she notes:

"from static analysis we know that educated women are more likely to be working at a given point in time than less educated women, which implies that education is negatively related to transition rates out of employment. An event history analysis using models of labour force retention, however, shows that education increases rates of leaving employment for women" (Felmlee, 1984:181).

To understand how these results might contribute to an already conflicting body of literature on changing work behaviour, consider the case of education as a predictor variable. If the labour force participation rate is decomposed into its component parts and it is found that the dominant contributing factor giving rise to its observed structure is the proportion of new entrants into the work force, then it is likely that a positive effect of educational attainment will result. If, on the other hand, the proportion of women who remain working for an extended period is the dominant factor, education may have an equal but opposite negative effect (similar to the one described by Felmlee) or, at the very least, a dampened positive effect on current work status. A third possibility is for both components to be roughly equal in size resulting in a "cancelling out" effect in which case education would be observed to have no effect at all. If recent findings are correct in saying that an increasing proportion of the growth in labour force participation is due to a greater propensity on the part of working women not to leave the work force, then results from periodic assessments of change in the effect of education on current work status will be distorted.

The same effect may be operating with child status. Using Canadian Family History Survey data, Picot (1986) discovered that while child status evoked the traditional negative relationship with a woman's entry into the work force, its effect was to significantly reduce her probability of leaving. The latter finding better explains why the fastest growth in female labour force behaviour has occurred among married women with pre-school age children. The same variable, in a model having a dichotomous dependent variable might just as easily have shown a positive or negative effect or no effect at all. The direction of the effect would have depended on the relative strength of the underlying components of work attachment giving rise to the structure of women's current work status at that particular time.

Third, the tendency of current measures of work status to aggregate very different work history experiences into a simple dichotomy of restricted choice makes it difficult if not impossible to determine what precise effect factors such as reduced childbearing, or rising educational attainment have on female work behaviour. Perhaps the best example to cite for illustrative purposes is the effect of fertility. As a potential obstacle to full involvement in the labour force, childbearing in recent years has diminished in importance. Traditionally, the effect of childbearing on female labour force involvement was determined in terms of an average effect that each child would have on a woman's labour force participation. When measures of current work status were used, results usually showed that for each additional child, the probability that a woman would be working at a fixed point in time decreased. Other measures such as

"years worked" yielded similar results with each birth reducing the total number of years worked by one year or more (Smith-Lovin and Tickamyer, 1981).

Research of this kind, however, ignores the variability of women's labour force behaviour as a direct response to reduced childbearing. For some, one or two children will have little or no direct bearing on their labour force behaviour if they have at their disposal the means to effectively combine market work with childbearing in order to shorten their work interruption. For others, personal choice or lack of resources may dictate a more prolonged leave. Among women in this group, some may never return to work but instead devote all their time to continued childbearing or leisure activities. Others may plan an eventual return after pursuing higher education or when their children have entered school. The sheer diversity of this response implies that the use of measures of current work status entails a serious loss of information on the fertility effect. As Smith-Lovin and Tickamyer (1981) note:

"when an effect of fertility on the work variable is found, it is impossible to tell whether 1) almost all of the women who have more children dropped out of the work force some short period of time or 2) the women who have more children have a higher probability of dropping out for an extended period" (Smith-Lovin and Tickamyer, 1981:81).

Fourthly, a cross-sectional measurement of labour force participation or non-participation at a single point in time does not lend itself to the study of certain predictor variables whose effects on the dependent variable are delayed for an indefinite period. Willekens (1989) says that for some variables an "incubation" period is required before their effects become manifested. He further adds that effects do not necessarily operate

within a restricted time frame but more often than not are spread out over a longer duration. The effect of education on female employment illustrates this point. A woman who just receives her high school diploma only a few months prior to the time she is surveyed, is not likely to experience an immediate pay-off in terms of an offer for employment. The effect of her education on her current employment status will therefore be negative. A few months later however, she may obtain a position with the effect of education suddenly changing to an outcome on employment that is positive. Unfortunately, the cross-sectional survey only picks up the negative effect. An event-history analysis overcomes this limitation of cross-sectional analysis by allowing the researcher to assess how the effect of a given covariate such as education on employment behaviour unfolds or distributes itself over time. For models of labour force retention, this means that the immediate effect of a covariate on a woman's propensity to leave the labour force may not appear for several years after she first begins work.

Another problematic feature of the structural coercion approach, in particular utility theory, is the assumption that if women do work it is purely for economic reasons (i.e. reduced family income or opportunity costs in the form of foregone earnings) and that once economic need subsides, they will return to home production. Although women are put on an equal footing with men in terms of their desire for leisure, they (as well as men) are for the most part denied having a strong taste or preference for market work that is unmotivated by economic concerns. Tastes are therefore modelled as a residual or nuisance component or are viewed as endogenous to labour supply in which case they are excluded altogether. For example, Bowen and Finnegan (1969) contend

that a great deal of progress can be made in accounting for the increased participation of married women over the postwar period without resorting to explanations which view that change in behaviour as a response to changes in attitudes. They argue that attitudes have mainly been the consequence of economic factors. Other economists such as Cain (1966) restrict their definition of "tastes" to include a taste for homework which is measured as the number of children under the age of six. Presumably, this means that women who have large numbers of children will tend to score high on an instrument designed to tap the value they place on family life.

This treatment of tastes reflects Gary Becker's notion that labour force behaviour on the part of married women is based on a kind of false commitment, what he calls "commitment by default" (Percucci and Targ, 1978). Commitment, in this sense of the term, is said to partly arise from factors called "side bets" which women accumulate early in the lifecycle. Some of these side bets are economic in nature such as marriage to a man with low or moderate income. Others are demographic such as reduced childbearing. Both factors operate to raise the probability that a woman will participate in the work force and thus according to the theory give the "impression" that women are committed to work.

The problem with Becker's approach is that it assumes that women just happen to drift into various social arrangements or economic positions. In other words, events such as marriage and childbearing are construed as occurring randomly in the lives of women beyond their realm of control or influence. Laws (1976) refers to this kind of thinking as the "teleological shibboleth" the belief that women do not plan for their future

occupational career but leave their fate to be determined by their marital partner later in life. She contends that because most women do intend on getting married and do intend on having children that it is automatically construed by economists as evidence that they will also have occupational intentions which are either vague or indifferent. In reality young women do plan for their future as adults (Almquist et al., 1980). Moreover, they have been found to give a far greater amount of thought to their future occupation than their male counterparts.⁹ Contrary to economic theory, and the structural coercion approach in general, a growing body of empirical literature has also found that significant proportions of married women (particularly those belonging to more recent cohorts) do in fact share very strong and well-defined tastes and preferences for market work over homework. These tastes and preferences exert a substantial impact on work behaviour net of the effect of other hypothesized socio-economic predictor variables (Arnott, 1972; Dowdall, 1974; Avioli, 1985; Greenstein, 1986). Women have also been found to value work for its intrinsic rewards such as the sense of self-fulfilment and personal autonomy it brings to their lives. In contrast, men have been found to value extrinsic rewards such as income and prestige (Lindsay and Knox, 1984).

⁹The cornerstone of economic utility theory is its underlying assumption that the ultimate goal for both men and women is to obtain leisure. This is accomplished by reallocating their time between home and market work. Men and women are assumed to hold a strong desire or taste for leisure time but it is not clear why this desire should override the desire or taste for other things such as time spent in the work force. This assumption does not make room for heterogeneity in tastes both in terms of what is sought after (i.e. home goods, market goods, leisure, etc.) or the varied levels of intensity that individuals display in their efforts to obtain them (i.e. strong vs. weak tastes).

However, the greatest challenge to Becker's notion of "commitment by default" is found in Rexroat and Shehan's (1984) analysis of the labour market experiences of young women taking part in a large U.S. national longitudinal survey on work. The authors studied the labour force intentions at age 35 of 5,000 women age 14 to 24 in 1968. Women were re-interviewed in 1980 in order to determine the relationship between early work intentions and later behaviour. Findings revealed that a majority of young women who expressed a strong desire to have a career at age 35 were in fact employed in a career at that age. Their labour force involvement was least likely to be affected by changes in their domestic circumstances such as marriage or childbearing. Marriage and childbearing, however, substantially reduced the level of employment for women who did not express a desire for a career.

Further confirmation of a strong link between early work attitudes and subsequent work behaviour has been found in later studies. Based on data from the U.S. National Longitudinal Survey of Youth, Desai and Waite (1989) analyzed the relationship between young women's intended level of work commitment or lack of it when they would reach age 35 and their actual level of labour force activity surrounding the birth of their first child. In 1979 women in the sample were in the age range 14-21 and numbered 12,686. The authors focused only on those women who had a first birth at some point between 1979 (the initial interview) and the 1985 interview. In each year between 1979 and 1986, women were asked what they would like to be doing at age 35: working or homemaking. Their results showed that women who preferred to be working at age 35 were much less likely to leave the work force during the third trimester of their

pregnancy than women with no preference for work. Moreover, women with a preference for work were significantly more likely to return to work during the child's first year of life than women without such a preference. Finally, the work activity surrounding the first birth for women who held a low level of work commitment was much more responsive to measures of economic need or financial pressure such as husband's income than women who held a high level of commitment.

The findings of Rexroat and Shehan (1984) and Desai and Waite (1989) show that Becker was only partially correct. The sizable number of women in both samples who did not express a strong level of work commitment and whose subsequent labour force activity was largely determined by changes in their family circumstances, points to some element of randomness in their eventual labour force status. For these women, a commitment by default seems somewhat plausible. However, there were many women who made very strong plans for a future career in the paid work force. In their case, the accumulation of what Becker terms as side bets (i.e. childbearing, marriage. etc.) made very little difference in terms of whether or not they ever achieved their career goals.

When treated as exogenous to women's labour supply, tastes and preferences represent a potential source of uncontrolled heterogeneity. Failure to account for tastes, therefore, may result in serious problems, the most common of which is model misspecification. When a model is not properly specified, the omitted unobservables may be correlated with the included observable attributes, leading to biased parameter estimates. This could mean that the effect of a respondent's observed characteristics of

child status, age or husband's income might operate as a false proxy for the "true effect" on labour force behaviour of the unobserved characteristic taste for market work. In other words, any observed effect of education, age or income on work behaviour may only be due to the correlation of these variables with the extraneous influence of tastes for market work. Without examining tastes separately, and hence removing their confounding influence, it becomes very difficult to conduct a proper assessment of the changing impact of economic or demographic constraints on the rise in female labour force attachment.

In addition to their poor handling of tastes, theories leaning toward the structural coercion approach tend to be of a static nature and hence perform rather poorly as tools for predicting change in behaviour over time. One dimension of this problem stems from an inability on the part of some theories to predict the direction in which change will occur. For example, economic utility theory predicts that the larger the substitution effect relative to the income effect, the more likely a woman will seek paid market work. On the other hand, a more dominant income effect will result in fewer women entering the labour force or an exodus on the part of those already working. On the surface this theory appears to explain everything. However, a closer examination reveals that it explains very little. Economists would attribute the rapid post-war influx of married women into the work force as a triumph of the substitution effect. However, if the opposite trend had occurred, the theory would still have survived because the same economists would have pointed to the dominance of an income effect (Appelbaum, 1981). In a very strong sense, the logical structure of the theory's arguments is tautological

because no matter what the observed outcome in terms of a rise or fall in women's labour force behaviour, the theory will always turn out to be true. Thus, as a tool for predicting changing labour force behaviour, the economic utility theory is quite limited since it fails to hypothesize *in advance* what effect will dominate the other.

Part of the reason why utility theory cannot predict the direction of change in female labour force behaviour, may have to do with its simplistic treatment of women's work behaviour. Easterlin (1978), for example, only posits three broad classes of jobs: career jobs requiring high levels of skill and training typically filled by older men, career-entry jobs filled by younger males and non-career jobs typically held by women. He does not make room for a fourth class of jobs composed of women in career-entry jobs and is therefore compelled to admit that his model neglects the determinants of the upward trend in female labour force participation as a whole. Indeed, the success of his entire theoretical framework rests on the assumption of females as non-career workers. This assumption allows him to argue that jobs between older and younger females are not substitutable. That is, older women in non-career jobs will replace young women because both groups are only qualified for non-career jobs.

Secondly, although the structural coercion approach explicitly recognizes the influence of structural social and economic changes affecting women's work behaviour at different stages of the life cycle, there remains a tendency on the part of many proponents to overemphasize characteristics such as a woman's *current* child status, age and wage rate as well as her husband's income while neglecting historical influences

which may have impacted heavily on her life at an earlier time (Townson, 1987).¹⁰ Examples of the latter include components in a woman's previous work history (i.e. number of previous positions, length of previous job), the rise of the women's movement in the 1960s and 1970s as well as significant social changes affecting work during the same period such as the rising tide of marital breakdowns.

The omission of these variables in labour supply models may be serious. Current labour force behaviour can only be properly understood within the context of past trends in work behaviour that were subjected to the influence of the social, political and economic forces of the time (Appelbaum, 1981). Models which fail to include them do not capture the force of social change and are best described as asocial and ahistorical.

The consequences of leaving out historical influences in female labour supply models have been examined in a number of recent studies. Nakamura and Nakamura (1985) introduced length of time a woman had spent in her previous job into their model of labour supply along with variables traditionally hypothesized by economic utility theory to have a strong influence on current work behaviour such as child status (included as a measure of the wife's home wage), women's wages (a measure of the market wage) and husband's income. The results showed that after controlling for length

¹⁰Note that voluntarists are also guilty (although to a lesser degree) of overlooking the importance of past historical and social influences impacting on a woman's current work situation. As noted earlier, voluntarists focus attention on the adolescent and early adult phases of life in order to highlight the role of the development of tastes and their relationship with later work attachment. Events or experiences which occur after the adolescent years are not afforded the same weight in terms of influencing subsequent work behaviour.

of previous work experience, the effects of child status and husband's income on current work status either weakened considerably or totally disappeared.

In another U.S. study, similar findings were made by Mott and Shapiro (1983). A sample of 5,000 women aged 14-24 in 1968 were followed over a ten year period (from 1968 to 1978), with the goal of establishing continuity between their early and later labour force participation and determining whether or not this pattern would hold up under conditions of intervening fertility and economic factors. After controlling for employment in the months immediately surrounding the birth of a first child (a selected proxy for a respondent's hidden tastes for market work), it was found that having additional children had only a minimal impact on later work experience. In other words, if a respondent worked in the short period of time surrounding her first birth, it was highly probable that she would continue to work years later, despite having a second or third birth in the interim period.

In Canada Boothby (1984) analyzed data from the 1980 Consumer Finances Survey in order to determine to what degree the observed continuity in the labour force behaviour of married women has been attributable to the effects of their observable and/or unobservable characteristics (i.e. historical influences). Whether or not a respondent participated in the labour force throughout the entire year (1979) prior to April of the survey year (1980) was chosen as a proxy for unobserved components imbedded in her work history. Results showed that regardless of their observed characteristics, women who did participate in the labour force in the year prior to the survey had predicted probabilities of participation in 1980 ranging from 75 to 96 percent

while women who did not participate had very low probabilities ranging from 4 to 12 percent.

These findings demonstrate clearly that persistent differences in the work behaviour of married women tend to remain year after year that are not fully accounted for by observed characteristics alone. Much of the continuity is explained by historical influences, namely, how long a woman worked in the past. Unfortunately, most labour supply models exclude these influences because they are based on cross-sectional designs which in most cases necessitate using current measures of work status. However, when historical influences have been modelled as "unobserved", research has shown that estimated labour supply models of a cross-sectional design do poorly in *predicting* continuity in female labour force behaviour even over short periods of time (Nakamura and Nakamura, 1985, Townson, 1987). Research on simulating work behaviour over time has resulted in a situation where most women were found not to work at all or to work in all years.¹¹

¹¹The Nakamuras studied a sample of 424 women from the Michigan Panel Study of Income Dynamics who were 21-46 years of age and married in 1971 and for whom data were available for 1971-1977. Using these data, they estimated two separate behavioural relationships for the probability of working for women who did and did not work in the previous year (including lagged hours of work and wage variables for the previous year). Also included in each equation were readily observable attributes including child status variables, husband's income, marital status, education and macro-economic conditions. Both estimated relationships were subsequently assessed to determine their effectiveness in capturing the shapes of the actual distributions for the number of years worked by women over the seven-year period. After comparing both the simulated and actual distributions of the proportions of women working one through seven years, the authors concluded that "current work behaviour for each of the 424 women was primarily an extrapolation of their work behaviour in the previous year with some degree of responsiveness to observable changes in their current circumstances " (Nakamura and Nakamura, 1985).

1.2.6 Theoretical and Methodological Problems of The Voluntarist Approach

It is not unusual to find some defenders of the voluntarist position arguing that the female parent is the most important role model having an influence on a child's value formation. This is an extreme position. Most voluntarists acknowledge a much wider sphere of influence including societal attitudes and a host of "significant others" examples of which may be the male adult spouse, older family members (i.e. siblings), relatives, and, most importantly, childhood peers. Indeed, there is some evidence, although inconclusive, that young girls' attitudes toward the appropriateness of the behaviour of their own sex (i.e. labour force activity) is influenced not so much by their mother but by interaction with the opposite-sex parent (the father) (Powell and Steelman, 1982).

However, by extending the sphere of influence in a child's life beyond the parental dyad, there is a greater risk of increasing the heterogeneity or diverseness of their pool of significant others. If messages from these other role models are perceived by young girls to be radically different from the ones received by their parents, they may end up internalizing both thus creating a certain amount of ambivalence regarding their desired future roles. Girls who are socialized in such an inconsistent manner will be more likely, once they reach the adult stage, to view the role of mother and housewife and the role of paid worker as competing desires. In this situation, the probability of choosing one over the other will be close to being equal forcing a decision which would involve some kind of trade-off.¹² This means, as Gerson (1985) rightly points out, that

¹²Because researchers often assume that attitudes are well-defined, some attitudinal or preference scales are constructed using only two response categories. Unfortunately, this practice may force some women who are ambivalent regarding their future work

women's choices later in life cannot be perfectly predicted or determined from psychic configurations instilled in childhood, whether they are learned or unconsciously acquired.

Empirical evidence has in fact shown that predictions are sometimes far from being perfect. In a U.S. study, Shaw and Shapiro (1987) examined the association between women's early work plans and their subsequent work behaviour. Expectations about future work reported in the first seven rounds of the National Longitudinal Surveys were linked to labour force participation in 1980 and to cumulative work experience (weeks worked) between 1976 and 1980. This enabled an assessment of the extent to which women's early work plans are realized in later life. Their findings showed that a full eighty percent of the women with future work plans at age 35 were in fact in the labour force at that age. However, a full fifty percent of the women who did not intend on working at age 35 were also working at that age. The authors explain this "unexpected" labour force participation as arising from financial insecurities (whether due to the absence of a husband or to low income) or to some women choosing higher education and hence achieving a higher earnings potential. These are certainly plausible explanations. However, in the absence of supporting evidence, the lack of fit between early intentions and later behaviour could just as easily been explained by a greater measure of ambivalence among the group of young women indicating no future work intentions.

intentions to choose a category that does not accurately reflect their current state of mind. This may be one reason why early work aspirations or intentions are sometimes weakly correlated with actual work behaviour later in life.

A second problem or inadequacy with the voluntarist approach is that it implicitly assumes that values, once they become internalized, are permanent, and therefore, immutable to changing social and economic influences over the life cycle of the individual. This is perhaps the greatest weakness of the approach since by assuming a permanency in values it must by default assume a constancy in social and economic institutions across time (Gerson, 1985). Obviously, social and economic institutions do change and they can directly affect women's life course trajectories by limiting (or expanding) the range of options or choices they may choose from in order to realize their childhood goals. Laws (1976) describes the real situation for most women as a "cognitive map of occupational intentions and then a real matrix of employment options". Social and economic changes can also come about quite rapidly in some cases leading to abrupt changes in behaviour. The voluntarist tradition, therefore, may be especially ill-equipped to explain women's work behaviour in periods affected by rapid change.

While tastes and preferences may already be firmly entrenched in the minds of women before and during high school and heavily influenced by the family of origin, there is some evidence that they are not immutable and that experiences right after high school may alter them (Spitze and Waite, 1981). The greatest potential for change occurs with the experience of major life cycle transitions such as entering the labour force for the first time, a first marriage or the birth of a first child. Spitze and Waite (1981) found that a substantial proportion of women aged 14 to 24 who originally expressed a desire to work full-time as adults, increased their preference for the housewife role shortly after becoming married. Similar findings have been made

elsewhere (Bielby and Bielby, 1984). Sudden economic changes can also alter preferences. A recent study in three large western Canadian cities found that the experience of unemployment lowered the occupational aspirations of students just graduating from high school (Empson-Warner and Krahn, 1992).

Change, however, may not always be in the direction of a drop in work commitment. Spitze and Waite were careful to note that the same effect was not achieved with a first birth. In fact, in the first two years immediately following the first birth, women actually increased their preference for employment. Women with intentions of not committing themselves to full-time work may similarly find themselves revising their attitudes. This might happen in the event of random shocks to the household such as a divorce or separation or the sudden loss of the husband's income which frequently lead to forced employment. As work experience is accumulated, women in this group may begin to like the sense of autonomy and independence that is often gained by having one's own job. They may in fact begin to reject the notion that the roles of mother and housewife take precedence over the role of paid labourer.

Thirdly, in their preoccupation with tastes, voluntarists are divided on how to properly define and measure them. Some argue that measures of tastes should be confined to the intrinsic satisfactions women derive from paid work, for example, the sense of personal autonomy, accomplishment or independence that having a job can bring, and should not encompass tastes for other activities like childbearing which compete for their market time. They advocate the use of a "pure" measure of tastes

which captures the very fine gradations of a woman's subjective orientation to the work role (Bielby et al., 1984). On this subject Bielby et al. (1984) write:

"Sex role attitudes represent an individual's judgement of appropriate roles for men and women in general, and tell us little about a woman's intentions, aspirations, and expectations for paid employment...addressing the importance of the work role in women's lives requires a definition of work commitment that is independent of sex-role attitudes" (Bielby et al., 1984: 235).

Others reject this way of handling tastes arguing that work and family life for most women are tightly interwoven (Coombs, 1979). They allege that underlying any type of behaviour are a multiplicity of attitudes many of which are competing. The process of measuring tastes, therefore, must reflect the full range of subjective states which individuals attach to both family and work.

Fourthly, the often conflicting findings with regard to the role that tastes have in effecting change on women's work behaviour may have something to do with the way in which questions on tastes are posed. A frequent, but unfortunate practice among some researchers in the process of measuring tastes is to solicit respondents' opinions of the work or family related behaviour of "other" women as opposed to what they believe is "proper" behaviour for themselves and then to draw conclusions about the level of work commitment based on these answers. The former measure reflects the norms of society at a more macro level, and the latter, individual tastes (Burch, 1990). For example, one question might ask, "do you consider it appropriate for women with children under the age of 6 to work outside the home"? It is a common fact that the kinds of activities that people label as appropriate for themselves are often frowned upon when engaged in by others (or vice versa). Thus, a woman who answers "no" to this question for others may

privately view it as acceptable for herself. According to Crimmins et al. (1991), "it is important to draw a distinction between what is seen as allowable or acceptable for members of society at large (social norms) and those circumstances desired for one's own life (personal preferences)" (Crimmins et al., 1991: 117).

These divergent views on what constitutes "tastes" and the different methods of measuring them have no doubt contributed to the lack of consensus on the relative importance of this construct as a causal factor for the rise in labour force attachment among married women.

Another problematic feature of the voluntarist tradition is that it presents a one-sided definition of "constraint". Voluntarists have argued that with the weakening of traditional demographic constraints to greater labour force involvement (i.e. large family sizes, marriage), there has been a concomitant growth in the variety of opportunities (i.e. adult statuses) open to women some of which include full and part-time employment and education. More variety has meant greater choice as well as a new found freedom to move about uninhibited between different pairs of states. Women become more idiosyncratic such that their movement or their status at any one time is no longer successfully predicted from just a few demographic and social variables.

The problem with this conceptualization of changing work patterns is that it ignores constraints to *non-participation* in the work force. Given that a majority of women now work, it seems plausible that some of the demographic and social constraints which initially kept them out of the labour force (i.e. number of children, societal norms)

are now operating to prevent them from leaving. On this point, Mincer (1985) (an economist) argues that:

"a convergence among demographic groups does not mean that traditional constraints to greater work activity such as child status or marital status are no longer important factors in predicting women's labour supply. Although they are less important predictors of participation rates, they continue to be extremely influential in the allocation of market versus non-market activities for women who are already working or who have worked in the past" (Mincer, 1985: S3).

If Mincer is right, then greater idiosyncrasy, as suggested by Jones and Tepperman (1988), will not necessarily be the logical outcome of a growth in variety in the number of statuses women occupy and "traditional" demographic variables may be just as important as tastes (if not more) in predicting the pace of movement in and out of the work force.

Secondly, entry into the labour force has not always resulted from a *weakening* of demographic constraints. Other demographic changes such as the steady rise in the number of marital dissolutions represent a growing economic constraint on the amount of time women may freely choose to spend out of the labour force. For some women, the removal of the husband as the primary or sole means of support has forced them to become economically independent and become full or partial participants in the paid work force (Duncan and Hoffman, 1985; Johnson and Skinner, 1988; Haurin, 1989).

A fifth possible criticism of the voluntarist approach is that it restricts its search for causal mechanisms underlying women's work patterns to just one phase of the life cycle: the childhood and adolescent phase. By doing so, however, it is forced to adopt the somewhat extreme position that the growth in work attachment is largely cohort

driven. Voluntarists defend this position by pointing out that the process of socialization has an "insulating" effect on value formation (Bielby and Bielby, 1984). That is, only certain members will become heavily involved in that process (i.e. parents, peers and teachers) and the messages and signals women receive will almost exclusively come from them. They further maintain that at the time women are forming their aspirations toward the work role, they are too young to have been exposed to major life cycle events such as marriage, childbearing or work which might otherwise lead to a change in attitudes or values (Thorton and Camburn, 1983; Bielby and Bielby, 1984; Lesthaeghe and Surkyn, 1988).

There appears to be insufficient evidence in support of a pure cohort effect (or a pure period effect) as an underlying causal factor in the upward trend in women's labour force attachment. Part of the difficulty in examining this question has been that up until very recently, the cross-sectional nature of most data sets did not permit a proper assessment of attitude change over time. One exception is a landmark panel study carried out in the U.S. by Thorton and Camburn (1983). In the study the authors examined the expressed tastes and preferences for market work of a random sample of over 900 mothers and daughters from the Detroit area spanning an eighteen year period from 1962 to 1980. LISREL was used to assess whether a shift in attitudes toward a greater preference for the work role had in fact occurred, and if so, whether it was occurring primarily within the same cohort over time (i.e. intracohort change) or alternatively, between generations (intercohort change). Results showed that part of the growth in favourable attitudes toward the female work role during the period was

achieved through a shift in attitudes between the two generations (i.e. mothers and daughters). The daughters were far more egalitarian in their sex role attitudes in 1980 than their mother's were in 1962. Moreover, despite significant changes toward more positive sex role attitudes over the period, mothers were still more traditional in their responses in 1980 compared to their daughters. This was regarded as firm evidence of a cohort effect; that young women were entering the 1980s with much more egalitarian attitudes than was true of their mothers. However, members of the mother's generation gave far fewer traditional responses to questions on attitudes in 1980 than they did in 1962. Obviously, period influences were also at work during this time in leading to attitude change. Some of these women may have been exposed to the Women's Movement, some may have experienced a divorce forcing them to enter the work force while others may have taken advantage of the growth in post-secondary opportunities for women.

In another U.S. study of cohort change, Bielby and Bielby (1984) followed a sample of female college students over a seven year period from 1961 to 1968. Beginning with their last year of college in 1961 and again in 1962, 1963 and 1964, respondents were quizzed on their future plans regarding work. The authors hypothesized that women who were exposed to positive socializing experiences prior to entering employment would be highly committed to the work role as adults. They also hypothesized that highly committed women would maintain their commitment over time despite changes to their family contingencies. Results from the 1799 women responding to the 1968 reassessment of attitudes revealed fairly strong support for the socializing

effects of significant others on attitude formation. Specifically, respondents who reported growing up in a household where their mother worked full time in the labour force, whose peers (i.e. friends) had plans to continue on in the educational system or who entered college with plans to continue their post-secondary education, were much more committed to the work role after graduating than respondents without these experiences or intentions. Broad support was also found for the second hypothesis. Although women reported a slight drop in their level of commitment after marriage (occurring between surveys), women who had children in the period between the 1962 and 1964 surveys were actually more committed to work four years after graduating than those remaining childless. Thus, subjective investments in work relative to family roles remained quite stable over the four year period following college graduation. The authors conclude that since cohorts differ in their socialization experiences and because they tend to maintain a firm level of work commitment despite changes in their family circumstances, that changes in commitment are most likely to take place through a process of cohort succession (intergenerational change) rather than intracohort change.

1.2.7 Toward A Synthesized Model

Recently, there has been a growing consensus in the literature that neither the voluntarist nor the structural coercion approach by itself provides a sufficient framework out of which to study the changes that have been taking place in women's work patterns (Gerson, 1985). The most successful attempt at a synthesis to date is the theoretical framework developed by Nakamura and Nakamura (1985).

These authors speculate that early in their lives, even before the completion of high school, women initiate a series of conscious and sometimes deliberate life-style choices that together with circumstance more or less reflect the full extent of their intended level of future involvement in the labour force.¹³ Typically, the choices they make result in their placement into one of three distinct groups: those who see themselves working on a short term basis to meet the economic needs of their families, those who see themselves working on a long term basis to meet the economic needs of their families and those who see themselves working on a long term basis but who are not necessarily motivated by the economic needs of their families.

The first group are composed of women who have no intention of making work a central part of their lives. They will tend to emphasize marriage and childbearing as primary activities and in the event of a financial set-back such as a decline in husband's income or unemployment of the husband, will only work on a temporary basis in order to restore the family income to its previous level. The second group of women are those who have already come to the realization that marriage and childbearing are very costly activities which will require the assistance of a second wage earner. These women may or may not be interested in a pursuing a career but will be motivated to work primarily

¹³The notion that attitudes or tastes become firmly crystallized in the minds of women very early on in their lives receives strong support elsewhere. Quoting Lesthaeghe and Surkyn (1988), "many components of ideational mindscaping and of the attached preference maps are already being brought into focus before the major decisions of subsequent adult life have to be faced. These ideational options are therefore better seen as a cohort-specific and presumably life-long backdrop against which demographic and career decisions have to be projected" (p. 23).

in response to their families' economic needs. Their loyalties are roughly divided between market and non-market activities. The third group of women are those who intend on making paid work their primary activity. Their motivation comes from a strong taste or preference for work that is largely independent of any economic concern for their families. These women are most likely to be interested in a permanent career.

Nakamura and Nakamura hypothesize further that once women come to a decision on their future intended level of involvement, they will tend to remain there and proceed to follow a fairly predictable life course trajectory or path (analogous to Spilerman's concept of "career lines" or "job trajectories") that is pretty much impervious to subsequent changes in their economic circumstances (i.e. husband's income), level of education or child status.¹⁴ Their use of the term "fairly predictable" is meant to signify that some women will no doubt be forced to change their trajectory

¹⁴Much of the impetus for this reasoning came from earlier work by Heckman and Willis (1977). These authors observed that the logit model, while generating parameter estimates that reflect the mean response probability conditional on the values of exogenous variables, provides only limited information on the "higher moments" of the distribution or extreme response probabilities (i.e. women who are found not to be working at all or women working continuously). They proceeded to discover that in panel data these extremes tend to exhibit a constant pattern over time. In other words, if a woman is observed to be working at t-1 years, she has a high probability of working at t and subsequently at t+1, t+2 years etc. The result is a bipolar or U-shaped model with participation probabilities near zero or one, and thus a distribution that is widely different from the mean probability of the logit model. A plausible explanation for this phenomena, according to Heckman and Willis (1977) is that the population to which these women belong is heterogeneous in makeup in that some persons persistently show higher propensities to remain in a state than do others despite possibly having shared the same readily observable attributes such as education, income or number of children. To put it differently, women appear to be generating excess continuity in their work behaviour over time due to characteristics unobserved by the researcher which may occur independently of their observed characteristics.

as a result of external forces or circumstances beyond their control. For example, a woman whose initial intentions are to get married and raise a family may suddenly find herself as the sole supporter of her children as a result of a divorce or separation. On the other hand, it is possible that for some women, a change in trajectory will be voluntary. This might happen, for example, if a woman who begins her career with economic motives in mind, gradually comes to value work for its intrinsic satisfaction and self-fulfilment. While acknowledging that changes in trajectories will occur, Nakamura and Nakamura nevertheless contend that the normative pattern will be one of stability. This is because, in order to maintain a certain trajectory, women will initiate in advance a certain course of action. For women who intend on working on a long-term basis unmotivated by economic concerns, this action would typically involve substantial investments in the form of higher education, occupational training and the accumulation of work experience.¹⁵ In contrast, women who only intend on working on a short term basis will tend not to make these types of investments and will most likely cut short their

¹⁵The Nakamura model focuses primarily on investments made by women who express a strong level of work commitment. However, it is quite plausible that women who intend on working on a short term or long term basis out of economic need will also initiate certain steps of their own to ensure that intentions are realized. Desai and Waite (1989), therefore, hypothesize that women who intend on working on a long-term basis out of economic need for their families will tend to choose occupations which contain non-monetary benefits like more flexible working hours or less physically demanding work, benefits that might facilitate efforts to combine work and family life. Women expressing the lowest level of work commitment will be more apt to choose occupations with very minor penalties for terminating work, penalties arising from the low skill requirements of the job or few opportunities for advancement.

time in the educational system in order to get married and start a family. Their level of work experience, therefore, will generally be low.¹⁶

To explain the steady increase in married female labour force participation over the last several decades, Nakamura and Nakamura (1985) hypothesize that over time there has been a gradual shift in the pattern of women's intended future level of involvement in the labour force. More recent cohorts of women, they explain, are increasingly less likely at a very young age to consciously decide that their future level of labour force involvement will be on a short term basis and that it will be largely influenced by considerations of economic need. They contend that a shift in the direction of greater proportions of women working on a long term basis out of economic need has already occurred and will continue on into the near future. A more recent shift, however, has been taking place involving greater proportions of women among the more recent birth cohorts who intend on working on a long term basis because of a strong taste or preference for market work. Economic need may be a factor in their decision to follow this particular life course trajectory but is more likely to play a secondary role.

¹⁶Recent U.S. studies based on large national samples provide some support for this assumption. Beginning with education, Shaw and Shapiro's (1987) analysis of the National Longitudinal Survey data revealed that young women who intended on working at age 35 were significantly more likely to go on to higher education. With respect to occupational training, another U.S. study, this time by Sandell and Shapiro (1980), found that women who had work plans at age 35 found jobs with significantly more potential for training and advancement than women who did not expect to be working. A similar association has been observed using work experience. Desai and Waite (1989) found that early work experience was more likely to strengthen the relationship between early intentions and later work behaviour among women highly committed to a career. However, the same variable had virtually no influence on women with a low level of commitment.

This approach to explaining the changing patterns in women's work behaviour is advantageous for several reasons. One appealing feature is that it places women in a state of transition or flux (i.e. a labour force transition) in terms of the level and complexity of their involvement with the labour force. It predicts a gradual change over time from fairly simple and predictable patterns of work (i.e. when most women occupied the state of non-employment to raise a family) toward greater complexity and diversity (i.e. women are roughly divided between all three states) and then a return again to simple patterns (i.e. most women are working full-time). This concept of an evolution in women's work behaviour is not new. It bears a striking resemblance to Sweet and Teixeira's (1981) and Sweet's (1974) view that recent birth cohorts of women are increasingly occupying a "plurality of different states" including family life, full-time and part-time work, full-time and part-time education. Almost fifteen years later, Jones and Tepperman (1988) developed a similar hypothesis.

Secondly, besides merely stating that women's work behaviour can be decomposed into certain patterns of activity, the theory provides a clear description of the underlying motives giving rise to each pattern or structure. Therefore, it says that just as women's work behaviour is diverse and complex so are their motives for that behaviour.

Thirdly, the theory implies three broad classes of variables thought to influence or impact on women's work behaviour in a significant way: measures of economic need, measures of tastes and preferences for market work and standard demographic variables. Previous research has tended to concentrate on one class of variables while neglecting

the others. Thus, the current framework is a considerable advancement in labour force theory in that it attempts to bridge at least two common theoretical traditions each of which emphasizes one particular class of predictors.

Fourth, environmental factors, either demographic, socioeconomic or political, are acknowledged as having considerable impact along side individual subjective states (i.e. tastes and preferences) in terms of affecting change on women's patterns of work. That is, although most women will tend to follow a certain life course trajectory, some will be forced to modify or change their trajectory in response to changes in their demographic circumstances or their economic or social environment. On the other hand, women are not just treated as passive observers but as active participants in shaping and moulding their environment. Those wishing to maintain a certain trajectory, will make investments in education and occupational training. This appealing aspect of the framework draws strong support from Willekens (1989) who argues that:

"if the context in which a person operates is demanding, the freedom of choice is limited and the effect of individual differences on behaviour will be reduced (i.e., education would have little influence nor would preferences for or against work)...Many people may not have any choice at all; they can only select the most suitable adaptation to the constraints. But they may also try to change the context. The microcontext is shaped by the person as much as the life of the person is shaped by it." (Willekens, 1989: 19).

Last, the theory not only predicts that more and more women will become closely attached to the labour force, but how that change will occur and in what direction. Greater attachment will occur as a result of a shift in the proportions of new generations or birth cohorts of women occupying the three separate groups described by

the authors. The movement will be in the direction of greater proportions of young women intending to work on a long term basis in the future because of a taste or preference for market work. This in turn implies that over time those women who work on the basis of economic need will be dominated by those wishing to work for a career.¹⁷

Moving toward a broader theoretical framework (such as the one proposed by Nakamura and Nakamura) based on a synthesis of previous approaches often means an increase in the number of assumptions open for empirical verification. Unfortunately, multi-purpose data sets are a rare commodity. In order to ascertain whether women's work behaviour is primarily influenced by changing tastes or largely a function of structural influences ideally requires detailed retrospective work history data on several generations of women.

Yet work history data is often ill-suited for the purpose of measuring women's tastes or preferences over time. It would make little sense, for example, to ask women in the present to report what their attitudes were toward work prior to the time they began their first full-time job. Instead, a precise measurement of changing tastes can only be achieved by a longitudinal design in which a sample of women is followed over

¹⁷Status attainment theorists have also advocated a synthesis of approaches wherein structural and social-psychological variables would be given equal weight in determining occupational outcomes. Quoting Porter (1976), "A purely structural model...presents the mobility process as a kind of *deus ex machina* populated by homunculi. Conversely, to represent the mobility process as simply or even primarily a social-psychological matter ignores the constraint a social-structural setting places upon an actor, the question of the origin of the actor's presumed attributes, and the way his attributes articulate with others' in interpersonal and institutional settings"(Porter, 1976:32).

a five or ten year period. However, although superior for measuring tastes, most longitudinal designs on women's work activity are confined to just one birth cohort of women (usually bounded by a narrow age range) and thus, cannot distinguish between inter and intracohort change. Designs which trace the work experiences of at least two generations of women over a ten or fifteen year period are required in order to test simultaneously the role played by changing tastes as opposed to structural influences in affecting change on women's work behaviour.

1.2.8 Present Study

The preceding discussion has covered a large number of theoretical biases which have possibly resulted in certain methodological problems in the study of female work behaviour. Unfortunately, some of these problems are of a general nature and thus fall outside the realm of direct empirical verification. The Nakamura framework is a guide on how to proceed toward a more comprehensive model; however, its full implementation requires a longitudinal data set spanning at least two generations. In light of these restrictions, the present work focuses on just two of the biases present in the labour force literature.

Given the tendency on the part of those who follow the structural coercion tradition to oversimplify patterns of work among women, the following hypothesis is offered:

Variables which exert a positive (negative) influence on the rate at which a woman enters into employment may have the same positive (negative) influence on the rate at which she leaves.

Identifying these effects will help resolve the puzzle of widespread inconsistencies in previous work which has sought to ascertain the relative contribution to work attachment by demographic, economic and tastes factors.

Secondly, as discussed above, a great deal of research falling within the structural coercion tradition fails to make a unique prediction of the underlying causal influences of and direction of change in the rise of female labour force participation. Based on the predictions of the Nakamura framework and the work of Jones and Tepperman (1988), a second hypothesis is offered as follows:

The work attachment on the part of recent birth cohorts of women is less responsive to the influence of demographic and economic constraints and more responsive to emerging preferences or tastes for market work.

These hypotheses are tested based on the work history data of a subsample of 2,901 ever in union, ever-worked women participating in the 1984 Canadian National Fertility Survey. The retrospective nature of these data does not permit an analysis of possible intergenerational shifts in the future work intentions (i.e. tastes and preferences) of women as described in the Nakamura framework. However, by predicting a shift among recent birth cohorts toward greater tastes and preferences for market work, the framework also predicts a corresponding decline in the strength of economic and demographic constraints that may force women to alter or change their original life course trajectory.

The dependent variables of interest include the labour force retention of women in their first and second spells of employment and retention in the first spell of non-

employment. The latter measure captures the speed at which non-employed women return to the work force. This choice of measures of work attachment more fully captures the complexity of the patterns of women's work over the lifecycle. In each case, the dependent variable (i.e. the rate of leaving a spell of employment or non-employment) is specified as a function of a set of economic, tastes and demographic predictor variables.

Education is selected as a proxy for tastes for market work. According to Lesthaeghe and Surkyn:

"education [is more than just] the mere shadow price of human capital in the labour market...educational groups already possess a cultural capital, a "Weltanschauung" and a preference map of some stability at ages around which the transition to adult life (i.e the establishment of an economically independent household) is centred" (Lesthaeghe and Surkyn, 1988: 23).

An additional measure of tastes includes the timing of the first birth in relation to the date of first entry into the work force. Husband's income is selected as a measure of a woman's economic need to work. Demographic predictors include age, child status, marital status and migration status.

An accelerated failure time model with Weibull assumptions about the distribution of event times is used as the modelling procedure. To facilitate cross-cohort comparisons, separate analyses are conducted on three different birth cohorts of women: women born between 1955 and 1965 (age 18 to 29 at the survey date), women born between 1944 to 1954 (age 30 to 39 at the survey date) and women born between 1934 and 1944 (age 40 to 49 at the survey date).

Throughout, tastes or preferences are used synonymously with work commitment or attitudes and are defined as "the underlying [individual] preference for work over other activities or the subjective orientation toward work" (Desai and Waite, 1989: 3).¹⁸ This is distinct from labour force attachment in the sense that while women with a high degree of labour force attachment are more likely to work on a continuous basis, the fact that they are working does not imply a high level of work commitment. There are some women who would prefer not to work but who are forced to do so because of financial pressures. Alternatively, some women who prefer to be employed may never have the opportunity because of heavy family responsibilities. A second distinction is between what the current definition emphasizes as the *individual's* taste for a given object which happens to be work as opposed to his or her perception of that object as either "appropriate" or "inappropriate". The perception of what is appropriate has more to do with the norms and expectations of larger social groups which are external to the individual (Burch, 1990).

Another point of clarification pertains to the definition of the term "spell". In the pages that follow a spell refers to the amount of time that elapses between two successive events. Thus, the first spell of employment refers to the amount of time a

¹⁸The definition of "tastes" subscribed to here is by no means the only definition to find its way into the literature on labour force participation. Burch (1990) notes that tastes are used in a rather indiscriminate fashion by researchers to refer to anything from intentions, desires and goals to interests, sentiments and feelings. This is a very complex area and thus one which requires a very detailed examination of the many conceptual problems and ambiguities that arise when attempting to define and measure abstract constructs. Unfortunately, time and space constraints do not permit a separate discussion of these issues.

woman spends working between the date of first entering the work force (i.e. the starting event) and the date she first leaves (i.e. the ending event). In contrast, the term "state" refers to a woman's employment status. For example, at any one time a woman may be in the state of employment, the state of non-employment or the state of unemployment.

Last, in the pages to follow, the term "uncontrolled heterogeneity" is used on a frequent basis to refer to differences in individual characteristics or differences in the number of jobs that individuals have held in the past and the length of time spent in each that have an influence on the dependent variable (work attachment) but which are not captured as covariates in a labour supply model.

1.2.9 Chapter Format

Chapter Two of this dissertation will cover a broad range of U.S. and Canadian literature examining the influence of various sociocultural, economic, demographic and subjective influences on the work attachment of ever-married women. Since studies of female labour force behaviour focus almost exclusively on what determines a woman's presence or absence in the labour force at one point in time, this section will provide a useful source of information from which to compare and interpret the results pertaining to effects on the timing of labour force transitions. To date, much of what is known of the timing of female work behaviour has come from studies which lack a sound theoretical base and which are rather short on interpretation.

Chapter Three outlines the methods and statistical analysis section. The discussion centres on a detailed description of the study design, the measurement and

construction of independent and dependent variables, a review of the statistical modelling technique (including its appropriateness for analyzing work history data) and the selected method of parameter estimation. The reader is referred to various appendices for further explanation on some of these topics.

Chapter Four examines possible sources of contamination in female work history data. The CFS data is subjected to a number of indirect tests in order to gauge the nature of the problem.

Chapter Five presents a preliminary empirical analysis of several possible components of labour force attachment responsible for the upward trend in the participation rate of ever-married Canadian women. Data analyses are carried out based on two large national probability surveys examining female work histories: The 1984 Canadian Fertility Survey and the 1984 Canadian Family History Survey. Cross-cohort comparisons are made in a number of areas including total mean number of years out of the work force by child status, the timing of first marriage and first birth in relation to the date of first work and the potential number of years spent not working by child status. Relevant Canadian literature is included in the discussion of the results.

Chapter Six consists of a restatement of the general hypotheses and the presentation of the findings. A separate discussion section is included here.

Chapter Seven presents a summary of the major study findings, various policy implications, limitations of the research, and directions for future research.

CHAPTER TWO

Determinants of the Labour Force Behaviour of Ever-Married Women

2.1 Introduction

The upward trend in female work attachment is a complex phenomenon effected by numerous influences. Some of these influences operate at the macrolevel of society such as the unemployment rate, inflation or the industrial composition of the work force while others are found in the microcontext or personal life space of the individual woman. Work attachment may be affected by supply side characteristics such as education or husband's income or by the demand for female labour measured by the growth of "female occupations". The growth of tastes and preferences for market work as well as favourable societal attitudes have added a subjective component to attachment and these now compete with more traditional structural or situational factors to explain why more women than ever before are working outside the home. Also, one cannot ignore recent policy influences such as the establishment of formal day care, affirmative action programs and paid maternity leave.

Despite the possible importance of each of these sets of influences in affecting change in women's work, very few empirical studies or general reviews examine even half of them. On the empirical side, part of the reason may simply be due to a lack of good data. However, researchers in different fields also adopt certain theoretical perspectives or approaches which are biased toward looking at a particular class of variables. This limited treatment of what causes women to work has been a recent

subject of concern in the literature. In favour of a more comprehensive effort, Lowe and Krahn (1985) recommend that:

"future studies of the determinants of where wives work integrate into a single analytical framework internal family dynamics, the changing structure of the labour market and resulting job opportunities for women and general economic conditions" (Lowe and Krahn, 1985: 17).

However, the complexity of women's work is more than just a result of a vast pool of potential explanatory factors. Work attachment at one point in time can be decomposed into several different components or dependent variables: the entry of never worked women into the labour force, the length of time spent working by those already working and the probability of return to work for those who have left at some point in the past. A rise in the level of work attachment over time might be attributed to all three or just one or two. Unfortunately, the vast majority of research on women's labour force behaviour is concerned with identifying the determinants of the first of these components. Little attention is paid toward possible explanatory factors of the labour force retention of women in the work force or the probability of return among those who have left. One of the underlying assumptions present throughout many discussions is that factors predicting a woman's entry into the workforce have an equal but opposite effect on her probability of leaving. For some predictors, recent evidence suggests that this assumption may be false (Long and Jones, 1980; Felmler, 1984; Picot, 1986).

The present chapter has two major objectives. The first objective is to provide an up to date and more complete coverage of the range of possible explanatory factors of the work attachment of ever-married women in the Canadian context. A classification

scheme is developed which distinguishes among six broad classes of influences: demographic constraints, measures of economic need, subjective influences, policy influences, socio-cultural influences and macro-level economic influences.

The second objective is to integrate the literature on determinants of the entry of women into the work force with what has been learned so far in terms of the etiology of labour force retention. Only two Canadian studies have examined this latter component of work attachment. The first study by Picot (1986) examined a number of factors predicting the probability of women entering and exiting the labour force. However, because the work history data on which his study was based did not include important measures such as husband's income, female wages, or geographic mobility, the author was forced to concede the tentative nature of his findings. The second study by Jones and Tepperman (1988) included many predictors, but the small sample size involved lessened the generalizability of the findings.

The U.S. literature on labour force retention is somewhat more developed. However, much of it is short on theory, and discussion of findings is quite limited. The current review, therefore, is largely exploratory and in some places speculative comments are made where no prior information exists. Its general purpose is to serve as a source of information or as a guide for interpreting the results of the present study which makes the leap from the more traditional models of female labour supply to models of labour force retention.

2.2 Demographic Constraints

2.2.1 Child Status

Traditionally, the number and/or ages of children living in the home has operated as a powerful constraint on the entry of married women into the workforce (Ostry, 1968; Spencer and Featherstone, 1970; Spencer, 1973; Skoulas, 1974; Gunderson, 1977; Bruce, 1978; Nakamura and Nakamura, 1979; Lowe and Krahn, 1985; Dooley, 1990). In the U.S. having children has also been found to exert a negative influence on labour force attachment by increasing a married woman's probability of leaving employment (Felmlee, 1984; Donohue, 1988; Blau and Robins, 1989; Hao, 1991; Blau and Robins, 1991).

Labour force analysts disagree, however, on what component, number or age, has the dominating effect. Sweet (1973) maintains that it is not the number of children which matters most in determining the level of employment. In his opinion, the age of the youngest child is the more dominant factor, and by including it in a labour supply model, the effect of number will either weaken or disappear. Age of the youngest child is hypothesized to influence employment in three ways. First, the younger the youngest child, the less likely the mother will view employment as appropriate. Secondly, the younger the youngest child, the greater the demands placed on the mother's time and hence the lower the probability of her becoming employed. Thirdly, the younger the youngest child, the more difficulty the mother will have in finding suitable and inexpensive child care. The high costs of child care will lower the net wage gained from having a job and hence discourage entry into the work force. Oppenheimer (1982)

believes that both age and number of children operate jointly to influence the level of employment. The older the child, say, beyond the age of six, the more costly he or she becomes in terms of food and clothing requirements, health care and education. Older children are also less of a time impediment in terms of the amount of care and supervision they require. Both of these factors combined will raise the probability of a married woman seeking employment. However, the number of children is also important. A woman who has two or three children over the age of six, may feel more economic pressure to go to work than a woman with just one child of the same age. Similarly, a woman who has two or three children age six or under will have twice or triple the amount of demands placed on her time than a woman with just one child. Of all women, she is expected to have the lowest employment probability.

One of the problems of studying the effect of child status on women's employment behaviour is the influence of factors which may confound the relationship. Most women, for example, who have children have them early in their childbearing years at a time when their husbands are struggling to establish themselves in a career. Because incomes are likely to be low, there may be substantial pressure on wives to go to work. Secondly, a woman who has three children and a husband with a yearly income of \$20,000 will feel a greater economic need to work than one who has just one child and whose husband also makes \$20,000 (Sweet, 1973). According to recent statistics, an average middle income family in Canada in 1988 spent almost one-quarter of its income (24%) to house, feed, clothe and educate just two children. A family with only one child

only spent fifteen percent of its total income while a family with three children almost spent one-third of its income (Douthitt and Fedyk, 1990).

A failure to control for the confounding influence of economic need may have been one reason why Picot (1986) found a significant negative relationship between number of children and the probability of leaving employment. His findings, based on an analysis of work history data from the 1984 Canadian Family History Survey showed that the rate of leaving the labour force for women with a child less than the age of one was significantly higher than the rate for women with no children at all. However, he observed that with increasing numbers of children over the age of one (and less than age 18), the probability of leaving employment decreased. This somewhat strange finding might be explained by the fact that the author was not able to include husband's income in the model as a measure of economic need. Thus, women with more children were more likely to remain in the work force because of greater economic pressures associated with feeding and clothing their families. One can only speculate, however, on the meaning of this finding given the absence of comparable Canadian data on the labour force retention of married women.

Recent Canadian and American data suggest that the constraint on employment associated with having children may be weakening (Waite, 1976; Gilroy and Rytina, 1977; Shaw, 1985; Ciuriak and Sims, 1980). At all parities women are entering the labour force and many will remain there for significant periods of time prior to leaving. It is difficult to say what the sources of these changes are. Most experts believe that unfavourable economic conditions in the form of higher inflation and unemployment have

eroded family income creating an economic need for mothers to work as additional wage earners. Other explanations attribute the change to a growth in tastes for market work.

2.2.2 Length of Birth Intervals

In addition to age or number of children, the spacing of births may also impact on the labour force participation of married women. Nerlove and Razin (1979) hypothesized that the longer the intervals between births during a woman's childbearing years, the lower the proportion of years she spends working in the labour force. Their reasoning was that women who wish to spend a significant portion of their childbearing years in the workforce will space their children close together in order to complete their family sizes early. Based on an analysis of work history data from Quebec (1971) and the 1965 and 1970 U.S. National Fertility Surveys, these authors failed to find the expected relationship. Groat et al. (1976) found an association between the length of the first birth interval and whether or not a woman worked before or after the birth of her first child. Results revealed a much longer birth interval for women who worked before the first birth possibly indicating a desire on their part to postpone their first birth in order to accumulate work experience in the labour force.

2.2.3 Marital Status

Since the late 1960s, the incidence and prevalence of marital dissolution among Canadian couples has shown a marked increase. Women have been particularly hard hit by this trend. By 1986 just over 700,000 Canadian households were headed by single-

parent mothers representing over three quarters of all single-parent households. One of the most visible social and economic consequences of these changing family patterns has been the entry of divorced or separated women into the work force. In 1980 over 40 percent of all working women in Canada were without husbands (widowed, separated, divorced) (Phillips and Phillips, 1983). Compared to married women, divorced, separated or widowed women have always maintained a higher level of involvement in the work force. Between 1975 and 1988 the participation rate for married women increased from 41.6 percent to 59.1 percent. The corresponding figures for the divorced and separated were 58.5 and 65.4 percent respectively (Statistics Canada, Women in Canada, 89-503E, 1990). Similar marital status differentials in work force participation have been observed in the United States over the same period.

Canadian and American researchers agree that the general driving force behind the entry of divorced or separated women into the labour force has been economic need. For many, the experience of marital dissolution results in a sudden loss of family income which cannot be recouped unless they themselves work for pay (Connelly, 1978; Pearson, 1979; Phillips and Phillips, 1983; Wilson, 1986; Townson, 1987; Hudis, 1976; Greene and Quester, 1982; Duncan and Hoffman, 1985; Johnson and Skinner, 1988; Haurin, 1989).¹⁹ Their only alternative is to rely on welfare (in the case of Canadian women) alimony support, or transfer payments which are usually insufficient to maintain

¹⁹Many divorced women never fully recover their financial loss after a divorce. Duncan and Hoffman (1985), for example, note that the income of divorced women and their children one year after a divorce is only two-thirds of their pre-divorce income.

a comfortable standard of living (Phillips and Phillips, 1983) especially if young children are involved.

The adverse economic consequences of divorce are often so great that even women with large family sizes have no other choice but to work. Hudis (1976), for example, found the effect of number of children on the weekly labour force participation of previously married women to be non-existent because of their overriding need to work for economic reasons. However, there appears to be a great deal of heterogeneity in terms of the characteristics of women who divorce, the strength and nature of their family ties, as well as their previous marriage patterns, which may determine, at least indirectly, the magnitude of the labour supply response.

Haurin (1989) found that the percentage increase in labour supply following a divorce depended to some extent on the wife's earning potential. Women who were highly educated or who already had previous work experience were least affected by the change in marital status. Others contend that part of the increase in supply may occur because of a removal of factors which previously held down the woman's potential market wage rate such as a move by the family to improve the *husband's* job status. Also, since women who separate tend to acquire a lower earnings status, they automatically fall into a lower tax bracket. Consequently, they may spend more time working for pay because their after-tax income is higher than it would have been if they had not divorced (Johnson and Skinner, 1988).

Another possible factor influencing the level of the wife's labour supply following a divorce or separation is the division of labour in the household. According

to Becker's theory of marriage, the economic well-being of a family is enhanced when the spouse who earns the most (usually the male) engages in paid market work while the spouse with the lowest earnings (the female) specializes in the production of home goods. Following this logic, it seems probable that the largest increase in hours worked following a separation should occur among those women who lose the most in terms of specializing in the production of household goods. On the other hand, women who come from households where the activities of both spouses are substitutes, (i.e. households with a more equitable division of labour), will increase their labour supply by a smaller amount (Johnson and Skinner, 1988).

Changes in labour supply following a separation or divorce can also be affected by the geographic proximity of close kin. Women who experience marital dissolution sometimes move closer to the home of their natural parents or co-reside in the same dwelling (Asher and Bloom, 1983). Kin may be able to assume some of the financial burden associated with losing a spouse by absorbing the costs of housing, food and clothing. They may also help out with child care. Surprisingly, very few studies of the effect of separation or divorce on female labour supply consider the geographic proximity of these potential support givers. This is unfortunate since women who do have supportive kin may not have to spend as much time working following a divorce (at least not immediately) as women who must go it alone.

Garfinkel and McLanahan (1986) contend that while economic need may be an important factor in a woman's decision to enter the labour force, there are other factors that are unrelated to need which may have a strong bearing on her ability to

remain there. They refer to findings from the Michigan Panel of Income Dynamics which show that single-parent divorced mothers with children are three times more likely to experience unemployment during the first three years following a divorce than among fathers in two-parent households. The same data also indicate that single mothers are one and one half times more likely to change jobs, and to experience a change in family composition such as a child or adult leaving the household. Other data reveal that single parent mothers are much more prone to psychological distress and anxiety which may affect the stability of their employment.

The wife's current labour supply may depend on her previous marital status or that of her husband's. Oppenheimer (1982) found that a woman in her first marriage married to a man who had previously divorced, had a higher adjusted labour force participation rate compared to a previously divorced woman married to a man in his first marriage. The highest rates occurred for a previously divorced woman married to a previously divorced man.

She says that an explanation of these apparently anomalous findings may be found in the selective mating patterns of remarriers. Young female divorcees with no children, and hence no economic burden, will have a relatively good chance of finding a young never-married male partner also with no children. Their labour force participation rates will roughly be equal to a couple who is in its very first union. On the other hand, older female divorcees, with children from a previous marriage will not fair as well in the marriage market. For them, the number of eligible young never-married males will be small. They will be forced to marry older male divorcees, who

may also have children as well as additional financial obligations from a previous marriage. The economic burden from having two sets of children will be high and the desire to maintain a certain standard of living in the new marriage will mean that the remarried woman in this couple will have the highest labour force participation rate of all.

Finally, although difficult to verify empirically, some component of the labour supply of women who have experienced a divorce in the past may have something to do with a change in their perception of marriage. Remarried women, for example, may not view marriage as a stable lifelong union and, as a consequence, work in order to secure financial independence from their husbands (Cain, 1966).²⁰ It is also possible that some women, regardless of their marital status, will enter the labour force in anticipation of a marital breakdown (Garfinkel and McLanahan, 1986).

Some scholars have argued that although growing numbers of women whose marriages dissolve are being forced to rely on wages as their major source of income, economic need among this group is still not the key explanatory element behind the rapid rise in labour force participation rates (Phillips and Phillips, 1983; Curtis et al., 1988). Supported by statistics, they argue that the bulk of the increase in rates has come about as a result of the entry of married women into the work force. Married women, it is said, are increasingly entering the labour force for a variety of reasons some of which

²⁰Because of the pervasiveness of divorce in society, women in their first marriages may also hold similar perceptions of the fragility of marriage. As a form of insurance against a marriage gone bad, they may enter the labour market (Townson, 1987; Willekens, 1989).

include a rise in the real wage rate, increasing tastes and preferences for work, declining fertility, the introduction of labour saving household devices and a decline in the status of the homemaker. Like the divorced or separated, married women are also working out of economic need. Rising inflation and high unemployment have forced them to enter the labour force just to maintain the economic well-being of the family.

However, the idea that married women are largely responsible for the rapid increase in participation rates may be slightly exaggerated. Most of the studies which examine the effect of marital status on female labour supply compare the participation rates of the currently married with the rates of the unmarried which include the divorced, separated, widowed and single. But the currently married category also contains remarried women with a prior history of divorce who happen to maintain the highest participation rates of all marital status groups. If we were to separate out the remarried and look at the labour force entry patterns of first married women only, we would probably see that the effect of the general "married" category as a contributor to higher participation rates is somewhat overstated.

Secondly, while separated, divorced and widowed women may be less important contributors to the rapid influx of ever-married women into the labour force, it is possible that they may play a greater role in reducing the likelihood of leaving. Married women may enter the labour force at a faster rate than divorced women but divorced women are less likely to leave once they enter. Picot's (1986) analysis of female employment transitions using data from the Canadian Family History Survey showed that unmarried women have a significantly higher probability of first entering or

re-entering employment, and a lower probability of leaving. Married women were 1.5 to 2 times more likely to leave employment and less likely to re-enter it than their non-married counterparts with other similar characteristics (age, child status, education, number of years worked since last entering the work force).

2.2.4 Age

There are two general theoretical approaches which posit a pure age effect on married women's labour force participation. The first explanation relates to job rewards and says that job orientations among members of a given age group tend to change over time because of accumulating rewards on the job. Older employees, for instance, are more likely to have better jobs than younger employees primarily because of their seniority or more lengthy job tenure. As a result, their psychological attachment to their jobs will be stronger than what would be expected of younger workers. A second explanation is called the developmental or disengagement theory of aging. It posits a gradual withdrawal from work roles with age. This will occur despite job characteristics or the type of orientation toward work learned early in one's life (Lorence, 1987).

A number of researchers contend that a good portion of what some believe to be "pure" age effects on married women's work attachment has little to do with age at all but reflects the influence of other characteristics which are highly correlated such as child status, health status, husband's income or employer perceptions of the female worker. For example, older women have more children and are married to older men with high incomes. Past a certain age older women also experience a greater range of

health-related problems which can lead to more frequent labour force interruptions. Another possibility is that employers view the older female worker as less competent or perhaps even less qualified than younger workers and as a result are less willing to make substantial investments in the form of occupational training or upgrading of skills. These extraneous influences will tend to lower the probability of an older woman participating in the work force. Sweet's (1973) analysis of age and its effects on married women's participation in the work force supports this view. He found that after controlling for a married woman's child status and her husband's income, age had a relatively minor influence on her employment status within the age range 14 to 44. Past the age of 44, participation began a noticeable decline. He attributes the decline to poor health, a lower economic need to work (as a result of completed mortgage payments) or possibly because of a negative "carry over" effect from the childbearing years of having children.

In other studies, age has been found to exert a powerful effect on participation net of the effect of child status, husband's income and health. This is certainly not proof that pure age effects are operating. But it does indicate that the relationship may be more complicated than what has been suggested by Sweet. For example, holding constant child status and husband's income including a host of other explanatory variables, Blau and Robins (1989) found that increasing age significantly lowered the rate at which married women left employment but only up to age 41. After that the likelihood of an exit increased. Similar non-linear effects were observed for rates of return to the work force. Increases in age resulted in a significant reduction in the rate of return to the work force followed by a significant increase.

Compared to older women, younger women may be more likely to leave their first job perhaps because they want to gain more experience and knowledge in the job market. Younger workers are also more likely to experiment with a greater variety of jobs early on in their lives prior to establishing a more permanent career. The first job, then, may be viewed as just a "stepping stone" toward achieving a more satisfying and lucrative position at a later time. According to Treiman, "the beginning of the career until about age 30 is apparently a period of trial and error for a sizable fraction of the labour force, involving frequent job and occupational shifts as well as movements into and out of the labour force" (Treiman, 1985: 219).

2.2.5 Cohort Size

Cohort size may also influence the labour force behaviour of ever-married women. Easterlin (1978) considers the size of a birth cohort as a major determining factor in its members' prospects for employment. He observed that men born during the Depression era were part of a small birth cohort as a direct result of the low fertility during that period. When this cohort matured to adulthood, members found that jobs were plentiful because the number of potential labour force entrants was small in relation to the number of available positions. The high fertility of the Baby Boom Era, however, generated a very large birth cohort. When its members became of working age, the number of individuals looking for work greatly exceeded the number of positions. In order to find a good job, one had to compete aggressively with a large number of equally qualified candidates.

Easterlin hypothesized that women from the small birth cohort of the Depression would not find it necessary to enter the labour force (or re-enter after marriage) because of their husbands' good fortune in the job market. They would be content to remain at home to assume childbearing and childrearing responsibilities. On the other hand, women married to Baby Boom men would add themselves to the labour force out of economic necessity due to their husbands' relatively poor standing in the labour force.

Much of what are called "cohort effects" also result from the influence of family and society in shaping individual attitudes and behaviour at an early age. Women born prior to the Second World War fell under the influence of the traditional breadwinner system that largely prohibited women from working after marriage or the onset of childbearing. Those born during the 1930s would have become of working age during the 1950s. Such a system must have discouraged many from entering the work force after marriage. Women born in later decades, however, have spent their formative years growing up in a more permissive society with respect to attitudes toward the female worker.

With each year bringing greater numbers of women into paid market work, younger cohorts have also been presented with numerous examples of successful working women in both professional and non-professional fields on which to model their own behaviour. This greater "visibility" of the female worker has no doubt acted as a catalyst to encourage greater numbers of younger women to enter the labour force and to remain there on a more permanent basis.

2.2.6 Migration

Both U.S. and Canadian studies have shown that family migration can lead to a substantial reduction in the work attachment of married women (Long, 1974; Duncan and Perrucci, 1976; Spitze, 1984; Morrison and Lichter, 1988; Haveman et al., 1991; Shihadeh, 1991). However, the effect does not appear to be the same for all women. For example, Spitze (1984) found that migration only had a short-term negative impact on her sample of employed wives. Her explanation is that a majority of women still hold very traditional "female" types of jobs with a low human capital investment, such as teacher, nurse or secretary, which allow them to move easily with their husbands and without much penalty.

According to Morrison and Lichter (1988), it is the professional woman who has the most to lose from making a move. The longer the period of non-employment resulting from the move, the less likely she will return to employment. They explain that lengthy periods of time out of work quickly erodes or depreciates human capital accumulated over a lifetime either because advances in technology make previously learned skills outdated or because skills become forgotten. Employers' perceptions of a professional migrant woman may be such that she is denied the opportunity for career advancement. A woman with a previous history of migration will be perceived as having a low commitment to the work force and thus a poor risk for the receipt of company investments in the form of continuing education, upgrading of skills and occupational training.

Others reject this human capital approach as a way of explaining why professional women may have a more difficult time securing employment following a move. In a Canadian study, Shihadeh (1991) found that the degree to which a married woman was involved in the decision making process on important family matters was a more salient factor in predicting her success in finding employment following a move than her level of human capital. Specifically, women in a subsidiary role were significantly less likely to obtain post-migration employment than women who had more of an active role in decision making. The author concludes by saying that gender role theory may go a longer way in advancing our understanding of the employment consequences of migration for women than what has been achieved thus far with the human capital approach.

Most research focuses on the disruptive effects of migration on employment at the completion of schooling or after a woman has already entered the labour force. However, frequent migration during a woman's childhood years can also have a potentially negative impact on the completion of secondary school education which in turn reduces her chances of finding employment. If employment is found, it is more likely to be marked by periods of labour force withdrawal than if no move occurred (Haveman et al. , 1991).

2.3 Measures of Economic Need

2.3.1 Husband's Income

The hypothesized effect of husband's income on a married woman's labour force behaviour is described in economic models of labour supply as the "income effect". The hypothesis says that in households where the income of the husband is low, the wife will enter the labour force in order to maintain and stabilize the income flow of the family. Once the income situation of the husband improves, the assumption is that the wife will return to the home to resume domestic responsibilities. In contrast, women whose husbands earn high incomes will not find it necessary to work given the absence of economic pressures on the family budget.²¹

There is no doubt that economic need is an important contributing factor to the participation of married women in the work force (Connelly, 1978). In 1979, for example, it was estimated that if wives did not participate in the paid work force, the

²¹Economic need is considered by sociologists and labour force analysts to be one of the primary determinants of a woman's decision to enter the labour force. It is usually defined and measured as family income minus the wife's earnings, or simply husband's income. The wife's earnings are excluded because it constitutes a consequence rather than a cause of her participation in the work force (Sweet, 1970). Some have objected to this type of measure arguing that the effect of family income on employment is confounded by the effect of family composition. The logic is that economic need implied by a certain level of family income is a function of the number of persons that it supports. In order to separate out family composition from economic need, a proposed solution has been something called "income adequacy" which takes as its numerator, family income, and in the denominator, a measure of the minimum requirements of the family based on its composition (Sweet, 1970). An alternative strategy by Oppenheimer (1970) measures economic need using the peak median earnings level of the husband's occupation. Earnings are classified under four broad occupational headings ranked in level from low to high.

number of families defined as falling below the poverty line would have increased by just over fifty percent (Eichler, 1983). U.S. findings for the same period indicated that among all husband-wife families, the labour force participation of the wife lowered the proportion of these families who were poor from 14.8 percent to 3.8 percent (Waite, 1981). However, contrary to what the income effect hypothesis suggests, the relationship between husband's income and married women's labour force participation is not so straightforward and simple.

One problem, as evidenced from several Canadian and American studies, is that the relationship is rarely linear in form (Skoulas, 1974; Spencer and Featherstone, 1970; Eichler, 1983; Greene and Quester, 1982; Sweet, 1974) making interpretation of findings somewhat difficult. With increasing income, monotonic decreases in participation generally occur but not in all segments of the income range. In some cases it appears as though high employment levels are maintained well into the upper income brackets until a threshold level is reached after which rates begin to decline (Skoulas, 1974). Pearson's (1979) findings showed substantial economic pressure for women to work even in the higher income brackets. Only in the highest brackets, did rates begin to decline. Other studies, however, have found a reversal of this pattern. Spencer and Featherstone (1970) found that the positive effect of income on participation declined sharply in the lower income brackets but as income increased, the decline proceeded much more gradually.

Secondly, some studies have shown husband's income to have little or no effect on married women's labour force participation (Lowe and Krahn, 1985). For example,

Blau and Duncan (1989) found that the husband's wage rate had no significant impact on the rate at which women left employment. However, opposite effects are also observed. Studies in the U.S. have shown that rates of leaving employment actually decline with increasing income from the husband (Felmlee, 1984; Hao, 1991). Similar observations have been made in analyses which examine the work activity of mothers surrounding the birth of the first child (McLaughlin, 1982).

These findings have raised a number of criticisms of the income effect hypothesis. One criticism is that economic need is to some degree a subjective concept. Hoffman (1977) suggests that the construct economic need really contains two components: an objective component which is the husband's income and a subjective component. The subjective component taps a woman's perception of financial need or, in Hoffman's terms, her income satisfaction and may very well exert a considerable influence on her decision to enter or leave the labour force. For example, some women may report entering the labour force out of economic need because they wish to improve their living standards by purchasing added luxuries such as large consumer durables (Phillips and Phillips, 1983). Other women, however, will have entered to acquire earnings for subsistence level living. What is important is that beyond some point on the income scale, it becomes difficult if not impossible to distinguish between one woman's need and another woman's luxury (Yohalem, 1980).

A second criticism of the income effect hypothesis comes from recent observed trends in both Canada and the U.S. of a substantial increase in the number of dual-earner income families at almost every socioeconomic level or income bracket of the male

earner (Yohalem, 1980; Wilkie, 1991; Burch and McQuillan, 1988). Ryscavage (1979) found that 60 percent of the increase in American female labour force participation between 1960 and 1970 was accounted for by married women whose husbands were in upper middle or upper middle brackets. Obviously, financial necessity only explains part of the income effect.

A third criticism of the hypothesis is that a significant proportion of women still remain out of the labour force despite the fact that their husbands earn a low salary or income. This implies that husband's income is not a sufficient measure to capture a family's economic well-being (Duffy et al., 1989). Women with low income earning husbands may not be able to enter the work force because of lack of child care support or assistance in doing household chores.

Fourth, because of selective mating, husbands with high incomes tend to be married to women with similar socioeconomic backgrounds including those with high educational attainment (Robinson, 1986; Treas, 1987). Highly educated women are much more likely to be career oriented and thus are less inclined to leave the work force for family reasons (Duffy et al., 1989). Their opportunity costs of withdrawal are typically higher than the less educated woman because of their relatively good earnings profile and prospects for career advancement. Higher education may also be associated with greater tastes or preferences for market work which would also lead to higher rates of retention (Greenstein, 1986).

Fifth, coinciding with the rise in female labour force participation, there has also been a noticeable rise in the real income of men (Burch and McQuillan, 1988). This

suggests that there has been less pressure, not more, on the wives of husbands in the lower income brackets, to enter the labour force as a means to supplement the family income (Eichler, 1983; Phillips and Phillips, 1983). This finding contradicts Easterlin's (1978, 1980) argument that the comparatively large cohort of the Baby Boom generation led to a decline in the earning power of the male breadwinner forcing young women (wives) since 1960 to postpone or reduce their childbearing in order to enter the labour force and supplement the family income.

Sixth, any income effect may only operate temporarily given that many women, once they enter the labour force, acquire a taste for market work and remain there despite their husband's level of income. This would especially be true of women who find themselves in challenging and interesting jobs (Duffy et al., 1989). In a U.S. study, Desai and Waite (1989) found that labour force decisions among women who intended on having a long term commitment to work were much less likely to be influenced by factors associated with financial need (i.e. level of husband's income). On the other hand, mothers with low levels of commitment were much more dependent on financial considerations. When women enter the labour market, the family may also become accustomed to the newly found higher standard of living leading to changes in tastes which favour continued market work. According to Lowe and Krahn (1985), "what may have started out as a woman's temporary re-entry to compensate for a presumed short-term decrease in real family income, or to provide funds to meet a temporary obligation, evolves into a permanent work involvement to finance a higher living standard" (Lowe and Krahn, 1985:241).

Finally, whether or not a wife enters the labour force in response to a decline in her husband's income might depend on the social and economic status of the one-earner family (Wilkie, 1991). According to Oppenheimer (1982):

"as the opportunities for wives to work rose rapidly in the postwar period, the social status of married women who work increased and the economic status of one-earner families declined relative to those with multiple earners. Thus, both the absolute decline in men's ability to support families alone and the relative increase in the status of families with dual earners have been two important factors in the decline of the traditional pattern of one-salary families" (Oppenheimer, 1982: 261).

The income effect hypothesis is just as easily defended as it is criticized. One argument in its support is that the so called rise in real family income over time may be to a large extent illusory as a result of the way in which market activity is measured. According to this line of reasoning, the value of goods and services produced in the home (usually by the wife) such as childcare, food preparation and laundry is not counted into a family's income. However, when the wife begins to work for pay, home production is shifted into the market place and it quickly acquires a monetary value (e.g. dollar costs of day care, laundry services, or restaurant meals). This shift results in a rise in measured income (leading to the illusion that real income is rising) but at the cost of a decline in real purchasing power because family members will be less able to contribute to real family income by doing unpaid homework (Phillips and Phillips, 1983).

Others do not view the shift of home production to the market place as evidence of a greater economic need to work on the part of married women. According to Waite (1981):

"the one-earner family with an income of \$25,000 a year and the services of a full-time home-maker probably enjoys a higher standard of living than the two-earner family with the same income, because the one earner family has the additional 40 hours per week of the housewife's time and the goods and services she produces with them" (Waite, 1981: 18).

If the wife works, the family must also incur the costs associated with new clothes for the workplace as well as costs for transportation. Taxes reduce the benefits that a two-earner family receives from having the wife work. Many of the benefits the husband receives from his job also cover his wife which would cancel out any benefits she might receive from working. Given the high costs to the family associated with having an additional wage earner, it does not make sense that women are working solely out of economic need.

2.3.2 Husband's Employment

It would appear that the stability of the family's income (excluding the wife's income) and not merely its current level, may also be relevant in predicting the wife's labour supply. If the husband has experienced a recent spell of unemployment, his wife's participation is more likely than if his employment has been stable. Haurin's (1989) analysis of the U.S. mature women's cohort of the National Longitudinal Survey revealed that married women did increase their labour supply in response to a loss in husband's income arising from spells of unemployment during the year. A second aspect of the stability of employment is the husband's transitory income, that is, his prospects for advancement into the higher earning brackets. This may be a second factor which weighs heavily into his wife's decision of whether to take employment. According

to Sweet (1973), "we should expect wives to work in higher proportions in situations where the transitory component of the husband's income is negative, in order to make the family's consumption commensurate with its permanent income" (Sweet, 1973 :11).

Thirdly, the wife's perception of the stability of the family income may also influence her decision to enter the labour force. Luxton (1984) in her analysis of the work activity of married women in Flin Flon, Manitoba found that while a majority of the middle class women in the sample were working because they had to (i.e. to maintain the standard of living of their household), the lower class women mentioned that they entered the work force to head off impending disaster with respect to the future employment situation of their husbands. When times were good, economic stability made it easier for them to go out and get jobs. These results suggest that, relative to actual need, perception of need (that things might get worse in the future), remains strongly invariant across income categories of the husband.

2.4 Subjective Influences

2.4.1 Tastes and Preferences for Market Work

There is little doubt that women's tastes for work outside the home have increased over the past several decades. However, there is general disagreement on the underlying root causes of this change. Some believe that the growth of tastes had very little to do with causing never-worked women to enter the work force. Instead, tastes were seen as a product of increased time spent in the labour force by those already working. Their argument is that accumulated work experience lead women, regardless

of their age, to alter their perception of work in relation to family life. As work took on a new, more positive meaning, the desire to remain working increased resulting in greater attachment. Gordon and Kammeyer (1980) tend to agree with this view. Their study found that women with low income husbands did not have the expected traditional views regarding mothering and women's employment. In fact, compared to women married to high income husbands, they were less likely to believe that mothering was critically important for the well-being of an infant. The authors speculate that these tastes were formed because nearly 90 percent of the low income wives worked. In other words, previous work experience may have influenced their tastes rather than vice versa.

The opposing argument says that tastes for market work are already formed prior to the time that women enter the work force, and therefore, are mostly exogenous to greater attachment. The growth of tastes is said to occur primarily among younger cohorts of women. This cohort-driven model or approach has also received wide support in the literature. Several studies have found a strong link between early tastes and later work behaviour despite changes in family circumstances (i.e. marriage and childbearing) that occurred in the interim period (Rexroat and Shehan, 1984; Desai and Waite, 1989). There is also evidence that this link may be getting stronger among successive generations of women (Thornton and Camburn, 1983).

2.4.2 Timing of the First Birth

Women who postpone having their first birth until they enter the labour force for the first time may be signalling a greater taste or preference for paid market work

over family life. According to Bloom (1984) "a woman who values privacy and mobility highly and who wishes to develop a career will either postpone or forego childbearing in favour of a childless lifestyle" (Bloom, 1984: 115). Many of these women have invested in post-secondary education and training and will spend some time in the work force establishing themselves in a career before leaving to have a child (Presser, 1989). In contrast, women who have their first birth before starting full-time work may be placing a higher premium on family life than on work (Mason, 1974).

2.4.3 Educational Attainment

Sociologists (and even some economists) are quick to point out that the effect of education on employment is more than merely the high opportunity costs in the form of foregone earnings among the well educated (Bowen and Finnegan, 1969; Ciuriak and Sims, 1980; Mincer, 1985; Picot, 1986; Lesthaeghe and Surkyn, 1988). Holding constant the effect of earnings, education is said to both reflect and reinforce a strong taste or preference for market work which in turn leads to higher participation in the work force (Lesthaeghe and Surkyn, 1988).

If women with high prior work commitment are predisposed to selecting higher education, then educational attainment should serve as a good "proxy" for work commitment. There is also considerable evidence that education possesses a strong "socializing" effect on women by enhancing their emphasis on the intrinsic values of work such as the degree of autonomy in job decisions while de-emphasizing the extrinsic values (i.e. the job's reported weekly earnings) (Lindsay and Knox, 1984). In addition,

education serves to reinforce the continuity of existing work values of highly committed women by allocating them into occupations with more self-direction and ideational content.

An example of the strong influence of education on tastes is found in a study by Mason (1976) of change in the sex role attitudes of American women between 1964 and 1974. The authors found a strong movement toward more egalitarian role definitions in the area of paid market work and family life. At any one time, the most important predictor of these changed attitudes was a woman's educational attainment.

2.4.4 Cultural Capital

Another subjective influence on participation is what is called cultural capital. According to this approach, parents pass on to their children certain investments or endowments some of which are non-materialistic such as the amount of time they spend with them or their (the parents) education. Other endowments are in the form of material wealth such as income and assets. The greater the value of these investments, the more likely children will attain a high level of education (Teachman, 1987) which in turn will lead to high labour force attachment (Haveman et al., 1991).

Another possibility is for women's current or intended level of labour force involvement to be influenced by the example set by their parents, in particular, their mother. This approach, known as role model theory, says that by working or not working or by having attained a certain level of education, the mother acts as a role model for her daughter(s). It predicts that the labour market and household activities,

especially that of the mother, are internalized by the daughter via the socialization process (Hao, 1991). Women growing up in households where the mother was working are thus more likely to work themselves than women whose mothers were not working. Similarly, women whose mothers had attained a high level of education are themselves likely to do so which in turn increases their likelihood of participating in the work force.

Little empirical research has examined the influence of family background characteristics on women's labour force attachment within the context of the human capital or role model approach. In Canada, Stevens and Boyd (1980) found that women whose mothers were working were more likely themselves to enter the labour force and that their occupations were similar. Based on American data, Hao (1991) and Blau and Robins (1991) found that high education on the part of the mother led to a significant increase in the probability of their daughters entering the labour force. However, in the study by Hao (1991) mother's educational attainment had no significant effect on the daughter's length of time spent working while father's education affected neither rates of entry or exit.

2.4.5 Husband's Attitudes

Studies have shown that the attitudes of a husband also play some role in determining whether his wife takes on paid employment (Arnott, 1972; Spitze and Waite, 1981; Ferber, 1982). Ferber (1982), however, cautions against placing too much emphasis on this factor. She contends that husbands' attitudes may only be partially exogenous to the wife's decision to enter the work force. In her study some husbands

harboured negative attitudes toward their wives work but only after they (the wives) had been in the labour force for some time. Moreover, thirty percent of her sample of married women were not even aware of their husbands' displeasure of their employment implying that the attitude was influenced more by the wife's decision rather than vice versa.

2.4.6 Societal Attitudes and Norms

Beyond attitudes at the individual level, macro-level changes in the way society views women's work have made an impact on their level of participation in the work force (Spitze and Huber, 1980). With so many married women now working, societal attitudes have changed toward a greater acceptance of the female worker (Sweet, 1979). This more favourable atmosphere has no doubt encouraged many women who were previously reluctant to work to enter the labour force. It has also probably had a positive impact in increasing the labour force retention rate of women already working.

Although attitudes are changing in a positive direction, there are still many individuals and groups in society who are opposed to married female employment especially of mothers with preschool age children. This negative opinion is borne out in findings from a series of five Canadian Gallup polls conducted between 1960 and 1982 (Boyd, 1984). Results showed a substantial increase in the proportion of individuals who thought that it was appropriate for married women to work outside the home. In 1962 two-thirds of all respondents considered employment by married women appropriate. In 1982 this figure rose to 75 percent. However, a far smaller percentage of respondents

were favourable to the idea of employment among mothers with young children. In 1962 only 5 percent of respondents were supportive of employment for these women. In 1982, forty percent were supportive. Although the rate of increase in the percentage of affirmative responses was higher on this question, sixty percent of the population in 1982 obviously remained opposed to employment among women with young children.

2.5 Policy Influences

2.5.1 Formal Child Care

It seems likely that younger cohorts of employed mothers or mothers seeking employment have benefited greatly from recent government action legislating the institution of formal day care services. Accessible day care has made it possible for many women just graduating from college or university to pursue an occupational career and raise a family at the same time. For women already in the work force, formal day care serves to enhance labour force attachment by lessening the probability of exit. The availability of day care may also provide women who have left employment as a result of pregnancy to return fairly quickly, thus, minimizing the harmful effects associated with the depreciation of human capital.

However, the number of formal day care spaces in Canada has not kept pace with the growing demand by a rapidly expanding labour force composed of married women with pre-school age children. In 1984, there were 172,000 formal day care spaces in Canada but it was estimated that over two million additional spaces were needed by children (Cooke, 1986). For children below the age of six, the actual percent

needing care rose from 29.6 percent in 1971 to 60.1 percent in 1986 (Ram, 1990). In greatest need were the very youngest children, seventeen months or less. For this group only 11,622 spaces were available, just a fraction of the estimated 133,000 spaces needed (Cooke, 1986).

Availability of care has not been the only issue facing Canadian women. Another has been the high cost of existing spaces. Child care subsidies may partially offset these costs but only represent a fraction of the cost of formal licensed care. Until 1988 the maximum allowable amount from the federal child care expense deduction was \$2,000 per child. Moreover, mothers who use non-formal daycare (i.e. relatives) are not eligible. In 1987 it was estimated that only 12 percent of pre-school age children of Ontario working mothers eligible for a subsidy actually received it (Lero and Kyle, 1991). According to the author of a recent *Chatelaine* magazine article on working mothers and formal day care, "[a] \$550-per-month day care place may be affordable for a family with one child, [but] it often no longer makes sense after a second or third child" (O'Sullivan, 1988). The most recent statistics indicate that to put two children in some form of licensed day care centre now costs (in 1991 dollars) between \$12,000 and \$13,000 a year (London Free Press, August 14, 1991). This might mean that a couple with an average income and two children-an infant and a three-year old-would pay between 14 and 21 percent of its combined income for daycare (Cooke, 1986).

Unfortunately, the consequences of inaccessible and high cost day care for the work attachment of Canadian women has not been explored on an empirical level. Work on this topic, however, has been done in the U.S., and therefore, may offer some clues

as to what these effects might be. Findings there have indicated that if affordable and accessible day care were provided, the number of non-employed American women indicating a willingness to enter the labour force would increase from anywhere between 20 and 25 percent (Presser and Baldwin, 1980; Stolzenberg and Waite, 1984; Mason, 1987; Bloom and Steen, 1990).

If the high cost of day care is sufficient to keep large numbers of non-employed women out of the labour force, then it may also cause serious interruptions to the work schedules of the employed (Bloom and Steen, 1990). Blau and Robins's (1989) event-history analysis of data from the Employment Opportunity Pilot Projects Survey showed that the cost of child care had a significant positive effect on the rate at which married women left employment.²² For every average dollar increase in weekly child care costs, the rate of leaving employment increased by two percentage points. However, they also found that, net of the effect of other covariates, each additional dollar of annual child care subsidies reduced the rate of leaving employment by .4 percent.²³

²²To the author's knowledge, empirical work examining the effect of child care on the rate of return to work has not been done. Sweet (1972) has speculated that the provision of subsidized day care would raise the real wage rate of married women and thus induce their re-entry in the labour force.

²³Ironically, Wakil and Wakil (1976) note that while the absence of affordable and accessible day care for some women may depress rates of entry into the labour force, it may actually increase labour force retention rates for mothers who might otherwise have left to have children but who could not afford the high costs of care.

2.5.2 Affirmative Action

In Canada the federal government introduced its first affirmative action program for women in 1979. Unfortunately, between 1979 and 1981 only 15 companies had asked for advice and no programs had been implemented (Johnston, 1984). The mandate of most affirmative action programs is to give women equal employment opportunities, or in other words, to put them on an equal footing with men in terms of their chances for employment. The programs are also meant to help those women already working by ensuring that job promotions within firms are carried out in a manner that is devoid of any hint of sexual discrimination and that women are paid the same wage as men for the same type of work.

The impact of affirmative action programs on the likelihood of employment for married women in Canada has not been explored. A few notable studies, however, have been done in the U.S. Leonard (1984), studied the effect of the U.S. Federal Contract Compliance Program on the employment patterns of white females between the years 1974 and 1980. Based on a multivariate analysis of establishment level data of over 68,000 firms, findings showed that the share of employment over this period for white females increased more at establishments under the compliance program, and thus, subject to affirmative action, than at establishments without the program.

However, in a later study, the same author (Leonard, 1989) admits that his earlier findings may have been biased by a number of potentially confounding influences such as size of the company, growth, industry, occupational structure and region. His findings indicated that affirmative action did provide white women with some potential

gains in their share of employment where their share was initially low and at small establishments. However, it had very little positive impact for women in large corporations where the percentage of female employees is high to begin with.

If affirmative action programs are effective, they should also reduce rates of leaving the work force for women already working by creating favourable working conditions, competitive wages with men and equal opportunities for advancement. Osterman's (1982) study of female quit rates based on U.S. data from the Panel Survey on Income Dynamics for the years 1978 and 1979 found that quit rates among white females employed in firms enforcing affirmative action under the Federal Contract Compliance Program were significantly lower than rates for females employed in firms without the program. Affirmative action programs may also benefit women who wish to return to employment following a period of non-employment. Firms subscribing to these programs might be less apt to view women who wish to leave the work force for short periods of time due to pregnancy or marriage as "intermittent" or "secondary" workers. Under affirmative action, firms would perceive the female worker as someone equally committed to her job compared to her male counterpart, and consequently, would take the necessary steps to ensure that any lost skills or depreciation in human capital would be restored upon re-entry through job training and upgrading of skills.

2.5.3 Maternity Leave

In Canada all working women are entitled to paid maternity leave. The Canada Labour Code allows for up to 17 or 18 weeks of maternity leave depending on

the jurisdiction. Most maternity absences are compensated by unemployment insurance benefits, typically making up 60 percent of a woman's regular salary or wage, but additional benefits may be received from employers (Moloney, 1989). In Quebec a plan of unpaid leave negotiated by the Quebec Common Front covering a total workforce of approximately 200,000 provides for up to two years of leave (both maternal or paternal) while guaranteeing a rise in seniority during the period and the maintenance of fringe benefits (if the employee chooses to pay for them) (Labour Canada, The Women's Bureau, 1984).

Unfortunately, there are no real hard data on what effect paid or unpaid maternity leave has on the employment patterns of Canadian women. Theoretically, maternity leave may have several positive effects. First, it might greatly reduce or do away with the time a woman would have to spend searching for another job between having her children. Secondly, it might provide women with the expectation of returning to work and hence serve to diminish the negative societal attitudes that have previously discouraged them from doing so. Third, it might make the decision to return to work much easier because of the absence of any hassle associated with searching for another job (Sweet, 1972).

2.6 Socioeconomic and Cultural Influences

2.6.1 Educational Attainment

The positive effect of educational attainment on married women's labour force participation is well-documented (Cain, 1966; Bowen and Finnegan, 1969; Spencer and

Featherstone, 1970; Spencer, 1973; Skoulas, 1974; Gunderson, 1977; Bruce, 1978; Nakamura and Nakamura, 1979; Gaskell, 1982; Lynch, 1989; Blau and Robins, 1989; Dooley, 1990). Not all study findings, however, support a positive influence. Part of the discrepancy may lie in the different ways in which researchers measure attachment to the labour force. Education may not necessarily have a positive effect on all components of a woman's work attachment. Some have found that higher education results in a greater likelihood of women to leave the labour force (Tuma, 1976; Felmler, 1984) which implies a negative effect on employment. To understand these diverse findings, requires a close look at some of the existing theories which purport to explain how education improves or weakens a woman's level of work attachment.

Why should higher education facilitate entry into the work force or possibly a return to work for those who have left? The answer, according to human capital theory (Mincer and Polachek, 1974; Mincer and Ofek, 1982), is that highly educated women may face greater depreciation of job-related skills from time out of the labour force than those with less schooling, and thus, would be more inclined to return to recoup these losses. In addition, since high educational status raises a woman's potential market wage, a woman with above average schooling is more likely to find it economically beneficial to return to the labour force than one with less education (Pearson, 1979; Yohalem, 1980). For highly educated never-worked women, the costs of staying out of the labour force would include the high wages they would have earned during those years as well as the increase in wages which accompanies on the job training and seniority (Waite, 1976).

There are also theories which attempt to explain a woman's propensity to leave the labour force. Job search theory says that higher education increases one's level of information of labour market opportunities. Because the more educated individual is more informed, it enables a more efficient search of the market (Donohue, 1988). This may be one reason why education has been found to increase labour force turnover. The more educated woman may leave her present position because she has knowledge of more lucrative job prospects elsewhere.

According to status attainment theory, education measures the job reward potential of an individual (Tuma, 1976). Holding constant the level of rewards associated with a job (i.e. wages), higher education measures the discrepancy between expected and actual job rewards. The higher the education, the more likely expectations will exceed actual rewards resulting in an exit from the work force.

In the context of married women's labour force retention, economic theory measures education as the earning potential of an individual. Highly educated women have a higher earning potential, and therefore, their opportunity costs of not working (i.e. withdrawing from the labour force) are higher than for the less educated. Higher opportunity costs mean a lesser propensity to leave the work force.

Several studies have found education to have little or no effect on the employment of married women (Gordon and Kammeyer, 1980; Blau and Robins, 1989). One reason, according to Hersom and Smith (1982), is that for many women, the relationship between their level of education and their labour force attachment is attenuated because of several obstacles that lessen the return on their economic

investment from schooling. Some obstacles include hiring policies that discriminate on the basis of sex. Another is an educational system which streamlines women into a single group by encouraging them to enrol in courses that will prepare them for the types of jobs that women have traditionally filled such as nurse, clerical worker or teacher. For example, a 1979 study of over 300 Torontonians women by the Women's Bureau of Ontario found that of those who went to university, a majority had been traditional in their selection of courses by pursuing a general arts degree. The same group had also taken general courses in high school (Pearson, 1979). A third factor weakening the education/work attachment relationship, according to Hersom and Smith, pertains to the negative perception of women on the part of employers as uncommitted or intermittent workers. Employers are not willing to make investments in women in the form of occupational training or continuing education if they hold the belief that many will leave the work force for extended periods of time.

Others have explained the weak relationship between education and work attachment from more of an economic standpoint. Gordon and Kammeyer (1980) speculate that high economic need will prompt many women to enter the labour force or to remain working regardless of the impediments that are associated with having a low level of education. They also point out that education will make very little difference in terms of a woman's chances of finding employment if the greatest demand in the labour force is for women to fill low-entry positions with a minimum of skill requirements. Under these circumstances, the less-educated woman will be in the best position in terms of getting a job. Highly educated women, on the other hand, will be forced to look for

more scarce high paying positions that are more commensurate with their level of education.²⁴

The absence of good longitudinal data on the work activity of Canadian women has made it impossible to ascertain how the impact of education on work attachment may have changed over time. However, there may be good reason to believe that its effects will only get stronger as some of the barriers within the educational system that have previously limited women from realizing their full labour market potential begin to come down. Some recent statistics on women participating in the educational system illustrate this point. In 1968-69 only 6.4 percent of the 504 doctorate degrees in Ontario were awarded to women. In 1988-89 this figure rose to 32.8 percent. Masters degrees conferred rose from 18.6 percent to 45.5 percent in the same period. Full-time female graduate students rose from 17.4 percent to 40.6 percent. Females also made considerable gains in traditionally male dominated professions. For example, the percentage in law rose from 5.4 percent to 42.4 percent; medicine from 16.5 percent to 39.9 percent; dentistry from 6.1 percent to 27.3 percent and engineering from 0.7 percent to 10.6 percent (CAUT, 1990).

²⁴Another possible explanation for the attenuated relationship between education and work attachment is that highly educated women are married to highly educated men with high incomes and women married to men with high income are less likely to participate in the work force (Robinson, 1986).

2.6.2 Work Experience

In reality, we know that an individual's current work behaviour is very much affected by past work history both in terms of the number of past jobs that are held, known as "occurrence dependence", and the length of time spent in each or "lagged duration dependence" (Jones and Tepperman, 1988; Baker and Elias, 1991).

There are several theories which visualize the process of leaving a given spell of employment or non-employment as dependent on previous work history. One example in sociology is status attainment theory. This theory makes the initial premise that the amount of rewards (i.e. income and prestige) a person accumulates over time in a given occupational position remains for the most part within that position, and therefore, in the event that an employment exit occurs, is not likely to influence his or her chances of obtaining another job in the future. However, the theory also says that an individual's level of resources, typically measured by his or her occupational skills and educational attainment, are more or less permanent, and thus, transferable to the next job (Tuma, 1976). These skills should only increase the longer an individual spends time working at a position. Thus, an individual who has spent a considerable length of time accumulating resources in previous positions, will experience a higher probability of leaving his or her present position in search of a better position than another individual who has spent much less time previously employed.

Sociological explanations also tend to focus on the conditioning effects of job experience on a woman's taste or preference for work. Some argue that as a woman

acquires work experience prior to marriage or the birth of the first child, her perception of work after marriage is different from that of a woman with no prior experience. She is more likely to perceive work as a source of psychic and financial rewards and regard it as a role equal in importance to the role of mother and childbearer.

Labour segmentation theory may also provide an adequate description of the influence of previous work history on subsequent employment opportunities (Baker and Elias, 1991). This theory concentrates on the employer's perception of the potential employee's attachment to the work force. This perception is sometimes formed or influenced by the employer's knowledge of the employee's previous work record. A job applicant having a work history interspersed with periods of unemployment or high job turnover is not likely to be considered as a good investment. He or she will be most likely passed over in favour of someone with a more stable work history. This bias on the part of employers may be especially salient for women who leave the labour force periodically to have children. Employers have been known to not hire women for positions if they believe that they are planning to start a family or have additional children.

Economists argue that women with prior work experience accumulate human capital in the form of job skills and knowledge which have the effect of raising their earning potential in the job market. A higher earning potential implies a higher rate of employment in subsequent years but it also means higher opportunity costs of leaving the work force for other activities such as childbearing which compete for their time (Sweet, 1979).

A well known problem associated with modelling occurrence or lagged duration dependence is the difficulty in separating out effects which may be considered as purely state dependent from effects which arise from differences in individual characteristics and attitudes, known as heterogeneity. Baker and Elias (1991) illustrate this problem in the following example where they offer two possible explanations for an apparent observed relationship between previous unemployment and an increased probability of experiencing subsequent spells. They write:

"If the experience of unemployment increases the probability of experiencing a further spell of unemployment, *ceteris paribus*, then it could be argued that unemployment itself has an effect upon the individual in terms of his or her future employability (i.e. through loss of work experience, disillusionment, etc. or upon an employer's perception of the productivity of the individual). Alternatively, if there exists a group of individuals with certain characteristics who are likely to display a particular pattern of repeated spells of unemployment, one could not argue that the experience of unemployment itself had such a debilitating effect" (Baker and Elias, 1991:216).

In the latter situation a spurious relationship between previous unemployment and the probability of experiencing subsequent unemployment will exist if there are certain unmeasured characteristics of individuals which are correlated over time and which are not held constant. The best solution to solve this problem is to incorporate all possible individual characteristics and attitudinal variables in the event-history model so that one can make a fairly confident judgement concerning the importance of previous employment history in predicting future employment transitions. Unfortunately, it is usually the case that some relevant factors are unmeasurable or unobservable, and

therefore, there will always be some degree of uncertainty regarding the true impact of previous unemployment on future employment prospects.

The labour force status of women at any time has been found to be strongly related to the intensity of previous work experience. Mott and Shapiro (1983) examined the strength of the link between early and later labour force participation and the degree to which it was mediated by intervening fertility and other economic considerations. They found that work activity in the months surrounding the first birth proved to be a highly significant predictor of subsequent work activity, almost independently of other demographic or economic considerations. This continuity in the level of work experience has also been found in studies of labour force retention. Blau and Robins (1989) found that wives who had accumulated many years of experience in the work force were far less likely to leave work than those with less experience. Having work experience also tended to facilitate a speedier return to work after a period in the non-employed state.

One factor which may determine the strength of the relationship between early work experience and later work activity is the degree to which the skill content of the initial job is based on specialized training for a particular type of career as opposed to more general training (Pearson, 1979). According to Yohalem:

"[although] the possession of prior specialized training tends to have effects similar to education on a woman's decision to return to work,....it may even rank higher if it has been vocationally oriented. A woman with a credential in nursing, for example, may find it easier to obtain a satisfactory position upon re-entry than one with more years of schooling but with no specific career-related skills" (Yohalem, 1980:239).

In the future, work experience may become an important factor in increasing women's overall attachment to the labour force. Changing demographics are increasing the average work experience of the adult female population. Younger cohorts of women are moving in the direction of later marriages which allows for more time in the work force following graduation from high school or college. First births are similarly being postponed (Sweet, 1979; Dumas, 1990).

2.6.3 Length of Time Currently Employed

McGinnis's (1968) "principle of cumulative inertia" says that the longer an individual occupies a given state, the less likely he is to leave it. This phenomenon represents a potential source of heterogeneity on female work attachment.

Proponents of human capital theory, predict a declining rate of leaving employment with increasing values of duration since employees are accumulating what are called "firm-specific" skills (i.e. job skills and occupational training) that lead to higher productivity at a later date. Since these skills are not transferrable to other firms, older, more tenured workers are not likely to receive a higher or even a comparable wage from another firm, and thus, will have a reduced tendency of quitting. Employers also have a strong vested interest in keeping workers with considerable work experience since they have made substantial investments in the form of wage increments and employee occupational training.

Job-matching theory predicts an increasing hazard with increasing duration (Jovanovic, 1979). This theory says that when workers first enter a job, they generally

acquire only partial or incomplete information about the working conditions, their ability to perform certain assigned tasks or their prospects for advancement. Since complete information is likely to be obtained fairly quickly (including information or knowledge of undesirable job aspects), rates of leaving work will tend to be highest in the initial stages of tenure followed thereafter by a steady decline.

Based on an application of status attainment theory to the study of transitions out of employment, Tuma (1976) hypothesizes that the greater an individual's transferable resources (i.e. their education) upon entering a spell of work relative to their level of rewards (i.e. income and prestige), the greater their expected attainment, and therefore, the greater the likelihood that they will leave the spell in search of a better position.

The rate at which women leave a spell of non-employment (i.e. their return to work) may also vary with increasing duration. Rates of leaving may decrease with time because employers hire the most skilled and promising individuals first leaving behind a group that gradually becomes less and less employable. The declining rate of leaving may also be augmented at higher durations (since first stopping work) by those individuals who become discouraged and decide to stop looking for work (Trussell and Richards, 1985). From a human capital approach, Mincer and Polachek (1974) contend that human capital depreciates the longer a woman spends time in a period of non-employment. More specifically, with the passage of time in a spell of non-employment, women will lose many of their acquired skills through lack of use or will possess skills that eventually become outdated or worthless.

2.6.4 Salary or Wage

In 1977 it was estimated that the earnings forgone by an American mother staying out of the labour force until her child reached 14 years of age amounted to \$75,000 for a woman with an elementary school education and \$155,000 for a woman with a post graduate college education. The average woman could expect to give up \$100,000 of earnings. Great as these costs are, however, they may not measure the total economic cost to her of dropping out of the paid work force. Hourly earnings and/or prestige status of jobs held after re-entering may be substantially lower for women who do not work for a prolonged period than for women with a more continuous work history. If this is in fact the case, the costs of dropping out will be considerably in excess of the initial income foregone (Waite, 1981).

Economists emphasize that the costs to women of staying out of the work force in the form of foregone earnings have steadily increased over the past several decades and thus constitute one of the single greatest contributors to the post-war rise in married women's labour force participation (Finegan, 1975; Smith and Ward, 1985). They measure these costs in terms of a woman's earning potential or her potential wage rate. Since not all women work, using the wages of women who currently work or who have worked in the past may introduce some selectivity bias such that the effects of wages on their labour supply are overestimated. Wages, therefore, are imputed using proxies for earning potential such as education, work experience or age. The effect of wages on the labour supply of married women is said to operate through what is termed a "substitution effect". A rise in real wages or the potential wage rate raises the price of

a woman's time as a market wage earner relative to the price of her time as a producer of goods for the home. If her market wage exceeds her home wage, then other things being equal, she will substitute work in the market for her work in the home. The strength of this substitution effect, however, will depend on the ease with which certain market goods (i.e. daycare, restaurant meals and cleaning help) can be substituted for goods produced in the home by the wife (i.e. childcare, meal preparation, and household cleaning).

The positive effect of a woman's potential wage rate on her labour force participation is well documented in the Canadian literature (Cloutier, 1986; Dooley, 1990). However, wages may also influence a woman's propensity to leave the labour market. The economic argument is that higher wages will raise the opportunity costs of leaving work. Therefore, if women's wages are high, relative to their home wage, they are expected not to leave, all other things being equal. Empirical studies in the U.S. tend to support this hypothesis. Results show that higher wages led to a significant decline in the probability of married women leaving the labour force net of the effect of other model covariates (Blau and Robins, 1989; Blau and Robins, 1991; Hao, 1991).

Researchers disagree on the importance of the wage variable as an explanatory factor in the rise of women's labour force participation. Some claim that rising real wages account for as much as sixty percent of the total growth in female labour supply since the Second World War. Half of this figure is attributed to the fertility reducing effect of higher wages (Smith and Ward, 1985). However, Waite (1976) contends, that the effect of wages was not always so strong. Her findings for the period (1940-1960)

revealed a significant contribution made by wages in increasing female labour supply from the early 1940s to the early 1950s. During that decade, the number of women to fill certain positions was in short supply and the ensuing high demand for female labour raised the real wage rate. But as more women entered the labour market toward the end of the 1950s, demand fell followed by a drop in the level of wages employers were willing to pay women for their work. The effect of the wage rate on employment thus became attenuated.

2.6.5 Occupation

A woman's occupational status can affect her probability of leaving or returning to work in several ways. According to "dual labour market" theory, the Canadian labour market is split into two very distinct segments. One segment, known as the primary labour market, consists of highly skilled white collar professional positions which generally require advanced training and post secondary educational attainment. Most have union protection as well as lucrative benefits such as dental and insurance plans. White males dominate these positions. The other segment, called the secondary labour market, consists of low paying non-professional jobs with low skill requirements, fewer benefits and minimal union protection. Opportunity for advancement is almost non-existent. A disproportionate number of women (and other visible

minorities) fill these types of positions (Phillips and Phillips, 1983; Townson, 1987; Curtis et al., 1988).²⁵

Dual labour market theory says that because most women are found in the low status, low paying jobs of the secondary labour market, that their incentive (or ability) to maintain a high level of attachment to the work force will be low. One of the most important reasons why turnover is so high is that womens' jobs have a relatively flat career profile. On this subject, Hersom and Smith (1982) write, "the first year teacher does more or less the same thing as she does in her last year. Secretarial staff rarely advance into management positions, even when they know as much about the management of the office as their boss. Nurses do not advance on the job to be doctors. Waitresses and sales clerks are not on the first step of a career into administrative positions" (Hersom and Smith, 1982: 285).

Unlike dual labour market theory, human capital theory considers women as equal participants in the labour market with equal opportunities to excel and advance in every occupational category. It says that the only thing that makes workers different is their level of work experience, educational attainment and jobs skills or their "human capital". The forces of supply and demand in the labour market will ensure that workers

²⁵According to Wilson (1986), "the ghettoization of female work...the concentration of women in specific occupations, has decreased very little since the turn of the century. In 1983, 77 percent of all female employees in Canada worked in just five occupational groups: clerical (32.6 percent), service (18.6 percent), sales (10.4 percent), medicine and health (9.2 percent) and teaching (6.2 percent)" (Wilson, 1986:100).

are matched to positions according to their human capital endowments (Curtis et al., 1988).

Human capital theorists hypothesize that some occupations may increase the chances that women return to work by making a prolonged leave more costly. For example, women in occupations that require advanced educational credentials and relatively large amounts of job-specific training will minimize the depreciation of their work skills and knowledge by returning to work more quickly. In addition, the accumulation of human capital specific to one job only may lead to a greater incentive to hold on to that job by returning to work more quickly. In contrast, women with more general skills and training have a higher probability of quitting their current job in order to seek another (Desai and Waite, 1989).

The human capital approach finds wide support in a number of studies of female labour supply. For example, a recent study by Desai and Waite (1989) found that women in occupations which required a high degree of specific vocational training and preparation were much less likely to leave the labour force in the first twenty-six weeks of gestation. Similarly, this same group was much more likely to return to employment in the first three months following the birth of the first child.

Other job characteristics which may facilitate or inhibit work attachment among married women but which are not necessarily tied directly to the dual labour market or human capital approach include the sex-composition of the job, its ideational content, the presence of sex discrimination, the physical location of the job in relation to home, the physical demands of the job, and whether or not it offers shift work or flexible working

hours (Sweet, 1972). Presumably, women employed in occupations which have a low potential for sexual discrimination, a high ideational content, a high percentage of other female workers, a low mean travel time from home, minimum strength requirements and flexible working time will be either less inclined to leave the labour force or more apt to return following a period of absence.

Surprisingly, very little empirical research has been done in these areas. With respect to sex composition, Waite and Berryman (1986) found that American women employed in occupations considered as traditionally male and which contained a high percentage of male workers had no more of a risk of leaving the work force compared to women employed in occupations with a more even sex distribution. Other work has examined the question of whether occupations with convenient working conditions increase attachment to the work force by assisting mothers in balancing the sometimes conflicting demands of having young children and holding down a job. In the U.S. Darian (1975) found that availability of work in the home, close proximity to work and short working hours did reduce the constraint on a woman's employment caused by having young children. However, the results in this area are mixed. Stolzenberg and Waite (1984) found that the proportion of individuals using public transit to get to work as well as the proportion of employed persons whose jobs are located outside the county in which they resided had no significant effect on the employment of women with young children.

Discussions of female labour force attachment often refer to the rapid expansion of the clerical and service industries in the 1960s and 1970s as a primary

reason for the rapid influx of married women into the workforce. The argument is that the demand for women to fill these positions increased and so women responded by working in greater numbers (Connelly, 1978; Phillips and Phillips, 1983; Eichler, 1983; Wilson, 1986). However, this explanation for growth has not been without its critics. Ferber (1982) argues that the demand explanation may be somewhat overstated. She says that if women entered the labour force because of a demand for their skills, then the wage rate in the clerical and service industries relative to the wage rate received by all workers should have increased. However, there appears to be no evidence of this happening. Her conclusion is that women began to fill the new openings not because of a greater demand but because they were willing to work for low wages. Secondly, the demand explanation for growth is only relevant for one component of attachment: the entry of women into the work force. Any gains in attachment in this area are likely to be offset by the high labour force turnover experienced by women who work in the clerical and service industries.

In the foreseeable future, sustained growth in female labour force attachment may be tied more closely to shifts in the occupational distribution in favour of greater proportions of female professionals. In 1980, women held just over 18 percent of all professional occupational positions (Phillips and Phillips, 1983). However, between 1981 and 1986, they were responsible for slightly more than two-thirds of all employment growth in professional occupations. By 1986, 45.1 percent of all professionals were women. Women also made substantial inroads in a number of previously male-dominated occupations. Their share of employment increased dramatically, in the areas

of medicine, law and dentistry. Other areas where significant gains were made included veterinarians, sociologists and anthropologists, pharmacists, optometrists and biologists (Marshall, 1986, 1989).

2.6.6 Childhood Place of Residence

Past research has shown that urban women in Canada exhibit a slightly greater likelihood of being in the labour force than rural women (Ostry, 1968; Spencer and Featherstone, 1970; Skoulas, 1974; Wakil and Wakil, 1976). Boyd et al. (cited in Phillips, 1983) hypothesize that with the redistribution of the population from rural areas to the cities came a redistribution of economic power between husbands and wives. They explain that in rural areas, economic power was fairly evenly divided since women worked alongside with men in household production. However, with the exodus to the cities, the breadwinner system had already begun to flourish. Under this system, women lost much of their power in decision making having to do with economic matters. Labour force participation rates slowly began to rise when women realized they could regain much of this lost power by earning a living of their own in the paid work force.

However, rural/urban differentials have been explained in countless other ways. Urban women, it is said, are less likely to be influenced by traditional attitudes opposing the entry of women into the work force (Sweet, 1973). White collar, trade and service jobs have opened up for women in urban areas while jobs in rural areas have mostly been confined to farms or in small rural villages. In the past, rural women were also less likely to benefit from modern labour saving devices, and thus, chose not to

enter the work force. Demographic differences in levels of fertility may also play an important role. Rural women, for example, are likely to have larger family sizes which would inhibit some from entering the work force.

Whether or not urban living also leads to lower labour force retention, or, in other words, higher rates of exit, is not known. Neither is there evidence of the effect urban living has on a woman's propensity to return to the work force after a period of non-employment. From a theoretical standpoint there is some reason for expecting an urban environment to lead to greater job turnover, and hence, a greater likelihood of exiting the work force. One argument is that compared to rural areas and small towns, urban areas typically have a broad economic base, and therefore, generally offer women a greater number and diversity of job opportunities. As a result, working women have a greater choice of potentially more attractive alternatives to working in their current position. The greater the number of such alternatives, the more likely it is that a woman will leave her present position to fill another that possibly offers better wages, more convenient working hours, or better job security and job benefits.

Despite the more diverse economic base typical of urban areas, there are equally plausible reasons for expecting urban women to be less inclined than their rural counterparts to leave the work force. First, women in urban areas are less influenced by traditional attitudes toward the female worker. The effectiveness of these attitudes in encouraging rural women to leave the work force once they marry or begin childbearing, or not to re-enter after childbearing is complete, may be tied to the presence of close rural kinship networks that exert a certain measure of social control in

family decision making. In contrast, it might be argued that urban dwellers in general possess more liberal attitudes perhaps due to more loosely defined kinship ties, higher educational attainment or the greater "visibility", and hence, greater acceptance of the urban female worker.

Secondly, the urban environment generally provides the female worker with greater conveniences related to her job. For example, access to fairly cheap public transportation such as buses and subways makes for shorter travel time to and from work. In addition, the high population density characteristic of urban areas makes it more likely that an urban woman will be in close geographic proximity to her job. The practice among employers to upgrade employee skills and credentials is facilitated in an urban environment. Closer proximity to educational institutions may place urban women in a more favourable position to accumulate and enhance their level of human capital without having to leave their jobs.

Thirdly, urban women are more likely to enjoy greater availability and access to formal public and private day care for their children. They are also more likely to be in close proximity to a potentially large pool of baby-sitters or live-in nannies. In rural areas working mothers with young infants must rely more on relatives or non-relatives to provide baby-sitting services.

Fourth, urban women earn on average, higher incomes than rural women enabling them to more readily purchase formal or informal child care services or household cleaning services. Fifth, for older women, past differences in the propensity to leave the work force may have been due to the introduction of labour saving devices

such as electric dishwashers and dryers. Modern conveniences such as these, were first introduced into the homes of urban women possibly leaving them more time to engage in activities outside the home.

Sixth, in urban areas firms and organizations are likely to be larger and hence better able to afford attractive benefit packages for their employees. For women wishing to combine work and family roles, the availability of paid maternity leave allows for greater continuity in the labour force. Larger firms are also more likely to be unionized. Union membership protects employees (including women) from wrongful dismissal and also serves to ensure that employees are awarded good wages for the work that they do. There is a greater chance that large firms have shift work. Less rigid work schedules make it somewhat easier for urban women to juggle the demands made on them in the home and in the workplace (Presser, 1986).

A married woman's rural or urban background may also predict her return to the labour force following a period of non-employment. First, employment opportunities are greater in urban areas and, therefore, should encourage a speedier return. Secondly, women in urban areas enjoy easier access to various forms of formal and informal child care services which should facilitate their return to work. Thirdly, women in urban areas are more likely to be employed in professional occupations with some form of paid maternity leave making the process of re-entry less difficult.

2.6.7 Religion

Historically, Catholic Church decrees either forbid or discouraged the entry of married women into the work force. According to many theorists, the lower participation among Catholic women in the work force reflects their obedience to these decrees. A passage from the Charter of the Rights of the Family clearly states the Church's hardline position:

"the family wage should be such that mothers should not be obliged to work outside the home to the detriment of family life and especially of the education of the children...if a sufficient wage cannot be provided by the husband, the state should provide the necessary assistance" (D'Antonio, 1985:397).

Other theorists seek to explain the observed differences in work behaviour by pointing to the existence of a Protestant work ethic, a secular societal value. Protestants, it is said, value in their children the virtues of initiative, integrity, industry and thrift more than Catholics (Greeley, 1989). Catholics on the other hand, will value loyalty, patience and obedience. Since Protestants are more likely to emphasize personal responsibility than Catholics, they will also be more likely to emphasize a "work ethic" than Catholics who will be more likely to work because they have to not because they want to.²⁶

²⁶One interesting line of research examines indirectly the effect of religious affiliation on labour force involvement using a human capital approach. The prevailing hypothesis is that religious groups differ according to the amount of endowments they pass on to their children. According to human capital theory, these endowments are really parental investments, the most important of which is education. Religious groups contributing the largest investment are expected to receive the highest rate of return measured in terms of greater earnings.

The human capital approach is used by Tomes (1983) to assess the effect of religious affiliation on life time earnings using data from the 1971 Canadian census. Tomes

Only a sparse amount of literature examines the influence of religious affiliation on female work behaviour and much of it relies heavily on these traditional theories to explain its' findings. For example, in a Canadian study, Skoulas (1974) hypothesized that being Catholic would have a negative influence on a married woman's participation rate because of the strong role of the Church in family life and the emphasis, until very recently, on classical female education. Using aggregate data, his findings showed that Catholic women were less likely than non-Catholic women to be in the labour force. Waite (1976) similarly found a negative Catholic influence on the employment behaviour of U.S. women between 1940 and 1960. Catholic women also appear to be less likely to return to work following a period of non-employment. Sweet's (1974) U.S. study examining the effect of religion on the propensity of married women with children to return to the work force showed that Catholic mothers were less likely to return to work than Protestant mothers at each duration since first stopping.

More recent theories pertaining to religion and women's work posit a convergence in levels of work attachment with Catholic women either spending at least as much or more time in the labour force as Protestant women. Convergence will occur because women will be less and less apt to recognize the legitimacy of the Church as an

hypothesized that Catholics, with an equal level of family resources, would invest less per child in terms of years of schooling and degrees earned and thus receive a higher marginal rate of return than Protestants. In support of his hypothesis, results showed that the returns to years of schooling among Protestants were 9 percent above the average figure while Catholics were 5 percent below. After holding "years of schooling" constant, the credential effect of having a degree augmented the earnings of Protestants by 40 percent compared to only 25 percent for Catholics.

authority structure dictating what it considers as "appropriate" roles for women. At the same time they will increasingly look to religion to give more meaning to their lives as individuals. On this note, Thorton (1985) writes:

"Individuals increasingly have interpreted their religious commitments and beliefs in individualistic terms and less in terms of institutional loyalty and obligation. They are now looking to religion more for its personal meaning and less for its moral rules and are feeling more confidence in their own ability to define standards of conduct independently of the doctrines and teachings of church hierarchies. This trend in the definition of religious commitment and meaning gives individuals more opportunity to choose new family structures (Thorton, 1985:122)".

Secondly, convergence may result due to the growth of more conservative or fundamentalist Protestant denominations such as Baptists and Pentecostals. In the past several decades these groups have lagged behind other religious affiliations in moving toward a more liberal stand on such family-related issues as abortion, childlessness, divorce and the right of married women to seek paid employment.

A number of study findings do support a convergence or even reversal in work attachment between both religion groups paralleling reversals in fertility and other family-related behaviours. A study by Nakamura et al. (1979) using 1971 Canadian Public Use Sample data found that after controlling for language spoken in the home (i.e. French versus other), Catholic women exhibited a higher propensity to be employed in the work force than non-Catholic women. Similarly, Spencer's (1973) study of married women's labour force behaviour in Toronto found that Catholic women were just as likely to be employed in the labour force as Protestant women. U.S. evidence has recently demonstrated a convergence between Catholics and Protestants on several measures of

vertical mobility (income, education and occupation). Differences have either disappeared or are rapidly disappearing (D'Antonio and Aldous, 1983). In Canada, evidence is more sketchy. Jarvis (1990) has found that Catholics actually rank higher on socioeconomic indicators than some more traditional Protestant groups.

If a convergence in work behaviour across denominational groups occurs, the greatest discriminating power on the religion variable will be between those who state a religion and those who do not. Current evidence suggests that women with no stated religion are the most secular in their attitudes and have a higher labour force participation rate than women from almost any religious affiliation. For example, in a Canadian study of religious differences in social mobility using data from the 1981 census, Heaton (1986) found that with the exception of Jews and liberal Protestant groups, men and women with no stated religion scored consistently higher than all other religions on three indicators of socioeconomic attainment--income, education and occupation. Huber and Spitze (1984) found that U.S. women having no religion were significantly more likely to support the right of a woman to work even if it was not convenient for her family. Sweet (1974) also found that among women who worked during their pregnancy, those with no stated religion exhibited the highest rate of return to work compared to all other religion groups.

2.6.8 Religiosity

Unfortunately, most previous studies considering linkages between religion and family variables (including female employment) have tended to focus on denominational affiliation, a measure that is becoming increasingly less valid as a predictor of family roles. One exception is a study by Morgan and Scanzoni (1987). According to these authors, the general movement toward stronger work commitment and attachment to the labour force on the part of North American women in the past few decades resulted in a countervailing trend of opinion on the part of certain right wing conservative groups who were opposed to any change that threatened the survival of the conventional family. This negative conservative reaction cut across denominational boundaries so that within each denomination there was a more even mix of liberal and conservative attitudes. This suggested that religious orientation or devoutness might become a more important predictor of women's work attachment than denominational affiliation since women with conservative and sacred religious beliefs in general, regardless of their denomination, would tend not to support greater work involvement while those with more liberal and secular beliefs would. Morgan and Scanzoni hypothesized that women with more liberal or secular attitudes would be more prepared to enter the world of work. They found that irrespective of denominational affiliation, being more devout (less secular) reduced young college womens' plans for expected continuity in the labour force.

2.6.9 Ethnicity

In Canada the study of ethnicity and women's work has been largely confined to an examination of English versus French differences in levels of work commitment and attachment. In the past, French women, compared to their English counterparts, were much less likely to participate in the labour force. One reason was the more traditional French patriarchal family system. Garigue's (1976) description of French Canadian society highlights the low status of women in that society. He writes:

"Socialization is carried out in a world in which authority is male and narrowly defined and emotional needs are satisfied through sibling, cousin, mother-child, grandmother, and aunt relationships. The pattern is continued into adult life, but with greater freedom since each person can have a wider range of personal preference...these patterns, together with the stress on premarital female chastity, maternity, [and] a marked division of roles...comprise a set of ideals defined as peculiarly French-Canadian" (Garigue, 1976:229 cited in Ramu, 1988).

A second reason for lower participation among French Canadian women was the pervasive authority of the Catholic Church in family matters as well as its control over the educational system up until 1964 with an emphasis on classical education.

There is some evidence which suggests that French/English differences in womens' work aspirations and behaviour are narrowing. Boyd's (1975) analysis of data from the 1970 and 1973 Gallup Polls revealed that French and English respondents (both men and women combined) did not differ widely in their opinions concerning a question on the acceptability of a married woman taking a job outside the home. However, when asked whether married women should work outside the home when they have young children, 88 percent of French respondents said no compared to 75 percent of English

respondents. Among women who responded to this question, 88 percent of those with French ethnic background said yes while 74 percent of those who were English responded this way.

2.6.10 Country of Birth

Immigrant women arriving in Canada differ from native born women in their patterns of involvement in the work force. Kalbach's (1987) analysis of 1971 and 1981 Canadian census data found that in every age group except the 65 and over category from the 1971 census, immigrant women demonstrated a greater propensity to be in the labour force than non-immigrant women. Skoulas (1974) made similar findings but noted that the positive effect on participation depended on the length of time the immigrant woman had resided in Canada. Women who had immigrated a long time prior to observation at the time of the study were considered to be more fully integrated into the Canadian social and cultural fabric and therefore were found to have levels of work attachment very similar to Canadian-born women.

2.6.11 Informal Child Care

Outside of formal day care, many young mothers either working or intending to enter the labour force for the first time, turn to other relatives or non-relatives to look after their children. A common circumstance, especially for poor women, including single mothers, is the presence of extra adults (usually female) in the same household. In 1981, Canadian Labour Force Survey data revealed that 31 percent of all pre-school

aged children were cared for by relatives while nearly 41 percent were cared for by non-relatives including friends and neighbours. Seventeen percent of all pre-schoolers were cared for by relatives in their own homes (Ram, 1990).

Some studies confirm that these extra child supporters allow young mothers with pre-school age children to enter the labour force or to maintain their labour force continuity (Sweet, 1973 cited in Flodge, 1989; Spencer and Featherstone, 1970; Skoulas, 1974) by reducing the otherwise high costs of formal care (Tienda and Glass, 1985; Flodge, 1989). However, the relationship may be more complex than previously thought. Flodge (1989), for example, found that the positive effect on a mother's labour force involvement of having non-nuclear family members in the household weakened with the passage of time. She attributes the attenuated effect either to increases in the age of the children that would have diminished the need for more intensive care or to rising income allowing for the purchase of formal services. The latter explanation draws support from a more recent U.S. study by Blau and Robins (1991) which found that young women commanded a greater earning power with advancing age, and thus increasingly turned to non-relative forms of childcare.

Others contend that the observed positive effect of the presence of non-resident and resident non-nuclear kin on the labour force participation of mothers cannot be adequately explained by lower child care costs (Sweet, 1972; Parish et al., 1991). Parish et al. (1991), for example, found that the presence of residential kin increased participation only if the adult(s) kin member(s) was also working while residential non-working kin actually depressed involvement in the work force. Their explanation was

that working residential kin must serve as a resource for linking the non-employed mother to various prospects for employment in the labour market. The unexpected negative effect of non-working kin was attributed to greater demands on the caregiver in terms of hours worked than would have occurred if non-kin care was provided.

The effect of the presence of non-nuclear household members on the rate at which married women leave spells of employment has only recently been explored. Hao (1991) hypothesizes that co-resident kin operate to increase labour force retention by lowering the price of a woman's time through assistance in housework and childcare and by providing her with information on the job market. Results from his study using U.S. data revealed a significant positive effect of co-residence on married women's continuity in the work force. Blau and Robin's (1989) U.S. study of child care costs, fertility and employment found that the presence of adults in the household (other than the husband or the wife) significantly decreased the rate at which women left employment.²⁷

A reliance on informal kin and non-kin care may only be a short term solution to the acute shortage of formal child care spaces in Canada. Keyfitz (1986) warns that declining family sizes will eventually shrink the size of kinship networks composed of older members. This implies that smaller kin networks will remove older children or

²⁷Evidence suggests that the type of childcare arrangement may also influence the labour force retention of married women. U.S. Current Population Survey data for 1990 indicate that women who arrange to have their child cared for by formalized day care services are less apt to experience disruptions to their labour force activity than women who place their child in the home of a relative or non-relative (U.S. Current Population Survey, 1990). Women who use the home of kin are more likely to experience personal emergencies or weather-related problems that lead to a failure of the child care arrangement.

relatives as an optional source of child care support. Increased geographic dispersion and labour force participation among relatives, friends and neighbours who provided support in the past will also serve to reduce the potential pool of caregivers. Therefore, while the presence of non-nuclear family members may at present facilitate involvement in the labour force for women who are unable to afford or gain access to formal services (and this is debatable as the forgoing discussion attests), this factor is likely to diminish in importance over the next several decades. Arat-Koc (1989) has recently examined the possibility of employing foreign domestic workers as a partial solution to the problem. She contends that not only is there growing support for the idea in the media and certain sectors of government, but that evidence shows an increase in the employment of domestic workers among dual- earner couples with small children. Seventy-one percent of these couples stated that the major reason for hiring a live-in domestic worker was to free them for labour market work.

2.6.12 Health Status

The health status of women workers is an important but neglected factor in studies of female labour force behaviour. Since most occupations demand a certain level of mental concentration and physical endurance, the working female population is to some extent a select group in terms of health. Women who are unhealthy, are thus not likely to gain entry into the work force and for those that do, their stay is likely to be short-lived.

Shaw's (1985) study of the characteristics of two succeeding cohorts of married women in the U.S. found that while poor health did not preclude work for some respondents, it did result in spells of labour force discontinuity. In another study, Viscusi (1981) hypothesized that health impairment would decrease the chances of a woman finding an alternative employment position but at the same time limit her ability to carry out the tasks associated with her current position. His findings showed that net of the effect of other model covariates, health impairment increased the female quit rate by seven percent. Health was also a major determinant of labour force attachment in a recent U.S. study by Moen (1991). Poor health significantly reduced the 10 year labour force involvement of women in their thirties, forties and fifties. Finally, Lynch (1989) analyzing data from a sample of women age 14 to 21 in 1978 from the National Longitudinal survey in the U.S. found that healthy women were significantly more likely to return to employment than non-healthy women net of the effect of other covariates.

The inhibiting effect of health impairment on married women's labour force involvement has probably lessened considerably over the past several decades. Advances in medicine, better nutrition, safer and healthier working environments and the introduction of paid sick leave have no doubt softened the negative impact of poor health on employment. Given these changes over time, younger cohorts of women are least likely to experience a withdrawal from the labour force as a result of health problems. For those who are forced to withdraw due to illness, newly established employee benefits such as paid sick leave are likely to facilitate their return.

2.6.13 Household Division of Labour

The rapid increase in labour force participation rates among married women has brought with it an increased pressure to effectively combine work and family roles. According to Michelson (1983), the ideal situation would be that "when the woman trades off one activity like housework for another like work, the former is traded off to another person, presumably the husband or a child" (Michelson, 1983: 37).

Unfortunately, what should be the ideal situation has not been borne out by Canadian statistics on household time use. For example, Meissner et al. (1975) data on work day and week end time budgets from 340 married couples living in Vancouver, showed that an increase in the wives' hours of paid work resulted in a decrease in their hours devoted to regular housework. Husbands, however, did not increase their time in housework to make up for this loss but simply maintained their low levels of current involvement. Similarly, Michelson's (1983) Toronto study found that within families where women were employed full time, women devoted three times as much time to housework and childcare as their husbands. These findings show that women who enter the paid labour force do not radically alter their housewife role. Rather domestic jobs simply become compressed to fit the time available (Wilson, 1986).

Evidence in favour of a gender convergence in household time use is mixed (Miller and Garrison, 1982). In the U.S., Coverman and Shelley's (1986) study of men's involvement in domestic household activities between 1965 and 1975 found that while men decreased their time in paid work over the period, the decrease did not result in an increase in domestic chores but instead, an increase in leisure activities. The

authors conclude by saying that "if the popular notion that men and women's roles are converging is correct, then convergence has occurred since 1975...men's involvement in the traditional woman's sphere, if occurring at all, is lagging behind women's entry into the traditional man's sphere" (Coverman and Sheley, 1986: 420). However, Gershuny and Robinson's (1988) study of historical changes in domestic time use patterns in the United States and Great Britain between 1960 and 1985 suggests that men may be starting to assume a greater responsibility for doing household and family-related chores. Holding constant the effect of increases in employment among married women and decreases in family size, (factors which might also explain changes in patterns of routine housework), the authors discovered a slight marginal redistribution of the time spent in housework from women to men. For women in both countries, there was a corresponding reduction in housework of between one and one and a half hours a day.

Clearly, being married and having children entails greater costs for working women than for working men (Calzavara, 1988). According to Coverman and Sheley (1986), since working women must balance domestic and market work responsibilities to a greater extent than do men, they are forced to contend with greater physical and emotional distractions from their occupations. These women are most likely to experience role strain which can adversely affect their overall well-being both mentally and physically (Hemmelgarn and Laing, 1991). Women whose husbands do not share equally in doing household chores and in caring for the children, are thus, more likely to experience a withdrawal from the labour force than women living in a more egalitarian

environment. The same logic would dictate that women living in non-egalitarian households are less likely to return to the labour force following a withdrawal.

2.6.14 Contraceptive Status

The effect of contraceptive status on the employment behaviour of married women has not been studied in Canada. Kupinsky (1977) hypothesizes that women who work are more likely to develop rational attitudes toward family size and birth spacing. Their knowledge of efficient methods of contraceptives will be greater than non-employed women. They will use contraceptives to limit their births which in turn will minimize the amount of time spent out of the labour force. Usage of contraceptives, therefore, should have a positive impact on work attachment.

2.6.15 General Lifestyle

General lifestyle factors may also influence the timing of female employment transitions. Unfortunately, this area of inquiry has received very little attention. Some studies using U.S. data have discovered a strong positive relationship between the time-dependent cumulating effects of drug consumption and the risk of female job turnover (Kandel and Yamaguchi, 1987). To the author's knowledge, research on the effects of drug use or alcohol on labour force transitions has not been conducted in Canada.

2.7 Macroeconomic Forces

2.7.1 Labour Market Conditions

Macroeconomic conditions in the economy constitute a significant portion of the context out of which employment decisions are made, and, are thus important to consider in models of married women's employment behaviour. In reference to this point, Riddell (1985) notes that "individuals receive wage offers, decide whether or not to work, and how many hours to work if they do work in the context of current labour market conditions in the nation or perhaps in the region where they live" (Riddell, 1985: 179).

Within the economic context, several external factors may operate to either limit or expand the employment opportunities for married women. The level of unemployment in a state, province or region is perhaps the most commonly used indicator of labour market conditions. Traditionally, unemployment levels in Canada have differed widely between the provinces. Rates always remained well above the national average in the Maritime provinces largely because of the heavy reliance in that region on primary industries such as fishing, forestry and mining. In contrast, central Canada (including Ontario and more recently Quebec) has benefited from a more diverse economic base resulting in more jobs and thus a lower unemployment rate. For Alberta, the oil boom of the 1970s generated a great deal of economic wealth and thus closed the gap, at least temporarily, in levels of unemployment between that region and central Canada.

There is no clear consensus on what effect unemployment has on the work behaviour of married women. Two competing theoretical positions include the added worker hypothesis and the discouraged worker hypothesis. The "added worker" hypothesis states that when unemployment in an area is high, it adversely affects the jobs of the "primary" workers. Since a vast majority of "primary workers" have typically been married males (husbands), married women, which constitute the vast majority of secondary workers, are said to add themselves to the work force in order to stabilize the income flow in the family. This theory implies a segmented labour market in that the low skill, low paying kinds of jobs typically occupied by women are not as likely to be adversely affected by an economic slowdown, and secondly, that the demand for women to fill those jobs will be high despite those conditions. The "discouraged worker" hypothesis says that when unemployment is high, the demand for female labour falls. The result is that secondary workers, namely women, become discouraged from entering the labour force. Women already working will be compelled to leave.

The added worker hypothesis predicts that high unemployment will lead to an increase in the labour force participation of married women while the discouraged worker hypothesis predicts a decline. Some economists argue that the "discouraged" worker hypothesis is more plausible because of the finding that high unemployment leads to lower labour force participation among married women (Finegan, 1975). However, they also point out that only during long and protracted periods of unemployment is women's employment activity reduced. Wilson's (1986) observation that married women's participation rates continued to climb during the recession of the early 1980s while rates

for married men declined, indicates support for the added worker hypothesis. Skoulas (1974), on the other hand, says that both factors are likely operating possibly resulting in a cancelling out effect in which case, unemployment would have little or no influence on married women's employment behaviour. A third possibility is that the responsiveness of the labour force behaviour of younger cohorts of women to levels of unemployment is more accurately described by the discouraged worker hypothesis whereas for older cohorts the added worker hypothesis is a more probable influencing factor. The reason is that many women among the younger cohorts are no longer simply "secondary workers" but are becoming more like their male counterparts in terms of securing higher paying and more prestigious jobs. For example, Statistics Canada figures show that women increased their share of total income from roughly 22 percent in 1971 to about 34 percent in 1987 (Statistics Canada, Women in Canada, 89-503E, 1990). As the labour force becomes less segmented for women, we should expect that unemployment will exert an effect on their employment behaviour that is not much different than its effect on the employment behaviour of men. High unemployment will act to discourage women from entering or re-entering the work force and for those already working, increase the rate at which they leave.

Empirical evidence supporting either the discouraged worker or the added worker hypothesis is somewhat conflicting. Using 1971 Canadian census data, Nakamura and Nakamura (1979) examined predictors of the probability of a married woman working and found that unemployment, measured using the provincial unemployment rate, significantly reduced the likelihood of employment but only in the age range 30 to

44. A more extensive analysis of the problem has been carried out by Swan (1974). Swan used unemployment and employment data collected from Statistics Canada over the period from 1953 to 1971 to estimate what effect levels of unemployment would have on participation in the work force and secondly to ascertain any regional differences in effects. For males and females, the author found that net of the effect of wages, marital status and number of children, there was generally strong evidence of an added worker effect. The effects predominated in every province but were strongest in Ontario, followed by Quebec and then the Prairies. The weakest effects occurred in the Maritimes and British Columbia.

Some labour force analysts contend that unemployment exerts a much more forceful impact on a woman's labour force continuity than on her presence or absence in the labour force (Shaw, 1985). However, the effects can be both negative and positive. High unemployment causes lay-offs and often requires lengthy periods of looking for work between jobs. On the positive side, when unemployment is high, the range of alternatives to one's present position diminish reducing the likelihood of leaving work. This approach falls in line with Parnes and Spitz's (1969) notion that the characteristics of the local labour market, including the number and characteristics of other positions, are important in determining labour force quit rates because they condition the worker's attitudes toward their current position. Another possibility, offered by Riddell (1985), parallels the added worker hypothesis described above and says that a rise in the level of macro unemployment could affect the work behaviour of a married woman by increasing the degree of uncertainty associated with the future

earning stream of her husband or associated with her own future earnings stream if she works or is planning to work. For instance, a wife might decide to keep her job in the face of an economic downturn, despite the fact that her family has no current need for her earnings, as a form of insurance against the possibility her husband may lose his job (Riddell, 1985).

It is not altogether clear what impact unemployment has on the rate at which women leave or re-enter employment. Studies have shown mixed results. Blau and Kahn (1981), in their U.S. study of male and female quit rates in employment, found that unemployment across standard metropolitan areas had no significant impact on the rate at which white women left employment. Donohue (1989) argues that regional differences in the level of unemployment should bear little impact on the rate at which married women leave employment because a large percentage of the women who do leave, do so as a result of pregnancy. His findings showed that while each percentage increase in the level of unemployment decreased the hazard of leaving for males by twelve percent, for females, there was not a corresponding decline. However, a Canadian study of the labour force behaviour of women in south-western Ontario found that a high level of unemployment at the time of leaving the labour force increased the rate at which women left (Jones and Tepperman, 1988). Lynch (1989) found a significant negative effect of unemployment on the rate at which women returned to the work force net of the effect of other covariates.

Inflationary pressures leading to increases in the cost of living are other important labour market characteristics that vary from region to region and thus

adversely affect the employment prospects of married women. In response to these pressures, there has been an increase in the number of dual earner families in Canada in the past fifteen or twenty years (Burch and McQuillan, 1988). Statistics Canada reports that the number of dual earner husband-wife families increased from just under forty percent in 1971 to approximately fifty-eight percent in 1987. At the same time the percentage of families with husbands as the sole income earners declined from 35 percent in 1971 to just 12 percent in 1987 (Statistics Canada, Women in Canada, 89-503E, 1990).

An area or region can also differ widely in terms of industrial composition or mix and these differences can have an important impact on married women's chances of finding employment (Finegan, 1975). Regions with a large number of textile or electronics plants will likely offer more employment opportunities to women than regions having primary metal or industrial chemical plants (Sweet, 1973). Women also tend to be highly represented in the clerical, sales and services industries. If these industries vary by region, so too will women's employment prospects. One of the most commonly cited reasons for the steep rise in labour force participation rates among married women is the expansion of the service and clerical industries in the 1960s and 1970s (Phillips, 1983; Wilson, 1986).

2.7.2 Other Economic Influences

Outside of the level of unemployment in a region, economic factors such as inflation, industrial composition of the labour force etc. are difficult to quantify or

measure particularly in micro-level data sets. A common strategy employed in micro-data labour supply models, is to introduce a region variable in an attempt to capture any residual economic effects on employment behaviour (Ostry, 1968; Spencer and Featherstone, 1970; Skoulas, 1974). Spencer and Featherstone's (1970) analysis of the 1964 Consumer Finance data found that compared to having one's residence in Ontario, residence in the Atlantic provinces, British Columbia and Quebec tended to lower a married woman's participation in the work force. However, further analysis broken down by age revealed that young married women below the age of 34, were equally likely to be in the labour force regardless of the region in which they resided. These findings closely replicate other Canadian studies in which region was included as a predictor of participation in the work force (Ostry, 1968; Skoulas, 1974).

2.8 Conclusion

One of the primary objectives of this chapter has been to bridge the gap in our knowledge of the determinants of a married woman's entry into the work force and the determinants of her subsequent probability of leaving. The bulk of studies examining female labour force attachment combine these two components of attachment into a single measure. This does not make sense given that the vast majority of all Canadian adult women are now engaging in paid market work. More effort should be focused on what factors influence these women to remain working or not working rather than the determinants of entry for non-employed fulltime housewives who now comprise a just a small minority of women.

The failure to study components of attachment in isolation, however, is problematic for methodological and statistical reasons. It is apparent from the discussion above that research findings of the effect on work attachment of a single predictor such as husband's income are of a widely divergent nature. Some studies show positive effects, others negative effects or no effects at all and still others show non-linear effects.

One possible source of these conflicting findings is that the effect of a given covariate such as husband's income differs according to the selected measure of work attachment. Moreover, in the previous chapter it was hypothesized that changes in the relative weight or importance of each measure of attachment across time might alter or change the effect of a particular influence. For example, when the dominant component of attachment twenty years ago was the proportion of first time entrants into the work force, education consistently showed strong positive effects on a woman's probability of working or not working. More recent studies, however, are now showing education to have little or no effect on this probability. The reason may simply be that a woman's ability to remain in the work force (i.e labour force retention) has become the dominant measure of attachment. Studies are showing that education has a positive influence on the rate at which women leave spells of employment (Felmlee, 1984).

The literature review in this chapter presents a vast number of possible causal influences on three measures of work attachment. Covered were a host of demographic determinants, economic influences, measures of tastes and preferences, socio-cultural influences, macroeconomic conditions and policy influences such as affirmative action and paid pregnancy leave. Very few data sets collect information on all these influences

partly because of cost and time considerations and because some influences (e.g. societal norms or macroeconomic influences) are still beyond measurement or quantification given the focus on individual experiences. This is one reason why many models of female labour supply contain a very limited number of predictors.

There is another reason, however, for the limited number of observed predictors. In *Chapter One* it was said that most studies of female labour force attachment either explicitly or implicitly subscribe to a particular theory of work behaviour. The problem is that some of these theories attach unequal weight to different sets of causal influences making it difficult to compare results across studies. This may be another reason why predictors of attachment give rise to such divergent effects.

Many of the ideas in this chapter are drawn from the large body of literature on the determinants of the work attachment of ever-married women. Much of the literature, however, is American. Given that substantial differences in work behaviour are likely to occur between both countries, Canadian researchers must do more to fill in the gaps in our knowledge of the causal influences of changing attachment over time. The present chapter has sought to identify where these gaps are in order to provide some direction for future research efforts.

Another point that should be made does not pertain directly to the present study but to the study of female employment in general. A frequent implicit assumption in the literature is that the past labour market experiences of ever-married women in both Canada and the United States are very similar. However, there is no real empirical evidence to back up this claim. Canada and the United States differ widely on a number

of important characteristics which are known to give rise to differences in levels of work attachment (Riddell, 1985). Some of these differences include attitudes toward women (Baer et al., 1990), differential tax systems, ethnic and racial composition and government assistance to the poor and unemployed. Despite these differences, however, the bulk of theoretical work surrounding various effects of predictors on female employment is grounded on the empirical findings of U.S. data.

Finally, it should be emphasized that the focus here has been on what are presumed to be causal influences on work attachment. There is some empirical evidence indicating that a number of factors such as child status, tastes, education, wages and marital status may also be consequences of attachment. These are separate issues, however, and due to time and space constraints, are left for others to pursue (see Appendix A for a brief discussion on causality).

CHAPTER THREE

Statistical Analysis

3.1 Restatement of Hypotheses

Following a critique of the literature on the structural coercionist versus the voluntarist approach to the study of female work attachment, *Chapter One* concluded with the formulation of two general hypotheses. These are listed as follows:

Variables which exert a positive (negative) influence on the rate at which a woman enters into employment may have the same positive (negative) influence on the rate at which she leaves.

Identifying these effects will help resolve the puzzle of widespread inconsistencies in previous work which has sought to ascertain the relative contribution to work attachment by demographic, economic and taste factors.

Secondly, a great deal of research falling within the structural coercion tradition fails to make a unique prediction of the underlying causal influences of and direction of change in the rise of female labour force participation. The second hypothesis is offered as follows:

Compared to early birth cohorts, the work attachment of recent birth cohorts of women is less responsive to the influence of demographic and economic constraints and more responsive to emerging preferences or tastes for market work.

3.2 Study Design and Sampling Method

The present study is based on an analysis of work history data from the 1984 Canadian Fertility Survey, the first national survey of women's fertility behaviour. The

target population consists of all women between the ages of 18 and 49, from all categories of marital status and living in a non-institutional setting.

Information in the CFS was collected by using indepth telephone interviews over a three month period from April to June of 1984.²⁸ Most interviews were conducted in the latter two months. The length of interviews lasted anywhere from 13 minutes to 115 minutes with the average length at approximately 36 minutes. Respondents had to own a telephone and had to be able to converse in either English or French in order to be eligible for participation in the study. In the entire study, 73.7 percent of the interviews were in English and 26.3 percent in French. A final response rate of 70 percent was achieved representing the final number of respondents with completed interviews divided by the estimated number of households containing eligible respondents (i.e. 5,315/7,574) (For a detailed discussion of the CFS survey methodology and sampling procedures, see Krotki, 1989).

²⁸The CFS data are generated from a computerized random digit dialling procedure. Previous methods of identifying study respondents have relied on selecting telephone numbers directly from a telephone directory, and thus, suffer from incomplete coverage of the target population. Telephone directories often miss a significant percentage of the target population with "working" telephone numbers. Individuals having a working number that is not listed in the directory tend to have characteristics that differ from the rest of the general population. They tend, on average, to be frequent movers, people living alone, the separated or divorced, the young or those who rent rather than own. Failure to include these individuals in the sampling frame can lead to substantial bias in study results if their characteristics are in some way related to the behaviour under study. Random digit dialling overcomes this potential problem of sample selection bias by giving each individual with a working telephone number an equal chance of being selected into the sample. Since only 2.1 percent of all households in Canada in 1984 did not own a telephone, coverage of the target population was nearly complete.

The Canadian Fertility Survey is a cross-sectional design containing a wide diversity of background characteristics of the respondents at the survey date some of which include their current age, year and month of birth, region of birth, current region of residence, childhood place of residence (i.e. rural/urban background), ethnicity, religion, language spoken at home, current level of education (in years) and degree obtained, current family income and work status and number of children ever born. These characteristics are augmented by detailed retrospective information on respondent's fertility, contraceptive, marital and work histories.

As a potential source of data for the analysis of female work histories, the CFS is particularly appealing since various types of background information are collected at the time women respondents first start work including their education (in years), salary and occupational status. The ability to gauge the level of these characteristics prior to the event of interest is crucial since some factors such as education and income change over time. A respondent's level of income or occupational status at the time of the survey, therefore, is not likely to be the same as when she first started working. The CFS also collects information on two separate spells of employment and gains precision by providing both the year and month of leaving and returning to work.

In the context of female work histories, retrospective surveys are advantageous because all possible employment exits and re-entries can be recorded over the entire life cycle of an individual. Prospective designs are generally restricted to shorter time periods because of the costs involved with following the same group of individuals over

several years and the additional problem of sample attrition due to death, migration or respondent's refusal to continue participating in the study.

In addition to problems with recall and misreporting of past events (discussed at length in the next chapter), one of the major disadvantages of retrospective surveys is the difficulty in measuring respondents' tastes and preferences for work and childbearing at different life cycle stages. For example, while younger women may be able to give a fairly accurate response to a question on their attitudes toward work or childbearing at the time they completed high school, such is not the case with many older women. With prospective or panel data, the degree of stability of respondents' attitudes may be continually monitored and recorded as they enter different life cycle stages. Changes in attitudes may then be examined to assess their effects on employment behaviour.

Retrospective surveys are also affected to some degree by selectivity bias. Respondents measured at the time of the survey may not be totally representative of past cohorts. Some individuals would have died or migrated at some point in the past, and therefore, would not be part of the survey population. Since the less healthy and geographically mobile have a greater propensity to leave employment, some underestimation of the extent of discontinuity in female work behaviour may result. With prospective designs, at least partial information is obtained on the employment behaviour of individuals who left the study as a result of death or migration.

3.3 Focus of the Present Study

This research focuses on the relative impact of demographic, economic and tastes factors on the rate of leaving the first two spells of employment and the rate of leaving the first spell of non-employment (i.e. the rate of return to work) for women who are ever in union and ever-worked at the time of the survey. Various components of this selected group require further elaboration.

First, the decision to examine separate spells rests on findings from previous research which suggest that the job mobility process varies considerably according to different stages of a woman's labour market career (Donohue, 1988). This finding challenges the assumption that hazard rates across all spells of employment are uniform. Assuming uniform hazard rates across all spells requires that the investigator "pool" the employment intervals or "spells" between events (for example, the observed times of leaving the work force). While this procedure has the advantage of increasing the number of observations for study (given that each individual may contribute more than one interval), when data are pooled, the observations or spells are no longer independent. This problem of serial correlation across spells can bias downward the standard errors for the estimated parameter coefficients (Allison, 1984).

Secondly, the CFS defines an employment exit as being at least a year in duration. One of the problems with this definition is that it underestimates the true level of discontinuity in women's employment behaviour since short unemployment spells and non-employment spells due to pregnancy with maternity leave are missed. However, the choice of definition of what constitutes a significant length of time to be out of the work

force is not purely an arbitrary one. Women who spend time in excess of a year out of their first spell of employment are likely to be those who are less attached or committed to a full-time career compared to women who return to employment before a year has passed. Withdrawal from the labour force for periods exceeding a year is also likely to result in a significant depreciation of human capital (i.e. job skills and training) making it increasingly unlikely, as time progresses, to ever return. Mincer and Ofek (1982) found that interruptions of less than a year's duration had negligible, insignificant effects on women's wages. For these reasons, the current definition serves a useful purpose.

Thirdly, in the Canadian Fertility Survey (1984) no distinction is made between voluntary and involuntary work exits. This is unfortunate since evidence does suggest that whether or not an employment exit is voluntary or involuntary, is an important source of population heterogeneity.²⁹ In the CFS, women leaving the work force as a

²⁹Felmlee contends that a failure to distinguish between both types of exits may result in substantial bias in study results if a given set of covariates has an effect on the rate of leaving work voluntarily that is widely different from its effect on the rate of leaving involuntarily. Her findings confirm that, for working women, the presence of children bears a much stronger positive and significant impact on the rate at which they leave employment involuntarily than it does on those who leave voluntarily. The reason, she explains, is that women with pre-school age children are less productive on the job than childless women or women with older children, and therefore, are more likely to be dismissed or laid off from their jobs. Employers may also view the woman with young children as a worker who is uncommitted to her job in the long term. In some instances, this negative appraisal could lead to dismissal. Respondent's wages also differed in their effect on both types of exits. Net of other factors, higher wages appeared to have a strong negative effect on rates of leaving work involuntarily. Felmlee (1984) attributes this finding to a possible association between higher wages and productivity and seniority.

Although Felmlee's results provide strong justification for separate analyses of voluntary versus involuntary employment exits, some authors reject making a distinction on the basis of what they consider to be unresolvable methodological problems. Waite and Berryman (1986) claim that it is too difficult to establish the true level of involuntary

result of "wrongful dismissal" are placed into a general category of reasons for leaving called "labour market conditions", making it impossible to distinguish between both types of exits. It is interesting to note, however, that this category represents only 7.2 percent of the total number of women reporting a first work interruption. If it were possible to isolate those who were fired from their jobs, this figure would no doubt be even smaller. This low percentage of women reporting a work dismissal may reflect the influence of social desirability on respondent's answers regarding their stated reasons for leaving work.

Fourth, the selection of the "ever-worked" as the focus for study means that women who have a discontinuous or intermittent work history are given an equal chance of being selected into the sample with women working on a more continuous basis. Unfortunately, several previous studies of female quit rates have been based on the selection of currently worked women (followed prospectively) resulting in a

work exits because many respondents are reluctant to admit that they are victims of job dismissal. They allege that many respondents answer in a socially desirable manner by reporting a firing as a quit. The authors also point out that there is usually a very fine line between getting fired and quitting since many individuals may quit in anticipation of getting fired or may quit on a threat by their boss to leave voluntarily or be fired anyway.

Other reasons for not distinguishing between voluntary and involuntary exits are grounded on theoretical considerations. Tuma (1976), for example, hypothesizes that some variables should have a dominating effect on rates of quitting that far outweigh any effects on rates of firing. For this reason she does not consider the issue to be a serious one. She argues that while education serves as an important element in hiring criteria and also affects one's expected job attainment, it bears little relationship with job performance. Since empirical evidence confirms a strong relationship between job performance and firing, it follows that education should have very little, if any, effect on rates of leaving employment involuntarily.

disproportionately large number who are at "low risk" of leaving the work force (Donohue, 1988). Women with a less stable previous work history, on the other hand, are less likely to be working at the survey date, and therefore, have a higher likelihood of being missed.

Fifth, women who are "ever-worked" are those who worked at some point in the past on a regular basis. By the term "regular" it is meant that women worked continually for at least six months. One reason for choosing this definition is to avoid including women enrolled in high school full-time who worked for a summer and then returned to school in the fall.

Sixth, in the present study women who are "ever in union" are those who entered marriage or a common-law partnership at some point prior to observation at the survey date. The primary rationale for including women living in common-law with the ever-married is based on the assumption that both kinds of arrangements involve some form of emotional and material commitment, for example, the sharing of living space and household resources. Secondly, the decision to exclude single women is based on previous descriptive trends in female labour force behaviour which indicate that women in a stable partnership, particularly those with young pre-school age children, continue to be the fastest growing segment of the female work force. Third, the decision to focus on persons ever in union was made owing to the fact that previous research has tended to focus exclusively on the work behaviour of married women and has ignored those who are divorced, separated or widowed. As Ericksen and Klein (1981) point out, "focusing

on married women only no longer makes sense in a society where divorce and separation have become such a common occurrence" (Ericksen and Klein, 1981:204).

3.4 The Sample

Based on these pre-defined sample specifications, a subsample of 2901 women was generated out of the original total study sample size of 5,315. The first analysis on transition rates out of the first spell of employment is based on the initial subsample of 2901 women. Out of this number, 1533 recorded an exit from employment while 1367 were censored by the survey date. Respondents who had first married or entered a common-law union after they left the first spell were excluded from the first analysis for two reasons. First, the focus of the analysis is on women who are ever in union at some point during the first spell of employment. Secondly, excluding this group from the analysis avoids a possible confounding of the relationship between marital status and employment. For example, some single women may decide to shorten their length of time in the first spell of employment in anticipation of entering a partnership or marriage.

Second, the analysis on transition rates out of the second spell of employment is based on all women who recorded a return to employment ($n=1400$). Among this group, 640 left the second spell and 760 were censored. Women who first entered a common-law partnership or marriage after the date of leaving the second spell were excluded for the same reasons mentioned above to explain the exclusion of single women from the first analysis.

Third, the analysis on transition rates out of the first spell of non-employment (i.e. women returning to work) is based on women recording a first work interruption. Among this group, 1290 returned to the second spell and 722 were censored. Given the focus on women who are ever in union at some point during the first spell of non-employment, those who entered into a common-law partnership or marriage for the first time after returning to work were excluded from the analysis.

In order to facilitate cross cohort comparisons of predictors of leaving employment and non-employment, three separate birth cohorts are defined: women born between 1955 and 1965 (age 18-29 at the survey date), women born between 1945 and 1954 (age 30-39 at the survey date), and women born between 1934 and 1944.³⁰ The choice of cut-off points was based on several considerations. First, by age 30, most women have established an income and occupational pattern that is not likely to change dramatically in the future. Most have also completed their formal education. Secondly, age 30 represents a pivotal age in terms of a woman's career as well as job promotion prospects. Thirdly, most women by this age have completed their childbearing (about 80 percent) and the issues of family roles and the division of labour in the household have already probably been established (Grindstaff and Trovato, 1987).

³⁰Analysing employment transitions within separately defined birth cohorts overcomes the identification problem that arises when age, period and cohort effects are studied together in one model. When a cohort is defined as a birth date, there is a linear dependency between period (current date), age (current date minus birth date) and cohort.

3.5 Statistical Analysis

The recent introduction of multivariate hazards models to research on female work histories solves for problems arising from right censoring, time-varying covariates and uncontrolled heterogeneity characteristic of OLS regression or life table techniques. These models combine life table analysis with regression analysis in order to estimate the effect of a set of exogenous covariates on the instantaneous rate at which individuals move from a given state (i) to another state (j). In most instances, the dependent variable consists of a rate rather than duration in a given state.

Hazards models focus on three related functions: the survivorship function $F(t)$, the hazard function $h(t)$ and the density function $f(t)$. If the event of interest is an exit from the first spell of employment, we would say that the survivorship function specifies the probability of a woman surviving to a given time "t". Alternatively, the hazard function specifies the instantaneous rate of failure (i.e. exiting the labour force) at time "t" given that a work exit has not occurred prior to reaching that time.

The density function $f(t)$ is an unconditional probability specifying the proportion of individuals who experience the event of interest in any interval width of time on the dependent variable. A density curve can be plotted and the total area between the curve and time axis sums to equal one. This is a useful visual tool in that it shows at what times most individuals experience the event (Lee, 1980; Kalbfleisch and Prentice, 1980).

The preferred choice of hazard model in the present analysis is the accelerated failure time model. This model differs from the well known proportional hazard model

in that the covariates specified in the model impact multiplicatively on time rather than on the hazard rate. Thus, in the context of employment histories, the effect of model covariates is to speed up or slow down movement over time in a given spell of employment or non-employment (Kalbfleisch and Prentice, 1980).

A second difference is that the accelerated failure time model imposes a parametric form on the distribution of event times. The three most common of these distributions are the Weibull, the Gompertz and the log-logistic. In contrast, in the proportional hazard model, the baseline hazard function is not assumed to take any particular form, and therefore, is allowed to vary arbitrarily with time (i.e. the hazard may increase and decrease). Those who choose this model do so often because they have no a priori reason for expecting an increasing *or* decreasing hazard, and the concern, therefore, moreorless focuses on the effects of the observed model covariates which are assumed to sufficiently capture the effects of uncontrolled heterogeneity.

However, in the analysis of employment transitions, there are sound theoretical reasons for expecting a unidirectional change in the underlying baseline hazard with time which may occur independently of the effects of model covariates. For example, human capital theory says that with increasing time on the job, a woman accumulates capital in the form of investments in training and skill acquisition and as a result will be less and less likely to ever leave. In this case, a decreasing hazard is expected to occur. Based on the same theory, a decreasing hazard is plausible for women who have entered the non-employed state. As time spent not working increases, skills become outdated or forgotten and the hazard of ever returning to work diminishes. The accelerated failure

time model captures the effects of this "duration dependence" on the hazard in a separate model parameter.³¹

In the present analysis a Weibull distribution is chosen to describe the distribution of event times because of its relative flexibility in approximating linear increasing, decreasing or constant hazards as well as a variety of non-linear changes (Vuchinich et al., 1991). The AFT model with this distributional form is written as follows:

$$h(t) = h_0 (ht)^{\rho-1} e^{-\beta (ht)^\rho}$$

³¹Unobserved or unmeasured heterogeneity arising from differences across individuals may lead to a spurious effect of duration in the current state on the rate of leaving that state. According to Allison (1984) "individuals with high hazard rates experience events early and are then eliminated from the risk set. As time goes on, this selection process yields risk sets that contain individuals with predominantly low risks. The upshot is that it is extremely difficult to distinguish hazard rates that are truly declining with time from simple variation in hazard rates across individuals (On the other hand, an increasing hazard can always be taken as evidence of a true increase with time)" (Allison, 1984: 32).

A simple way to deal with the problem of heterogeneity is to explicitly incorporate the sources of that heterogeneity as explanatory variables in the model. But it would be unrealistic to assume that all such sources of heterogeneity can be measured and included. Attempts have been made to expand the model to include a disturbance term representing the unobserved sources of heterogeneity. Heckman and Singer (1982) have considered an extended Weibull model which incorporates a random disturbance term. In principle, estimation of such a model should allow one to separate the effects of time from the unobserved heterogeneity. However, a recent U.S. study by Blau and Robins (1989) examining predictors of the transition rate in and out of employment found that including the error term did not alter the results of the estimated equations (see Appendix B for a further discussion of this issue).

where: h is equal to the baseline hazard rate, and
 ρ represents what is referred to as the "shape" parameter of the distribution.

A value of less than one for the shape parameter indicates a decreasing baseline hazard with time, a value in excess of one an increasing hazard and a value of one a constant hazard (which is equivalent to the standard exponential case). In the latter case, the discovery of a constant hazard means that differences in duration spells are determined solely by the model covariates. When the shape parameter ρ is one, the hazard rate becomes a constant equal to h (the baseline hazard rate). The value $h(t)$ specifies the instantaneous rate of failure at Time $T = t$ conditional upon survival to time t . The value 'X' represents a vector of explanatory covariates and 'B' a vector of estimated parameters.

The AFT model may be transformed into a linear additive model by taking the natural logarithm of survival time. Rewritten in this form we have:

$$Y = a + x\beta + \sigma W$$

where: Y refers to the elapsed time until the occurrence of an event,
 a refers to the intercept,
 β the unstandardized beta coefficients,
 x a vector of explanatory covariates,
 σ a scale parameter (the reciprocal of the shape parameter specified above) and
 W is a random disturbance term that is independent of x .

The estimated model parameters (B's) are unstandardized (dependent on the underlying variable metric). Therefore, comparisons between covariates are not possible in terms of the relative magnitude of effects on time. However, for hypothesis testing purposes, standard comparisons are possible. Each coefficient can be evaluated in terms of statistical significance by dividing the estimated value by its corresponding standard error. The result closely resembles a t test.

Like all event-history hazard models, the accelerated failure time model makes maximum use of all censored data. In the case of the first and second spell of employment, women who are censored are considered, on average, to be at risk of leaving the work force half way through the interval on the dependent variable. In the second analysis, censored women are at risk of leaving the first spell of non-employment half way through.

3.6 Method of Estimation

The accelerated failure time model uses the maximum likelihood technique in the estimation of its model parameters. This technique attempts to find the set of parameter estimates that maximize the probability of observing what is in fact observed. In other words, MLE searches for that set of coefficients (i.e. solutions) which makes the observed data most probable (maximally likely) given the model. The conventional likelihood function is expressed as a product of all the likelihoods or probabilities of all individuals taken together in the sample.

The use of maximum likelihood estimation in the context of event history analysis has several advantages over alternative methods of estimation such as ordinary least squares. First, MLE is no more difficult in terms of computational ease than other methods. Secondly, MLE takes into account right censored observations in the estimation of its parameters. Thirdly, MLE is known to have excellent properties in large samples including an unbiased estimator with low variance and a normal distribution.³²

³²Some controversy exists surrounding the question of the quality of the properties of MLE estimates used in event-history models based on small sample sizes. There is some concern that small sample sizes lead to estimators with a slight upward bias and a non-normal distribution. However, Tuma and Hannan (1979) investigated this issue using Monte Carlo experiments that simulated the effect of varying sample sizes each based on one hundred independent draws, on the mean and variance of the MLE estimator. Their findings revealed that in small samples of 25 and 50, there was little upward bias in the estimator even at extreme levels of censoring (i.e. 80 percent or greater). The variance of the estimator was also at an acceptable level with the exception of levels of censoring in excess of fifty percent.

Normally, the likelihood function (L) itself is not reported in modelling hazards rates. Instead, a related function, called the likelihood statistic is given mainly because it is suitable for comparing the relative fit of different models. The functional form of this statistic may be written as follows:

$$Z = -2 \ln (L)$$

The negative sign in this formula implies that the set of parameters which maximizes the likelihood function minimizes the value of the likelihood statistic.

3.7 Dependent Variables

This thesis examines three separate processes of employment behaviour. In the initial analyses, women are followed over time from the date of entry into the first or second spells of employment called the starting event, until their date of leaving the spells, or the event of interest. Each woman in the sample has a starting date of entry thereby avoiding the problem of "left censoring". In a second analysis women who have left the labour force are followed over time from the date of entering the first spell of non-employment (the starting event) to their date of leaving the spell (the event of interest). Previous retrospective data sets containing female work histories have only identified the year in which women left or returned to the work force, and therefore, have been forced to rely on less precise discrete time data. In the CFS both the year and month of dates of employment exits and re-entries are measured. Consequently, it is

possible to know the more precise dates at which women left work and subsequently returned.

In terms of leaving spells of employment, women experiencing a work exit (whether it be the first or second) prior to being observed at the survey date define what is termed the "closed work interval". This interval is constructed by subtracting the exact date of starting work from the exact date of stopping. The resulting difference is given in months. Those not experiencing the event of interest prior to observation at the survey date are treated as "right censored" and in event-history analysis are said to constitute the "open work interval". The process of constructing this interval involves subtracting the exact date of starting work from the exact date of the survey. The Canadian Fertility Survey conducted interviews over a three-month period from April to June of 1984. A separate "month of interview" variable is, therefore, included in the data set.

For women leaving non-employment (i.e. women returning to work) the closed and open intervals are constructed following the same procedures described earlier for women leaving the first and second spells of employment. In the case of the closed interval, the exact date of leaving is subtracted from the exact date of return. For the open interval, comprised of individuals not having returned to work by the survey date (i.e. censored cases), the exact date of stopping work is subtracted from the survey time.³³

³³A small percentage of respondents did not report the month of exiting and returning to employment. In order to preserve the sample size, these individuals were assigned to the month of June (the mid year month).

3.8 Coding and Construction of Independent Variables

Past research on working women has often relied on the use of classificatory schemes to provide some sensible framework within which to model predictors of female work behaviour (Dowdall, 1974; Gordon and Kammeyer, 1980). For example, Dowdall (1974) distinguishes between attitudinal and structural determinants of employment. A more typical approach has been to classify determinants based on whether they facilitate or inhibit entry into the work force (Gordon and Kammeyer, 1980). Such schemes are advantageous mainly because they "put order into an otherwise chaotic situation by distinguishing different types of factors that influence the decision of women to work" (Gordon and Kammeyer, 1980: 328). In the present multivariate analysis on the timing of female work behaviour over the first and second spells of employment and the first spell of non-employment, the determinants of interest are measured as both continuous and categorical and are classified into three major groups:³⁴

1) determinants measuring a woman's taste or preference for paid market work. In the analyses on rates of leaving the first and second spells of employment, proxy variables include education at first work, and the timing of the birth of the first child in relation to the starting date of first work.

³⁴Whenever possible, covariates were treated as continuous. Collapsing covariates into broad groupings is disadvantageous for a number of reasons. Firstly, categorization entails some loss in efficiency of the maximum likelihood estimator (Morgan and Elashoff, 1986) leading to less precise parameter estimates. It is possible that within a given category, substantial within class heterogeneity exists resulting in a hazard rate that varies widely. One consequence of this problem is that the effect of a given covariate on the rate of leaving the first spell of employment may be underestimated (Donohue, 1988).

2) determinants measuring economic need. In the analysis on rates of leaving the first and second spells of employment, proxies here include husband's income prior to leaving the spell and husband's past employment status during the spell. In the analysis of rates of leaving the first spell of non-employment (i.e. women returning to work) proxies include husband's income prior to leaving and husband's past employment status during the spell.

3) determinants of demographic change. In the analyses on rates of leaving the first and second spells of employment, the selected proxy variables include number of children under age 6 and number of children age 6 and over just prior to leaving the spell. Additional variables include marital status over the spell, age at the time of leaving the spell and geographic mobility prior to leaving the spell. In the analysis on rates of leaving the first spell of non-employment, proxies include the number of children less than age six and number of children age six and over just prior to leaving. Other variables include age of respondent at the time of leaving the first spell of non-employment, marital status over the spell and geographic mobility prior to leaving the first spell of non-employment (or the survey date for those who did not leave).

The remaining variables are introduced as controls. In the analyses on rates of leaving the first and second spells of employment they include: salary at first work, work status at first work, occupation at first work, ethnicity, religion, church attendance, number of siblings, childhood place of residence, country of birth, region of residence, level of unemployment in the economy (measured at the beginning and end of the spell) and a period measure indicating the year in which respondents entered the spell. Two

additional variables for the second analysis include two lagged duration dependent measures: the length of time (in years) spent in the first spell of employment and the length of time (also in years) in the first spell of non-employment.

In the analysis on rates of leaving the first spell of non-employment controls include the following: salary at first work, occupation at first work, work status at first work, ethnicity, religion, church attendance, number of siblings, childhood place of residence, country of birth, region of residence, level of unemployment in the economy (measured at the beginning and end of the first spell of non-employment), a lagged duration variable representing the number of years spent in the first spell of employment and finally a period measure indicating the year in which a respondent left the first spell.

3.8.1 Measures of Tastes and Preferences

Timing of the First Birth

This variable represents the time women had their first birth in relation to the time they started working for the first time and is included in both analyses of transitions out of the first and second spells of employment and the analysis of transitions out of the first spell of non-employment. Timing of the first birth is defined in terms of three categories: women who had a first birth before they first started working, women who had their first birth after they first started working and childless women.

Education at First Work

In the CFS, education at first work is defined as the number of years of formal education a woman completed by the time she first started working on a regular basis.³⁵

3.8.2 Measures of Economic Need

Husband's Income

In the Canadian Fertility Survey (1984) husband's income is measured in dollars and refers to the amount of gross annual income before taxes and deductions. Unfortunately, income is measured only at the time of the survey. Therefore, in order to accurately gauge the effect of this variable on the rate at which women leave employment or non-employment spells, some adjustment is necessary that reflects changes in the cost of living or inflationary trends between the time women report

³⁵Unfortunately, the CFS does not include an additional measure of education at the time women left their first spell of employment. Such a measure would be more useful as a predictor of the rate of exit and return to the second spell of employment.

In order to determine the number of women who improved their educational attainment between the time of first starting work and the time of the survey, education at first work was cross-classified with education at the survey date. Both variables were collapsed into three categories: less than grade 12, grades 12 and 13 and over grade 13. Out of 2901 women in the sample, 391 (13.4 percent) improved their education between the time of first work and the survey date. However, out of these 391, CFS results show that only 131 reported that they left the labour force for the first or the second time to continue their educational studies. Many of those who improved their education, then did so between the time of leaving the labour force the second time and the survey date. Therefore, the restriction in the data of measuring education at a fixed point in time (i.e. the time of first work) does not pose a serious problem in terms of the estimated effect of this variable on the timing of the leaving or returning to the second spell of employment.

leaving a spell and the survey date. A second adjustment is needed in order to correct for age effects over time. Appendix C describes in detail these adjustment procedures.

Roughly ten percent of respondents did not report a valid value on husband's income. These were women who either refused or who were unable to provide a figure. In order to deal with this problem, other variables in the data set related to income, and for which complete information was available, were used to impute values. The problem of missing values and the imputation methods used to correct husband's income is found in Appendix D.

Husband's Employment

The CFS provides information on the husband's employment status during the first three years of the respondent's marital or common-law union. A question asks whether there was any time during the first three years of the respondent's marriage or union in which her husband was unemployed. This makes it possible to ascertain the husband/partner's employment status during the first or second spell of employment. For example, if a respondent's year of first (or second) marriage or common-law union occurred between three years prior to the year in which she first entered the labour force and the year in which she first left (or in the case of censoring, the survey date) and she was continuously married or living in common-law during that time and she reported at the survey date that her husband or partner was unemployed at least once during the first three years of their relationship, she was assigned to the category of unemployed.

Women who did not report having a husband/partner at the survey date were assigned to a separate "missing" category.

In terms of leaving the first spell of non-employment, if a respondent's year of first (or second) marriage or common-law union occurred between three years prior to the year in which she left the first spell of employment and the year in which she left the first spell of non-employment (or in the case of censoring, the survey date) and she was continuously married or living in common-law during that time and she reported at the survey date that her husband or partner was unemployed at least once during the first three years of their relationship, she was assigned to the category of unemployed. Women who did not have a husband/partner at the survey date were assigned to a separate "missing" category.

3.8.3 Demographic Measures

Number of Children

In the first analysis on rates of transition out of the first spell of employment, number of children under the age of six and number of children over the age of six are measured ten months prior to the exact date of leaving. In the analyses examining rates of leaving the first and second spells of employment, any birth occurring in the ten month interval prior to the exact date of leaving was excluded from the multivariate analysis. This was deemed necessary in order to avoid confounding the effect of live

births on employment behaviour with pregnancies (i.e. conceptions) over the same period.

The occurrence of a birth in close proximity to the starting date or stopping date may influence a woman's propensity to leave work or possibly her propensity to return. For this reason, and in order to retain a sufficient number of cases of women having births at some point over the first spell of employment (or the first spell of non-employment), births were counted which occurred between 36 months prior to the date of entering the first and second spells of employment and the date of leaving those spells. In the analysis on rates of leaving the first spell of non-employment, recent births were counted as those which occurred between 36 months prior to the date of leaving the first spell of employment and the date of leaving the first spell of non-employment.

Valid cases on this variable include children born within the interval spanning the period 3 years prior to the starting date of work and ten months prior to the stopping date. In the second analysis on rates of leaving the first spell of non-employment, the same variables are measured at the time of leaving the spell. Valid cases include children born in the interval spanning the period 3 years prior to the exact date of leaving the labour force and the exact date of return.³⁶

³⁶The multivariate chapter of this dissertation does not attempt to separate out the causal influence between fertility and work. One reason is that while the Canadian Fertility Survey (1984) contains questions relating to reasons for leaving employment for up to two exits, it does not list a completely separate category for women leaving work for reasons having to do with pregnancy alone. Unfortunately, reasons relating to pregnancy are combined with a few other family related reasons having to do with the health, education and care (i.e. baby-sitting) of children already born. Although it is very likely that these other family related reasons only represent a small fraction of women in this category, it nevertheless introduces some measure of uncertainty in the

Marital Status

In each of the separate analyses, respondent's marital status is defined as having two categories: the continuously married or those in a continuous common-law union and women experiencing a marital dissolution (i.e. separation, divorce or death of spouse). With respect to the analyses focusing on rates of transition out of the first and second spells of employment, women falling under the first category of "continuously married or in a common-law union" are defined as those who married or entered a common-law union for the first time at some point prior to leaving work (or the survey date for those who did not leave) and remained in that marriage or union over the duration of the spell.

Women belonging to the second category labelled "marital dissolution" include those who experienced a divorce, separation, remarriage or death of spouse or partner

interpretation of the results. Secondly, the Canadian Fertility Survey (1984) defines an employment exit as lasting at least a year or more. The rationale behind this choice of definition is to separate out women who demonstrate a strong attachment to the labour force (i.e. those who work on a more or less continuous basis) from women who are less attached (i.e. those who work intermittently or on a discontinuous basis). Unfortunately, this definition of an employment exit does have a disadvantage. Obviously, many women, especially those belonging to younger cohorts, may become pregnant and leave the labour force and then subsequently return within a year's time. As a result, their short absence from the work force is missed. In the CFS, 402 women or 29 percent of a total of 1367 ever-worked, ever-married women defined as continuous workers (i.e. they had not left work for a period of over a year prior to their observation at the survey date) reported that they had stopped work often for less than a year's time. Some of these women no doubt left work because of pregnancy. Any attempt, therefore, to explore the possible interdependence between pregnancies or births and employment exits must take full account of this fact given the exclusion of employment exits of less than a year's duration for reasons having to do with pregnancy.

at some point prior to leaving the first or second spell of employment (or the survey date for those who did not leave).³⁷

In the analysis on transition rates out of the first spell of non-employment, marital status is defined in terms of the same two categories. Thus, women belonging under the heading "continuously married or in a common-law union" consist of those who first married or entered a common-law union at some point prior to the date of leaving the first spell of non-employment (or the survey date for those who did not leave) and who remained in that marriage or union over the duration of the spell. Women in the second category labelled "marital dissolution" consist of women who experienced a separation, divorce, remarriage or the death of a spouse or partner at some point prior to the time they left the first spell of non-employment (or the survey date for those who did not leave).

Age at Stopping First Work

Respondent's age at the time of leaving the first and second spells of employment was derived by subtracting her date of birth (in months) from her date of leaving (in months). In order to convert the resulting monthly units into years, this difference was divided by 12.

³⁷Due to limitations in the size of the study sample for each of the separate birth cohorts, it was not possible to construct a separate category on the marital status variable representing women who remarried at some point prior to leaving the first spell of employment or the survey date or women who remarried prior to leaving the first spell of non-employment or the survey date.

Age at Return to Work

Respondent's age at the time of leaving the first spell of non-employment (i.e. age at return to work) was derived by subtracting her date of birth (in months) from her date of return to work (in months). In order to convert the resulting monthly units into years, this difference was divided by 12.

Geographic Mobility

The CFS does not include a measure of the respondent's mobility or migration patterns around the time of the first or second spell of employment. However, information is given on whether or not respondents reported moving from their current municipal residence, and then, for those who did or did not report a move, a separate variable on the length of time they spent in their current residence. These separate variables make it possible to determine the year in which a respondent last moved across municipal boundaries (i.e. by subtracting the reported length of time in the current residence for those who reported a move, from the survey year) and, thus, more importantly, when the move occurred in relation to the year the respondent entered or left various spells of employment and non-employment. In the analyses examining rates of leaving employment, a new variable is derived by positioning the last move across municipal boundaries in relation to the year of entering the given spell. Two categories are distinguished: the last move occurred after starting work and before stopping (or for those who did not stop, the survey date) and did not move. A move which occurred before entering a spell was presumed to have the same effect of not having moved at all,

and therefore respondents belonging to this group were combined with the category of "no move".

In the second analysis examining rates of leaving the first spell of non-employment, when the respondent last moved is measured in relation to the time she left the first spell of employment. Thus, three categories are distinguished: those who last moved prior to leaving the first spell of employment, those who last moved after leaving the first spell of employment and before leaving the first spell of non-employment (or for those who did not leave, the survey date) and those who did not move. Once again, women who last moved before they became non-employed were combined with those who had never moved.

3.8.4 Control Variables

Salary at First Work

In the Canadian Fertility Survey respondent's salary at the time of first starting work on a regular basis is given separately for those women who report interrupting their first spell of employment for at least a year and for those who report working on a continuous basis at the time of observation at the survey date. Both salary variables are measured in dollars and refer to gross income before taxes for the particular year in which each respondent started working on a regular basis.³⁸

³⁸The CFS contains information on whether or not a respondent's salary in her last job was the same as the salary in her first job for those both currently working and not currently working at the survey date. For both groups, (i.e. currently working and not

Between seven and ten percent of all respondents did not provide a valid wage value. In order to correct for this problem other information in the data set was used to impute wage values. These procedures are the same as those used to correct husband's income (see Appendix D for a detailed description).

Period Measures

These measures are self-explanatory. In the analyses on leaving employment, the year of entering both spells is specified. In the analysis on the transition out of the first spell of non-employment, the year of entering the spell is specified.

Work Status

Work status refers to whether or not a respondent started working regularly for the first time on a full or part-time basis. The CFS collects information on work status separately for respondents interrupting their first spell of employment for at least a year and for those not interrupting for a year or more. For both groups of women,

currently working) it then provides the salary of her last job. Unfortunately, it does not contain information on the respondent's salary at the time of leaving her first or second job. The omission of this information does not allow one to derive a measure of a respondent's earning profile over the spell of employment. For example, if we knew the respondent's starting wage and stopping wage for the first employment spell, we would have some indication of her potential for advancing further in her career. In other words, it would allow us to derive a measure of "wage progression". This measure might be used as a covariate in the second analysis focusing on the rate at which women leave the first spell of non-employment. Women who do not experience a significant increase in their wages over the period (i.e. those with a low wage progression) would be expected to demonstrate a lower propensity to return to work compared to those who do. Given the limitations in the data, the same salary variable is used in both sets of analyses.

part-time work is defined as working less than 35 hours a week. Full-time work, on the other hand, is defined as working 35 hours or more a week.

Ethnicity

Over 300 respondents of the selected study subsample of 2901 ever-in union, ever-worked women either refused to divulge or did not know their ethnic affiliation. In order to reduce this number, ethnicity was cross-classified with language first learned and still understood. Thus, for example, those women who reported "French" as their language first learned but who did not report their ethnicity were assigned to the French ethnic category. After repeating this process for all categories of language first learned (with the exception of English), the resulting number of missing cases on the ethnicity variable was reduced by approximately 200, leaving the remaining number of missing cases at just over 100. Given the near complete information on language first learned, respondents who failed to report both their ethnic affiliation and their language first learned and still understood ($n=100$) were assigned to the last category of "English".

Following these procedures, ethnicity was collapsed into three categories: English, French, and all others.³⁹ The last category "other" includes Scandinavians,

³⁹The division of the ethnic variable into just three categories is necessary given the limitations in sample size. Unfortunately, any differences in female labour force participation rates that are likely to exist between individual ethnic groups or ethnic groups belonging to a particular region (i.e. southern Europe) will not show up in the data. Thus, the ethnic variable used in this analysis can only be treated as a rough approximation of the cultural differences among ethnic groups in Canada.

Kalbach (1987) is critical of the conventional census definition of ethnicity on the grounds that it does not adequately capture the full extent of an individual's ethnic identity or "ethnic connectedness". He explains that ethnicity should be treated as a

Germans, the Dutch, the Slavic peoples of Eastern Europe and European Russia, Asians, Africans, Latin Americans (i.e. including those from central and south America) and those from southern Europe (i.e. including those from Spain, Portugal, Greece, Italy and Turkey).

Religion

Respondent's religion includes four categories: Catholics, Protestants, all other religions and those with no religion.⁴⁰ The first category of "Catholics" includes Roman and Ukrainain Catholics. The second category of "Protestants" includes Protestants, members of the United Church, Anglicans, Presbyterians, Lutherans and Baptists. Due to limitations in sample size, it was not possible to include a separate

multidimensional construct based on a composite of several ethnic related items including mother tongue, language first spoken in the home and country of origin. Evidence is presented which suggests that the use of this more refined construct achieves greater success in terms of it's level of correlation with socioeconomic indicators.

⁴⁰The classification of religion adopted here is necessary due to limitations in the size of the study sample. However, the selection of broad categories risks reducing the effect of religion as a discriminating factor in women's labour force behaviour. According to some authors, there may be greater variation in socioeconomic attainment within the Protestant category itself than between Protestants and Catholics (Morgan and Scanzoni, 1987; Jarvis, 1990). Another point is that there are a number of contemporary religious perspectives that are much more resistant to women entering the work force than some of the older and more established denominations (Morgan and Scanzoni, 1987).

One advantage of the present classification is the inclusion of a separate category of no religion. Increased secularization has meant that more and more women and men are reporting no religious affiliation. Jarvis (1990) refers to a Canadian study by Heaton (1986) which showed persons who reported themselves as having no religion as ranking high along with Jews on three separate indicators of socioeconomic status--education, occupation and income.

category for Jews. The n size for this category was only 39. Jews were therefore included in the residual category of "other religions".

Church Attendance

In the CFS, attendance of religious services is measured in terms of frequency and is coded under five categories: every week, every month, a few times a year, rarely and never.⁴¹

Number of Siblings

In the CFS a question is included that asks respondents to report the number of natural children born to their mother (including themselves).

Place of Birth

In the CFS information is provided on the country of birth of the respondent. For the purposes of the present analysis, place of birth is dichotomized into native versus foreign born.

⁴¹In the CFS church attendance is only measured at the survey date and therefore may not accurately reflect past attendance levels. Among older cohorts especially, there is likely to be considerable change in frequency of attendance the greater the period elapsed between the year in which they first started working and the survey date. This time-dependence problem is unavoidable given the absence of appropriate data.

Childhood Place of Residence

The CFS contains information on the respondent's childhood place of residence up to the age of twelve. Three categories are listed: those from a rural area, small town or big city. For the purposes of the present analysis, rural and small town are collapsed under one heading of "rural" background. The resulting variable is a dichotomy indicating a rural versus an urban background.

Level of Unemployment

One of the major drawbacks of most micro-level labour force data is the lack of suitable proxies for macroeconomic conditions in the economy. What economists call "demand side" variables such as the unemployment rate may have a substantial impact on the propensity at which women enter and leave spells of employment.

The present analysis includes the national unemployment rate as a measure of the general state of the economy. The male unemployment rate is chosen and is measured at four different points in the work histories of the sample respondents: the beginning and end of the first and second spells of employment and the beginning and end of the first spell of non-employment (see Appendix E for a listing of the national rates by year). To illustrate, if a woman reported that she entered the first spell of employment in 1960, she was assigned the male unemployment rate for that year.⁴²

⁴²Admittedly, this is a fairly crude measure of the state of the economy. It would be more desirable to obtain regional unemployment rates. Since the CFS includes a variable on the respondent's region of residence, it would be possible, for example, to

The unemployment rate at the end of each employment or non-employment spell was derived in a somewhat different manner. For uncensored cases (i.e. women experiencing the event of interest), rates were assigned to the year in which a respondent reported experiencing the event. For censored cases (i.e. women not experiencing the event of interest by the time of the survey), unemployment rates were assigned to the midpoint year of the interval between the beginning of the spell and the survey date.

Region of Employment

In the CFS respondent's region of residence contains five categories: British Columbia, the Prairies, Ontario, Quebec and the Maritimes. Unfortunately, region of residence is only measured at the survey date, and therefore, there is no way of knowing where a woman was residing around the time of her first or second spell of employment or first spell of non-employment. Fourteen percent of the initial study sample (n=2901) indicated that their current province of residence was different from their province of birth. Despite this drawback, region of residence was retained in the analyses as a broad indicator of regional differences in the economy.

use this variable to assign an unemployment rate for a woman residing in a particular region and beginning work in a particular year. Unfortunately, male unemployment rates by region from Statistics Canada are only available from 1966 onward and only for some provinces such as Ontario and Quebec. Rates by region for most of the Maritime provinces do not begin until 1975. Another drawback with using the adopted measure is that it is based on unemployment rates for all males age 15 and over.

Occupation at First Work

The Canadian Fertility Survey collects information on the type of work of a respondent's first job. This information is collected separately for continuous and discontinuous workers.⁴³ Both occupation variables are coded based on the 1982 Canadian Classification and Dictionary of Occupations published by Employment and Immigration Canada. In terms of the present analysis, these occupation variables are collapsed into two categories. The first category includes all women belonging to professional occupations at the time they first started working. The secondary category includes all women belonging to non-professional categories at the time of first work. Women falling in the first professional category include those belonging to the following sub-categories specified under the CCDO dictionary: managerial, administrative and related occupations, occupations in natural sciences, engineering mathematics, occupations in social sciences and related fields, occupations in religion, teaching and related occupations, occupations in medicine and health, artistic, literary, performing arts and related occupations and occupations in sport and recreation. All other occupations listed in the CCDO are placed under the secondary category of "non-professional".

⁴³The CFS does not collect information on the occupation of the respondent at the time she left her first spell of employment. Given the current definition of an employment exit as lasting at least a year in duration, many respondents may have left the first spell of employment to change occupations upon which they returned within a year's time. Given this limitation in the data, occupation at the time of first work is entered as a covariate into both sets of analyses.

Job Duration in the First Spell of Employment

Job duration or the length of time a respondent spent in the first spell of employment was derived by subtracting the exact date of starting work for the first time from the exact date of first stopping work. The resulting difference (in months) is then divided by 12 to arrive at a measure in years.

Duration in the First Spell of Non-Employment

Duration is measured in terms of the number of years a respondent spent not working in the first spell of non-employment. It is derived by subtracting the exact date of leaving the first spell of employment from the exact date of leaving the first spell of non-employment. The resulting difference (in months) is divided by 12 to arrive at a measure in years.

CHAPTER FOUR

Data Quality

4.1 Introduction

This chapter assesses the quality of the female work history data contained in the Canadian Fertility Survey. Following a brief review of the literature describing various sources of error associated with retrospective data, the CFS data is subjected to a number of tests to determine indirectly the extent to which problems may exist.

4.2 Review of the Literature

One of the greatest disadvantages of using retrospective data in the analysis of event-histories is the problem of respondent error in recalling the exact dates of specific past life events. Older respondents especially are prone to forget events particularly if they occur early in their lives. For this group, error may be compounded if there is interest in knowing the sequence of multiple events over a lengthy time period, for example, the sequence of transitions in and out of employment since first starting work. Secondly, evidence suggests that respondents are likely to report distant events in the past as happening much more recently than is actually the case, a phenomenon known as "telescoping" (Singer and Willett, 1991). Thirdly, with increasing age, respondents are likely to confuse dates of past events. For example, in the analysis of female work history data, older women may possibly report the date of their first return to the labour

force (after a lengthy period of time in the non-employed state) as the date of first starting work (Robinson, 1986). Finally, respondents of every age tend to round dates indicating the starting time of an event or ending time to the nearest zero or five (Singer and Willet, 1991). This practice leads to a "heaping" of individuals on dates ending in these numbers.

Each of these types of errors creates a different kind of bias. Telescoping generally leads to overreporting of events when the reference period is in the recent past. Complete memory failure leads to underreporting. Confusing the dates of two similar events in a sequence may lead to both. In the above example, the tendency of women to report the date of first return to the labour force as their date of first entry leads to a upward bias in the first event (first entry) and a downward bias in the second (first re-entry). The problem of rounding or heaping of events can lead to either over or underreporting of events in certain years.

There have been very few attempts in the literature to quantify the level of underreporting in retrospective accounts of past events, and more importantly, to determine whether such underreporting (or over-reporting) varies systematically with various respondent background characteristics. The occurrence of the latter problem is of a more serious nature since parameter estimates may become biased.

One exception, a study by Peters (1988), compared U.S. lifecycle data from a retrospective marital history with those derived for the same individuals from panel information, utilizing data from the Young Women's Cohort of the National Longitudinal Survey of Work Experience initiated in 1968. The author found that when a marital

event was reported from both sources (i.e. retrospective vs. prospective) there was substantial agreement. Furthermore, while there was a noticeable tendency to forget the exact dates of marital events, the majority of such errors were considered only "marginal" in severity. More importantly, while such factors as respondent's education, race and the time elapsed between the event and the survey date could predict marginal errors in recall, they could not predict more extreme errors. This finding was interpreted to mean that extreme errors probably occur more frequently on a random basis.

Compared to marital or birth histories, work history data is probably more prone to errors in recall and misreporting of events. One reason is that in most societies births and marriages represent the main rites of passage at different stages over the life cycle, and thus, compared to work-related events, are more likely to be memorable events for most people.

A second important consideration is that most individuals attach greater sentimental or emotional significance to the birth of a child or their first marriage that is not usually afforded to a first job. Reports of when the latter occurred are thus more likely to be subject to error.

Thirdly, compared to work-related events, other life history events such as child births are becoming less frequent as women continue to curtail their fertility. For example, a woman having seven children is far more likely to make an error in recalling the exact date of a birth or possibly misreporting the date of her first born as the date of her second or third born than a woman who just has three. On the other hand, female

work patterns have become more complex over the past two decades with women exiting and re-entering the work force with greater frequency. The larger the number of employment spells, the greater the likelihood of error.

Fourthly, work-related events for many women also occur very early in their lives even prior to first marriage or the birth of their first child. This fact no doubt serves to exacerbate the problem of error in accurately recalling these events especially among the older age groups. Finally, it is worth noting that the ability to accurately recall the date of a work-related event at all may depend to a large degree on how a work interruption or the resumption of work is defined. It seems reasonable to assume that interruptions lasting only a few months time (particularly those not related to marriage, divorce or the birth of a child) are the type respondents are most likely to forget.

4.3 Assessing the Quality of the CFS Work History Data

The Canadian Fertility Survey conducted in 1984 collected retrospective work history data on women between the ages of 18 and 49. Consequently, it is not likely that many women would make serious errors in forgetting when work-related events occurred. The earliest reported age of first starting work in the CFS was 12. For a woman age 49 at the time of the survey, this would make the maximum possible time of recalling an event to be 37 years. The CFS also defines a work interruption as lasting for a period of at least a year. This definition serves to minimize problems in recall associated with shorter interruptions. However, despite this advantage of a narrow age range and the somewhat conservative definition of a work interruption, recall errors may

still exist, and therefore, it is important to arrive at some conclusion regarding the seriousness of the problem.

Unless one has two different research designs (i.e. a retrospective vs. prospective design) from which to compare the quality of work history data, there are no full-proof methods available to establish the precise accuracy of respondents' reports of the dates of their past work-related events. There are, however, many indirect methods that provide some indication of the degree to which recall error or misreporting of events occurs.

One way to get an idea of the extent to which older women have forgotten early work interruptions is to find out the percentage having reported their first birth between the time they first started working and the time they reported having their first work interruption. Older women especially are likely to leave the labour force for a year or more as a direct response to childbearing than younger women. One would not expect to find, therefore, too many older women to have continued working after the birth of a first child and then to have left the labour force.

Results in Table 1 from the CFS show that some misreporting of the date of first leaving work may be occurring. For the oldest age group (45-49), 51 women out of a total of 355 (14.3 percent) (who interrupted their work at least once) reported having their first birth between the time they started work and their first work interruption. This figure seems quite high given that 12.1 percent of the women in the age group 40 to 44 (women who have also largely completed their childbearing) reported having a birth in this interval. Analyzing data from the Family History Survey (1984), Robinson (1986)

also found evidence of some misreporting of the first work interruption. She found that for women age 45 and over, 9 percent had reported a first birth as occurring between the time they first started work and the time they reported first stopping.

Women who marry relatively late in life and who report not having worked prior to marrying may also misreport the date of first starting work. Based on a crosstabular analysis of age at first marriage by work status surrounding the date of first marriage, CFS results in Table 2 show that ten percent of women who married at age 25 to 29 did not work before marriage and of those who married at age 30 or more, 6.6 percent did not work before marriage. These figures seem about right, and thus, do not suggest any serious problems in misreporting the date of first starting work. However, Robinson's (1986) figures from the FHS do indicate the presence of some misreporting. Results showed that 14 percent of the women who married at age 25 to 29 did not work before marriage and at age 30 or older, ten percent did not work.

Another means by which to gauge the level of misreporting or recall with respect to the exact date of first starting work is to crosstabulate the decade women reportedly first started working by their age at the time of the survey. Results from Table 3 show that of 506 women aged 45 to 49 in 1984, 92 (18.3 percent) reported that they first started work in the 1970s or later. This implies an age at first work of over 30 for these women. Although we should expect a fairly larger number of older women to have started working for the first time fairly late in life (given that most completed their childbearing first), 18 percent may be too high, an indication that some women may have forgotten an early first work start. Figures from the FHS show that for women age

45 and over in 1984, only 9 percent reported that they first started work in the 1970s or later (Robinson, 1986).

Older women who report having started work for the first time ten to fourteen or fifteen or more years after they first marry may also be misreporting the first work date. Many may simply have forgotten that they worked for the first time around the time they first married and, as a result, report their date of re-entering the labour force as the first work date. According to Robinson (1986), "if women are misreporting age at re-entry to the labour force after many years out as the year they first started working, then there would be a gap of many years between first marriage and the reported year of first working" (Robinson, 1986:17). Using CFS data (see Table 4), a cross-tabulation of "years between first marriage and first work" by "age at the time of the survey" shows that 40 percent of the women in the age group 45 to 49 in 1984 began their first work 15 or more years after first marriage. This figure may be too high when one considers that this implies starting work for the first time at a late age for a relatively high proportion of the older women. On the other hand, many of these women would have begun their childbearing in the 1950s and early 1960s a period when most women completed their families before entering the labour market for the first time.

Finally, unlike other types of retrospective data, work history data contains information on multiple events, or in other words, several sequential dates of leaving and returning to spells of employment. The presence of multiple spells and the retrospective nature of the survey heightens the risk that a respondent will inadvertently report that she left the work force for the first time prior to her reported date of first entry or perhaps

report her date of first returning to the work force prior to her reported date of first leaving. A large number of multiple spells also increases the risk of error in recording the sequencing of events on the part of those individuals conducting the survey. These sequential errors in recalling dates and possibly recording dates may not be caught or even checked by those implementing or administering the survey and thus warrant a close examination of the data.

In order to check for accuracy in the sequence of reported dates of entering and leaving spells of employment, each case in the Canadian Fertility Survey was listed along with the respondent's reported date of entering the work force for the first time, the date of leaving the first time, the date of first return and finally the date of leaving the second time. Results showed that very few errors were made in reporting (or recording) the sequence of work related events. The lack of error on the part of the respondent can probably be attributed to the telephone method of interview used in the Canadian Fertility Survey. Unlike a mail survey, an individual conducting a survey over the telephone is better able to detect respondent error in the sequencing of past events and in doing so repeat the question in order to obtain the correct answer.

TABLE 1

Timing of the First Birth in Relation to the Starting and Stopping Date of First Work for Ever-In Union, Ever-Worked, Women by Age, Canada, 1984

Timing of First Birth	Age					
	18-24	25-29	30-34	35-39	40-44	45-49
Childless	21.7 (21)	9.6 (32)	6.3 (28)	7.9 (40)	7.3 (29)	4.8 (17)
Before First Work	10.0 (10)	11.3 (38)	9.9 (44)	8.9 (45)	10.0 (40)	17.0 (60)
Between First Work and First Work Interruption	2.4 (2)	8.6 (29)	18.2 (80)	15.9 (80)	12.1 (48)	14.3 (51)
Around the Same Time as First Interruption	45.1 (43)	47.8 (160)	48.6 (215)	47.6 (238)	48.6 (191)	45.9 (163)
After First Work Interruption	20.8 (95)	22.7 (76)	17.0 (75)	19.7 (99)	22.0 (87)	17.9 (64)
Total (Percentage and N Size)	100.0 (171)	100.0 (336)	100.0 (441)	100.0 (501)	100.0 (394)	100.0 (355)

TABLE 2

**Timing of the First Marriage in Relation to the Starting Date of First Work,
for Ever-In Union, Ever-Worked Women by Age at First Marriage, Canada,
1984**

Timing of First Work	Age at First Marriage					
	< 18	18-19	20-22	23-24	25-29	30+
Work Before First Marriage	31.1 (85)	65.1 (515)	76.4 (1102)	85.4 (419)	89.3 (376)	93.2 (84)
Work After First Marriage	68.9 (189)	34.9 (276)	23.6 (240)	14.6 (72)	10.7 (43)	6.8 (6)
Total (Percent and N Size)	100.0 (274)	100.0 (792)	100.0 (1342)	100.0 (491)	100.0 (419)	100.0 (90)

TABLE 3						
Decade of First Starting Work for Ever-In Union, Ever-Worked, Women by Age, Canada, 1984						
Decade at First Work	Age					
	18-24	25-29	30-34	35-39	40-44	45-49
1950-59	-	-	-	1.4 (10)	34.7 (197)	67.9 (344)
1960-69	-	1.0 (7)	28.4 (212)	75.0 (553)	46.4 (263)	13.8 (70)
1970-79	55.8 (167)	88.9 (604)	66.0 (492)	19.1 (141)	16.3 (92)	14.1 (71)
1980-84	44.2 (132)	10.1 (69)	5.6 (42)	4.9 (33)	2.6 (15)	4.2 (21)
Total (Percentage and N Size)	100.0 (300)	100.0 (680)	100.0 (746)	100.0 (738)	100.0 (567)	100.0 (506)

TABLE 4

**Duration in Years Between First Marriage and First Work for Ever-In Union,
Ever-Worked Women by Age, Canada, 1984**

Duration Between First Marriage and First Work	Age					
	18-24	25-29	30-34	35-39	40-44	45-49
Less than Five Years	96.1 (54)	82.9 (113)	63.8 (113)	47.1 (84)	26.8 (44)	22.4 (37)
Five to Nine Years	3.9 (2)	15.8 (21)	28.1 (50)	24.7 (44)	18.9 (31)	15.5 (26)
Ten to Fourteen Years	-	1.4 (2)	8.0 (14)	22.2 (39)	30.6 (50)	21.4 (35)
Fifteen Years or More	-	-	-	6.0 (11)	23.7 (39)	40.7 (67)
Total (Percentage and N Size)	100.0 (56)	100.0 (136)	100.0 (177)	100.0 (177)	100.0 (165)	100.0 (165)

CHAPTER FIVE

Recent Trends in the Labour Force Behaviour of Ever-In Union Ever-Worked Women in Canada: Evidence from the Canadian Fertility Survey and the Canadian Family History Survey

5.1 Introduction

The present chapter examines possible changes in the level of work attachment among successive cohorts of ever-in union, ever-worked, Canadian women. Work attachment is operationalized in terms of the level of continuity or discontinuity in work behaviour. A brief background review of Canadian and American research is provided.

Trends in work attachment are explored using data from the Canadian Fertility Survey and the Canadian Family History Survey. Both surveys were conducted in 1984. Although the focus is on changing patterns of work behaviour for the twenty year period prior to 1984, patterns of work are also examined for earlier cohorts some of whom began working toward the end of the 1930s. It is felt that recent trends in work attachment cannot be properly understood in isolation from the experience of older generations. Whenever possible, comparisons in study results are made with results on trends in work attachment among Canadian women identified in previous work.

5.2 Review of the Literature

One of the most significant changes in female work behaviour in Canada over the past twenty years has been the steady upward climb in the labour force participation rates of married women, especially women with pre-school age children. In 1975

married women with husband present and with pre-school age children recorded a participation rate of 34 percent. By 1983, this figure had jumped to 51.5 percent, representing a 50 percent increase in nine years; the largest single increase in the labour force involvement of any group of women (Statistics Canada, *Women in Canada*, 1985). Recent data shows no sign of a slowdown with the rate climbing even further to 62 percent in 1986 (Statistics Canada, *The Nation*, 93-111, 1989). Unfortunately, the labour force participation rate is at best a crude measure of female work attachment. Rising rates only tell that greater proportions of women are working each year. Hidden are components of a woman's previous work history such as the length of time she spent working or not working. There is no way of knowing from an examination of rates alone which of these factors contributes the most to explaining the presence or absence of women in the labour force at any one time. Boyd (1985) hypothesizes that while higher participation rates in Canada appear to be obliquely capturing a tendency of younger cohorts of women not to leave the labour force at all, they may also be capturing an equally strong tendency for women to leave for shorter durations. Another way of saying this is that younger women may be demonstrating a stronger propensity to return to the labour force after leaving for short periods of time.

Few Canadian studies have presented empirical evidence of changes in the underlying components of work attachment across successive birth cohorts of Canadian women. Trends in attachment are usually inferred from changes in participation rates or from cross-sectional research on presence or absence in the labour force at one point in time. The reason has primarily to do with a lack of good data on the labour force

experiences of real cohorts of women. Retrospective surveys are needed which can capture a complete work history profile of women from a broad age range.

To shed some light on this problem, Denton et al. (1991) constructed a series of labour force retention rates by following female birth cohorts across three census years. Holding constant mortality and migration, net retention rates were calculated by taking the ratio of employment of women belonging to a given age group in a census year to the employment of those same women but in a younger age group five or ten years earlier⁴⁴ By plotting these rates on a graph, the authors discovered a decline in retention rates for the age group 25 to 29 in 1971 to those age 35 to 39 in 1981. Also noticeable was an increase in rates for women age 30 to 34 in 1971 to those age 40 to 44 in 1981. For the latter group, the upward trend was attributed to a return to work by women who completed their childbearing or to new labour force entrants. In the period between 1981 and 1986 a much different picture emerged. The shape of the curve across most five year cohorts remained flat until reaching the older age groups. Unlike the previous groups, these women were not responding to pressures pertaining to marriage or childbearing to leave the labour force for a significant period of time.

Using census data to establish trends in the components of work attachment is problematic. Some cohort members could leave the labour force in between census years and subsequently return without having been detected. In this instance, higher

⁴⁴For example, women age 40 to 44 in the 1986 census were in the age group 35 to 39 in the 1981 census. The two groups are not completely identical given that some women would have died or moved away during the five year interval.

participation rates from one census year to the next might be more a reflection of a propensity on the part of younger women to return to the labour force as opposed to a propensity to remain working after first entering. Secondly, there will be cohort members that are lost between census years as a result of death or migration so that one is no longer comparing the labour force experiences of the same group.

In the United States efforts to accurately gauge changes in the components underlying the labour force participation rate have met with similar difficulties. Most of the research that has been done is longitudinal in design and focuses on the work experiences of a single cohort followed prospectively over a five, ten or fifteen year period. Consequently, there is no way of knowing how successive generations of women might differ in terms of entering, leaving or re-entering the work force (Treiman, 1985).

As an alternative to having complete work histories from real birth cohorts, Smith (1982) made use of two increment-decrement female working life tables each pertaining to separate base years, 1970 and 1977 to determine the relative importance of forces responsible for the observed increase in the labour force participation rate. Like the conventional life table, increment-decrement tables provide a summary of the working experience of women from all age groups at a fixed point in time. The women, therefore, constitute a synthetic cohort. However, the increment-decrement tables are constructed from participation rates which are then used to estimate probabilities of movement into and out of the labour force for each age group in the base year and thus provide a more accurate picture of labour force turnover over the life cycle. Presenting estimates from both tables, Smith found a noticeable increase in female labour force

attachment over the period separating the two base years. The increase came from two countervailing sources. For most age groups, the number of entrants into the work force had slightly declined. The number of those exiting or leaving, however, showed a sharper decline and was concentrated among women below age 55.

The period life table, however, is not a perfect substitute for data which trace the work experiences of real cohorts of women. As indicated above, its construction is based on either labour force probabilities or participation rates at a single point in time so that the cohorts that are observed are artificial or "synthetic". In reality this means, for example, that women in the age group 40-44 are a completely different group from those age 35-39 (i.e. they were born in different time periods). In cohort analysis, both groups are the same (i.e. they were born in the same period) except that the passage of time has caused an aging effect. Thus, women age 35-39 in 1986 turn 40-44 five years later in 1991. The life table makes a rather risky assumption that the diverse labour force experiences of different age groups of women at one point in time can be compressed into a single group to reflect the experiences of a real cohort.

5.3 Present Findings on Trends in Work Attachment

In 1984 Statistics Canada supplemented its annual labour force survey with a national retrospective survey on the work and family histories of approximately 10,000 men and women; the Canadian Family History Survey. In the same year another retrospective national survey was completed, the Canadian Fertility Survey. Over 5,000 women were asked to provide detailed information on their past childbearing activities,

contraceptive practices, marital histories and work histories. The work history data from each of these surveys provide a unique opportunity to compare the differences in the level and pattern of continuity or discontinuity in work behaviour for separate birth cohorts. To a large degree, this ability overcomes many of the limitations associated with using period life tables to characterize changes in female work attachment. The detailed nature of the data also provides a picture of year to year changes in behaviour that would otherwise be hidden between census years.

The following discussion pertains to the findings from the CFS and the FHS surveys with respect to cohort differences in levels of work attachment. Birth cohort comparisons are made on several different measures or indicators of attachment including, the mean number of years spent in the first work interval and the first period of non-employment, total mean number of years out of the work force by children ever born, the number of years not working as a percentage of the total possible number of years worked by children ever born, cumulative proportions surviving to specific durations (in years) after starting or leaving work, mean number of work interruptions by decade of first interruption, mean duration of the first work interruption by decade of first interruption and the timing of the first marriage and first birth in relation to the starting date of first work.

Table 5 presents results on the labour force discontinuity of ever-married, ever-worked Canadian women by separate birth cohorts. Results from the CFS show that smaller proportions of recent cohorts of women have interrupted their work activity at least once in their lifetime. For example, 44.5 percent of those age 18 to 29 have

interrupted work at least once compared to 71.6 percent of those age 40 to 49. Smaller proportions of recent cohorts of women are also shown to interrupt their work activity more than once. Compared to almost 40 percent of women age 40 to 49 who interrupted their work more than once, 21 percent of women age 18 to 29 fell into this category.

On average, recent cohorts spend fewer years out of the labour force prior to re-entering. For example, women age 18 to 29 spent an average of 2.45 years out of the labour force compared to an average of 8.05 years for women age 40 to 49. Results from the Family History Survey are strikingly similar. Women in the age group 18 to 29 spent on average 2.40 years out of the labour force compared to 8.98 years for women age 40-49 and an average of 11.38 years for women age 60 to 65.

The finding that recent cohorts are less likely to interrupt their work activity and to spend on average fewer years out of the labour force does not necessarily mean that they are more attached to the labour force than women from earlier cohorts. Younger women have had much less time to become exposed to the "risk" of experiencing a work interruption. One way to adjust for differences in exposure time across birth cohorts is to express the total number of years women spend out of the work force as a percentage of the total potential number of years they can work (Boyd, 1985). The numerator in this measure includes the accumulated number of years not working for women with completed work interruptions only. The denominator, defined as the potential number of working years, is derived by simply subtracting the date of starting work for the first time from the survey date in 1984.

Adopting this measure, results from Table 5 show that women age 18 to 29 spent 29.5 percent of their potential working years out of the work force compared to a figure of 31.5 percent for women age 40 to 49. Similarly, FHS data shows that women age 18 to 29 spent 28 percent of their potential working years out of the labour force. In contrast, women age 40 to 49 spent 34 percent of their working years out of the work force. While the results for the first three cohorts suggest a slight trend toward greater attachment to work for younger women, the pattern is not so clear for women over age 49. Results from the FHS show that the oldest age group (i.e. those age 60 to 65) have spent the smallest percentage (27 percent) of their potential working years out of the labour force.

One possible reason for this apparent reversal in trends after age 49 is the presence of a strong period effect on work behaviour for early cohorts. Many women age 60 to 65 would have married and started working for the first time at the beginning of the Second World War. With the arrival of the war, the Canadian government considered married women a large untapped reserve supply of labour and strongly encouraged them to enter the work force particularly in the manufacturing industries which specialized in the production of war materials. The findings here parallel Smith and Ward's observation based on U.S. data of a "war bulge" for the 1910 and 1920 birth cohorts reflecting the labour market effects of the Second World War (Smith and Ward, 1985).

Another explanation for the reversal in the pattern after age 49 is the presence of a real cohort effect. Many women age 60 to 65 would have started bearing children

in the latter part of the Depression Era and the initial years of the Second World War when fertility levels had already fallen to near replacement levels. Smaller family sizes no doubt served to reduce the amount of time women spent out of the work force after first starting work on a regular basis. Cohort differences in fertility may also be used to explain the observed trends for women less than age 49. Women age 40 to 49 in 1984 began having their children at the height of the baby boom period during the late 1950s and early 1960s. Their large family sizes would have placed serious restrictions on the amount of time they could spend working. After 1965 women entered the "Baby Bust" period characterized by low levels of fertility similar to those experienced by women from the Depression Era.

Results in Tables 5, 7 and 8 examine the effect on work behaviour of cohort differences in completed family size. In Table 6, women who are childless, regardless of which cohort they belong to, spend on average fewer years out of the work force compared to women with one or more children. Both groups (childless women and mothers) experience a decline in the number of years not working. Neither of these findings are surprising. More interesting is the narrowing of the gap in mean years spent not working characteristic of the most recent birth cohort. For example, among women age 18 to 29, those with children spent just slightly less than a year more out of the labour force compared to childless women of the same age. In contrast, women age 40 to 49 with children spent on average almost 4 years more out of the labour force compared to childless women. These findings may be indicative of a weakened effect of childbearing on work attachment on the part of recent cohorts. However, the results

are still largely inconclusive since women from the earliest cohort (Baby Boom mothers) would have on average many more children than their more recent counterparts. Moreover, many women age 18-29 have not completed their family size.

Table 6 also shows that despite the presence of children, recent cohorts of women have spent proportionately fewer of their potential number of working years out of the work force. For example, CFS data shows that women age 40 to 49 spent 32 percent of their potential number of working years out of the work force compared to a figure of 30 percent for women age 18 to 29. The figures for the FHS are 35 and 28 percent respectively. Interestingly, childless women age 18 to 29 spent a much larger percentage of their potential working years out of the work force compared to women in the older age groups. This is probably due to the trend toward higher education among recent cohorts which has effectively postponed their entry into the work force.

Results in Table 7 show the mean number of years out of the labour force for ever-married, ever-worked women with at least one completed work interruption by birth cohort and children ever born. Consistent with the findings in Table 6, figures suggest a slight diminished effect of having children on work behaviour among the more recent birth cohorts. For example, if we compare women with one child and women with three children, results using CFS data show a difference of less than a year out of the work force for the youngest age group. This difference grows to almost two and one-half years for women age 30 to 39 and to almost three years for those age 40 to 49. Similar trends are observed in the FHS data. These findings tend to support the observed

reversal in labour force behaviour of recent cohorts of women of childbearing age made by Denton et al. (1991).

Results in Table 8 present fairly convincing evidence of increasing work attachment. Comparing the work patterns of the first three cohorts, results from both the CFS and FHS show that recent cohorts of women, at almost every level of completed parity, are spending proportionately fewer of their potential working years out of the labour force. Results for the earliest two cohorts (i.e. those age 50-59 and 60-65) show a reversed pattern toward fewer years out of the work force and for every level of completed parity. Once again, it is likely that women growing up in the 1920s and 1930s were already demonstrating a stronger attachment to the work as a result of more favourable demographic trends in the area of fertility and family formation.

Another method that may be used to demonstrate stronger work attachment among recent cohorts of women is to examine the timing of the birth of the first child in relation to the date of first work. Women, for example, who have a first birth between the time they start work and the survey date without leaving the work force for at least a year may be demonstrating a stronger attachment to work compared to women who have a first birth prior to the time they first start working. These women may be placing at least an equal or higher premium on work compared to family life for two reasons: because they choose to combine both and because they choose to begin working ahead of having children.

Tables 9 and 10 present CFS data on the timing of the birth of a first child separately for continuously worked and discontinuously worked women and for three

separate birth cohorts. In Table 9 results show that greater proportions of recent cohorts of women do in fact appear to be effectively combining work and family life. For example, 68.2 percent of the women age 18 to 24 at the time of the survey had their first birth at some point between the time they first started working on a regular basis and the survey date without leaving the labour force for a period of time exceeding a year. In contrast only 44.5 percent of women age 35 to 49 had a first birth in this period. Robinson (1986) reported similar results using data from the 1984 Family History Survey (1984). In her analysis, 76 percent of "continuously worked" women in the age group 25 to 34 had their first birth at some point between the time of first working on a regular basis and the survey date. Fifty-three percent of those in the youngest age group (i.e. 18 to 24) and only 34 percent in the oldest age group (i.e. 35 to 49) had a first birth in this period.

Table 10 presents data on the timing of the birth of the first child in relation to first work for discontinuously worked women. Due to small cell sizes in the youngest cohort, it is difficult to make any firm statement regarding trends. However, for the group as a whole, it would appear that differences in attachment across birth cohorts are quite minimal.

Recent cohorts of women are also more likely than earlier cohorts to have first started working on a regular basis prior to first marriage. Results from Table 11 show that almost 80 percent of all women less than age 30 started working for the first time before first marriage compared to just slightly over two-thirds of those age 40 to 49. Robinson's (1986) analysis of the Family History Survey (1984) reveals similar findings.

Roughly three-quarters of the women in the FHS age 20 to 24 first started working prior to first marriage compared to almost two-thirds of women age 55 to 64.

Most measures which control for exposure time are still at best only rough indicators of work attachment because they are based entirely on "completed" information regarding the level of discontinuity in female work behaviour. Many women belonging to recent cohorts have not been in the work force long enough to interrupt their work for the first time prior to the survey date. The occurrence of their interruption may well occur soon after the survey. These women have been censored by interview, and therefore, there is no way of knowing the length of their interruptions upon completion at a future date. In contrast, earlier cohorts are less likely to be censored by interview. This means that they are more likely to experience a first work interruption and to complete that interruption by returning to work prior to the survey date. The result may be one which underestimates the true level of discontinuity in female work behaviour, with the most serious underestimation occurring in the most recent cohorts.

Table 12 presents life table survival estimates of cumulative proportions of ever-married, ever-worked women surviving to specific durations (in years) since their date of first starting work on a regular basis by selected birth cohorts. The life table overcomes the time-dependence problem common among more conventional measures of work attachment by making use of all information in a woman's work history including both completed interruptions (i.e. closed work intervals) and incomplete interruptions (i.e. open work intervals), the latter arising from censoring by interview.

With this method, probabilities of leaving or returning to work are estimated at various durations in time using both uncensored and censored information. Results indicate that recent cohorts of Canadian women do not differ significantly from earlier cohorts in terms of their propensity to exit the labour force for the first time. For example, at five years duration 61 percent of the women less than age 30 had still not left the labour force for a period of least a year compared to 63 percent for women aged 40 to 49. Moreover, the propensity to exit the work force across cohorts does not vary substantially after controlling for duration in the first work state. In other words, women from recent cohorts and women from earlier cohorts demonstrate roughly the same propensity to exit the work force at exactly a year's duration as they do at eleven years duration. The difference between both groups does not exceed four percent.

Table 13 contains life table estimates of cumulative proportions of ever-married, ever-worked women surviving to specific durations since first starting work based on data from the 1984 Canadian Family History Survey. Unlike the Canadian Fertility Survey, the FHS collects information on women from all stages of the working life cycle (i.e. from age 18 to age 65) making possible a comparison of trends in work behaviour over a greater range of birth cohorts. Interestingly, the results here vary somewhat from the CFS data. Generally speaking, with the exception of the earliest birth cohort (i.e. those age 60-65), results show that recent cohorts demonstrate about the same propensity to exit the work force for the first time as earlier cohorts. In this respect they support the CFS data. However, the data also reveal a strong "duration effect" on the propensity to leave work. While the most recent birth cohort (i.e. those

less than age 30) demonstrates a greater propensity to leave the work force than earlier cohorts at one and three year durations since first work, the opposite is true for later durations. For example, at seven and nine years duration, those less than 30 years of age are five percent less likely to leave the work force than women age 40 to 49 and at 11 years duration they are eight percent less likely.

One possible explanation for these results is that compared to earlier cohorts, recent cohorts of women are completing their families within a shorter time span soon after first starting work in order to minimize the disruptive effects on work of having children spread out over more lengthy periods. This might explain their higher propensity to exit the work force at one and three year durations and, conversely, their somewhat lower propensity to leave at later durations once their childbearing is complete.

Compared to all other birth cohorts (i.e. even those less than age 30), results from Table 13 also show that women age 60-65 in 1984 had the lowest propensity to exit the work force for the first time. These results are probably not indicative of a greater work attachment among this cohort group, but rather, reflect the rapid influx of married women into the work force during the Second World War as a temporary reserve supply of labour to work in the manufacture of war materials. For many married women, the war also meant a postponement of childbearing leaving them more free time to engage in activities outside the home. Another possibility for the observed trend is that many women age 60 to 65 started bearing children during the latter years of the Depression a period in which fertility had already declined to low levels. Smaller family sizes would have relieved women from family responsibilities making more time for labour force

involvement. Cohort differences in age at first marriage could also have played a role. Compared to women in the Baby Boom Era, women during the Depression married and started having children at a later age. For women beginning first regular work prior to marrying, a postponement of marriage to later ages would have effectively increased the amount of time they could work in the first spell of employment.

Table 14 presents life table estimates of cumulative proportions of ever-married, ever-worked women surviving to specific durations since first stopping work for selected birth cohorts. At each duration results show a very pronounced trend among recent cohorts of women to return to work sooner after leaving for the first time. For example, at three years duration since leaving work, only 49 percent of women less than age 30 had still not returned. This figure compares to 65 percent for women age 40 to 49. Another way of interpreting these figures is that compared to women age 40 to 49, women less than age 30 were 16 percent more likely to return to work for the first time at five years duration in the non-employed state.

Data from the Family History Survey (1984) presented in Table 15 strongly support the CFS findings. Compared to earlier birth cohorts, recent birth cohorts consistently show a greater propensity to return to work after a period in the non-employed state at each duration since first stopping work. For example, at seven years duration since first stopping work, only 36 percent of the women less than thirty years of age had still not returned to work. This compares to a figure of 73 percent for women age 60 to 65. At one year duration 75 percent of the women less than age 30 had still

not returned to the work force compared with a figure of 94 percent for those age 60 to 65.

The data presented in Tables 14 and 15 suggest that at least some portion of the observed increase in participation rates among married women must be due to the steady rise in the propensity of recent birth cohorts to return to the work force sooner after a period in the non-employed state. This finding falls in line with Boyd's (1985) hypothesis that the propensity to return to work may be just as important a contributing factor to greater work attachment as the propensity to leave or to enter work for the first time.

One of the difficulties with examining trends in female work behaviour over time is the problem of separating age, period and cohort effects. For example, higher participation rates among recent birth cohorts may not be due to a pure cohort effect but instead to the influence of some historical event specific to their time such as the Women's Movement, the introduction of the pill in the early 1960s or recent legislation on maternity leave, childcare or employment and pay equity. These "period effects" are likely to have a positive influence on participation by either encouraging more women to participate in the work force, or not to leave at all, or by encouraging shorter work interruptions for those who do leave. Inferring change in work behaviour across different birth cohorts is also made difficult by the fact that the participation rates for women *within* a given cohort may vary as they age. The presence of "age effects" are often confounded with cohort effects when the influence of age on work behaviour is more prominent for some cohorts and not others.

Tables 16 through 19 attempt to hold constant period effects on employment behaviour by considering cross birth cohort comparisons on several measures of attachment within selected decades. Tables 16 and 17 show the mean number of years spent in the first work interval by birth cohort and decade of starting work. The results indicate that for recent birth cohorts in most decades, the level of attachment in the first work interval actually decreases. This finding contradicts a widely held belief in Canada that the underlying component in rising participation rates is the propensity of recent cohorts of women not to leave the labour force. The results are quite similar to the findings presented earlier where very little difference across birth cohorts was found in the propensity of women to leave the work force for the first time.

Tables 18 and 19 show the mean number of years in the first work interruption by birth cohort and decade of first interrupting work. The results tend to support a trend toward greater work attachment on the part of recent cohorts. For most decades, especially in the FHS data, recent cohorts spend, on average, fewer years out of the work force prior to returning to work for the first time. These findings are in accordance with the results presented earlier where recent cohorts were shown to demonstrate a greater propensity to return to the work force after leaving for the first time.

If recent birth cohorts are demonstrating a stronger attachment to work, we might also expect them to have on average fewer work interruptions. The results in Table 20 neither confirm nor refute this proposition. In most decades, recent cohorts do not appear to have any fewer work interruptions than earlier cohorts. Jone's and

Tepperman's (1988) analysis of data from the Family History Survey revealed a slight tendency within any given decade for more recent birth cohorts to have a higher number of work interruptions than earlier cohorts.

5.4 Conclusion

Over the past twenty years Canadian mothers with pre-school age children have recorded the largest single increase in their labour force participation rates than any other group of women. Recent studies indicate that this increase has been due to changing patterns of work and childbearing behaviour for recent cohorts. These changing patterns in work behaviour draw attention to the fact that the more dynamic underlying processes in female work behaviour, the processes of exiting and re-entering the work force, must be studied along side changing participation rates in order to gain a full understanding of trends in female work attachment.

The present chapter has highlighted a number of important trends in the work attachment of ever-married, ever-worked Canadian women over the past several decades. In order to properly make comparisons across different birth cohorts, a variety of measures were derived which held constant period influences on work behaviour as well as differences in the risk of experiencing a work interruption or a return to work. Other measures focused on the timing of work related events around other major life events including the birth of the first child or first marriage. The objective was to show that recent birth cohorts of women have been demonstrating an increased attachment to the work force.

The examination of the data led to several general conclusions. First, ever-married Canadian women appear to have changed very little in their propensity to leave the work force over time. With the exception of a possible period effect on the work behaviour of women age 60 to 65, recent birth cohorts of women possess roughly the same likelihood of leaving the labour force for the first time as their earlier counterparts. The weight of evidence, therefore, suggests that any increase in work attachment for recent cohorts of women cannot be attributed to greater work retention in the first spell of work.

Secondly, results from both the CFS and the FHS show very strongly that rising attachment to the workforce for recent cohorts is due largely to changing patterns in the propensity to return to work for the first time after being in the non-employed state. At all durations since first leaving the work force, recent cohorts are demonstrating a more speedy return (after withdrawing) than earlier cohorts. This finding supports Boyd's (1985) hypothesis that the observed rise in the participation rates throughout the childbearing years for recent cohorts of Canadian women may be attributed to a tendency on their part to spend shorter durations in the non-employed state.

Thirdly, within the age range 18 to 49, the CFS and FHS data showed that recent cohorts of Canadian women have been spending proportionately fewer of their potential working years out of the labour force and at most parities. However, the differences are very slight. The weak trend might be attributed to the recent drive toward higher education among younger women which would significantly reduce the

number of potential working years. The FHS data indicated a reversal in the pattern for the earlier cohorts age 50 to 59 and 60 to 65. Women age 60 to 65 were found to spend approximately the same number of their potential working years out of the work force as the most recent cohort age 18 to 29, a pattern which persisted at all levels of completed parity. The influence of government policy on women to assist in the war effort was cited as a possible underlying causal factor as well as low average family size and late marriages during the Depression Era.

Evidence of greater attachment to the work force among recent birth cohorts of Canadian women was also found by examining the timing of the birth of the first child in relation to the time of first starting work. For continuously worked women, a greater proportion of those belonging to the recent cohorts experienced a first birth at some point between the time of first starting work and the survey date indicating either a greater willingness or necessity of combining work and family life compared to earlier cohorts. Recent cohorts of women were also found to be more likely to have worked prior to their first marriage an indication perhaps of a greater commitment to work than earlier cohorts.

Finally, in order to hold constant period effects on work, respondents' decade of birth was cross-classified by decade of first interrupting work. Within each decade of interrupting work (except the decade of the 1940s), the mean number of years spent in the first interval of non-employment decreased steadily for women born in the 1930s to women born after 1960. These results suggest a slight trend toward greater attachment among recent birth cohorts.

TABLE 5						
Discontinuity in Work Attachment for Ever-In Union, Ever-Worked Women by Age, Canada, 1984, Canadian Fertility Survey						
Numbers	Age					
	18-29	30-39	40-49	50-59	60-65	All Ages
Total	980	1483	1073	-	-	3536
Continuous	544	529	304	-	-	1376
Discontinuous	436	955	769	-	-	2160
Discontinuous More Than Once	(93)	(280)	(306)	-	-	(679)
Percent of Total Who are Discontinuous	44.5	64.3	71.6	-	-	61.1
Discontinuous Workers Only¹						
Percent of Discontinuous More Than Once	21.3	29.4	39.8	-	-	31.4
Total Mean Number of Years Out of Labour Force²	2.45 (2.40)	4.86 (4.94)	8.05 (8.98)	- (11.17)	- (11.38)	5.74 (7.41)
Percent of Working Years Out of Labour Force³	29.5 (28.0)	30.0 (29.0)	31.5 (34.0)	- (32.0)	- (27.0)	30.6 (30.5)

Note: ¹ For discontinuous workers, figures shown in brackets are derived from data from the Canadian Family History Survey (1984).

² These figures are calculated for women with completed work interruptions only (i.e., they had returned to the work force prior to observation at the survey date).

³ These figures are calculated by dividing the total mean number of years out of the work force by the total possible number of years worked. The latter is calculated by subtracting the year of first starting work from the survey year.

TABLE 6						
Discontinuity in Work Attachment for Ever-In Union, Ever-Worked Women by Children Ever Born, Canada, 1984, Canadian Fertility Survey						
Numbers	Age					
	18-29	30-39	40-49	50-59	60-65	All Ages
Childless	322	187	62	-	-	570
One or More	658	1297	1011	-	-	2965
Percent of Total Who are Discontinuous						
Childless	16.4	36.0	74.1	-	-	29.1
One or More	58.2	68.4	71.6	-	-	67.2
Total Years Out of Labour Force (Discontinuous Workers Only)						
Childless	1.78 (1.79)	3.58 (2.99)	4.80 (4.98)	- (7.45)	- (7.30)	3.44 (3.69)
One or More	2.57 (2.59)	4.97 (5.12)	8.28 (9.17)	- (11.41)	- (11.65)	5.96 (7.77)
Percent of Working Years Out of the Labour Force (Discontinuous Workers Only)						
Childless	29 (27)	23 (19)	20 (19)	- (21)	- (18)	24 (22)
One or More	31 (27)	31 (30)	32 (35)	- (33)	- (28)	31 (31)

Note: Figures shown in brackets are derived from data from the Canadian Family History Survey (1984).

TABLE 7							
Mean Number of Years Out of the Labour Force for Ever-In Union Discontinuous Working Women by Age and Children Ever Born, Canada, 1984							
Number of Children		Age					
		18-29	30-39	40-49	50-59	60-65	All Ages
Total	CFS	2.46 (229)	4.86 (613)	8.05 (562)	- -	- -	5.74 (1404)
	FHS	2.40 (278)	4.94 (774)	8.98 (548)	11.17 (447)	11.38 (192)	7.41 (2239)
None	CFS	1.78 (34)	3.58 (51)	4.80 (37)	- -	- -	3.44 (122)
	FHS	1.79 (68)	2.99 (66)	4.98 (26)	7.45 (27)	7.30 (12)	3.69 (198)
One	CFS	2.09 (70)	3.54 (98)	5.62 (60)	- -	- -	3.64 (228)
	FHS	1.99 (87)	3.97 (116)	6.20 (60)	9.27 (42)	8.89 (18)	4.81 (323)
Two	CFS	2.91 (91)	4.89 (293)	8.31 (153)	- -	- -	5.53 (537)
	FHS	2.99 (95)	5.02 (376)	8.60 (185)	9.34 (128)	8.61 (77)	6.53 (861)
Three	CFS	2.72 (29)	5.94 (128)	8.35 (184)	- -	- -	6.97 (341)
	FHS	3.37 (24)	5.57 (173)	10.01 (158)	12.78 (117)	15.57 (32)	9.24 (505)
Four Plus	CFS	2.24 (5)	5.91 (43)	9.36 (128)	- -	- -	8.32 (176)
	FHS	1.68 (3)	6.53 (43)	10.44 (120)	12.84 (134)	14.66 (53)	11.44 (351)

Note: Data for this table are from the Canadian Fertility Survey and the Canadian Family History Survey. N sizes are shown in brackets.

TABLE 8							
Percentage of Total Working Years Out of the Labour Force for Ever-In Union, Ever-Worked Women by Age and Children Ever Born, Canada, 1984							
Number of Children		Age					
		18-29	30-39	40-49	50-59	60-65	All Ages
Total	CFS	30 (229)	30 (611)	32 (559)	- -	- -	31 (1399)
	FHS	28 (278)	29 (774)	34 (548)	32 (447)	27 (192)	31 (2239)
None	CFS	29 (34)	23 (51)	20 (37)	- -	- -	24 (122)
	FHS	27 (68)	19 (66)	19 (26)	21 (27)	18 (12)	22 (198)
One	CFS	28 (70)	23 (98)	22 (60)	- -	- -	24 (228)
	FHS	23 (87)	23 (116)	25 (60)	26 (42)	20 (18)	24 (323)
Two	CFS	32 (91)	30 (292)	34 (153)	- -	- -	32 (535)
	FHS	31 (95)	30 (376)	33 (185)	26 (128)	21 (77)	30 (861)
Three	CFS	27 (29)	36 (127)	33 (184)	- -	- -	34 (341)
	FHS	34 (24)	33 (173)	37 (158)	37 (117)	35 (32)	36 (505)
Four Plus	CFS	22 (5)	35 (43)	35 (126)	- -	- -	35 (174)
	FHS	19 (3)	35 (43)	38 (120)	37 (134)	34 (53)	36 (351)

Note: Data for this table are from the Canadian Fertility Survey and the Canadian Family History Survey. N sizes are shown in brackets.

TABLE 9					
Relative Timing of the Birth of a First Child and First Work Start for Ever-In Union, Continuously Worked Women by Age, Canada, 1984, Canadian Fertility Survey					
Timing of First Birth	Age				
	18-24 P2	25-34 P2	35-49 P2	All Ages P2	All Ages P1
First Child Born Before First Work	30.6 (26)	24.7 (104)	55.4 (258)	40.0 (388)	28.2
Child Born Between First Work and Present	68.2 (58)	75.4 (317)	44.5 (207)	59.9 (581)	42.3
No First Child	-	-	-	-	29.5 (406)
Total (Percentage and N Size)	100.0 (85)	100.0 (420)	100.0 (465)	100.0 (970)	100.0 (1375)

Note: P1 refers to percent of all women
P2 refers to percent of women with a first child

TABLE 10					
Relative Timing of the Birth of a First Child and First Work Interruption for Ever-In Union, Discontinuously Worked Women by Age, Canada, 1984, Canadian Fertility Survey					
Timing of First Birth	Age				
	18-24 P2	25-34 P2	35-49 P2	All Ages P2	All Ages P1
First Child Born Before First Job	13.5 (10)	11.4 (82)	12.4 (145)	12.1 (236)	11.1
Between First Job and Year Before Interruption Began	2.7 (2)	15.2 (109)	15.3 (178)	14.8 (289)	13.6
Born About Same Time as Interruption	58.1 (43)	52.3 (375)	50.9 (593)	51.6 (1011)	47.6
Born After Beginning of Interruption	27.0 (20)	21.0 (151)	21.3 (249)	21.4 (420)	19.8
No First Child	-	-	-	-	7.8 (166)
Total (Percentage and N Size)	100.0 (74)	100.0 (717)	100.0 (1165)	100.0 (1956)	100.0 (2122)

P1 refers to percent of all women

P2 refers to percent of women with a first child

"About the same time" is defined as the period between the year before the interruption began up to and including the year in which the interruption began.

This pattern could include cases where the birth occurred while the woman was still employed or where it coincided with later interruptions.

TABLE 11

Relative Timing of the First Marriage in Relation to the Date of First Starting Work, for Ever-In Union, Ever-Worked Women by Age, Canada, 1984, Canadian Fertility Survey

Timing of First Marriage	Age			
	18-29	30-39	40-49	All Ages
Work Before First Marriage	79.4 (775)	74.1 (1093)	67.6 (717)	74.1 (2585)
Work After First Marriage	20.6 (202)	25.9 (383)	32.4 (344)	25.9 (928)
Total (Percentage and N Size)	100.0 n=977	100.0 n=1476	100.0 n=1060	100.0 n=3513

TABLE 12

Life Table Estimates of Cumulative Proportions of Women Surviving to Specific Durations Since First Starting Work by Selected Ages, Canada, 1984, Canadian Fertility Survey

Age at Interview	Years Since First Starting Work							
	Median	1	3	5	7	9	11	(N)
Less than Age 30	93.89	.90	.74	.61	.51	.43	.37	(971)
Age 30 - 39	89.88	.94	.78	.64	.52	.42	.36	(1468)
Age 40-49	90.60	.93	.78	.63	.51	.43	.38	(1049)
All Ages	89.74	.93	.77	.63	.51	.42	.37	(3489)

Lee-Desu Statistic 3.524 d.f.=2 prob.=.1717

Note: Median refers to the median survival time in months over the first spell of employment. For example, a median time of 93.99 means that 50% of respondents exited the work force before that time and 50% after.

"Cumulative" means, for example, that in order for a woman to survive to five years duration since first starting work without experiencing a work exit, she first must first survive to one year and three years durations.

TABLE 13

Life Table Estimates of Cumulative Proportions of Women Surviving to Specific Durations Since First Starting Work, by Selected Ages, Canada, 1984, Canadian Family History Survey

Age at Interview	Years Since First Starting Work							
	Median	1	3	5	7	9	11	(N)
Less than Age 30	97.51	.87	.71	.61	.52	.45	.43	(1286)
Age 30-39	85.70	.92	.75	.59	.47	.39	.32	(1704)
Age 40-49	85.63	.93	.73	.59	.47	.40	.35	(1097)
Age 50-59	96.55	.92	.76	.63	.50	.44	.37	(935)
Age 60-65	108.30	.92	.80	.66	.56	.45	.37	(486)
All Ages	86.74	.91	.75	.61	.49	.42	.36	(5508)

Lee-Desu Statistic 11.519 d.f. = 4 prob. = .0213

Note: Median refers to the median survival time in months over the first spell of employment. For example, a median time of 97.51 means that 50 percent of the respondents exited the labour force prior to that time and 50 percent after.

TABLE 14

Life Table Estimates of Cumulative Proportions of Women Surviving to Specific Durations Since First Stopping Work by Selected Ages, Canada, 1984, Canadian Fertility Survey

Age at Interview	Years Since First Stopping Work							
	Median	1	3	5	7	9	11	(N)
Less than Age 30	37.90	.86	.49	.39	.36	.32	.27	(428)
Age 30-39	57.58	.89	.60	.47	.40	.34	.27	(940)
Age 40-49	84.26	.90	.65	.55	.49	.43	.39	(745)
All Ages	59.53	.89	.60	.48	.42	.37	.32	(2112)

Lee-Desu Statistic 22.989 d.f. = 2 prob. = .0000

Note: Median refers to the median survival time in months over the first spell of non-employment. For example, a median time of 37.90 months means that 50 percent of the respondents returned to the work force prior to that time and 50 percent after.

TABLE 15

Life Table Estimates of Cumulative Proportions of Women Surviving to Specific Durations Since First Stopping Work by Selected Ages, Canada, 1984, Canadian Family History Survey

Age at Interview	Years Since First Stopping Work							
	Median	1	3	5	7	9	11	(N)
Less than Age 30	49.06	.75	.51	.41	.36	.32	.32	(547)
Age 30-39	60.87	.82	.56	.46	.41	.36	.29	(1132)
Age 40-49	121.53	.88	.72	.62	.56	.51	.46	(761)
Age 50-59	181.58	.90	.78	.71	.66	.60	.57	(706)
Age 60-65	266.72	.94	.82	.77	.73	.70	.67	(399)
All Ages	108.82	.86	.67	.58	.53	.48	.44	(3545)

Lee-Desu Statistic 257.525 d.f. = 4 prob. = .0000

Note: Median refers to the median survival time in months over the first spell of non-employment. For example, a median time of 49.06 means that 50 percent of the respondents returned to the work force prior to that time and 50 percent after.

TABLE 16

Average Duration of the First Work Interval(years) by Date of Birth and Decade of First Starting Work, Ever-In Union, Ever-Worked Women, Canada, 1984, Canadian Fertility Survey

Date of Birth	Decade of First Starting Work				
	1940s	1950s	1960s	1970s	1980s
Before 1940	9.0734 (12)	6.9276 (304)	9.2212 (46)	4.4926 (24)	-
1940-1949	-	6.6342 (156)	5.8760 (635)	4.2247 (113)	1.1296 (9)
1950-1959	-	-	6.0335 (136)	4.1731 (592)	1.2652 (20)
1960 to present	-	-	-	2.7060 (49)	1.2246 (25)

N=2125

TABLE 17

Average Duration of the First Work Interval(years) by Date of Birth and Decade of First Starting Work, Ever-In Union, Ever-Worked Women, Canada, 1984, Canadian Family History Survey

Date of Birth	Decade of First Starting Work				
	1940s	1950s	1960s	1970s	1980s
Before 1930	9.9412 (419)	11.583 (79)	8.6965 (66)	5.0423 (34)	-
1930-1939	8.3101 (198)	6.7268 (460)	6.2567 (58)	3.9867 (33)	-
1940-1949	-	7.0655 (225)	5.6354 (696)	3.9751 (92)	1.6941 (12)
1950-1959	-	-	5.6483 (262)	4.1800 (671)	1.0761 (21)
1960 to present	-	-	-	2.7501 (102)	1.4767 (56)

N=3634

TABLE 18				
Average Duration of the First Work Interval(years) by Date of Birth and Decade of First Interruption, Ever-In Union, Ever-Worked Women, Canada, 1984, Canadian Fertility Survey				
Date of Birth	Decade of First Interrupting Work			
	1950s	1960s	1970s	1980s
Before 1940	8.550 (139)	6.357 (105)	2.457 (42)	1.518 (11)
1940-1949	4.463 (7)	5.728 (322)	2.112 (289)	1.489 (30)
1950-1959	-	6.267 (8)	2.863 (322)	1.592 (95)
1960 plus	-	-	2.110 (4)	1.589 (24)

N=1399

TABLE 19

Average Duration of the First Work Interval(years) by Date of Birth and Decade of First Interruption, Ever-In Union, Ever-Worked Women, Canada, 1984, Canadian Family History Survey

Date of Birth	Decade of First Interrupting Work				
	1940s	1950s	1960s	1970s	1980s
Before 1930	12.1459 (183)	10.1375 (117)	5.9965 (29)	2.8984 (31)	1.8270 (14)
1930-1939	13.8242 (20)	10.4779 (282)	7.3850 (148)	2.7974 (37)	1.5385 (10)
1940-1949	-	10.8084 (18)	6.4526 (406)	4.1942 (290)	1.8855 (23)
1950-1959	-	-	5.5373 (33)	2.9924 (421)	1.5418 (96)
1960 to present	-	-	-	2.0535 (23)	1.4704 (49)

N=2231

TABLE 20

Average Number of Work Interruptions per Woman by Date of Birth and Decade of First Interruption, Ever-In Union, Ever-Worked Women, Canada, 1984, Canadian Fertility Survey

Date of Birth	Decade of First Interrupting Work			
	1950s	1960s	1970s	1980s
Before 1940	1.6914 (168)	1.5957 (138)	1.3390 (60)	1.0398 (27)
1940-1949	1.5309 (13)	1.5899 (418)	1.2277 (412)	1.0395 (71)
1950-1959	-	1.4096 (13)	1.3327 (511)	1.0667 (223)
1960 plus	-	-	1.1928 (9)	1.0267 (64)

N=2128

CHAPTER SIX

Results

6.1 Introduction

In *Chapter One* two general hypotheses were offered pertaining to the three classes of predictors of women's work behaviour: demographic measures, measures of economic need and measures of tastes and preferences for market work. The first hypothesis stated that variables which exert a positive (negative) influence on the rate at which a woman enters into employment may have the same positive (negative) influence on the rate at which she leaves. The second hypothesis stated that demographic and economic measures have declined in importance as predictors of labour force behaviour for more recent birth cohorts of women. Alternatively, it was said that predictors measuring a woman's taste or preference for market work have assumed a greater importance.

This chapter presents accelerated failure time model estimates of the effect of demographic measures, measures of economic need and measures of tastes and preferences on the rate at which women leave the first and second spells of employment and their rate of leaving the first spell of non-employment (i.e. a measure of their speed of returning to work). Following a preliminary analysis of the data, the first section examines the effects of individual predictors across the three separate spells. The second section focuses on change in the effect of sets of predictors (i.e. demographic, economic and tastes) across birth cohorts for each spell.

6.2 Preliminary Analyses

The tables included in Appendix F present a summary of the descriptive statistics based on weighted sample data for each of the study covariates and dependent variables. For continuous covariates these include the mean, standard deviation, and minimum and maximum values. All categorical covariates are presented as dummy variables taking on a range of values from zero to one. The proportion of sample respondents falling into each category is presented along with the corresponding sample N size. Because these data are weighted, the sample sizes fall slightly short of the sample sizes presented in the multivariate tables to follow. However, the differences are very minor.

As a check for multicollinearity, Pearson zero order correlation coefficients were estimated for each possible combination of pairs of covariates. Some covariates were found to be too highly collinear with others and therefore, were excluded from the multivariate analyses. These included husband's employment status over the spell of employment or non-employment, the timing of the first marriage or union in relation to the date of first entering the work force and age at the beginning of each spell.⁴⁵

Tables 21 through 24 (see the end of this chapter) present Pearson zero-order correlation coefficients between each predictor variable and duration for the three dependent variables of interest. Due to the presence of censoring, estimates were

⁴⁵Age at the beginning of each spell was highly correlated with age at the end, husband's employment status during the first three years of the respondent's marriage was highly correlated with husband's income prior to the event of interest and timing of first marriage was highly correlated with timing of the first birth.

obtained only for those women with completed spells of employment (or non-employment). Most calculated values are in the expected direction. However, little else in the way of information can be obtained given the lack of statistical control.

6.3 Multivariate Analyses

6.3.1 The Effects of Individual Predictors for All Women

Before proceeding directly to the discussion of the multivariate results, a few explanatory notes are necessary. First, the multivariate analyses in this chapter are based on unweighted data. The statistical software package featuring accelerated failure time models (BMDP2L), does not include a weighting command that enables the user to weight the data by a pre-existing weight variable (Hopkins, 1988). The only alternative is to reapply the respective weights to each case in the sample within the 2L program. However, because the sample weights contained in the CFS are fairly uniform (i.e. the difference between the smallest and largest weight value is quite small), it was felt that only minor differences in study results would emerge.

Secondly, as reported in the previous chapter, hazard models do not estimate standardized parameters so that strict comparisons in terms of the magnitude of individual coefficients within a given birth cohort are difficult. In each table presented, unstandardized coefficients are presented first followed by associated standard errors (reported in parentheses). Dividing each unstandardized coefficient by its standard error results in a value comparable to a "t" statistic (Allison, 1984). The significance level

corresponding to each t value is indicated by the number of asterisks to the right of each coefficient.

Comparisons across birth cohorts should only be made using unstandardized coefficients. According to Bollen (1989):

"comparing standardized betas for the same variable across two or more groups is inappropriate because the ratio of the standard deviation of X to the standard deviation of Y (which is multiplied by the unstandardized beta to standardize) will change across different groups with different sample sizes. In general, comparisons of a variable's influence in different groups should be made with unstandardized coefficients" (Bollen, 1989: 126).

Third, the results for the most recent birth cohort (i.e. women born between 1955 and 1965 or those age 18 to 29 at the survey date) should be interpreted with some measure of caution. Because of their age, some of their experiences will be incomplete. For example, a sizable number of women in this group will not have completed their childbearing by the time of interview (i.e. the survey date) so it is difficult to say with any degree of confidence what effect their eventual child status will have on their employment activity. It is also unknown what proportion of women in this cohort are simply delaying their childbearing until a later date and what proportion will never have children either by choice or because of infertility. The same measure of caution should apply with respect to findings on the effects of education since many of these women have probably not yet completed their formal schooling by the time of interview. However, firmer comparisons of trends in labour force activity can be made between the earliest two birth cohorts given the relative completeness of their life histories.

Fourth, the AFT Weibull model discussed in Chapter Three estimates beta coefficients with signs that are reversed in the opposite direction of their true form. The BMDP2L software package which carries AFT Weibull models does not automatically correct the direction of the signs. Thus, in the tables to follow, the sign of each model coefficient has been changed in the opposite direction of what appears on the BMDP2L output.

Fifth, the AFT Weibull model estimates a separate parameter which captures the effect of the underlying baseline hazard on time. Thus, it is possible to state whether the hazard is constantly increasing, decreasing or constant over time. Moreover, the model differs from other hazard models in that it captures the effects of the block of measured covariates on time rather than on the hazard. Thus, one can state whether the effect of a given covariate accelerates or decelerates the time until the occurrence of an event (e.g. exit from employment or non-employment) holding constant the effects of other covariates in the model.

In each of the multivariate tables to follow, measures of economic need are presented first, followed by demographic measures and then measures of tastes and preferences. To reiterate briefly, measures of economic need include husband's income, demographic measures include (in order of presentation) marital status, number of children, geographic mobility and age and measures of tastes and preferences include education and the timing of the first birth in relation to the starting date of first entry into the work force. The remaining covariates are introduced as controls.

Table 25 presents accelerated failure time models of the rate at which all birth cohorts of women combined leave employment or non-employment. The effect of husband's income on the rate of leaving the first spell of non-employment is in the expected direction. The reported unstandardized coefficient of $-.0571$ says that holding constant other variables in the model, a logarithm unit increase in real dollar income results in a deceleration of the time until an exit from the first spell of non-employment by 5.876 percent. Similarly, a doubling of husband's income in logarithmic units would decelerate the time until leaving non-employment by an additional 4.036 percent (see Appendix G for formula to calculate percentage change). Economic theory, in particular, considers income to be a powerful indicator of economic need and the finding here bears this out. Rising husband's income results in a strong negative effect on the rate at which women leave the first spell of non-employment, hence a slower rate of return to work.

However, income exerts a somewhat unexpected effect on the rate of leaving employment. For both spells, findings indicate that women married to men with high incomes are considerably less likely to leave the work force. It is impossible to validate this finding with other research in that the present analysis represents the first attempt ever in Canada to examine the effects of income on the rate at which women leave and return to work. Similar findings are reported in the U.S. literature (McLaughlin, 1982; Felmler, 1984; Hao, 1991), but very little is offered in the way of explanation or interpretation.

A plausible assumption might be that as women move from the state of non-employment to employment, they revise or change their conception of what constitutes

need so that husband's income changes from a measure of economic need for women who are not working to largely a measure of subjective need following entry into the work force. Discussed in *Chapter Two* was the notion that subjective need measures a woman's perception of need. Because of their changed labour force status, some women may perceive a need for added luxuries such as another car, a trip, a new microwave oven or more clothes (Yohalem, 1980). Interestingly, in the U.S., Shaw (1983) found that while high levels of husband's income did allow some married women to leave the labour force intermittently or altogether, women who had worked steadily for at least five years were not likely to decrease their level of attachment in response to high family income. This suggests a non-linear relationship between husband's income and duration in the work force.

These findings raise an important question regarding our understanding of women's tastes for market work and how they affect their employment behaviour. The results seem to suggest that women, like men, have a desire to work not just as an end in itself but as a means to obtain sought after material goods. They may have a taste for the intrinsic elements of work but this is overshadowed by a desire for the extrinsic rewards; income. According to Crimmons et al. (1991):

"although young women increasingly expect to work outside the home when they are wives and mothers, there is little indication that this is the result of an increased shift from family goals to work as an end in itself. Rather, the trend in attitudes toward women's work seems linked to their increased goods aspirations. Most women, like men, see work as a means, not an end" (Crimmons et al., 1991: 130).

This line of thinking has drawn some support in the literature. For example, Desai and Waite (1989) found that women with babies who reported a low work commitment (i.e. defined as a preference for family life over market work) were pulled into the labour force if their occupation had flexible working hours or some form of social support. However, these intrinsic non-monetary aspects of jobs were not important determinants of the labour force behaviour of women with high work commitment. For this group, wages factored heavily into their decision to enter or leave work. The authors conclude that the intrinsic attributes of work normally thought to be valued only by highly committed women (e.g. flexible working hours, etc.), are valued more by women with little or no intention of remaining in the work force for a long period of time.

However, Desai's and Waite's study only measured the intrinsic aspects of employment (i.e. flexible working hours, etc.) that would typically tend to facilitate a combination of work and childbearing. It is not surprising that these aspects of the job would be valued most by mothers with low work commitment. The authors neglected or were unable to measure differences between groups in terms of the weight they might attach to working at a job that is interesting, challenging and thought provoking. Had this been possible, it is likely that the highly committed group would have come out on top. The general point is that job satisfaction is a multidimensional construct. What makes up the intrinsic elements of work do not fall neatly into a single category. Women who report they are highly committed to the work force may value some intrinsic elements which non-committed women do not (and vice versa).

The observed negative relationship between husband's income and leaving the labour force may also be explained by the fact that women with low income husbands, given the relative economic instability of their families, feel compelled to leave the labour force frequently in order to find better or higher paying jobs. This would require protracted periods of time looking for work while non-employed. It may also be true that low-income husbands are more likely to harbour negative attitudes toward women engaging in paid market work. Women married to low-income husbands, therefore, may feel a greater pressure to leave.

The results presented here appear to run contrary to previous work by Nakamura and Nakamura (1985). The Nakamuras hypothesized that husband's income should only have at best a weak impact on the wife's employment transition probabilities once duration in previous spells of employment (considered as a measure of the preferences of married women for home versus market activities) are held constant. In Table 25 it is clear that this is not the case. While previous work experience is important in maintaining a momentum or continuity in work year after year, husband's income still exerts a strong influence on employment (both leaving and returning to work).

The findings with respect to respondent's marital status are also somewhat surprising. Compared to those who have experienced a divorce, separation or death of a spouse, continuously married women are much more likely to leave the first two spells of employment and more likely to leave the first spell of non-employment. In terms of leaving work, Felmler (1984) reports similar findings in the U.S. and attributes the effect to the greater responsibilities of being married such as childcare and household tasks.

This does not seem to be an adequate explanation since number of children was also included in the model so that at least some of the effects of childcare on employment were held constant. Moreover, many currently unmarried women have children and must also maintain a household. Unfortunately, this author included single never-married women with the divorced, separated or widowed group.

A second possible explanation for the comparatively higher rate of exit among the continuously married considers instead the economic hardships experienced by many women who lose their spouses through separation, divorce or death. The greatest hardship is the sudden loss or decline in household income previously contributed by the husband. The incentive to work is especially strong for single parent mothers. The higher rate of exit among the continuously married may also be due to the perception on the part of remarried women (who are included in this analysis with the divorced, separated or widowed) that marriage is not necessarily a permanent or stable union. These women may choose to remain working longer in order to remain financially independent from their husbands.⁴⁶

The economic argument also weighs heavily in Picot's (1986) recent analysis of female work histories from the 1984 Canadian Family History Survey. Findings from this work also showed a strong tendency for unmarried women to remain in the work

⁴⁶Caution must be exercised here in terms of interpreting the results. A definitive interpretation of the effect of the continuously married on the rate of leaving spells of employment or non-employment cannot be made by speculating on the behaviour of women in the chosen reference group category (i.e., in this case the separated, divorced and widowed) unless one chooses the continuously married as the reference group there is no way of knowing how the separated, divorced or widowed would behave.

force compared to their married counterparts. However, like Felmler, Picot included single never-married women in the unmarried category so it is not altogether clear whether the same results would have been found had this not been done.

As Table 25 indicates, continuously married women leave the first spell of non-employment (i.e. return to work) at a faster rate than the divorced, separated or widowed. These effects are opposite to what was found in terms of leaving employment. One explanation for this reversed effect is that some women who lose their husbands and then leave the work force, become heavily dependent on welfare for support or possibly their close kin and thus are less inclined to ever return. Secondly, previous research has shown that the divorced or separated single parent mothers (compared to single parent divorced or separated fathers) are much more prone to unemployment, poor health and a change in family composition such as a child leaving home (McLanahan, 1985). These factors will likely operate to reduce their chances of making a successful return to work compared to women who are married.

If we assume that husband's income is an imperfect measure of economic need, an economic explanation may also be a plausible reason for the higher rate of leaving non-employment among continuously married women. A section of *Chapter Two* made reference to the sharp increase over the past decade and a half in the number of dual-earner Canadian couples. Economic need or perhaps subjective need could be a strong influential factor in the decision of these women to work.

As expected, Table 25 indicates that number of children under the age of six exerts a strong negative impact on the rate at which women leave the first spell of non-

employment. This effect has been found repeatedly in previous research and can be attributed to the unusually heavy burden of "around the clock" intensive child care required by young dependent children. Number of children age six and over (i.e. between age 6 and age 18) is also strongly negatively related to the rate of leaving non-employment. It is not altogether clear why this should be the case given that older children are in school most of the daytime hours allowing women more free time to engage in other activities like market work. Older children are also more costly in dollar terms (i.e. relatively higher costs of clothes and food) and therefore, if anything, this should provide a strong incentive for women to return to the work force sooner.

Another surprising finding is the strong inverse relationship between number of children under the age of six on the rate of leaving the first spell of employment. Picot (1986) also made the same finding based on the 1984 Family History Survey. His explanation was that the relationship reflected a strong economic need on the part of working mothers to remain working because of the costliness of raising a family. However, he could not substantiate this hypothesis given an absence in the survey of need measures such as husband's income. In the present analysis, husband's income does not appear to operate as a satisfactory measure of economic need once women enter the work force so that the economic explanation (proposed by Picot, 1986) for the observed relationship in the data presented here may be valid. Lowe and Krahn (1985) have recommended that future research include additional non-dollar measures of economic need such as whether the family owns or rents a dwelling, or the number of previous spells of unemployment experienced by the husband. The observed negative

relationship between number of children less than age six and the rate of leaving the first spell of employment is consistent with the sharp increase in the labour force participation rates of married women with pre-school age children over the past twenty years. The majority of previous studies have found a negative impact of number of children on employment. However, these studies tended to focus on a woman's presence or absence in the labour force at one point in time, a measure of attachment which has been shown to mask over the underlying components giving rise to that structure.

The negative relationship between number of children age six and over is in the expected direction. Because of their age, older children are less reliant on their parents for continual care or guidance. Much of their time during the day is also spent in school. Older children are also relatively more costly giving women a strong economic incentive to remain working.

The same negative relationship is observed for women leaving the second spell of employment. What is surprising, however, is the finding that number of children under the age of six has no significant impact. One possible explanation is that women in their second spell have already worked previously and many probably had children during that period. Prior work experience could mean that these women have become accustomed to combining childcare with market work in the sense that they have already calculated the economic costs of having children and have made the necessary adjustments in terms of spending habits and general lifestyle changes. Previous experience with combining childbearing and work could also mean that they have worked out the problems of finding suitable childcare and have been exposed to the problems

associated with having children that can lead to disruptions in employment activity. In combination, these factors could operate to produce a lack of any effect.

Another possible explanation is that women in their first spell of employment are on average younger when they have their births. Their husbands will also be younger on average and most will be just starting their careers. Considerable resources will be set aside toward saving for a car and a home. Compared to women in their second spell of employment, the economic pressure to work for women with children in their first spell will be much greater. This point was raised in *Chapter Two*.

Thirdly, the lack of effect is consistent with previous research by Nakamura and Nakamura (1985) and Boothby (1984) which finds that child status has very little or no impact on employment once duration in the previous employment spell is held constant. The Nakamuras hypothesize a kind of momentum in labour force activity from one year to the next primarily on the part of women who have a strong taste or preference for market work. It is this underlying momentum, they claim, that reduces or attenuates the effects of child status on current employment activity. In the analysis presented here, duration in the first employment spell and first spell of non-employment is included in the model. However, this explanation is insufficient to account for the strong negative relationship still observed for number of children age 6 and over.

Aside from the causal mechanism(s) which might explain the lack of effect for younger children, there appears to be sufficient grounds for recommending that female employment spells not be pooled. This practice of pooling was discussed briefly in the previous chapter outlining the statistical analysis. In pooling spells it is assumed that the

effect of a covariate such as child status on the rate of leaving the first spell of employment is the same as its effects on the rate of leaving subsequent spells. The results presented here do not support this assumption.

Like husband's income and child status, geographic mobility also appears to exert a strong impact on employment behaviour. In Table 25 it is evident that women who move at some point during the time they are non-employed are much less likely to leave the first spell of non-employment (i.e. the return to work) than women who report having never moved. This finding is very consistent with previous research and may suggest the presence of an interaction effect between geographic mobility and respondent marital status. For example, most family moves involve a change in jobs by the husband so that it is the wife who usually sacrifices her job, or alternatively, her plans for work if she is non-employed. Moreover, many companies do not offer the spouses of individuals who make a job-related move assistance in finding new employment. Thus, when a woman moves with her husband, there is bound to be a considerable length of time taken up in searching for new work. If the period out of work becomes too long, her employability may diminish either because of lost skills or negative perceptions on the part of would be employers.

Oddly, the same negative impact of a geographic move on transitions out of employment does not occur. In fact, results show that women who move during the first or second spell of employment are considerably less likely to leave the work force compared to women who never move. One possible explanation is the presence of an interaction effect between geographic mobility and age or geographic mobility and

respondent marital status. For example, women who move may be slightly younger on average and not yet married. A move may be a means of locating closer to their job. In contrast, women who report never moving are probably older, have already married at least once and have previously settled into a permanent job. If their husbands are working, they can better afford to leave the labour force at least for a short time.

Recall that in Chapter Three it was said that in the Canadian Fertility Survey an employment exit is defined as lasting at least one year. This rather conservative definition may attenuate and even reverse the otherwise expected positive effects of a move on employment. For example, a woman could leave the first spell of employment for anywhere up to 11 months as a result of having to move and return to employment within a year in which case the expected positive effect of moving on leaving her first job would not be captured. If she moved in anticipation of finding or securing employment elsewhere, then the effect on her rate of leaving work (given the current definition of a leave) will undoubtedly become negative.

A woman's age also plays an important role in determining her employment behaviour. In Table 25 age shows a non-linear effect. With increasing age, women are less likely to leave the first spell of non-employment. The strength of the relationship, however, gradually diminishes among the older age groups. This is an interesting finding in that it suggests something other than an effect due to characteristics commonly associated with age such as child status or husband's income which are held constant in the model. A similar finding was made in a recent U.S. study by Blau and Robins (1989).

A non-linear effect of age is also observed for transitions out of the first spell of employment. In this case, rising age is associated with a significantly reduced rate of leaving employment. The negative effect of age then diminishes among the older age groups. This latter result could be due to declining health, a factor which is not captured by the current model. The Blau and Robins (1989) study made a similar discovery also holding constant the effects of child status and husband's income but like the present study did not include health. The relationship may also have something to do with the way in which older women differ from younger women in terms of planning for their goals. Pearson (1979) notes that older women (past the age of 40) are more likely than younger women to enter into employment with little or no preparation in terms of training, education and a careful search of job market prospects.

Age does not invoke the same non-linear relationship with the rate at which women leave the second spell of employment. This finding reinforces the argument made above that researchers refrain from pooling employment spells.

Education invokes a strong positive effect on the rate at which women leave the first spell of non-employment (i.e. return to work) (Table 25). This effect is consistent with what has been found in other Canadian studies (Picot, 1986; Jones and Tepperman, 1988). It was hypothesized that education captures to a large degree a woman's taste or preference for market work. The results here seem to support that hypothesis given that job tenure in the first job and measures of human capital and earnings such as occupational status and wages have been taken account of in the model. Admittedly, it is still difficult to rule out competing explanations. For example, the

observed positive effect could be explained from the standpoint of job search theory which says that highly educated women are more informed than less educated women of labour market opportunities.

Unpredictably, education results in a strong positive relationship with rates of leaving the first and second spells of employment. In other words, highly educated women have a significantly greater propensity to leave the labour force than less educated women. Other Canadian studies have found opposite effects (Picot, 1986). However, the result is identical to a finding made by Tuma (1976) and Felmler (1984) in the U.S.. Felmler explains her finding in the context of status attainment theory which says that holding constant job rewards, higher education leads to a discrepancy between actual and expected rewards. This is certainly a plausible explanation. Job search theory may also be relevant in that highly educated women are better able to conduct an efficient search of positions elsewhere in the labour market.

Equally plausible is the notion that education is capturing a taste for market work, but not just any kind of work. Although education is leading to greater job turnover, this should not be necessarily seen as an indication of a lower commitment on the part of highly educated women. What may be happening is that high education is driving women to achieve something better so that the traditional distinction made between tastes for market work and tastes for non-market work is not appropriate. A third category needs to be added: tastes for an exciting, stimulating and lucrative career with some measure of autonomy as well as prospects for advancement. According to Gordon and Kammeyer:

"if the employment available is viewed as boring, unpleasant or demeaning, there will be some women who will not take the work regardless of their sex-role orientations or beliefs about mothering" (Gordon and Kammeyer, 1980: 329).

Another explanation for the positive effect of education raises the possibility of an interaction effect between education and husband's income. Highly educated women tend to marry highly educated men most of whom are employed. This income security allows some women to move in and out of the labour force more freely in search of a better position and to take more time doing it than if they were single or unattached.

The timing of the first birth in relation to the date of first starting work is another selected measure of a woman's taste or preference for market work. In *Chapter Two* it was argued that women who have their first birth before first starting work are placing a higher value or premium on family life, and therefore, compared to those who have their first birth after starting work, will leave the labour force sooner. Alternatively, women having their first birth after starting work are postponing childbearing because of a desire to make substantial investments in a career. They will have acquired more education and more work experience (Presser, 1989).

In Table 25 it can be readily seen that timing of the first birth operates as a powerful predictor of the rate of leaving the first and second spells of employment. Those women having their first birth before starting work for the first time have a higher hazard of leaving the labour force than women who have their first birth after starting. This finding strongly supports the hypothesis presented in the previous chapter.

What is surprising, however, is the finding that women who have their first birth before starting work demonstrate a faster rate of leaving the first spell of non-

employment than women who have it after starting (Table 25). This might be explained in terms of an interaction effect between birth timing and age or birth timing and marital status. A reasonable assumption is that a substantial proportion of women who have their first birth before starting a full time job are still quite young and some may not be married. Initial entry into the labour force is thus not likely to be a matter of choice but one of forced economic necessity. For the same economic reasons, their exit from the labour force will tend to be rather short-lived, hence their higher rate of leaving non-employment compared to those who have their first birth after starting work.

A second explanation considers an interaction effect between birth timing and the time women complete their family size. Many women who have their first birth before first starting work have already completed their family size (i.e they had most or all of their births before starting work). Because of the lessening of childcare responsibilities, they are now in a better position to return to the work force than women who have their children after they enter.

Past research findings have shown that childless women tend on average to be more highly educated than those who have children (Hoffman, 1974). Bloom and Pebley (1982) contend that higher education among this group tends to lead to anti-natalist views as well as increasing knowledge of effective methods of contraception and non-traditional roles and lifestyles. The same authors also note that childless women are over-represented among the professional, managerial and skilled positions. For these reasons, one can expect childless women to be less likely to leave the work force. Results from Table 25 largely confirm these expectations. Being childless, however, does not appear

to have any impact whatsoever on the rate at which women leave the first spell of non-employment. This finding is very difficult to explain given previous findings of a high correlation of this group with higher education and use of effective contraceptive methods.

There are a large number of control variables introduced in these analyses. Most have only a minor and non-significant impact on the employment transition rates. However, some findings stand out in particular and thus deserve some brief mention.

How many siblings a respondent has exerts a significant positive impact on the rate at which women leave the first spell of non-employment (Table 25). To the extent that number of siblings serves as a proxy for a pool of potential child care supporters, this finding is not too surprising and conforms well with most previous work. However, number of siblings appears to have a slight to moderate positive influence on the rate of leaving the second spell of employment. This runs contrary to what one might expect. Logic would suggest that in general the more siblings one has, the greater the pool of potential child care givers, and hence the lower the probability of experiencing a family related work interruption.

One possible explanation for the positive effect is that number of siblings could be operating as a measure of cultural capital. Cultural capital refers to endowments passed down from parents to children some of which are non-material such as shared time or tangible wealth such as money. A woman growing up in a household with a large number of siblings is forced to compete with others for these scarce resources. If she is unsuccessful, her ability to establish a firm foothold in the labour market will be

not be as great compared to women from smaller families. Parental education is often used as a measure of cultural capital. Parents who are highly educated have a greater knowledge of labour market opportunities and job search strategies. They also tend to have *fewer* children. For these reasons, they are better able to assist their children in finding a permanent job. The same level of assistance would not be forthcoming from parents with low education and a large family size.

Last of all, there is some evidence in the U.S. that suggests that a woman who relies on non-residential kin for child care support may actually end up leaving the labour force sooner or more often than a woman who relies on formal child care services (U.S. Current Population Survey, 1990) because of weather-related problems or personal emergencies experienced by the caregiver. Parish et al. (1991) also point out that the demands placed on the informal caregiver are often heavy and include irregular hours and long working days. These demands would not be expected from formal support services.

Occupation is another variable which appears to have some impact on employment behaviour. Women belonging to a professional occupation at the time of first work are significantly more likely to leave the first and second spells of employment than non-professionals. Once again the importance of not pooling employment spells is reinforced here given the finding that the effect of leaving the work force the second time is twice the value of the effect of leaving the first time.

The positive impact for both spells might be explained from a human capital approach. Professional women are highly educated and have made substantial

investments in occupational training. If prospects for more lucrative positions occur elsewhere, then the opportunity costs of staying in the present position will increase resulting in higher than average labour force turnover. The higher rate of leaving may also be due to professional job characteristics such as paid maternity or sick leave. It could also mean a lower penalty for terminating employment. In other words, it may be relatively easier for a nurse or teacher to leave their job and then return at the same level of pay and seniority than someone in a non-professional occupation.

Findings from Table 25 show that professional women leave the first spell of non-employment at a significantly faster rate than non-professionals. A human capital explanation is probably more informative here. Professional women who leave the work force will quickly accumulate high opportunity costs in the form of foregone earnings. If the withdrawal from the labour force becomes lengthy, other costs will come into play such as lost or forgotten skills (i.e. the depreciation of human capital). These costs will tend to hasten their return.

The respondent's wage level did not have the anticipated effect on the rate of leaving employment or non-employment. One reason could be that wages are only measured at the starting date of first work. This would dampen the effect especially on the rate of leaving and returning to the second spell. Another reason may be the fairly large number of respondents who failed to provide a valid wage. Imputing missing wages results in some reduction of variance causing a slight attenuation in the relationship.

Women who attended church infrequently were significantly less likely to leave the first spell of employment. Less frequent attenders, or those who do not attend at all, tend to be more secular and liberal in their attitudes and hence more receptive to engaging in paid market work (Morgan and Scanzoni, 1987). Church attendance did not have an impact on leaving the second spell of employment or the first spell of non-employment.

The effects of the national unemployment rates are particularly interesting. It appears that high unemployment (measured at the time of leaving the work force) has a significant positive impact on the rate at which women leave the first and second spells of employment. These findings support the discouraged worker hypothesis discussed earlier in *Chapter Two*. However, Table 25 also shows that high unemployment (measured at the time of return to work) bears a significant positive impact on the rate at which women leave the first spell of non-employment. In other words, when unemployment is high, women return to work at a faster rate than when it is low. This finding suggests an interaction effect between unemployment and respondent marital status. It coincides with the "added worker" hypothesis which says that women will add themselves to the work force in the event that their husbands are out of work.

Period effects usually represent much of our ignorance of the effects on employment that we have not accounted for in our model. Such effects refer to specific events that happen over the course of the study that may influence behaviour on the dependent variable. For more recent birth cohorts of women, the Women's Movement, a more universal system of daycare, legislation regarding employment and pay equity in

the work place or the introduction of paid maternity leave may operate to reduce the hazard of a woman leaving the work force or lengthy absences for reasons related to childbearing/rearing or marriage.

From Table 25 results show that the year in which the respondent entered the first spell of employment has a very strong non-linear effect on the rate of leaving. Specifically, rates of leaving increase steadily until around 1975. A reversal then occurs so that after 1975 women are less likely to leave.⁴⁷ This effect may very well be due to changed societal norms over the period moving in the direction of a greater acceptance of the female worker. Policy changes in the form of new government legislation (i.e. equal pay for work of equal value) promoting a greater presence and better treatment of women in the workplace may also be operating. It is doubtful that affirmative action programs would have had much impact given their late arrival in the very early years of the 1980s.

Past research has shown that how long a woman spends in previous spells of employment or non-employment has a significant impact on the rate at which she leaves employment or non-employment in the present. This is called lagged duration dependence. In Table 25 length of time spent in the first employment spell bears a strong positive impact on the rate of leaving the second spell. Length of time in the first spell of non-employment also has a similar positive impact. One can only speculate on the underlying causal mechanisms behind these effects.

⁴⁷The value of 1975 was obtained by substituting different values of years of entry into a formula which specifies the linear and quadratic terms. The formula is specified as follows: [$\exp (.0903 X + -.0006 X^2)$]

The first effect is difficult to explain. What might be happening is that women who accumulate time on a job build up their human capital to a level that allows them to experiment with a number of different jobs before making a final career commitment. Put simply, they can afford to be more choosy. The second effect may also be explained from a human capital approach. As indicated above, job skills deteriorate the longer one is non-employed so that subsequent labour force turnover becomes more likely. Another explanation is that long periods of time out of employment may signify a loose commitment to paid market work.

Length of time spent in the first employment spell also has a positive impact on the rate of leaving the first spell of non-employment. Human capitalists would attribute this result to the build up of job skills, training and seniority that comes with occupying a position for many years.

Accelerated failure time models estimate a separate "shape" parameter (i.e. the reciprocal of the scale parameter) indicating the direction of the effect of the underlying baseline hazard (i.e. increasing or decreasing) as one proceeds along the time axis on the dependent variable. Duration dependence occurs when the value of this parameter significantly falls short of or exceeds a value of one (i.e. the constant exponential hazard). For transitions out of non-employment, a positive value means that the longer women spend working, the greater their hazard of leaving. Negative values, on the other hand, signify a decreasing hazard of leaving. For transitions out of non-employment, a positive value means an increasing hazard of leaving the longer a woman remains non-employed while a negative value indicates a decreasing hazard.

Unfortunately, there exists some element of uncertainty with respect to whether an estimated shape parameter (significant at a specified level of α) captures a more or less pure effect of time on the hazard of leaving employment or whether the effect is really a statistical artifact (i.e. a spurious effect) due to unobserved heterogeneity not accounted for in the model (Lynch, 1989). Research using Monte Carlo simulations has shown that when unobserved heterogeneity is captured, the level of duration dependence diminishes or even disappears (Vuchinich et al., 1991).

The results in Table 25 reveal strong significant positive effects of the underlying baseline hazard for each of the three employment transitions. The estimated shape parameters are largest in the analysis of transitions out of the first spell of employment followed secondly by transitions out of the first spell of non-employment. The smallest effects are observed for transitions out of the second spell. The large values indicate a steep monotonic increase in the hazard within a fairly short period of elapsed time. This suggests that a large number of sample respondents experience the event of interest fairly soon along the time axis. In other words, few events happen at the extreme left hand end of the axis followed shortly thereafter by a dense clustering of events and then a gradual tailing off of events toward the right hand side of the axis.

These results are generally not supported by many of the existing theories used to explain the phenomena of duration dependence in female labour force transitions. For example, human capital theory suggests that for women who have left employment, the rate of leaving non-employment (i.e. returning to work) declines steadily with increasing duration because job skills become forgotten or outdated. Yet, the figures in Table 25

show that most women will leave non-employment after just a short period of elapsed time in the spell. Human capital theory also predicts a declining hazard of leaving employment with time because of the accumulation or build up of job skills and knowledge with increasing time spent on the job. The results in Table 25 show the opposite.

Job matching theory (Jovanovic, 1979) may provide a clue toward explaining the strong positive effects of the underlying baseline hazard observed for transitions out of the first spell of employment. This theory says that prior to entering a job, individuals do not have all the necessary information to perform a proper evaluation of its strengths or weaknesses or, for that matter, how their own qualifications, skills and knowledge measure up to what is required of them. They immediately begin a mental process of matching the requirements of the job with their skills as well as determining their chances of advancement. Most individuals complete this process very quickly. Those that decide the job is not suited to their particular qualifications or skill level or who are not impressed with their future prospects for advancement will quit early on in search of another position.

A rapidly increasing hazard soon after entering the first spell of employment be due to other factors. For example, if a worker does not seem suited to a particular position, the decision to terminate employment may be made by the employer and would probably occur fairly soon into the job. Another possibility is that Canadian women are deciding to have their children immediately after they secure a position in the work force resulting in a rapidly increasing hazard of leaving soon after entry. For example, in the

U.S. Felmler (1984) found evidence of strong positive duration dependence for women leaving the work force for reasons related to pregnancy but a strong negative effect for women leaving for other reasons. Other studies, however, have found a decreasing hazard in the first several years of employment possibly indicative of a job tenure effect followed by an increasing hazard as a result of a birth effect (Donohue, 1988). Thirdly, a majority of women who enter the first spell of employment do so at an early stage of the life cycle. Many will experiment with a number of jobs before making a final career choice. The first job, then, may be viewed as just a stepping stone to other positions. With this line of reasoning, one would expect that the hazard of leaving employment would increase rapidly in the initial years.

Explanations for a rapidly increasing hazard for women who have left employment for the first time are more difficult. One possibility is that in the first few years of non-employment, a woman's reservation wage remains pretty much unchanged so that if she ever intends on returning to work, she will do so in this period. Longer or more prolonged absences will quickly lead to a depreciation of human capital and might be interpreted by employers as indicative of a low commitment to long term work. In this instance, a declining hazard of leaving non-employment will begin to happen.

The shape parameters in each of the accompanying tables can be tested for statistical significance by means of a one tailed "t" test. A value of one is subtracted from the estimated parameter and the difference is divided by the associated standard error. A significant t value indicates that the estimated coefficient differs on the positive

side of one (i.e. the case of a constant hazard) by a significant amount. The results indicate significant values for all the estimated parameters.

The exponential hazard model assumes a constant hazard rate with increasing time and therefore, does not estimate a separate shape parameter. This means that the model is "nested" within the Weibull model which specifies an increasing or decreasing hazard across time. This relationship allows for a test of the contribution of the shape parameter to the overall fit of the Weibull model. The test simply involves a comparison of the log likelihood values between both models. A smaller log likelihood indicates a better fit. In order to determine the significance of any improvement in fit achieved by capturing the effects of the underlying baseline hazard, twice the difference between both model likelihoods yields a chi-square value. The degrees of freedom equal the difference between the number of estimated parameters in each model. In this case, this value is equal to one.

The results in Tables 26, 27, and 28 (see the end of this chapter) reveal that with the exception of transitions out of the second spell of employment, the additional specification of the shape parameter in the Weibull model vastly improves the fit of the model over the simple exponential case with no duration dependence. In the first model the log-likelihood declines from -2265.27 in the exponential case to just -1580.11 in the Weibull case yielding a chi-square value of 1370.32 ($p < .000$). For the model on the transition out of the second spell of employment, the exponential model actually provides a slightly better fit to the data (although not statistically significant).

Tables 26, 27 and 28 also show that a failure to capture the effects of the underlying baseline hazard on the rate of leaving employment or non-employment can lead to an upward bias in the estimates of the standard errors of the model coefficients. The results in the exponential model for two of the three employment transitions, clearly show standard errors which greatly exceed the standard errors in the Weibull model. As a result, a variable like occupation at first work, which is significant in the Weibull model, becomes non-significant in the exponential model.

In order to test for the sensitivity of the estimated ρ parameter estimates to the somewhat arbitrary specification of the distribution of the hazard (i.e. the Weibull Distribution), Tables 26, 27 and 28 also compare the Weibull model with the log-logistic model for all birth cohorts combined. In the log-logistic case, a value in excess of one means an increasing hazard with time followed by a gradual decrease (Lynch, 1989). Results in terms of the estimated parameters are almost identical in both cases. Each model also indicates a strong positive duration dependence. For transitions out of the first spell of employment, the Weibull model appears to provide a slightly better fit to the data as evidenced by the smaller log-likelihood value of -1580 compared to -1708 for the log-logistic case. For transitions out of the first spell of non-employment, both models demonstrate the same level of fit.

The task thus far has been to present evidence in support of the first hypothesis that variables which exert a positive (negative) influence on the rate at which a woman enters into employment may have the same positive (negative) influence on the rate at which she leaves. The results in Table 25, pertaining to all sample respondents,

provided general support for this prediction. The results also showed that the practice of pooling spells of employment is based on a false assumption of uniform hazard rates across spells. Both findings may explain why previous studies have arrived at such inconsistent and in some cases contradictory results when comparing the effects of certain predictors on employment behaviour across time or across separate birth cohorts.

6.3.2 Cross Birth Cohort Comparisons in the Effects of Individual Predictors

So far the discussion has focused on the effects of various sets of influences on employment behaviour for the entire sample of study respondents. The second hypothesis in this study stated that the relationship between a given covariate and the rate of leaving a given spell of employment or non-employment will change across birth cohorts. It was predicted that measures of economic need and demographic measures would become weaker for more recent birth cohorts and that measures of tastes and preferences for market work would become stronger.

In Table 30 (see end of chapter) there appears to be no discernable pattern with respect to the effects of husband's income on the rate of leaving the first spell of non-employment. The results indicate that economic need is just as important a factor in the decision of the earliest birth cohort of women to return to the work force as it is for the most recent cohort.

Some pattern of change, however, is evident for the effect of income on rates of leaving (Tables 29 and 31). Above it was said that husband's income is primarily tapping a woman's subjective perception of need after she enters the labour force. If this

is true, then the results indicate a slight strengthening in the effect of this variable for more recent cohorts. What might be the cause of this change? Crimmins and Easterlin (1991) speculate that because of long term economic prosperity, successive generations of birth cohorts revise upwards their perception of what constitutes need. In their words:

"because of the substantial upward trend in living levels during economic development, each generation typically comes from a more prosperous background than the preceding generation. Consequently, the views of each successive generation as to the material requisites of the good life tend to be progressively higher. Goods that to one generation may have been luxuries become necessities for the next--the automobile is a case in point" (Crimmins and Easterlin, 1991:130).

Patterns of change across successive birth cohorts are more evident in the case of a woman's marital status. Compared to the divorced, separated or widowed, being continuously married while non-employed appears to have an increasingly positive impact on the rate at which women leave the first spell of non-employment (Table 30). In other words, marriage no longer appears to be as great an impediment to paid market work for more recent generations of women at least in terms of their propensity to return to work. The reason may have to do with changed societal norms toward a greater tolerance and acceptance of the working married woman.

The observed pattern for marital status may be explained from the standpoint of the divorced, separated and widowed. For example, recent birth cohorts of non-employed women who experience a divorce or separation are able to rely on welfare or mother's allowance for economic support. This will have the effect of delaying their return to the work force. In contrast, earlier birth cohorts of women, especially those

who began working early, did not have this support structure and consequently were forced to stay in the work force in order to survive economically.

With each succeeding birth cohort, it appears that the positive effect of remaining continuously married on the rate of leaving employment is weakening. This trend is most pronounced with respect to leaving the second spell of employment (Table 31). Only in the earliest birth cohort does marriage exert a strong positive effect. Effects for the recent birth cohorts are non-existent. Once again changed societal norms in favour of working women are the most likely explanation for this trend. In the past, women were under the influence of stronger societal expectations and pressures to leave the labour force in the event that their services were needed in the home. Less egalitarian marriages also likely played a part.

Another possible explanation for the observed trends considers changes in the experiences of the divorced, separated and widowed. One might speculate that the weakened positive impact of being married is due to a corresponding strengthened negative effect of marital dissolution on the rate of leaving employment. For example, recent birth cohorts of women may be less willing to leave the work force after a divorce or separation even if they remarry. The reason is that divorce has become much more pervasive and commonplace in society and because of this they are less likely than women from earlier birth cohorts to perceive that marriage is a lifelong and stable economic partnership.

Having children under the age of six appears to be a greater obstacle to re-employment for recent birth cohorts of non-employed women (Table 30). This trend

may once again be explained by differences in the availability of government support structures for mothers. Women belonging to recent birth cohorts who leave the labour force can turn to welfare or mother's allowance for support. For some a dependency is created so that their return to work, if and when it occurs, will be delayed. Many women from earlier cohorts did not have this option around the time of their first exit from employment. Another possibility is that women today do not have as large of an informal support network of potential child care givers. The size of the pool of potential care-givers is much smaller either because of lower fertility or because of increased geographic mobility. Number of respondent siblings has been included in the model in an attempt to try to capture some of these effects. However, this variable does not capture the geographic proximity of care-givers. Moreover, it was not possible to measure other child care support variables such as the number of co-resident kin and their relationship to the couple (i.e. siblings, parents, older children, etc.).

Table 29 shows that number of children under the age of six exerts an effect on the rate at which women leave the first spell of employment which changes from being positive and non-significant for the earliest birth cohort to being negative and highly significant for the most recent cohort. This observed reversal has four possible explanations.

One explanation is that more and more families are deciding to trade a short period of discomfort that comes with combining childbearing/childrearing and work with the potential long-term economic benefits arising from the added earnings of the wife. Some experts believe that this willingness has intensified for recent generations because

the relatively more prosperous economy in which they were raised has caused them to develop higher aspirations for material goods (Crimmins and Easterlin, 1991).

A second explanation says that just as recent birth cohorts have revised upward the level of material needs for themselves, so have they too for their children. Standards of childcare have increased in terms of food, clothing and schooling (Crimmins and Easterlin, 1991).

Thirdly, children are much more costly to raise now than they were a generation ago so that if today's couples want to have children, two earners are necessary.

A fourth explanation is that recent birth cohorts of working women are spacing their children closer together soon after starting work so that childbearing no longer has the same disruptive effect on employment (at least over the longer term) as it did for early cohorts who were more inclined to have them over a wider interval (Nerlove and Razin, 1979). Many of these arguments may also explain the strengthened negative effect across cohorts of the effect of number of children age six and over.

There is no recognizable pattern with respect to any change in the effect of geographic mobility on the rate of leaving employment or non-employment. For all birth cohorts, women who moved at some point during their time out of the work force are much less likely to ever return compared to those who did not.

Older women are less likely to leave the labour force than younger women and this effect increases in magnitude with the more recent birth cohorts (Tables 29 and 31). This trend could signify the fact that women from more recent birth cohorts accumulate

a greater amount of rewards on the job as they grow older than was true in the past. For example, with increasing age, prospects for advancement and greater seniority are more likely among members of this cohort compared to earlier cohorts thereby reducing the risks of labour force turnover.

Age also exerts a strong negative effect on the rate of leaving the first spell of non-employment which increases in magnitude for more recent birth cohorts (Table 30). It is difficult to speculate on the meaning of this trend.

The effects of education at first work as a proxy for a woman's taste or preference for work increase steadily from early to recent birth cohorts. Education has no significant effect on the rate of leaving the first spell of non-employment for the earliest birth cohort (Table 30). For women born between 1945 to 1954, there is a significant positive effect. This effect becomes stronger for those born between 1955 and 1965. The effect of education on rates of leaving employment also increases for more recent birth cohorts. In general, the more recent the cohort, the stronger the positive effect of education on leaving work (Tables 29 and 31).

The comparatively weak or non-significant effects of education among the earliest birth cohort may be explained by a greater absence of employment opportunities for women during the period of the 1950s when most would have first entered the labour force. Having a post-secondary education would have made little difference in terms of searching for other more lucrative labour market prospects if those prospects were in very short supply. Similarly, although more education may have increased womens' work aspirations, employment would still have been difficult to find. Secondly, many

of the traditional female occupations during the 1950s and 1960s required little in the way of formal educational training so that having any education would have been sufficient to obtain a position. Thirdly, the reasons why women have continued on into higher education have also changed. For many women in the earliest birth cohort, higher education was sought after as a means to find a highly educated husband who could provide a high standard of living. As a result, most women tended to enrol in liberal arts or social science programs and very few considered going on into professional graduate level programs. Most women did not use education as a tool to train and better themselves for an eventual career in the labour force. Fourthly, throughout the 1950s and 1960s the entire secondary and post-secondary system discouraged women from pursuing courses that would prepare them for the traditionally male-dominated professional positions of doctor, lawyer or business manager. Finally, the comparatively weak or non-significant effects could be related to the period of time elapsed between completing the last year of formal education and the year of first entering the labour force. Many women from the earliest birth cohort probably entered the labour force for the first time after their children had reached pre-school age. For them the length of time since finishing their formal education would be quite large so that the effect of their schooling on their subsequent labour force behaviour would be diminished.

Job search theory does not offer a plausible explanation for the increasing effect of education on leaving employment for recent birth cohorts of women. Assuming a greater availability of employment for the two most recent cohorts, there is no apparent reason why highly educated recent cohorts would be able to conduct a more efficient

search of labour market prospects. Instead, the more potent effect of education is probably a reflection of an ongoing complex process of mutual causation between changing female aspirations for work and changes in the structure and the content of the educational system. It seems plausible that successive generations of women are making a lifetime commitment to paid market work and are enrolling in higher education to fulfil their goal of establishing a career. Their demand for higher education has forced the system to accept more women in professional graduate programs traditionally dominated by males. These changes in the system in turn have led to gradual changes in the nature of womens' work aspirations. More recent birth cohorts are entering and graduating from post-secondary educational institutions which offer them a wide variety of lucrative career opportunities from which to choose. This greater variety has raised womens' expectations of what they consider to be acceptable employment. Hence, the higher labour force turnover among those with post-secondary education.

Results from Tables 29 and 31 show that remaining childless appears to have a much stronger negative effect on the rate of leaving employment for the most recent birth cohorts. The tables show that while being childless has no significant impact on leaving employment for the earliest birth cohort, there is a strong negative impact for women born between 1944 and 1954. These women are age 30 to 39 at the survey date so that if they were going to have children, most would have had them already. These trends may be indicative of a change in the underlying causal structures giving rise to childlessness across generations. There are a certain number of women from any birth cohort who, for no choice of their own, will never bear children either because they are

biologically incapable (i.e. they are infertile) or because they will never find a suitable marriage partner. On the other hand, recent evidence suggests that larger numbers of women from younger generations are voluntarily forgoing motherhood (Veevers, 1980). These women are "childless by choice" (Bloom and Pebley, 1982).

In the Canadian context, Gee (1987) says that factors conducive to voluntary childlessness include more effective contraception (including sterilization and abortion), expanded opportunities for women in modern society and difficult economic times. According to Bloom (1984), "if a woman values privacy and mobility highly and wishes to develop a career, she is likely to postpone or forgo childbearing in favour of a childless lifestyle" (Bloom, 1984: 115). Bloom says that economic factors may also play an increasingly important role for voluntary childlessness. He argues that over time the skill requirements in women's jobs has increased particularly among the higher paid professional positions. At the same time he says employers' profit horizons for investments in training their workforce have shortened. Under these circumstances, children become an increasingly severe handicap for the career woman.

There are a number of interesting patterns of labour force behaviour across birth cohorts with respect to the selected control variables. As Table 30 shows, unemployment rates, used as an indicator of the general condition of the economy, exert a powerful positive impact on the rate at which the two earlier birth cohorts of women leave the first spell of non-employment. These findings suggest an interaction effect between unemployment and respondent marital status and strongly support the added worker hypothesis which holds that when the economy is in a downturn, married women

will add themselves to the labour force in order to maintain the income flow in the family.

The lack of effect for the most recent cohort could be a sign that economic recessions in more recent periods hit hard at all types and levels of occupation including the low skill and low pay jobs that women have always filled. The underlying assumption in the added worker hypothesis is that women are able to enter the labour force in hard times because the kind of work that they typically do is more or less "recession proof". Another possible explanation is that womens' jobs are becoming more like mens' in the sense that they require more technical skills and training and education and because more and more women are moving into the traditional high skill male dominated positions. This change in the nature of women's work may be a reason why economic recessions are equally hazardous for male and female employment alike.

The effects of unemployment on the rate at which women leave employment are generally negative in direction but only for certain birth cohorts (Tables 29 and 31). Again, an interaction effect seems likely. High unemployment reduces the rate of leaving work possibly because married women are uncertain of the future stability of their partner's/spouse's job or because their spouse or partner has been laid off or forced to quit. This explanation is the flip side of the added worker hypothesis discussed above to explain the rate of leaving non-employment. There are, however, some unexpected anomalies in the data which do not conform to these explanations. One is the strong positive impact of unemployment measured at the date of the event (work exit) on the rate of leaving the first spell of employment for the earliest birth cohort.

Region of residence is intended as a broad indicator of regional disparities in the economy and the industrial mix of the labour force. Generally speaking, this variable has a very mild impact on the employment activity of women which may be due in part to its measurement at the survey date rather than at the time of the employment transition of the respondent. However, some findings are worth noting.

Results in Table 29 for the most recent birth cohort show that compared to women living in Ontario, women in the Maritime provinces leave the first spell of employment at a significantly faster rate. This finding could be due to more traditional norms governing family life in the Maritimes compared to the rest of Canada. It may also be a reflection of the much more narrow or less diverse economic base largely comprised of primary industries such as forestry, fishing and mining that is typical of this region of the country. Since a majority of the working population is concentrated in a few industries, there is a greater risk of losing one's job as a result of an economic downturn. One can only speculate, however, on the meaning of this result. The same findings do not occur for the earlier birth cohorts of women. In fact the figures in Table 29 show negative rather than positive effects. A reversal could mean that over time the economies of Ontario and the Maritimes have become more polarized with economic conditions in the former province improving and in the latter provinces worsening.

Residing in the Maritimes tends to produce a more consistent pattern with respect to transitions out of non-employment (Table 30). With the exception of the second birth cohort, women from this region are observed to leave the first spell of non-

employment at a faster rate than women from Ontario. Economic need could be a strong factor given the comparatively high jobless rate of men.

The number of siblings a respondent has results in a highly significant positive impact on the rate at which women belonging to the earliest birth cohort leave the first spell of non-employment (Table 30). The effect in this cohort and not others is probably a reflection of several factors. Family sizes were much larger for this cohort increasing the pool of potential child care givers (i.e. other siblings) and hence allowing women a greater opportunity to return to employment. Siblings from earlier generations also lived in closer geographic proximity to each other and family ties in general were probably more close knit compared to the family relationships of recent birth cohorts.

Duration in the first spell of employment tends to have a highly positive effect on the rate of leaving the first spell of non-employment which becomes stronger for more recent birth cohorts (Table 30). One interpretation of this result is that the jobs of women from recent birth cohorts have become more highly skilled and require more education and training than has been true in the past. With increasing time spent on the job, women accumulate more knowledge and job specific skills so that the opportunity costs of not returning to the work force becomes large. This would be less true of older women working at lower skill, lower paying positions. Results from Table 31 show that the longer the period of time that women spend in the first spell of non-employment, the greater the likelihood that they will leave the second spell. This effect is greatest for the most recent cohort. This finding relates to the fact that younger women, unlike older women, are more likely to have already attained some level of human capital. Women

who allow this capital to erode or depreciate in value by spending a long time out of work are at greater risk of subsequent job turnover.

For the most part, the year in which a woman reports entering or leaving a spell of employment or non-employment has a much more potent impact on her labour force behaviour if she is a member of the earliest birth cohort.

6.4 Discussion

The findings presented above give rise to a number of very important conclusions regarding the labour force behaviour of Canadian women. A recurrent theme throughout much of this work has been that the labour force participation rate at one point in time is composed of three components of work attachment: the proportion of first time entrants, the proportion of those who remain working each year and the proportion returning to work after spending time in the non-employed state. The vast majority of previous research has treated these components as if they were the same by combining them into a single measure of presence or absence in the labour force. The assumption was that the effect of a predictor such as child status would probably have almost identical effects on each thereby bypassing the need of having to study each component in isolation.

In *Chapter One*, it was noted that this practice of combining the three components into a single measure has greatly confounded attempts to assess changes in the effects of predictors of employment across time or across birth cohorts. The ensuing hypothesis was that a variable which shows a positive (negative) impact on the rate at

which a woman enters into employment may have the same positive (negative) effect on the rate at which she leaves.

The results presented here provide overwhelming support for this hypothesis. Most notable was the finding with respect to number of children under the age of six. For years child status was assumed to have a negative effect on female employment despite an apparent reversal in employment behaviour among recent cohorts of women of childbearing age. The results above show that while number of children deters women from returning to work in a manner similar to its effect on first time entrants, it serves to facilitate labour force involvement on the part of women already in the work force.

The significant negative coefficients for husband's income on rates of leaving the first and second spells of employment contradicts the well-known income hypothesis in economics that predicts that working women married to husbands earning a high income will demonstrate a strong propensity to leave the work force. It was suggested that husband's income is tapping the subjective perception of need on the part of working women rather than real economic need. A further possibility is that income changes from being a measure of real economic need for women who are out of the work force to being a subjective measure for those who enter.

The positive effect of education on the probability of leaving employment suggests that sociologists and labour force analysts should reconsider or rethink their conceptualization of "tastes for market work". The traditional distinction of tastes for market work over home work is too simple because it assumes an either/or position taken by women with no room for a gradation or continuum of tastes. It also assumes that

women who do express a taste for work will be satisfied with any job regardless of its content or prospects for advancement. If education was simply capturing a desire or non-desire to work, the results in the analysis above might have been different. That is, highly educated women would have been less likely to leave the labour force compared to the less educated. Instead, a strong positive effect was found suggesting that highly educated women, particularly those from recent cohorts, are seeking out work that is interesting, lucrative and satisfying. In order to find that job, they will leave employment.

A common criticism of many labour force models is that they lean too heavily toward examining the effects of supply side characteristics such as a woman's education or salary while ignoring demand side characteristics in the economy such as the unemployment rate or the industrial composition of the work force. Models which exclude these demand side variables may be failing to capture an important source of heterogeneity in female work patterns. The results above clearly demonstrate that the level of unemployment in the economy is a very important predictor of the timing of female employment behaviour.

Another observation drawn from these results is that a vast majority of the hypothesized control variables had only a minimal impact on rates of leaving employment and non-employment. Only occupation, duration in the first spell of employment or non-employment as well as the year of entering or leaving the respective spells of employment and non-employment showed consistent significant effects. Many other controls such as number of respondent siblings, the unemployment rate, church

attendance and region of residence were found to be significant in certain birth cohorts and not others.

Interestingly, past research results vary substantially in terms of the reported direction of the effect (i.e. positive or negative) of the underlying baseline hazard on the rate of leaving employment and non-employment. Some studies have found a significant positive effect with increasing time spent employed for women leaving for reasons having to do with pregnancy (Felmlee, 1984). In others, negative duration dependence has been found to occur (Blau and Robins, 1989). Results with respect to the effects of the underlying baseline hazard on the rate of leaving non-employment are more consistent. To date, studies have found a strong negative duration dependence effect (Lynch, 1989; Blau and Robins, 1989).

The results in this work strongly indicate that Canadian women exhibit a rapidly increasing hazard of leaving the first spell of employment soon after starting. For those who have left employment, the hazard or rate of returning also rises steeply in the initial years.

The lack of consistency of these findings with what has been reported elsewhere may be a result of the manner in which researchers normally handle spells of employment in their work history analyses. In most studies, spells of employment are pooled. In this work, each spell is considered separately. Had spells been pooled, however, the results would have masked over the differences between the large effects of the underlying baseline hazard observed for the first spell of employment compared to the much milder effects observed for the second spell.

The strong positive effect of the baseline hazard may also be tied to the CFS definition of an employment transition as lasting at least a year. Many women who leave employment for a year or more do so for reasons having to do with pregnancy or childbearing. It is conceivable that a good number decide to leave almost immediately after entering the labour force in order to complete their childbearing early and thus to minimize any further disruptions to their work.

The second hypothesis of a weakening of demographic predictors for more recent cohorts of Canadian women was generally not supported by the data. Instead, the labour force behaviour of recent birth cohorts appears to be increasingly responsive to differences in various "situational" constraints such as child status, age and to a lesser extent, geographic mobility. This conclusion stands in opposition to the voluntarist position described in *Chapter One* which predicted a declining role of demographic variables as predictors of women's increased fluidity (rate of movement) between various combinations of working, non-working and school states. On the other hand, it falls in line with Mincer's position that traditional constraints to entering the labour force for previously worked and never-worked women (i.e. their child status, marital status, etc.) will operate even more forcefully in determining how they allocate their market and non-market time after they enter.

The conclusion here, however, must remain tentative. One reason is that husband's income did not operate as a satisfactory measure of economic need. Earlier it was speculated that strong economic need was a probable factor in explaining why having a larger number of children under the age of six resulted in a substantially

reduced likelihood of leaving the labour force for the first time for the most recent birth cohort. Had it been possible to capture objective need in the model (as opposed to subjective need), the effects of this child status variable as well as other situational constraints on the labour force transitions under study might have been quite different. This is an empirical question that needs further exploring using more complete data sets.

A second reason why the conclusion of a strengthening of situational constraints must remain tentative is simply that some exceptions to this trend were found in the data. For example, whether or not a woman was continuously married decreased in terms of its effect on the rate of leaving the first and second spells of employment for the more recent birth cohorts. In other words, being in the married state over the employment interval significantly increased the rate of leaving the labour force for the earliest birth cohort but much less so for the others.

Thirdly, measures of tastes and preferences for market work such as education and the timing of the first birth also showed increased effects for more recent cohorts in terms of the size of the estimated model coefficients. Neither of these variables produced effects which were entirely expected, or, in the case of birth timing, which were consistent across the three employment spells. This raises the question of the suitability of these variables as measures of tastes. However, it was argued above that education at first work was indeed capturing tastes, a conclusion which lends support to the voluntarist position.

The results, therefore, provide some support for the views of both positions. It is apparent that researchers need to incorporate both sets of influences in their models of female labour force behaviour.

TABLE 21				
Pearson Zero-Order Correlation Coefficients of Study Covariates by Duration of Employment and Non-Employment For All Birth Cohorts, Ever-In Union, Ever-Worked, Women				
Covariate		First Spell of Employment	Second Spell of Employment	First Spell of Non-Employment
Husband's Income		.1447 ^{***}	.0742	.0843 ^{***}
Marital Status	Continuously Married	-.1955 ^{***}	-.2101 ^{***}	.0106
	Marriage Dissolution	-	-	-
Number of Children Under Age 6		.0136	-.3238 ^{***}	-.2122 ^{***}
Number of Children Age Six and Over		.4216 ^{***}	.5567 ^{***}	.8305 ^{***}
Geographic Mobility	Move	.1543 ^{***}	.1045 [*]	.2721 ^{***}
	No Move	-	-	-
Age		.5973 ^{***}	.4499 ^{***}	.5806 ^{**}
Education		-.0439	-.0659	-.1166 ^{***}
Timing of First Birth	Before First Start of Work	-.1910 ^{***}	.0108	-.1458 ^{***}
	After First Start of Work	-	-	-
	Childless	.1173 ^{***}	.0901 [*]	-.1078 ^{***}
Occupation	Professional	-.0437	-.0560	-.0303
	Non-Professional	-	-	-
Salary		-.2272 ^{***}	-.1001 [*]	-.2543 ^{***}
Work Status	Part-time	-.0600 [*]	-.0305	-.0584 [*]
	Full-time	-	-	-
Unemployment at Beginning of Spell		-.2313 ^{***}	-.1685 ^{***}	-.1865 ^{***}
Unemployment at End		.1003 ^{***}	.1286 ^{***}	.0142
Region of Residence	Prairies	-.0440	-.0601	.0070
	B.C.	-.0371	.0157	-.0352

TABLE 21				
Pearson Zero-Order Correlation Coefficients of Study Covariates by Duration of Employment and Non-Employment For All Birth Cohorts, Ever-In Union, Ever-Worked, Women				
Covariate		First Spell of Employment	Second Spell of Employment	First Spell of Non-Employment
	Ontario	-	-	-
	Quebec	.0551*	.0326	.0732**
	Maritimes	-.0516*	-.0123	-.0256
Place of Residence	Rural/Small Town	.0184	.0335	.0548
	Urban	-	-	-
Birth Place	Foreign Born	.0847**	.1019*	-.0498
	Canadian Born	-	-	-
Religion	Catholic	.0645*	-.0741	.0072
	Protestant	-	-	-
	Other	-.0590**	-.0459	-.0331
	No Religion	-.0008	.0667	-.0426
Church Attendance		-.0255	.0410	-.0200
Ethnicity	French	.0526*	-.0535	.0814**
	English	-	-	-
	Other	-.0334	-.0350	-.0602*
Number of Siblings		.0525**	.0339	.1038**
Year of Starting Spell		-.4034**	-.2633**	-.4789**
Duration In First Spell of Employment		-	.0439	-.0569*
Duration In First Spell of Non-Employment		-	.0073	-

Note: Coefficients are estimated based on completed employment and non-employment intervals.

TABLE 22				
Pearson Zero-Order Correlation Coefficients of Study Covariates by Duration in the First Spell of Employment For Selected Birth Cohorts, Ever-In Union, Ever-Worked Women				
Covariate		Birth Cohort		
		Born 1955-65	Born 1945-54	Born 1934-44
Husband's Income		.0751	.2630 ^{***}	.2768 ^{***}
Marital Status	Continuously Married	-.0776	-.1966 ^{***}	-.2701 ^{***}
	Marriage Dissolution	-	-	-
Number of Children Under Age 6		-.1023	.0693	.0489
Number of Children Age Six and Over		.1975 ^{**}	.2126 ^{**}	.5060 ^{***}
Geographic Mobility	Move	.1415 [*]	.2111 ^{**}	.2004 ^{**}
	No Move	-	-	-
Age		.4868 ^{***}	.5953 ^{***}	.5481 ^{***}
Education		-.0624	.0021	-.0441
Timing of First Birth	Before First Start of Work	-.3522 ^{***}	-.2817 ^{**}	-.1511 ^{**}
	After First Start of Work	-	-	-
	Childless	-.0197	.1058 ^{**}	.2044 ^{**}
Occupation	Professional	-.0526	-.0395	-.1120 ^{**}
	Non-Professional	-	-	-
Salary		-.1645 [*]	-.1082 ^{**}	-.1828 ^{**}
Work Status	Part-time	-.0951	-.0224	-.0872 [*]
	Full-time	-	-	-
Unemployment at Beginning of Spell		-.3796 ^{***}	-.1657 ^{**}	-.1790 [*]
Unemployment at End		.1401 [*]	.3206 ^{***}	.1792 ^{**}
Region of Residence	Prairies	.0978	-.0671	-.0431
	B.C.	-.1395 [*]	-.0118	-.0372

Covariate		Birth Cohort		
		Born 1955-65	Born 1945-54	Born 1934-44
	Ontario	-	-	-
	Quebec	.1279*	.0242	.0660
	Maritimes	-.2091**	.0198	-.0613
Place of Residence	Rural	-.1161	-.0180	.0771
	Urban	-	-	-
Birth Place	Foreign Born	-.0651	.0970**	.0556
	Canadian Born	-	-	-
Religion	Catholic	.2004**	-.0044	.1090**
	Protestant	-	-	-
	Other	-.1645*	-.0310	-.0423
	No Religion	-.0297	.0255	.0056
Church Attendance		.0335	.0438	-.0685
Ethnicity	French	.0856*	-.0063	.1203**
	English	-	-	-
	Other	-.1179	.0150	-.0746
Number of Siblings		-.0660	.0207	.0722
Year of Starting Spell		-.6056**	-.3480**	-.2792*

Note: Coefficients are estimated based on completed employment intervals.

TABLE 23

Pearson Zero-Order Correlation Coefficients of Study Covariates by Duration in the First Spell of Non-Employment for Selected Birth Cohorts, Ever-In Union, Ever-Worked, Women

Covariate		Birth Cohort		
		Born 1955-65	Born 1945-54	Born 1934-44
Husband's Income		.0102	.2538 ^{***}	.2179 ^{***}
Marital Status	Continuously Married	.0170	.0206	-.0196
	Marriage Dissolution	-	-	-
Number of Children Under Age 6		.3404 ^{***}	-.0873 [*]	-.2727 ^{***}
Number of Children Age Six and Over		.2186 ^{***}	.7329 ^{***}	.8397 ^{***}
Geographic Mobility	Move	.1559 [*]	.2512 ^{***}	.3739 ^{***}
	No Move	-	-	-
Age		-.2350 ^{***}	-.2426 ^{***}	-.3376 ^{***}
Education		-.0169	-.1103 [*]	-.0845 [*]
Timing of First Birth	Before First Start of Work	-.0701	-.1147 ^{***}	-.2258 ^{***}
	After First Start of Work	-	-	-
	Childless	-.1687 [*]	-.1110 [*]	-.0887 [*]
Occupation	Professional	-.0322	-.0474	-.0665
	Non-Professional	-	-	-
Salary		-.2185 ^{***}	-.0793	-.1800 ^{***}
Work Status	Part-time	.1146	-.0181	-.0945 [*]
	Full-time	-	-	-
Unemployment at Beginning of Spell		-.2824 ^{***}	-.2234 ^{***}	-.0619
Unemployment at End		.0773 [*]	.2653 ^{***}	.1439 ^{***}
Region of Residence	Prairies	.1630 [*]	.0145	.0026
	B.C.	-.0492	-.0376	-.0130

TABLE 23

Pearson Zero-Order Correlation Coefficients of Study Covariates by Duration in the First Spell of Non-Employment for Selected Birth Cohorts, Ever-In Union, Ever-Worked, Women

Covariate		Birth Cohort		
		Born 1955-65	Born 1945-54	Born 1934-44
	Ontario	-	-	-
	Quebec	-.0418	-.0127	.1105*
	Maritimes	.0768	.0032	-.0447
Place of Residence	Rural	-.0187	.0664	.0543
	Urban	-	-	-
Birth Place	Foreign Born	-.0479	-.0662	-.0693
	Canadian Born	-	-	-
Religion	Catholic	.0275	-.0405	.0241
	Protestant	-	-	-
	Other	-.0696	.0069	-.0251
	No Religion	.0913	-.0207	-.0319
Church Attendance		-.1091	-.0328	.0100
Ethnicity	French	.1411	-.0299	.1489**
	English	-	-	-
	Other	-.0660	.0231	-.1031*
Number of Siblings		.0680	.1003*	.0872*
Year of Starting Spell		-.3510**	-.3433**	-.3550**
Duration in First Spell of Employment		-.1281	-.1673**	-.1486**

Note: Coefficients are estimated based on completed intervals of non-employment.

TABLE 24

Pearson Zero-Order Correlation Coefficients of Study Covariates by Duration in the Second Spell of Employment for Selected Birth Cohorts, Ever-In Union, Ever-Worked, Women

Covariate		Birth Cohort		
		Born 1955-65	Born 1945-54	Born 1934-44
Husband's Income		.0006	.0065	.2045**
Marital Status	Continuously Married	-.3825**	-.3316**	-.1432*
	Marriage Dissolution	-	-	-
Number of Children Under Age 6		-.0934	-.3014**	-.3224**
Number of Children Age Six and Over		.4673**	.4292**	.5789**
Geographic Mobility	Move	.0608*	.2577**	.0481
	No Move	-	-	-
Age		.2215	.3729**	.4467**
Education		-.0610	-.1628*	.0093
Timing of First Birth	Before First Start of Work	.0009	-.0234	.0159
	After First Start of Work	-	-	-
	Childless	-.0595	.1492*	.0703
Occupation	Professional	-.1948	-.1461*	-.0057
	Non-Professional	-	-	-
Salary		-.1726	-.1777**	.0243
Work Status	Part-time	-.0325	.0002	-.0469
	Full-time	-	-	-
Unemployment at Beginning of Spell		-.1879	-.3262**	-.0114
Unemployment at End		-.0134	.1670*	.2374**
Region of Residence	Prairies	.0917	-.0438	-.0875
	B.C.	.1498	.0509	-.0189

TABLE 24				
Pearson Zero-Order Correlation Coefficients of Study Covariates by Duration in the Second Spell of Employment for Selected Birth Cohorts, Ever-In Union, Ever-Worked, Women				
Covariate		Birth Cohort		
		Born 1955-65	Born 1945-54	Born 1934-44
	Ontario	-	-	-
	Quebec	-.1987	.0314	.0437
	Maritimes	.0699	.0200	-.0370
Place of Residence	Rural	-.0215	-.0189	.0820
	Urban	-	-	-
Birth Place	Foreign Born	-.0579	-.0678	.1474*
	Canadian Born	-	-	-
Religion	Catholic	-.2285	-.0415	-.0814
	Protestant	-	-	-
	Other	-.1426	.0258	-.0698
	No Religion	.1502	.0183	.1175
Church Attendance		.2777*	.0605	.0156
Ethnicity	French	-.1783	-.0038	-.0835
	English	-	-	-
	Other	-.0700	-.0140	-.0343
Number of Siblings		-.1686	.0758	.0258
Year of Starting Spell		-.5164**	-.3813**	-.1201*
Duration In First Spell of Employment		-.2571	-.1355*	.0674
Duration in First Spell of Non-Employment		-.0514	-.0303	-.0689

Note: Coefficients are estimated based on completed employment intervals.

TABLE 25				
Determinants of the Rate of Leaving Employment and Non-Employment for Ever-In Union, Ever-Worked, Canadian Women: All Birth Cohorts Combined				
Covariates		Spell		
		Leaving First Spell of Employment	Leaving First Spell of Non-Employment	Leaving Second Spell of Employment
Husband's Income (LN)		-.0634 ^{***} (.0075)	-.0571 ^{***} (.0071)	-.0879 ^{***} (.0140)
Marital Status	Continuously Married	.2390 ^{***} (.0483)	.2492 ^{***} (.0484)	.4667 ^{***} (.0954)
	Marriage Dissolution	-	-	-
Number of Children Under Age Six		-.1867 ^{***} (.0194)	-.1430 ^{***} (.0168)	-.0309 (.0393)
Number of Children Age Six and Over		-.3958 ^{***} (.0320)	-.1887 ^{***} (.0205)	-.4525 ^{***} (.0530)
Geographic Mobility	Moved	-.1007 ^{***} (.0218)	-.1911 ^{***} (.0259)	-.2499 ^{***} (.0573)
	No Move	-	-	-
Age at Time of Leaving or Return		-.2358 ^{***} (.0138)	-.2223 ^{***} (.0170)	-.1888 ^{***} (.0085)
Age Squared		.0022 ^{***} (.0002)	.0015 ^{***} (.0003)	-
Education at First Work		.0489 ^{***} (.0056)	.0596 ^{***} (.0066)	.0538 ^{***} (.0147)
Timing of First Birth	Before Starting Work	.7867 ^{***} (.0399)	.5837 ^{***} (.0427)	.3743 ^{***} (.1069)
	After Starting Work	-	-	-
Childless at Survey		-.4913 ^{***} (.0441)	.0645 (.0509)	-.4268 ^{***} (.1295)
Occupation at First Work	Professional	.1163 ^{***} (.0272)	.2188 ^{***} (.0331)	.2388 ^{***} (.0744)
	Non-Professional	-	-	-
Wages/Salary at First Work (LN)		.0177 (.0164)	.0310 (.0204)	.0924* (.0446)

TABLE 25

Determinants of the Rate of Leaving Employment and Non-Employment for Ever-In Union,
Ever-Worked, Canadian Women: All Birth Cohorts Combined

Covariates		Spell		
		Leaving First Spell of Employment	Leaving First Spell of Non-Employment	Leaving Second Spell of Employment
Work Status at First Work	Part-Time	.0105 (.0311)	.0383 (.0393)	-.2316* (.1018)
	Full-Time	-	-	-
Unemployment Rate at Time of Starting Spell		.0031 (.0080)	.0225* (.0101)	-.0333 (.0246)
Unemployment Rate at Time of Ending Spell		.0378** (.0079)	.0175* (.0077)	.0595** (.0191)
Region of Residence	Prairies	-.0191 (.0293)	-.0536 (.0356)	.1307 (.0782)
	B.C.	.0383 (.0372)	-.0724 (.0445)	.1051 (.0949)
	Ontario	-	-	-
	Quebec	-.0187 (.0333)	.0041 (.0393)	.1864* (.0913)
	Maritimes	.0350 (.0377)	.0640 (.0454)	-.0383 (.1088)
Place of Residence	Rural/Small Town	.0036 (.0214)	-.0184 (.0265)	.0474 (.0609)
	Urban	-	-	-
Birth Place	Foreign Born	-.0846** (.0293)	.0391 (.0353)	-.0049 (.0790)
	Canadian Born	-	-	-
Religion	Catholic	-.0169 (.0278)	.0526 (.0339)	-.0585 (.0778)
	Protestant	-	-	-
	Other	.0549 (.0368)	.0267 (.0468)	.0518 (.0982)
	None	-.0593 (.0440)	-.0073 (.0514)	-.1834 (.1180)

TABLE 25				
Determinants of the Rate of Leaving Employment and Non-Employment for Ever-In Union, Ever-Worked, Canadian Women: All Birth Cohorts Combined				
Covariates		Spell		
		Leaving First Spell of Employment	Leaving First Spell of Non-Employment	Leaving Second Spell of Employment
Church Attendance		-.0255 ^{***} (.0083)	-.0134 (.0097)	-.0583 ^{***} (.0215)
Ethnicity	French	.0144 (.0376)	-.0472 (.0456)	-.0576 (.1035)
	English	-	-	-
	Other	.0288 (.0252)	.0377 (.0310)	-.0596 (.0697)
Number of Siblings		.0177 ^{***} (.0040)	.0084 [*] (.0043)	.0196 [*] (.0090)
Year of Entering Spell		.0903 ^{***} (.0239)	-.0023 (.0027)	.0060 (.0061)
Year of Entering Spell Squared		-.0006 [*] (.0002)	-	-
Duration in First Spell of Employment		-	.1053 ^{***} (.0051)	.1504 ^{***} (.0106)
Duration in Spell of Non-Employment		-	-	.1422 ^{***} (.0115)
Shape parameter (ρ)		2.6574	2.2999	1.5979
Scale parameter (α)		-.3763 ^{***} (.0081)	-.4348 ^{***} (.0094)	-.6580 ^{***} (.0209)
Constant		3.844	.1947	.8910
Log Likelihood		-1580.11	-1483.44	-1077.83
% Censored		49	37	55
N Size		2952	2076	1406

Note: Standard errors are reported within parentheses.

Husband's income and respondent's wage have been transformed using a natural logarithm.

* $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

TABLE 26				
Determinants of the Rate of Leaving the First Spell of Employment for Ever-In Union, Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and Exponential Hazard Models				
Covariates		Model		
		Weibull	Loglogistic	Exponential
Husband's Income (LN)		-.0634 ^{***} (.0075)	-.0821 ^{***} (.0090)	-.1084 ^{***} (.0199)
Marital Status	Continuously Married	.2390 ^{***} (.0483)	.3316 ^{***} (.0515)	.4372 ^{***} (.1247)
	Marriage Dissolution	-	-	-
Number of Children Under Age Six		-.1867 ^{***} (.0194)	-.1771 ^{***} (.0206)	-.3736 ^{***} (.0504)
Number of Children Age Six and Over		-.3958 ^{***} (.0320)	-.3736 ^{***} (.0305)	-.7813 ^{***} (.0787)
Geographic Mobility	Moved	-.1007 ^{***} (.0218)	-.1323 ^{***} (.0245)	-.1819 ^{***} (.0571)
	No Move	-	-	-
Age at Time of Leaving or Return		-.2358 ^{***} (.0138)	-.2679 ^{***} (.0156)	-.2092 ^{***} (.0379)
Age Squared		.0022 ^{***} (.0002)	.0027 ^{***} (.0002)	.0012 [*] (.0006)
Education at First Work		.0489 ^{***} (.0056)	.0449 ^{***} (.0064)	.0551 ^{***} (.0145)
Timing of First Birth	Before Starting Work	.7867 ^{***} (.0399)	.9292 ^{***} (.0465)	1.2387 ^{***} (.1059)
	After Starting Work	-	-	-
Childless at Survey		-.4913 ^{***} (.0441)	-.4571 ^{***} (.0415)	1.0951 ^{***} (.1144)
Occupation at First Work	Professional	.1163 ^{***} (.0272)	.1508 ^{***} (.0315)	.1273 (.0724)
	Non-Professional	-	-	-
Wages/Salary at First Work (LN)		.0177 (.0164)	.0181 (.0191)	.0173 (.0434)
Work Status at First Work	Part-Time	.0105 (.0311)	.0378 (.0369)	.0592 (.0825)

TABLE 26

**Determinants of the Rate of Leaving the First Spell of Employment for Ever-In Union,
Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and
Exponential Hazard Models**

Covariates		Model		
		Weibull	Loglogistic	Exponential
	Full-Time	-	-	-
Unemployment Rate at Time of Starting Spell		.0031 (.0080)	.0070 (.0097)	-.0102 (.0207)
Unemployment Rate at Time of Ending Spell		.0378*** (.0079)	.0393*** (.0087)	.1103*** (.0207)
Region of Residence	Prairies	-.0191 (.0283)	-.0387 (.0326)	-.0365 (.0747)
	B.C.	.0383 (.0372)	-.0110 (.0425)	.0303 (.0983)
	Ontario	-	-	-
	Quebec	-.0187 (.0333)	.0078 (.0399)	-.0030 (.0890)
	Maritimes	.0350 (.0377)	.0697 (.0439)	.0790 (.0994)
Place of Residence	Rural/Small Town	.0036 (.0214)	-.0077 (.0246)	-.0193 (.0566)
	Urban	-	-	-
Birth Place	Foreign Born	-.0846** (.0293)	-.0185 (.0346)	-.0542 (.0769)
	Canadian Born	-	-	-
Religion	Catholic	-.0169 (.0278)	-.0378 (.0317)	-.0275 (.0734)
	Protestant	-	-	-
	Other	.0549 (.0368)	.0609 (.0436)	.1105 (.0972)
	None	-.0593 (.0440)	-.0256 (.0509)	-.0531 (.1155)
Church Attendance		-.0255** (.0083)	-.0255** (.0095)	-.0462* (.0216)

TABLE 26				
Determinants of the Rate of Leaving the First Spell of Employment for Ever-In Union, Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and Exponential Hazard Models				
		Model		
Covariates		Weibull	Loglogistic	Exponential
Ethnicity	French	.0144 (.0376)	-.0015 (.0439)	.0078 (.1000)
	English	-	-	-
	Other	.0288 (.0252)	.0426 (.0290)	.0372 (.0662)
Number of Siblings		.0177 ^{***} (.0040)	.0082 (.0044)	.0088 (.0102)
Year of Entering Spell		.0903 ^{***} (.0239)	.0602 [*] (.0277)	.3991 ^{***} (.0625)
Year of Entering Spell Squared		-.0006 ^{***} (.0002)	-.0004 [*] (.0002)	-.0032 ^{***} (.0005)
Shape Parameter (ρ)		2.6574	3.3901	-
Scale Parameter (α)		-.3763 ^{***} (.0081)	-.2949 ^{***} (.0066)	
Constant		3.844	2.278	13.52
Log Likelihood		-1580.11	-1708.64	-2265.27
% Censored		49	49	49
N Size		2952	2952	2952

Note: Standard errors are reported within parentheses.

Husband's income and respondent's wage have been transformed using a natural logarithm.

* $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

TABLE 27				
Determinants of the Rate of Leaving the First Spell of Non-Employment for Ever-In Union, Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and Exponential Models				
		Model		
Covariates		Weibull	Loglogistic	Exponential
Husband's Income (LN)		-.0571 ^{***} (.0071)	-.0543 ^{***} (.0084)	-.0940 ^{***} (.0178)
Marital Status	Continuously Married	.2492 ^{***} (.0484)	.2262 ^{***} (.0502)	.3945 ^{***} (.1116)
	Marriage Dissolution	-	-	-
Number of Children Under Age Six		-.1430 ^{***} (.0168)	-.2017 ^{***} (.0188)	-.2999 ^{***} (.0409)
Number of Children Age Six and Over		-.1887 ^{***} (.0205)	-.2512 ^{***} (.0211)	-.3303 ^{***} (.0480)
Geographic Mobility	Moved	-.1911 ^{***} (.0259)	-.2000 ^{***} (.0276)	-.2276 ^{***} (.0600)
	No Move	-	-	-
Age at Time of Leaving or Return		-.2223 ^{***} (.0170)	-.2125 ^{***} (.0183)	-.1537 ^{***} (.0415)
Age Squared		.0015 ^{***} (.0003)	.0014 ^{***} (.0003)	.0000 (.0006)
Education at First Work		.0596 ^{***} (.0066)	.0578 ^{***} (.0072)	.0678 ^{***} (.0150)
Timing of First Birth	Before Starting Work	.5837 ^{***} (.0427)	.7476 ^{***} (.0520)	.8042 ^{***} (.1006)
	After Starting Work	-	-	-
Childless at Survey		.0645 (.0509)	.0006 (.0561)	-.0369 (.1178)
Occupation at First Work	Professional	.2188 ^{***} (.0331)	.2453 ^{***} (.0368)	.3060 ^{***} (.0769)
	Non-Professional	-	-	-
Wages/Salary at First Work (LN)		.0310 (.0204)	.0410 (.0219)	.0656 (.0466)
Work Status at First Work	Part-Time	.0383 (.0393)	.0413 (.0432)	.0663 (.0902)

TABLE 27

Determinants of the Rate of Leaving the First Spell of Non-Employment for Ever-In Union, Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and Exponential Models

Covariates		Model		
		Weibull	Loglogistic	Exponential
	Full-Time	-	-	-
Unemployment Rate at Time of Starting Spell		.0225* (.0101)	.0289* (.0107)	-.0210 (.0225)
Unemployment Rate at Time of Ending Spell		.0175* (.0077)	.0153 (.0082)	.0375* (.0177)
Region of Residence	Prairies	-.0536 (.0356)	-.0228 (.0383)	-.0183 (.0828)
	B.C.	-.0724 (.0445)	-.0880 (.0477)	-.0806 (.1037)
	Ontario	-	-	-
	Quebec	.0041 (.0393)	-.0466 (.0444)	-.0302 (.0939)
	Maritimes	.0640 (.0454)	.0859 (.0484)	.1147 (.1055)
Place of Residence	Rural/Small Town	-.0184 (.0265)	-.0280 (.0287)	-.0562 (.0620)
	Urban	-	-	-
Birth Place	Foreign Born	.0391 (.0353)	.0613 (.0385)	.0493 (.0811)
	Canadian Born	-	-	-
Religion	Catholic	.0526 (.0339)	.0526 (.0365)	.0366 (.0788)
	Protestant	-	-	-
	Other	.0267 (.0468)	.0410 (.0498)	-.0039 (.1089)
	None	-.0073 (.0514)	-.0504 (.0566)	-.0195 (.1190)
Church Attendance		-.0134 (.0097)	-.0076 (.0106)	-.0275 (.0228)

TABLE 27				
Determinants of the Rate of Leaving the First Spell of Non-Employment for Ever-In Union, Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and Exponential Models				
		Model		
Covariates		Weibull	Loglogistic	Exponential
Ethnicity	French	-.0472 (.0456)	-.0013 (.0501)	-.0299 (.1067)
	English	-	-	-
	Other	.0377 (.0310)	.0421 (.0335)	.0779 (.0720)
Number of Siblings		.0084* (.0043)	.0112* (.0047)	.0205* (.0101)
Year of Entering Spell		-.0023 (.0027)	-.0032 (.0031)	-.0228*** (.0061)
Duration of First Spell of Employment		.1053*** (.0051)	.1055*** (.0051)	.1272*** (.0111)
Shape Parameter (ρ)		2.2999	3.2289	-
Scale Parameter (α)		-.4348*** (.0094)	-.3097*** (.0071)	
Constant		.1947	.1140	.4464
Log Likelihood		-1483.44	-1476.38	-1929.79
% Censored		37	37	37
N Size		2076	2076	2076

Note: Standard errors are reported within parentheses.

Husband's income and respondent's wage have been transformed using a natural logarithm.

* $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

TABLE 28

Determinants of the Rate of Leaving the Second Spell of Employment for Ever-In Union, Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and Exponential Models

Covariates		Model		
		Weibull	Loglogistic	Exponential
Husband's Income (LN)		-.0879 ^{***} (.0140)	-.0946 ^{***} (.0165)	-.1027 ^{***} (.0279)
Marital Status	Continuously Married	.4667 ^{***} (.0954)	.5077 ^{***} (.0977)	.5491 ^{***} (.1627)
	Marriage Dissolution	-	-	-
Number of Children Under Age 6		-.0309 (.0393)	.0409 (.0474)	-.0252 (.0656)
Number of Children Age Six and Over		-.4525 ^{***} (.0530)	-.5045 ^{***} (.0537)	-.5333 ^{***} (.0825)
Geographic Mobility	Moved	-.2449 ^{***} (.0573)	-.2761 ^{***} (.0649)	-.3562 ^{***} (.0987)
	No Move	-	-	-
Age at Time of Leaving or Return		-.1888 ^{***} (.0085)	-.1955 ^{***} (.0089)	-.2573 ^{***} (.0151)
Education at First Work		.0538 ^{***} (.0147)	.0537 ^{***} (.0163)	.0910 ^{***} (.0252)
Timing of First Birth	Before Starting Work	.3743 ^{***} (.1069)	.5137 ^{***} (.1210)	.7098 ^{***} (.1827)
	After Starting Work	-	-	-
Childless at Survey		-.4268 ^{***} (.1295)	-.4057 ^{***} (.1301)	-.4090 [*] (.2031)
Occupation at First Work	Professional	.2388 ^{***} (.0744)	.2913 ^{***} (.0837)	.3372 ^{***} (.1226)
	Non-Professional	-	-	-
Wages/Salary at First Work (LN)		.0924 [*] (.0446)	.0573 (.0517)	.0799 (.0744)
Work Status at First Work	Part-Time	-.2316 [*] (.1018)	-.1437 (.1109)	-.2604 (.1674)
	Full-Time	-	-	-

TABLE 28

**Determinants of the Rate of Leaving the Second Spell of Employment for Ever-In Union,
Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and
Exponential Models**

Covariates		Model		
		Weibull	Loglogistic	Exponential
Unemployment Rate at Time of Starting Spell		-.0333 (.0246)	-.0073 (.0273)	-.0740 (.0396)
Unemployment Rate at Time of Ending Spell		.0595 ^{***} (.0191)	-.0610 ^{***} (.0207)	-.1085 ^{***} (.0317)
Region of Residence	Prairies	.1307 (.0782)	.1069 (.0868)	.0585 (.1289)
	B.C.	.1051 (.0949)	.0594 (.1068)	-.0990 (.1680)
	Ontario	-	-	-
	Quebec	.1864 [*] (.0913)	.1809 (.1011)	.2441 (.1471)
	Maritimes	-.0383 (.1088)	-.0844 (.1200)	-.1277 (.1761)
Place of Residence	Rural/Small Town	.0474 (.0609)	-.0268 (.0673)	.0072 (.1007)
	Urban	-	-	-
Birth Place	Foreign Born	-.0049 (.0790)	.0090 (.0876)	.0266 (.1302)
	Canadian Born	-	-	-
Religion	Catholic	-.0585 (.0778)	-.0312 (.0843)	.1123 (.1279)
	Protestant	-	-	-
	Other	.0518 (.0982)	.1390 (.1148)	.0698 (.1623)
	None	-.1834 (.1180)	-.0508 (.1283)	-.1423 (.2010)
Church Attendance		-.0583 ^{***} (.0215)	-.0769 ^{***} (.0237)	-.0763 [*] (.0347)
Ethnicity	French	-.0576 (.1035)	-.0582 (.1143)	-.0760 (.1653)

TABLE 28				
Determinants of the Rate of Leaving the Second Spell of Employment for Ever-In Union, Ever-Worked, Canadian Women: A Comparison of the Weibull, Loglogistic and Exponential Models				
Covariates		Model		
		Weibull	Loglogistic	Exponential
	English	-	-	-
	Other	-.0596 (.0697)	-.0603 (.0773)	-.0657 (.1136)
Number of Siblings		.0196* (.0099)	.0209 (.0111)	.0281 (.0158)
Year of Entering Spell		-.0060 (.0061)	-.0062 (.0072)	-.0126 (.0104)
Duration in First Spell of Employment		.1504*** (.0116)	.1561*** (.0123)	.2181*** (.0199)
Duration in Spell of Non-Employment		.1422*** (.0115)	.1542*** (.0119)	.2095*** (.0198)
Shape Parameter (ρ)		1.5197	1.9546	-
Scale Parameter (α)		-.6580*** (.0209)	-.5116*** (.0170)	
Constant		.8910	1.365	3.1382
Log Likelihood		-1077.83	-1111.41	-998.29
% Censored		55	55	55
N Size		1406	1406	1406

Note: Standard errors are reported within parentheses.

Husband's income and respondent's wage have been transformed using a natural logarithm.

* $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

TABLE 29					
Determinants of the Rate of Leaving the First Spell of Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women					
		Birth Cohort			
Covariates		1955-1965	1945-1954	1934-1944	All
Husband's Income (LN)		-.0686 ^{***} (.0186)	-.0369 ^{***} (.0079)	-.0405 ^{***} (.0119)	-.0634 ^{***} (.0075)
Marital Status	Continuously Married	.3041 [*] (.1256)	.1373 [*] (.0579)	.2029 ^{**} (.0777)	.2390 ^{***} (.0483)
	Marriage Dissolution	-	-	-	-
Number of Children Under Age Six		-.5164 ^{***} (.0688)	-.1450 ^{***} (.0229)	.0379 (.0288)	-.1867 ^{***} (.0194)
Number of Children Age Six and Over		-1.1204 ^{***} (.2046)	-.3603 ^{***} (.0499)	-.1294 ^{***} (.0354)	-.3958 ^{***} (.0320)
Geographic Mobility	Moved	-.0626 (.0575)	-.0903 ^{***} (.0256)	-.0443 (.0344)	-.1007 ^{***} (.0218)
	No Move	-	-	-	-
Age at Time of Leaving or Return		-.1925 ^{***} (.0147)	-.1428 ^{***} (.0051)	-.1114 ^{***} (.0042)	-.2358 ^{***} (.0138)
Age Squared		-	-	-	.0022 ^{***} (.0002)
Education at First Work		.0727 ^{***} (.0198)	.0477 ^{***} (.0072)	.0224 ^{**} (.0080)	.0489 ^{***} (.0056)
Timing of First Birth	Before Starting Work	1.1494 ^{***} (.1211)	.6348 ^{***} (.0488)	.5531 ^{***} (.0762)	.7867 ^{***} (.0399)
	After Starting Work	-	-	-	-
Childless at Survey		-.9874 ^{***} (.1109)	-.2682 ^{***} (.0571)	.0032 (.0655)	-.4913 ^{***} (.0441)

TABLE 29

Determinants of the Rate of Leaving the First Spell of Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women

Covariates		Birth Cohort			
		1955-1965	1945-1954	1934-1944	All
Occupation at First Work	Professional	-.0709 (.0889)	.1387 ^{***} (.0336)	.0645 (.0423)	.1163 ^{***} (.0272)
	Non-Professional	-	-	-	-
Wages/Salary at First Work (LN)		.0353 (.0478)	.0305 (.0212)	.0074 (.0249)	.0177 (.0164)
Work Status at First Work	Part-Time	-.1457 (.0822)	.0216 (.0394)	.0284 (.0504)	.0105 (.0311)
	Full-Time	-	-	-	-
Unemployment Rate at Time of Starting Spell		-.0249 (.0327)	-.0418 ^{**} (.0130)	-.0251 [*] (.0110)	.0031 (.0080)
Unemployment Rate at Time of Ending Spell		.0259 (.0175)	.0176 (.0126)	.0650 ^{***} (.0127)	.0378 ^{***} (.0079)
Region of Residence	Prairies	-.1141 (.0752)	-.0113 (.0339)	.0261 (.0463)	-.0191 (.0283)
	B.C.	-.0081 (.1048)	.0329 (.0435)	-.0029 (.0653)	.0383 (.0372)
	Ontario	-	-	-	-
	Quebec	.0322 (.0860)	-.0739 (.0429)	.0216 (.0508)	-.0187 (.0333)
	Maritimes	.2062 [*] (.0934)	.0267 (.0462)	-.0682 (.0643)	.0350 (.0377)
Place of Residence	Rural/Small Town	-.0321 (.0580)	.0074 (.0255)	.0244 (.0369)	.0036 (.0214)
	Urban	-	-	-	-
Birth Place	Foreign Born	-.0191 (.1039)	-.0777 [*] (.0357)	-.0559 (.0451)	-.0846 ^{***} (.0293)
	Canadian Born	-	-	-	-
Religion	Catholic	-.0760 (.0744)	.0373 (.0337)	-.0268 (.0455)	-.0169 (.0278)
	Protestant	-	-	-	-

TABLE 29					
Determinants of the Rate of Leaving the First Spell of Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women					
		Birth Cohort			
Covariates		1955-1965	1945-1954	1934-1944	All
	Other	-.0829 (.0959)	.0488 (.0448)	-.0046 (.0639)	.0549 (.0368)
	None	-.0251 (.1223)	-.0506 (.0508)	-.0624 (.0796)	-.0593 (.0440)
Church Attendance		-.0396 (.0234)	-.0191 (.0102)	-.0030 (.0130)	-.0255 ^{***} (.0083)
Ethnicity	French	-.0032 (.0997)	.0364 (.0451)	-.0496 (.0609)	.0144 (.0376)
	English	-	-	-	-
	Other	.0683 (.0699)	-.0153 (.0304)	.0433 (.0409)	.0288 (.0252)
Number of Siblings		.0096 (.0122)	-.0048 (.0049)	.0099 (.0060)	.0177 ^{***} (.0040)
Year of Entering Spell		.0336 [*] (.0161)	.0440 ^{***} (.0048)	.0545 ^{***} (.0052)	.0903 ^{***} (.0239)
Year of Entering Spell Squared		-	-	-	-.0006 ^{***} (.0001)
Shape Parameter (ρ)		2.5716	3.1446	2.8851	2.6574
Scale Parameter (α)		-.3972 ^{***} (.0213)	-.3180 ^{***} (.0094)	-.3466 ^{***} (.0127)	-.3763 ^{***} (.0081)
Constant		3.1972	4.170	5.375	3.844
Log Likelihood		-328.88	-561.78	-380.27	-1580.11
% Censored		70	44	37	49
N Size		838	1353	761	2952

Note: Standard errors are reported within parentheses.

Husband's income and respondent's wage have been transformed using a natural logarithm.

* $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

TABLE 30

Determinants of the Rate of Leaving the First Spell of Non-Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women

Covariates		Birth Cohort			
		1955-1965	1945-1954	1934-1944	All
Husband's Income (LN)		-.0521 ^{***} (.0158)	-.0873 ^{***} (.0138)	-.0323 ^{**} (.0114)	-.0571 ^{***} (.0071)
Marital Status	Continuously Married	.2579 [*] (.1158)	.0956 (.0549)	.1444 (.0779)	.2492 ^{***} (.0484)
	Marriage Dissolution	-	-	-	-
Number of Children Under Age Six		-.1900 ^{***} (.0483)	-.1411 ^{***} (.0220)	-.0791 ^{**} (.0259)	-.1430 ^{***} (.0168)
Number of Children Age Six and Over		-.5996 ^{***} (.1541)	-.1764 ^{***} (.0302)	-.1222 ^{***} (.0237)	-.1887 ^{***} (.0205)
Geographic Mobility	Moved	-.1549 ^{**} (.0590)	-.1150 ^{***} (.0313)	-.1592 ^{***} (.0402)	-.1911 ^{***} (.0259)
	No Move	-	-	-	-
Age at Time of Leaving or Return		-.2348 ^{***} (.0167)	-.1758 ^{***} (.0064)	-.1243 ^{***} (.0052)	-.2223 ^{***} (.0170)
Age Squared		-	-	-	.0015 ^{***} (.0003)
Education at First Work		.1256 ^{**} (.0211)	.0759 ^{***} (.0087)	-.0003 (.0097)	.0596 ^{***} (.0066)
Timing of First Birth	Before Starting Work	.7440 ^{***} (.1058)	.4969 ^{***} (.0580)	.5303 ^{***} (.0658)	.5837 ^{***} (.0427)
	After Starting Work	-	-	-	-

TABLE 30

Determinants of the Rate of Leaving the First Spell of Non-Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women

		Birth Cohort			
Covariates		1955-1965	1945-1954	1934-1944	All
Childless at Survey		.0170 (.0999)	.0538 (.0648)	-.0247 (.0828)	.0645 (.0509)
Occupation at First Work	Professional	.1968* (.0938)	.2528*** (.0428)	.0646 (.0483)	.2188*** (.0331)
	Non-Professional	-	-	-	-
Wages/Salary at First Work (LN)		.0651 (.0616)	.0700** (.0268)	.0378 (.0303)	.0310 (.0204)
Work Status at First Work	Part-Time	.0051 (.0826)	-.0218 (.0510)	.1217* (.0619)	.0383 (.0393)
	Full-Time	-	-	-	-
Unemployment Rate at Time of Starting Spell		.0105 (.0221)	.0336 (.0183)	.0402** (.0132)	.0225* (.0101)
Unemployment Rate at Time of Ending Spell		-.0153 (.0191)	.0446*** (.0107)	.0530*** (.0138)	.0175* (.0077)
Region of Residence	Prairies	-.1591* (.0788)	.0315 (.0465)	-.0528 (.0540)	-.0536 (.0356)
	B.C.	-.2014* (.0969)	-.0110 (.0555)	-.0972 (.0710)	-.0724 (.0445)
	Ontario	-	-	-	-
	Quebec	-.0410 (.0988)	.0075 (.0539)	-.0539 (.0573)	.0041 (.0393)
	Maritimes	.2120* (.0962)	.0572 (.0584)	.1642* (.0699)	.0640 (.0454)
Place of Residence	Rural/Small Town	-.1533** (.0597)	.0263 (.0341)	-.0619 (.0414)	-.0184 (.0265)
	Urban	-	-	-	-
Birth Place	Foreign Born	-.0171 (.1021)	.0422 (.0446)	-.0537 (.0523)	.0391 (.0353)
	Canadian Born	-	-	-	-

TABLE 30

Determinants of the Rate of Leaving the First Spell of Non-Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women

Covariates		Birth Cohort			
		1955-1965	1945-1954	1934-1944	All
Religion	Catholic	.0447 (.0715)	.0848* (.0436)	-.0739 (.0514)	.0526 (.0339)
	Protestant	-	-	-	-
	Other	.1115 (.0934)	.0131 (.0596)	.0386 (.0469)	.0267 (.0468)
	None	-.0637 (.1083)	.0097 (.0626)	.0374 (.0873)	-.0073 (.0514)
Church Attendance		-.0292 (.0229)	-.0047 (.0130)	-.0211 (.0143)	-.0134 (.0097)
Ethnicity	French	.0348 (.1091)	-.0001 (.0584)	-.0556 (.7856)	-.0472 (.0456)
	English	-	-	-	-
	Other	.1029 (.0724)	.0611 (.0400)	.0386 (.0469)	.0377 (.0310)
Number of Siblings		.0017 (.0118)	-.0001 (.0057)	.0237*** (.0063)	.0084* (.0043)
Year of Entering Spell		.0283 (.0193)	.0154* (.0071)	.0457*** (.0054)	-.0023 (.0027)
Duration in First Employment Spell		.1815*** (.0191)	.1105*** (.0077)	.0545*** (.0066)	.1053*** (.0051)
Shape Parameter (ρ)		2.7855	2.7480	2.4660	2.2999
Scale Parameter (α)		-.3590*** (.0209)	-.3639*** (.0114)	-.4055*** (.0139)	-.4348*** (.0094)
Constant		2.0900	1.9835	4.1061	.1947
Log Likelihood		-218.94	-546.10	-446.55	-1483.44
% Censored		52	38	27	37
N Size		396	976	706	2076

Note: Standard errors are reported within parentheses.
 Husband's income and respondent's wage have been transformed using a natural logarithm.
 * $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

TABLE 31					
Determinants of the Rate of Leaving the Second Spell of Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women					
Covariates		Birth Cohort			
		1955-1965	1945-1954	1934-1944	All
Husband's Income (LN)		-.1199 ^{***} (.0369)	-.0483 [*] (.0191)	-.0864 ^{***} (.0219)	-.0879 ^{***} (.0140)
Marital Status	Continuously Married	.4219 (.2673)	.2265 (.1298)	.4768 ^{***} (.1435)	.4667 ^{***} (.0954)
	Marriage Dissolution	-	-	-	-
Number of Children Under Age Six		-.1334 (.1020)	.1038 (.0580)	.0549 (.0643)	-.0309 (.0393)
Number of Children Age Six and Over		-.7122 [*] (.3330)	-.6417 ^{***} (.0964)	-.2069 ^{***} (.0585)	-.4525 ^{***} (.0530)
Geographic Mobility	Moved	-.0434 (.1441)	-.1795 [*] (.0825)	-.1901 [*] (.0905)	-.2449 ^{***} (.0573)
	No Move	-	-	-	-
Age at Time of Leaving		-.3602 ^{***} (.0433)	-.2443 ^{***} (.0149)	-.1841 ^{***} (.0110)	-.1888 ^{***} (.0085)
Education at First Work		.1931 ^{***} (.0542)	.0663 ^{**} (.0230)	-.0045 (.0212)	.0538 ^{***} (.0147)
Timing of First Birth	Before Starting Work	.6491 [*] (.2829)	.1427 (.1667)	.4979 ^{***} (.1511)	.3743 ^{***} (.1069)
	After Starting Work	-	-	-	-
Childless at Survey		-.9192 ^{**} (.3188)	-.3021 (.1802)	-.0070 (.1944)	-.4268 ^{***} (.1295)
Occupation at First Work	Professional	.2267 (.2048)	.2571 [*] (.1113)	.1882 (.1084)	.2388 ^{**} (.0744)
	Non-Professional	-	-	-	-
Wages/Salary at First Work (LN)		.4095 [*] (.1753)	.0632 (.0721)	.0229 (.0664)	.0924 [*] (.0446)
Work Status at First Work	Part-Time	.0110 (.2370)	-.1219 (.1442)	-.2920 (.1562)	-.2316 [*] (.1018)
	Full-Time	-	-	-	-

TABLE 31					
Determinants of the Rate of Leaving the Second Spell of Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women					
Covariates		Birth Cohort			
		1955-1965	1945-1954	1934-1944	All
Unemployment Rate at Time of Starting Spell		-.0558 (.0595)	-.1021* (.0415)	.0036 (.0353)	-.0333 (.0246)
Unemployment Rate at Time of Ending Spell		-.1649** (.0582)	-.0018 (.0299)	.0123 (.0306)	.0595** (.0191)
Region of Residence	Prairies	-.1614 (.1905)	.2714* (.1116)	-.1076 (.1203)	.1307 (.0782)
	B.C.	-.2818 (.2313)	.1959 (.1320)	.1461 (.1504)	.1051 (.0949)
	Ontario	-	-	-	-
	Quebec	-.0987 (.3101)	.0661 (.1346)	.0742 (.1190)	.1864* (.0913)
	Maritimes	.2524 (.2873)	-.0783 (.1650)	-.2783 (.1607)	-.0383 (.1088)
Place of Residence	Rural/Small Town	-.1589 (.1604)	.0979 (.0860)	-.1522 (.0922)	.0474 (.0609)
	Urban	-	-	-	-
Birth Place	Foreign Born	.0092 (.2572)	.0138 (.1102)	-.0597 (.1156)	-.0049 (.0790)
	Canadian Born	-	-	-	-
Religion	Catholic	-.0563 (.1830)	.0168 (.1068)	-.1883 (.1120)	-.0585 (.0778)
	Protestant	-	-	-	-
	Other	.5176* (.2298)	-.0324 (.1417)	.0693 (.1536)	.0518 (.0982)
	None	.2385 (.2962)	-.1768 (.1628)	.0810 (.1911)	-.1834 (.1180)
Church Attendance		-.1160* (.0582)	-.0364 (.0325)	-.0946** (.0305)	-.0583 (.0215)
Ethnicity	French	.6901* (.3509)	-.0205 (.1363)	-.0807 (.1398)	-.0576 (.1035)

TABLE 31					
Determinants of the Rate of Leaving the Second Spell of Employment for Separate Birth Cohorts of Ever-In Union, Ever-Worked, Canadian Women					
Covariates		Birth Cohort			
		1955-1965	1945-1954	1934-1944	All
	English	-	-	-	-
	Other	.2718 (.2063)	-.0836 (.0983)	-.0992 (.0997)	-.0596 (.0697)
Number of Siblings		-.0071 (.0269)	.0056 (.0144)	.0385** (.0144)	.0196* (.0090)
Year of Entering Spell		.1335* (.0525)	.0409* (.0164)	.0386** (.0119)	-.0060 (.0061)
Duration in First Spell of Employment		.2191*** (.0477)	.1361*** (.0201)	.0855*** (.0163)	.1504*** (.0106)
Duration in Spell of Non-Employment		.3322*** (.0885)	.1405*** (.0225)	.0876*** (.0159)	.1422*** (.0115)
Shape Parameter (ρ)		1.9264	1.6714	1.6358	1.5975
Scale Parameter (α)		-.5191*** (.0486)	-.5983*** (.0288)	-.6113*** (.0294)	-.6580*** (.0209)
Constant		7.919	.9435	1.199	.8910
Log Likelihood		-116.56	-439.10	-419.13	-1077.83
% Censored		62	56	49	55
N Size		214	651	545	1406

Note: Standard errors are reported within parentheses.

Husband's income and respondent's wage have been transformed using a natural logarithm.

* $P \leq .05$ ** $P \leq .01$ *** $P \leq .001$

CHAPTER SEVEN

Conclusion

7.1 Summary of Major Findings

One of the primary objectives of this dissertation has been to show that variables which exert a positive (negative) influence on the rate at which a woman enters into employment may have the same positive (negative) influence on the rate at which she leaves.

Education, number of children under the age of six and husband's income each had effects on the rate of leaving the labour force in the same direction as their effects on the rate of leaving non-employment. For example, highly educated women left the first spell of non-employment (i.e. returned to work) at a much faster rate than less educated women. However, they also left employment at a faster rate. Previous work in the area of female employment had focused on crude measures of attachment and therefore masked over many of these effects. The effects found here almost certainly explain why past attempts at ascertaining change in the relative contribution of various sets of predictors on employment have arrived at such inconsistent conclusions.

The complexity of women's work patterns also became apparent with the finding of quite different effects of certain model covariates on the rate of leaving the first and second spells of employment. For example, while number of children under the age of six evoked a strong negative relationship with the rate of leaving the first spell, it had only non-significant effects for the second spell. This finding (as well as others) suggests

that the assumption of a uniform hazard rate across spells is false and that the practice of pooling employment spells is incorrect.

A second objective of this dissertation was to show that there has been an underlying shift in various sets of influences responsible for the increasing work attachment on the part of recent birth cohorts of women. Recent birth cohorts were hypothesized to be working more out of a strong taste or preference for market work (measured by increased educational attainment and postponement of the first birth until entry into employment) as opposed to economic need or to changes in their family situation (i.e. child status and marital status) age or migration.

The results in the previous chapter provided only partial support for this hypothesis. Individual demographic variables such as number of children and age appeared to play a greater role in predicting the timing of leaving and re-entering employment for the most recent cohorts. This supports Mincer's notion that demographic factors will continue to be potent influences in determining the allocation of time between market and non-market activities on the part of a woman who already works or who has worked previously despite an apparent weakening of their effects in predicting her current labour force status.

However, despite the steady increase in the potency of child status and age, it would be premature to conclude that demographic situational "constraints" are becoming more important predictors of women's work attachment.

One factor which must be kept in mind was the inability to measure the effects of objective economic need. It was discovered that husband's income seemed to be

measuring an employed woman's subjective need for added luxuries as opposed to real economic necessity. This is quite an extraordinary finding which warrants further study. However, the inclusion of other need measures such as whether a woman owned or rented a dwelling or her husband's past employment status may have changed the results particularly for the child status variables which are heavily influenced by economic constraints.

It is also worth noting that not all of the demographic variables gained strength across birth cohorts. For the transitions out of employment, there was a decline in the effect of marital status. Women from the earliest birth cohort in a continuous marriage left the labour force at a much faster rate than those from more recent cohorts.

Thirdly, at least one of the two measures of tastes and preferences for market work, education at first work, increased in potency among the more recent birth cohorts. This finding lends partial support to the voluntarist position.

The results presented in *Chapter Six* indicate strongly that labour force analysts recognize the importance of demographic and economic constraints which may place limits on the choices women make in terms of the amount of time they invest in family and work roles *and* taste factors which allow for some measure of volition or free-will in individual decision-making processes. Each set of influences must be modelled together and must be grounded firmly on a broad-based theory which incorporates elements of the structural coercionist and voluntarist position. The Nakamura framework outlined in *Chapter One* holds the most promise in its treatment of the individual as a

non-passive player capable of moulding her environment but also being subjected to its constraining influences.

7.2 Policy Implications

The findings in Chapter Six raise more questions than provide answers. Many of the interpretations (some of them competing) require additional substantiating evidence currently unavailable in most micro-level data sets on female work behaviour. As a result, very few direct public policy implications are evident in the present work. This section, therefore, explores some possible implications for public policy pending the arrival of more specialized studies.

The strong positive effect of higher education on the rate of leaving the first and second spells of employment among more recent birth cohorts was interpreted as a sign that highly educated women were not satisfied with just any kind of employment. It seems plausible that higher education has raised womens' expectations of employment opportunities and the quality of employment to the extent that they will leave several jobs before making a final career choice.

To the author's knowledge, there is no direct empirical evidence to support this hypothesis that higher education has altered womens' expectations. However, if highly educated women are becoming more particular about the kind of employment they secure but are having difficulty finding higher paying and better quality work, then it seems worthwhile to explore why this is so and what some of the implications might be in terms of public policy

Research has shown that the Canadian labour force is still very much segmented with women and other minority groups concentrated in low status occupational positions and white males in white collar positions of higher status and pay. Under this system, it is likely that even highly educated women are finding that the wages or the seniority level of the positions offered by employers are not commensurate with their level of schooling. According to Hersom and Smith (1982), this is a very real possibility given that women are generally paid only two-thirds the level of salary of men for the same type of work. They go on to say that:

"the assumption that employers hire, promote, and pay on the basis of education is largely wrong. Although pay levels may be influenced by the necessity to attract skilled workers, this has not raised women's wages in their job ghettos" (Hersom and Smith, 1982: 289).

If Hersom and Smith are correct, future policy initiatives should be undertaken to ensure a greater fit between qualifications and starting wages. This might be achieved through greater government enforcement of affirmative action programs and the "equal pay for work of equal value" legislation designed to eliminate or reduce the wage gap between men and women in the work place.

It would be misleading to assume, however, that the lack of fit between a woman's formal educational training (i.e. the number of years in school) and her position in the job market is solely due to discriminatory demand side characteristics such as unfair hiring practices on the part of employers. The post secondary educational system still needs to go a long way toward ensuring that women are more equally represented at all levels of undergraduate and graduate training. At all levels of the educational system, mechanisms are still in place that funnel women into the traditional "women's

jobs" such as teacher, nurse or social worker. These old and new biases in the system must be removed. Women must be presented with a full range of career choices and options that are available to men (and vice versa). Guidance counsellors need to communicate to women the message that all career avenues, including full time parenthood and careers primarily pursued by men, are open to them as well.

In the previous chapter number of children under the age of six had the expected negative effect on the rate at which women left the first spell of non-employment. To some extent this finding may signify a shortage of formal child care services for pre-schoolers. In Canada, statistics show that the cost of formal day care services for a couple is prohibitive especially when two or more children are involved (Douthitt and Joanne, 1988). Moreover, given the scarcity of available spaces, the chances of finding suitable care is reduced when two children are in need as opposed to just one. The Cooke Report on Childcare found that a couple with an average income and two children (a three year old and an infant) would pay between 14 and 21 percent of its combined income for day care (Duffy et al., 1989).

However, the number of pre-school children a woman has does not necessarily translate into a child care constraint on her employment. She must also express a desire to return to the work force in the event that plentiful and affordable formal day care is made available. Some evidence of the presence of a childcare constraint is found in the United States. In 1982 the U.S. Current Population Survey asked non-employed mothers with pre-school age children if they would look for work if affordable child care was available. More than one quarter (26 percent) of these women said they would look for

work (Bloom and Stein, 1990). A similar question asked of mothers age 18-24 in the National Longitudinal Survey Youth Cohort resulted in a figure of 38 percent (Bloom and Stein, 1990).

Studies similar to those carried out in the United States have not been done in Canada. If the figures turn out to be roughly comparable, this means that better access to day care is needed to allow young mothers with pre-school children to expand their range of options to include paid market work.

However, it is also important to recognize that for many non-employed mothers with pre-school age children, the promise of plentiful and affordable day care would do very little to persuade them to return to work. Many studies have shown that a sizable proportion of women prefer home care over market work. Some of these women are concerned that two full-time earners in the workforce might threaten family cohesiveness (O'Sullivan, 1988) or become psychologically damaging to their children. Others frequently mention that the housewife role allows for greater flexibility and freedom in terms of how they are able to spend their time (Duffy et al., 1989). Indeed, a vast majority (74 percent) of the mothers with young children discussed by Bloom and Stein (1990) said that they were either not sure or that they would not enter the work force in the event that affordable care was made available. The number of women wishing to remain at home might have been even higher had all mothers (including those already working) been asked if they would consider government assistance (e.g. a tax credit or exemption) to remain at home to look after their children rather than combine paid work and housework.

If we can assume that a sizable number of Canadian women would prefer to stay at home to look after their children as opposed entering full-time work, government policies would be needed (e.g. some form of tax credit) to make it economically worthwhile for them to do so. Once again, this is an empirical question.

Findings in the previous chapter also revealed a strong negative effect of number of children under the age of six on the propensity to leave the labour force but only for the first spell of employment. This was explained in terms of the costliness of raising children particularly for young families where the husband was just starting a full-time career. For these families, having more than one child was felt to require two full-time earners.

But families in which both spouses work full-time must make some form of child care arrangement for their children. Unfortunately, formal child care services, because of their scarcity and high costs, are not even an option for couples who are struggling to get ahead and who have more than one child. For some couples this shortage does not present a problem if suitable alternative sources of care such as older children or residential or non-residential kin are readily available. Indeed, in the U.S. Blau and Robins (1991) found that many young families where both parents were working did in fact rely primarily on cheaper methods of child care such as a relative in the home. As these families matured, husband's income increased allowing the procurement of more formal methods of care.

Unfortunately, cheaper informal sources of childcare are not always an option or preferred option for couples who are unable to pay for expensive formalized services.

Women are now having fewer children and spacing them closer together making it less and less likely that an older child will be there to provide child care assistance. Close kin may also be too dispersed geographically to provide regular daily care. Second, evidence from the U.S. suggests that child care from formalized services may be more stable over the long-term than care provide by relatives or other family members (U.S. Current Population Reports, 1990).

In terms of public policy, these findings may suggest the need for formal child care subsidy programs to be targeted more intensively at young lower income families where both spouses are full-time wage earners and who do not have the option of cheaper alternative sources of care from relatives or family members.

Perhaps the most significant finding to emerge from this work was the near reversal in the direction of the relationship between number of children less than the age of six and the rate of leaving the first spell of employment. For the earliest birth cohort, a slight positive effect occurred which then abruptly changed to a strong negative effect for the recent groups. This finding says that recent birth cohorts, for whatever reason, whether it be actual economic need or the perception of need or a strong taste for market work, are deciding to trade a short period of discomfort associated with combining motherhood with full-time work for the long term benefits of remaining a paid labourer.

If their determination to enter the labour force and remain there with few interruptions to their work persists, this means a steady or possibly increased demand for day care.

Beyond what the findings here may imply, there are other reasons why Canadians urgently need more formal day care. First, there is growing evidence in the U.S. that informal child care support relied upon by young families is actually more disruptive to a woman's employment schedule than formal services (U.S. Current Population Reports, 1990). Parish et al. (1991) argue that this is because the hourly cost of having one's child cared for by kin increases rapidly with additional hours worked by the caregiver. With formal care providers, such costs are high at the beginning (i.e. costs of locating the caregiver and making an arrangement) but remain a constant fixed level thereafter.

Secondly, there is evidence, again based on American data, that the average age of young children with employed mothers is getting slightly younger, implying that "the current problems of childcare quality and affordability for pre-school aged children will intensify" for three or four years (Presser, 1989).

Finally, with female participation rates among mothers of pre-school age children approaching 75 percent, there will be fewer and fewer potential female child-care givers either related or non-related who can take the place of formalized caregivers (Ram, 1990).

Many past studies of female employment behaviour have concentrated only on currently married women. Neglected have been the divorced, separated and widowed. The results in the previous chapter suggest that this latter group may have just as much impact on the timing of labour force transitions as the currently married.

Compared to the continuously married, women who experienced a divorce, separation or the death of a spouse, were found to be far less likely to leave the first and

second spells of employment. Economic need arising from the sudden shock to the household of the elimination of the husband's income was cited as the major driving force keeping these women in the work force. Single parent mothers were identified as especially hard hit because of the added cost of supporting children.

Single parent families headed by women have been steadily on the rise in the past ten to fifteen years but the rate of poverty among such families has increased at a far greater pace. In 1985, for example, 60 percent of all lone-parent families headed by women had incomes that fell below Statistics Canada's low income cut-offs, up from 53 percent in 1981. In contrast, just 11 percent of husband-wife families had incomes below the low income cut-offs in 1985 (Moore, 1987). Policies must be adopted which begin to address the severe economic hardships experienced by these women.

One starting point might be heavily subsidized government child care programs specifically designed for single-parent mothers. A study in the U.S. found that single parent teenage mothers who were recipients of special free educational day care had an increased likelihood of completing high school, obtaining post-secondary education, and becoming self-supporting (Campbell et al., 1986). For example, by the time their children had reached 54 months of age, mothers exposed to the day care program had attained a mean education of 12.08 years compared to a mean of just 11.00 years for mothers in the control group. Forty-six percent of the experimental mothers completed some post-secondary education compared to just 13 percent of the control mothers.

A second step that might be taken would be to increase pressure on former spouses (men) to follow through on their child support and alimony payments. Recent

studies have shown that a majority of currently or previously divorced employed men either make inadequate payments or none at all to their former spouses.

Thirdly, since divorce, separation or widowhood often occurs at a time when women have been out of the work force for some time, their skills and level of training are grossly inadequate to compete successfully for high paying jobs. Governments might consider establishing programs for single parent mothers which focus on upgrading their education and skills.

Results from the previous chapter also indicated that the divorced, separated and widowed, particularly among the most recent birth cohort, were far less likely than the continuously married to return to the work force following a period of non-employment. One possible reason given was that when these women do leave the labour force they tend to become dependent on welfare or on government assistance for support, thus delaying their eventual return. Many of the policies mentioned above aimed at women already working, may be equally effective in hastening this group's return to work. Government expenditures on welfare would certainly benefit from these kinds of program initiatives.

Results in the previous chapter also showed a greater tendency on the part of women married to husbands with high incomes not to leave the first and second spells of employment. There was some speculation that these women were remaining in the work force longer because the experience of earning income had created new perceptions of need such as the need for new clothes, another car or a new microwave. However, the effect of income also meant that women married to low-income earning husbands

were more likely to leave the labour force. Because of the low income and probable unstable employment situation of their husband's, these women were possibly forced to look for better paying jobs more often.

The low income situation of this latter group is important from a policy standpoint. McQuillan (1991) has observed that in 1985 62.5 percent of Ontario families in the lowest income quintile were headed by married couples. In contrast, 94.1 percent of families in the top four income quintiles were in this category. He found that the poor economic situation of the low income quintile families had little to do with family composition or living arrangements but occurred because the families had on average only 1.57 earners compared to an average of 2.19 earners in the upper quintile families. Moreover, 47 percent of the husbands in the lowest quintile had not completed a high school education compared to 27.6 percent of husbands in the upper four quintiles. In order to restore the economic stability of these families in the long term (i.e. increase the number of earners from one to two), programs are needed which focus more on continuing education, skills training and development rather than monetary transfer payments from the government which usually only offer short-term temporary relief. This would lead to better paying and more steady jobs for both spouses and reduce the level of job turnover.

Research has shown a strong economic interdependence between previous events in an individual's work history and their current or future economic status (Baker and Elias, 1991). For example, women who have previously experienced one or more spells of unemployment or non-employment are less likely to be currently employed in the

labour force. The length of spells of unemployment has also been shown to bear a negative impact on current status.

The results in the present work provide partial support for these findings. A strong positive relationship was discovered between length of time spent in the first spell of non-employment and the rate of leaving the work force for the second time. In terms of guiding policy, this finding suggests that if events in an individual's previous work history such as a record of unemployment or non-employment causes them to experience more unemployment in the present or in the future (independent of any effects of differences in individual characteristics on their status), then in order to reduce the current or future risk of being unemployed, policies might focus less on the "employability" of the individual and more on the recruiting practices of the employers.

However, it is very difficult to completely separate out or hold constant the different character traits of individuals from the number and duration of past employment events and then to examine their relative impact on a woman's subsequent or current labour force status. Doing so assumes a model which has the capability of perfectly capturing all sources of uncontrolled heterogeneity. A decision to focus policy on the hiring practices of employers may therefore be unwarranted or premature. Secondly, the results in the previous chapter are not equivocal in terms of where policy should be directed. Length of time spent in the first spell of employment was also found to exert a positive impact on the rate of leaving the second spell suggesting that individual characteristics may be at work.

Until richer sources of data are available enabling researchers to separate out the effects of individual differences on labour force behaviour from previous labour market events, policies should be adopted which maintain a balanced approach. For example, programs should attempt to change employer's perceptions of females as uncommitted workers. Employers should also be encouraged to invest more in their female workers by offering continuing education, occupational training and skills upgrading. At the same time, programs to change the behaviour and thinking of individual women might focus on ways to better themselves through higher education and skill development.

The findings in this study also give rise to policy implications of a more general nature. First, this study has shown that components in a woman's previous work history are important determinants of her subsequent work behaviour. In the past, models which failed to include these components tended to overstate the effects of traditional predictors of attachment such as child status or husband's income, factors which operated to reduce a woman's chances of working. Townson (1987) notes that these overstated effects are probably one reason why future projections of female labour force involvement have at times been off the mark. Future government policies in the area of male and female employment must be grounded on labour force models which take account of the historical as well as the current employment situation of women.

Secondly, in the United States and Canada, the labour force has been undergoing a steady reduction in its rate of growth (Bloom and Steen, 1990; Lero and Kyle, 1991). One reason is that the children of the "Baby Bust" period now comprise the bulk of new labour force entrants and their numbers are considerably smaller than those from

previous cohorts. Other reasons for the declining growth include a greater emphasis on higher education and a new trend toward early retirement. These three factors mean that there could be a serious shortage of skilled and even unskilled labour in the very near future unless certain steps are taken to ensure a continued supply.

Increasing the supply of labour might be achieved in three ways. One possible solution in the short term would be to encourage non-employed individuals (i.e. men or women) to enter the labour force. A second short-term solution is to rely on skilled immigrants to fill labour shortages. A third more long-term solution considers policies to maintain or increase the current fertility rate of employed women without drastically reducing their level of continuity in the work force. Such policies might include more lengthy paid maternity or paternity leave combined with hefty government incentives to have more children, for example, government baby bonuses.

Each of these possible avenues has its strong and weak points. One problem with the first solution is that male participation rates have actually been on the decline since the early 1980s with the sharpest declines occurring among males age 15 to 24 and 55 and over (Matras, 1989). These trends are expected to continue at least until the year 2000 unless government policies are introduced to discourage, for example, early retirement.

However, studies in the U.S. suggest that there is a potentially large untapped pool of women comprised of currently non-employed mothers who would enter the labour force if accessible and affordable day care was available (Bloom and Steen, 1990). While there is no existing evidence to suggest that Canadian women would do the same,

the present study has shown that an important source of increased attachment to the labour force across birth cohorts has come from non-employed women returning to work. It has also shown that the number of children these women have operates as a powerful deterrent to their speedy return to employment. This means that a universal child care system may be required as an integral part of a long term plan to ensure a prosperous economic future for Canada.

The potential economic benefits accrued from policies aimed at putting currently non-employed women back to work are many. As early as 1971, Lacasse (1971) estimated that if there was an immediate equalization of male and female labour force participation rates (including parity between both sexes in the number of hours for those already working) the gross national product would increase by 22 percent. Part of this increase would no doubt be illusory. According to Presser (1989):

"the decline in full-time homemaking has generated an increase in the extent to which family members eat out and purchase other homemaking services... Moreover, women's increasing daytime labor force participation has generated a demand for services during non-daytime hours and weekends" (Presser, 1989: 525).

There are also very real economic costs associated with policies which ignore the economic contribution made by female workers. For example, despite the fact that women in marital relationships are usually "junior partners" in terms of their earned income relative to that of their husbands, full time workers earn on average 38 percent of what their male counterparts earn (Grindstaff and Trovato, 1987). In a not insignificant number of cases, this additional income is essential to keep the family from

falling below existing poverty lines and underscores the importance of female earnings in maintaining the economic viability of the Canadian family.

A second possible solution, to increase the number of skilled immigrants does offer some promise. Canada's Point System for potential immigrant applicants strongly favours highly educated and highly skilled individuals. It also offers incentives to those applicants who agree to move to areas where their skills are needed the most (often far away from the preferred destinations of Toronto, Montreal or Vancouver). However, although the stock of immigrants has steadily been on the rise throughout the 1980s, there is no guarantee that this trend will continue unchecked. Many Canadians are of the opinion that immigrants take jobs away from Canadians especially in periods of severe economic recession.

A third solution, to introduce policies to maintain or increase the fertility of employed women, are unlikely to have a strong impact on increasing the number of future potential labour market entrants. The downward trend toward lower fertility according to most demographers, is expected to continue or to bottom out well below replacement level. The norm for most Canadian couples is now two children. Something other than a mere economic incentive is required to reverse these trends. Government incentive programs are also very costly to the taxpayer making it very unlikely that a full-fledged program to raise the fertility rate would ever be implemented. An economic incentive would likely help some women, however, and if it takes the form of taxing the childless rich more, and the poor with children correspondingly less, it

provides a fertility incentive at no real cost (perhaps a transfer cost), at the same time making the tax structure more equitable.

7.3 Study Strengths

The present study has built upon the strengths of previous work examining the patterns and determinants of female work attachment. In *Chapter Two* much of this work was reviewed and proved valuable in interpreting the multivariate results. However, there are some ways in which the present work departs from more traditional methods of viewing and analyzing female employment.

One of the greatest inadequacies in the literature on female labour force behaviour is a well-defined and comprehensive theoretical framework which explains the changing dynamics in women's work patterns. While clearly not solving all the theoretical shortcomings that have hindered progress in the area of women's work, this study has attempted to synthesize some of the elements of two popular theoretical approaches in order to more adequately explain the changes in work attachment that have occurred across birth cohorts of women.

Second, broad theoretical frameworks require dynamic models in order to assess changes in female work attachment. This sentiment is echoed in a recent U.S. article by Blau and Robins (1989) focusing on changes across time in the effects of predictors on female employment transitions. They conclude that:

"women appear to be making decisions based on lifecycle considerations (such as human capital investments), but they also seem to be responding to random shocks in the environment, such as a baby sitter's quitting or a household member's moving out. A properly specified dynamic

structural model may be able to explain the trends exhibited" (Blau and Robins, 1989: 346).

The present study capitalized on a similar dynamic model. The Canadian Fertility Survey collected detailed information on the work histories of women spanning a large portion of the working life cycle as well as a rich variety of theoretically relevant predictor variables thereby lessening the chance of an improperly specified model. The dynamic nature of women's employment behaviour was analyzed using a Weibull hazard regression model. This model possesses a great deal of flexibility by capturing the effects of duration dependence as well as respondent characteristics as a source of heterogeneity in the rate at which women leave spells of employment and non-employment.

Third, the retrospective nature of the Canadian Fertility Survey made it possible to attach unemployment rates to each year of entry and exit from the labour force. This variable was found to exert a very strong influence on both measures of attachment. Normally, micro-level data sets are generally not equipped to capture the effects of such macro-level influences. Including unemployment is extremely important since it might be the case that negative changes in economic conditions shape attitudes and lead to higher rates of divorce and separation which in turn affect employment.

Fourth, the present study focused on the employment behaviour of women ever in union as opposed to currently married women. In the past, the divorced, separated and widowed were an understudied group possibly because most women remained in the married state until death. However, this narrow focus no longer makes much sense given the pervasiveness of family dissolution in society and its profound economic

consequences for women's work. More than any other group of workers, currently divorced or separated women (especially those with young children) are the most impoverished and thus deserve special attention from policy makers committed to improving their situation.

Fifth, this study analyzed female transition rates out of employment for two separate spells. In the previous chapter the results showed that factors such as number of children under the age of six which factored heavily into a woman's decision to remain in the first spell of employment among the most recent birth cohort had no effect whatsoever on her propensity to remain in the second spell. This finding as well as others, seriously calls into question the practice on the part of some labour force analysts of pooling spells across all women. It is clear that hazard rates out of employment are not uniform or homogeneous across spells as has been assumed thus far.

Sixth, one of the more unique features of this study is its measurement of predictors of female labour force attachment in close juxtaposition to the time of the event of interest (i.e. a woman's exit from or re-entry into the workforce). Special attention was paid toward the adjustment of husband's income measured at the time of the survey in order to arrive at values prior to the time female respondents (wives) reported leaving or re-entering the labour force. A number of previous studies examining female event histories have bypassed these adjustment procedures, using variables measured at the survey date to predict the timing of behaviour that occurred well into the past. This practice can seriously underestimate or weaken the effects of predictors on the behaviour under study.

7.4 Study Limitations and Directions for Future Research

Despite the large number of predictor variables included in the present analysis, some important influences could not be captured by the CFS data with the desired degree of precision.

First, the problem of measuring tastes, preferences or attitudes with retrospective information is well-known among social scientists. In the context of female employment, it would be senseless to expect respondents to accurately report how highly committed they were to the work force five, ten, or fifteen years in the past.

In the present study behavioral measures of commitment or tastes were used as proxies to overcome this problem. These included a woman's educational attainment at first work and the timing of her first birth in relation to the starting date of first work. Admittedly, these measures are imperfect. Education, for example, measures many other "non taste" characteristics (i.e. human capital-wages, occupation, job tenure) which, if not properly controlled, will confound its impact on a woman's level of work attachment. Secondly, education and birth timing can only be measured in close juxtaposition to the date of a woman's entry into the work force. Yet in order to make firm conclusions about cause and effect relationships, one really needs a measure of tastes at an even earlier period in a woman's life before the onset of marriage and childbearing, processes which also impact on employment.

This is not to imply that behavioral measures of subjective states are inadequate as measures of tastes. Such measures may be superior to direct measures because they

are generally more stable or reliable across time. Secondly, and more importantly, individual behaviour is sometimes a better mirror of true underlying psychological states than self-reports. For example, researchers have found that the timing of births often provides a better clue toward revealing gender preferences for children than what is actually expressed verbally in self-reports. The same may be true with respect to women who decide to go on to higher education. Nevertheless, a study which incorporates both measures of the "taste" construct would be preferred over one that includes just one.

Future labour force research can address the problem of measuring tastes in one of two ways. Direct measurement could be achieved by the design of large-scale longitudinal surveys of two separate generations of women followed over a ten or twenty year period. Although ideal for assessing intergenerational shifts in work behaviour and tastes, this method is very costly and obviously entails a huge commitment in terms of time and human resources.

A second route considers measures of cultural capital like father's or mother's educational attainment, parent's income, family migration history, or marital status. These cultural capital variables are important antecedents to the formation of tastes and preferences early in the lives of women and may shed light on the processes by which tastes for market work are transmitted from one generation to the next. Their inclusion in future retrospective data will provide a more direct test of a possible shift in attitudes on the part of more recent cohorts toward greater tastes or preferences for market work. Future research efforts might be directed toward a more indepth examination of these

antecedents prior to the time that a woman first enters employment on a full-time basis and how they affect subsequent employment behaviour.

Third, lacking in the present study were suitable measures of changes in the political sphere such as affirmative action, legislation on pay equity and changes regarding paid maternity leave. There is very little (if any) Canadian research on what effect these measures have on women's work. Future models of labour supply must incorporate these influences given their expected increased role in explaining women's work behaviour.

Fourth, the CFS was also lacking in suitable measures of child care such as whether or not a respondent was using some form of formal childcare arrangement. Also absent was a good measure of informal childcare support, for example, the number of available kin, their distance, and the living arrangements of the female respondent. In a recent Canadian article, Matras (1989) contends that the frequency and timing of transitions of married women in and out of the labour force may be strongly influenced by the number and availability of various types of kin as well as their geographic propinquity (i.e. the closeness of their residence), employment status and health. For middle-aged women especially, relevant factors include the health of their parents and their level of independence or dependence in every day activities.

Fifth, the present work was lacking suitable measures of economic need. The results in the previous chapter showed that husband's income did not perform well as a measure of economic need in predicting the rate at which women left employment. There are other predictors such as the number of previous jobs held by the husband or

the monthly mortgage or rent payment (Lowe and Krahn, 1985) or the amount of property income (Long and Jones, 1980) which have been found to significantly influence either entry into or exit from the work force.

Sixth, the CFS data set did not contain measures of the attractiveness of a woman's first job in terms of the commute time between her place of residence and work, the complexity of the work, the shift of the job, the availability of social benefits, the presence or absence of union representation, or mobility opportunities within the firm. In the U.S. these variables have been found to exert some influence on the rate of leaving the work force (Blau and Kahn, 1981; Weiss, 1984; Meitzen, 1986; Waite and Berryman, 1986). To the author's knowledge, longitudinal studies of women's work patterns have not examined the impact of job-related factors on level of participation. This is another area which could benefit from Canadian research.

Besides problems in measurement, there are several methodological limitations which deserve to be mentioned. First, the narrow focus of the CFS data made it possible to examine only the determinants of the employment behaviour of recent birth cohorts (i.e. women born since 1934). Unfortunately, it is difficult to draw firm conclusions in terms of trends in employment behaviour based on the experiences of only three cohorts. This is because the work patterns of recent cohorts are affected to some extent by the employment experiences of early cohorts so that it becomes risky to study either in isolation (Smith and Ward, 1985). Future research should broaden the scope of the study of female employment patterns by looking at the work experiences of pre and post World

War Two birth cohorts. The time period should be large enough so that at least two complete generations of women are represented.

Second, the analysis in this study has proceeded under the assumption that variables such as child status, marital status and education are largely exogenous to employment. In Appendix A the possibility was raised that there may be feedback loops from each of these variables which may have a contaminating influence on the resulting parameter estimates. In other words, the direction of influence may to some degree be from employment to child status or marital status. A review of the literature seemed to suggest that this problem was not too serious for variables such as family size and wages. Researchers, however, still remain divided on this issue partly because there are no simultaneous hazard regression models to test for the presence of simultaneity bias. This is an issue, therefore, that lies beyond the scope of the present work and is thus left for future research to resolve.

Third, some critics contend that the labour force behaviour of women cannot be properly studied in isolation since changes in their labour supply have occurred partly as a result of changes in the labour supply of men (Wilkie, 1991). This may be true to some extent. However, it is unlikely that the effect has been a large one. Rates of labour force participation among men have remained fairly constant over the period covered by this study (between 1948 and 1984). Women entered the labour force in large numbers in response to a demand to fill "female types of jobs" with low pay, low prestige and a low earnings profile. Most were not competing with men for scarce jobs. Moreover, most labour supply models (the present study included) capture the effect of

variables related to the work behaviour of husbands indirectly, such as their income and a measure of their early employment stability as well as an aggregate measure of the level of national unemployment in the economy.

Fourth, this study focused on the predictors of two components of work attachment: the labour force retention rates of women in the first and second spells of employment and the rate of leaving the first spell of non-employment for those who left the labour force. Neglected was an indepth examination of the influences which determine the entry of women into the labour force for the first time. The decision to exclude this latter group was partly based on time and space constraints. Their inclusion in future research efforts will no doubt provide a useful contrast against which to assess the changes in women's labour force retention.

Fifth, the predictor variables modelled in this study were treated as fixed at one point in time usually at the beginning of the first spell of employment. Many variables, however, such as number of children, education, wages or income have values which change over the duration of the dependent variable. Failure to model these time-varying covariates can underestimate their effects on work. Future data collection efforts would benefit research in this area by having women to report their occupation, education, wage level and perhaps even frequency of attending church services at more regular intervals over the working life cycle (i.e. at the beginning and end of the full range of employment and non-employment spells).

Sixth, the results presented in *Chapter Six* have shown that some of the individual demographic predictors of the timing of labour force transitions have increased in

potency for recent birth cohorts of women. However, what is still unknown is the relative importance of this set of predictors in contributing to the overall fit of the specified models.

One of the problems in assessing model fit across separate groups (in this case, birth cohorts) is that each group usually contains a different number of sample respondents so that measures of fit such as chi-square, which are extremely sensitive to sample size, are no longer as informative.

To illustrate, one might compare a restricted model, one with no demographic predictors, to a model containing all main effects (including demographic predictors). This would be done separately for each of the three respective birth cohorts. For a single cohort, it is possible to determine the relative improvement in fit from the restricted model to the full main effects model by multiplying by two the absolute difference in their log likelihood values. This difference approximates a chi-square distribution (Allison, 1984). The degrees of freedom are calculated by subtracting the number of terms included in both models. If the model chi-square exceeds the critical value of the table chi-square with a corresponding level of alpha or type one error, then it is possible to conclude that the addition of the set of demographic predictors resulted in a significant improvement in overall fit.

However, because chi-square tends to become more significant with larger sample sizes, there is no way of knowing where the greatest improvement occurred (i.e. if it occurred for the recent or the earlier birth cohorts). In the present context, this problem may be partially resolved by dividing each calculated chi-square value by its

corresponding sample size so that the effect of sample size is held constant. Because the degrees of freedom (i.e. the difference between the number of terms in both sets of models) are already constant across cohorts, the quotient obtained may provide an indication of where the greatest improvement occurred. The larger the value, the better the improved fit. This is an area for future research to address.

Seventh, as pointed out above, the results in Chapter Six give rise to many more questions than answers. In the absence of strong supporting empirical evidence, several competing hypotheses were offered to explain certain findings. However, in order to make more definitive conclusions about the meaning of the findings, or at the very least, to narrow down the range of possible explanations, future research efforts are required.

The relationship between education and work is one area of study in which more research is needed. The strong positive effect of education on employment was explained in terms of a growth in the expectations (i.e. tastes and preferences) of recent generations of highly educated women for better paying and more gratifying work, expectations which may not have been fully satisfied by current and recent employment opportunities. To test this hypothesis, future studies need to follow successive cohorts of college or university bound women over time and to question them directly on the intensity and nature of their expectations for employment after graduation. The same group of women would be re-interviewed again after first entering full-time employment in order to establish a firm link between early expectations and level of job satisfaction in the present as well as possible intentions to leave the work force in search of another position.

Further research is also needed to unravel the complexities of the relationship between husband's income and female employment. The strong negative effect of husband's income on transitions out of employment suggests that the traditional explanation of economic need found throughout the literature does not apply for all components of work attachment. Economic need, however, still seems to factor heavily into a woman's decision to re-enter employment. The most plausible explanation considered to explain this paradox is that non-employed women married to men with high incomes do not have a strong economic need to enter employment. This "income security" allows them to spend longer periods of time out of work before settling into a permanent career. However, once they enter employment, the income status of their husband changes from a measure of economic need to a measure of subjective need. As a result of their new found independence as paid workers, they may perceive a need for personal luxuries such as new car, new clothes, jewelry or household appliances. Once accustomed to their new lifestyle, they are less inclined than wives married to low-income husbands to leave work. They may also be happier in their new jobs compared to women with low income husbands or have better paying and more interesting jobs which would further add to their desire to remain working longer.

In order to provide supporting evidence for this hypothesis, future research might conduct a comparative analysis which follows separately a cohort of women married to high income husbands and a cohort married to low income husbands prospectively over several spells of employment and non-employment. Prior to entering and leaving the labour force, both groups of women would be asked to provide a detailed description of

factors influencing their decision to seek employment or non-employment. This simple analysis might shed some light on how both groups of women differ in terms of their perceptions of need and how perceptions change as they enter and leave employment.

Eighth, the present analysis has specified main effects. Interaction effects were not considered. Most studies for example, tend to treat the effects of marital status and children as additive, with each making separate contributions to the propensity of women to enter employment. However, it is equally plausible that both variables interact with the children of non-married women having a less dampening impact on employment than the children of married women (Moen, 1991).

The interpretation of the results in Chapter Six suggest that interaction effects may be occurring in the data. One example discussed was a possible interaction effect between marital status and geographic mobility. The strong negative effect of geographic mobility on the rate of leaving the first spell of non-employment may be due to a sacrifice on the part of married women to abandon any plans for employment at least in the short term in order to accommodate a job-related move by their husbands. Another possibility is an interaction effect between education and husband's income. The strong positive effect of education on rates of leaving both spells of employment could mean that highly educated women tend to marry highly educated men with high incomes. This income security allows them to move in and out of the labour force more freely in search of a good position.

With a few possible exceptions (Ericksen and Klein, 1981; Jones and Tepperman, 1988; Moen, 1991), the labour force literature provides little theoretical basis for

expecting interaction effects between sets of predictors on a woman's current or cumulative attachment to the labour market. More importantly, discussions on how and why variables might interact to influence the rate of leaving separate spells of employment and non-employment have yet to make their way into the literature. It is therefore, not surprising that of the half a dozen published articles to date which address the topic of female employment transitions within a hazard model framework, none include even a discussion of interaction effects.

Proceeding to test for interactions without adequate theoretical guidance leads to problems of a practical nature. The interpretation of interaction effects is often difficult even when the analysis is restricted to the specification of two-way effects. One can never be sure how the effect of variable A on the dependent variable varies across categories of variable B. In order to fully understand this process, it is necessary to divide the study sample into separate categories of variable A or variable B. If one posits more than two or three interactions, this approach can become cumbersome and unwieldily. When three-way or higher order interactions are introduced, the difficulty of interpretation becomes compounded.

Because of the slow progress that has been made in terms of hypothesizing specific interaction effects and the complexity of their interpretation, it is felt that this area be given special consideration perhaps in a separate manuscript which makes further use of these data.

One final comment on interaction effects is worth noting. One of the objectives of this dissertation was to quantify the relative importance of three sets of influences on

the timing of female transitions in and out of employment. It was hypothesized that for more recent cohorts, tastes and preferences for market work would become a more dominant and powerful predictor and that traditional demographic predictors would weaken. However, the overall results found that both sets of influences continued to play a role in terms of predicting attachment on two separate measures.

This finding may be an indication that the additive effect of both sets of predictors has been gradually diminishing as more recent cohorts of women enter the work force. In other words, it may be the case that for recent cohorts, demographic variables, economic influences and tastes are becoming so intertwined and interdependent that a woman's position in the labour force can no longer be uniquely predicted by just one influence in isolation from the others. If this is true, then proceeding to study the effects of these influences as additive within a general theoretical framework may no longer be appropriate. This remains a question open for empirical investigation.

APPENDIX A

The Interdependence Between Work Attachment and Demographic and Socioeconomic Variables

The problem of establishing causal direction has been a thorny issue in the area of female labour force behaviour for some time (see Spitze, 1988 for a good review of the *consequences* of female employment for family-related variables, for example, family formation and dissolution, childbearing, spouse health and well-being and division of household tasks). A common practice when constructing labour supply models is to estimate parameters using a single equation which by definition implies that all the independent variables are exogenous. This practice, however, ignores the possibility that some exogenous variables lead to changes in labour supply which in turn create a sort of a feed back loop the effects of which modify or change these variables (Skoulas, 1974). The result is a confounding of cause and effect.

Willekens (1989) contends that one reason why non-recursivity is so pervasive in social research is that people tend to think prospectively. In other words, they frequently alter their present behaviour in anticipation of future events. Interestingly, this implies that a temporal ordering of events is not a necessary condition for the establishment of a causal sequence between an independent and dependent variable. One example, cited by this author, is the relationship between marital status and female labour force participation for married women who have entered or re-entered the labour force prior to divorce. Some women may choose to enter the labour force and then divorce leading one to conclude that entry into the labour force is causally prior to dissolving the marriage. However, others may anticipate an impending divorce and respond by entering

the labour force after which time they divorce. In this latter instance, divorce, or its anticipation, is causally prior to participation in the work force.

There are other variables besides marital status which may be endogenous to women's labour force behaviour. For example, researchers examining predictors of labour force retention (i.e. rates of leaving work) disagree on the direction of causation between job tenure and wages. Donohue (1988) contends that for both men and women, greater job tenure generally leads to increases in wages as a result of the accumulation of human capital which in turn discourages workers from leaving their job. For this reason he excludes wages as an exogenous factor from his models of work retention. Tuma (1976), on the other hand, considers a worker's wages as having some exogenous impact on rates of leaving work. She points out that while increasing tenure does result in increasing wages, the rate of leaving employment depends in part on the initial level of rewards (i.e. wages and occupational prestige) that a worker receives upon entry into a job.

Some labour supply models assume that cultural tastes and preferences for market or non-market work are really endogenous factors. According to Lesthaeghe and Surkyn (1988), this assumption has its roots in classical economic utility theory which "conceptualize(s) shifts in value orientations, preferences and aspirations as resulting from affluence and economic growth" (Lesthaeghe and Surkyn, 1988:4). They point out that while it may be true that changes in the economic sphere do give rise to changes in ideational goals and individual aspirations (i.e. "culture"), there are many instances where the opposite is also likely to occur. They refer to the role of education in

preserving social inequality. While education may provide individuals from the lower social strata the means to decode the symbols created by the more affluent upper strata to maintain the existing social order, class differences may still remain if the transmission of the decoding ability, which is heavily dependent on education, remains within the control of a particular class or social strata.

An issue that has probably received the greatest attention in the literature on female employment concerns the causal ordering of the relationship between fertility and work. Those hypothesizing fertility as the exogenous variable argue that the observed trend toward smaller family sizes has freed many women from traditional home-making and childcare responsibilities to pursue a career of their own in the paid work force. The opposing argument, that which views labour force involvement as impacting on levels of fertility, holds that younger women are consciously limiting their family sizes either in anticipation of future involvement in the work force or in order to maintain continuity once they have already started work. Hout (1978) argues that "in the short run the discomforts of pregnancy and the demands of newborns decrease labour force participation and thereby account for the negative association between fertility and employment while, in the long run, fertility is curtailed to accommodate career commitments" (see Hout, 1978 cited in Waite, 1981, "U.S. Women at Work").

A third argument supported by Nakamura and Nakamura (1985) says that the effect of fertility on female labour force behaviour is often overestimated in models of female labour supply because such models fail to capture hidden uncontrolled heterogeneity reflecting in large part a woman's tastes for market work over home work.

According to both authors, once these hidden factors can be measured and controlled, the effects of current child status on current work behaviour diminishes considerably.

A fourth school of thought emerging in the literature views the fertility/labour force participation relationship to be largely spurious as a consequence of several economic and attitudinal or tastes factors which are causally antecedent to both (Bagozzi and Van Loo, 1982; Willekens, 1989). Proponents of this approach hypothesize that tastes for market work and tastes for children (Smith-Lovin and Tickamyer, 1978; Bagozzi and Van Loo, 1982) as well as economic measures such as family income (Bagozzi and Van Loo, 1982), education and marital duration (Smith-Lovin and Tickamyer, 1978) bear a significant impact on both the demand for work and the demand for children. They point out that simultaneous equations models which attempt to separate out the causal effects between fertility and work will yield biased estimates if tastes are not included.

Despite these opposing theoretical arguments, there is a growing consensus based on extensive empirical research in both the United States and Canada that says while causality between work and fertility is to some degree non-recursive, the dominant causal direction is from fertility to work behaviour. For example, in a U.S. study, similar to the one by Bagozzi and Van Loo (1982), Smith-Lovin and Tickamyer (1978) found that after introducing respondent sex-role attitudes as both a cause and consequence of fertility and labour force participation into a simultaneous equations model, there remained a significant negative effect from fertility to labour force participation.

Others have failed to find the expected negative impact of work on fertility. For example, West (1987) hypothesized that labour force participation would exert a suppressing effect on fertility but found instead that for younger women, work outside the home implied a higher probability of making the transition to parities higher than one. The author concludes that employment outside the home is no longer acting as a strong deterrent to a large family size and that the cost of raising a child may be becoming an important factor. These results have lead Spitze (1988) to conclude that fertility influences work but that work has no significant or measurable impact on fertility.

Canadian research also tends to support a dominating influence of the fertility effect. Using 1971 and 1981 census data, Halli and Rao (1987) found that for two separate age groups of women (i.e. those age 15-34 and 35 and over), the influence of labour force participation on fertility and fertility on labour force participation had declined in the period separating both years. After estimating both sets of equations, the authors concluded that, on balance, the labour force behaviour of women seemed to have a less potent impact on their fertility than vice versa.

Another Canadian study by Shiell and Boyd (1983) also tested for interdependence or simultaneity in the work/fertility relationship. Applying a two-stage least squares model to data from the 1973 Canadian National Mobility Study, these authors found no clear evidence to indicate "either that the number of children a woman has affects her accumulated work experience or that her participation in the labour force during the family formation years influences the size of her family" (Shiell and Boyd, 1983:22).

The work/fertility relationship has also been explored by Yeung (1988) using data from the 1984 Canadian Fertility Survey. Her findings do not support the hypothesis of a spurious relationship between work and fertility. In this manner she notes that "results from both non-recursive and dynamic models do not support the hypothesis of a "spurious relationship" since the association between fertility and female employment persists after the socioeconomic background and attitudinal variables are held constant" (Yeung, 1988:34). Her overall conclusion was that having children did seem to have a stronger effect on work activity (than vice versa) in the early years of married life while wife's employment status had at best a minimal impact on number of children (For a good discussion of the causal nature of the work/fertility relationship, see Lehrer and Nerlove (1986)).

Much of what is known of the causal nature between fertility and employment behaviour has been based on observations from cross-sectional data and thus may explain in part the inconsistent findings that appear throughout much of the literature examining this issue. Indeed, Bangozzi and Van Loo (1982) identified this problem as presenting the most serious challenge to the validity of their findings. Obviously, a thorough and proper specification of the relationship requires the availability of good longitudinal or retrospective data over time which can establish a clear temporal ordering of events at various life cycle stages.

Mott and Shapiro's (1983) U.S. longitudinal study of womens' employment behaviour surrounding the birth of their first child is one exception whereby a temporal ordering of events is achieved. The authors observed the fertility and employment

behaviour of a national sample of approximately 5,000 women age 14 to 24 in 1968 over a ten year period. Their results indicated that while fertility did have some short term impact on later employment, work activity in the twelve month period surrounding the first birth did not have the expected negative impact on subsequent childbearing that has been documented so often in cross-sectional research.

Mott and Shapiro's findings, however, still say nothing of the level of interdependence that may exist between a woman's fertility and her propensity to remain in or to exit the labour force. A somewhat novel approach to unravelling this relationship is outlined in a study by Felmler (1984) which examines separately, determinants (including the presence of pre-school and school age children) of the rate at which women leave employment due to pregnancy versus those who leave for other reasons. Felmler hypothesizes that fertility will influence the rate of leaving employment if women decide to have a child and get pregnant or find themselves pregnant and then decide to leave. On the other hand, employment will influence fertility if they dislike their job and decide to become pregnant. In terms of the effect of presence of children, her results seem to indicate that, in the short run, the predominant effect is from fertility to employment but that once children increase in age, the negative effect diminishes sharply. She also concludes that many women often leave employment because they are pregnant. Her evidence for the influence of employment on fertility is less conclusive. One finding in support of employment as an exogenous factor is the reported negative relationship between wages and rates of leaving work for reasons having to do with pregnancy. Given the negative relationship between women's

wages and fertility observed in previous work, Felmlee says that this finding could imply that higher wages discourage women from becoming pregnant and that employment, therefore, has some short-term effects on fertility.

APPENDIX B

A Note on Unmeasured Heterogeneity

A common assumption in the use of regression-based models in the analysis of social or demographic behaviour, is that failure to include unobservables (i.e. unmeasured or uncontrolled heterogeneity) as observable covariates does not contaminate parameter estimates so long as these unobservables are not related to the specified model covariates.

Trussell and Rodriguez (1985) contend that this assumption does not necessarily hold in event history hazard models. They point out that the distribution of omitted covariates is the same at time zero on the dependent variable in each of the categories of the included covariates. However, with the passage of time, both distributions are no longer independent. Assuming that the omitted covariate contains a high and a low risk group, this phenomenon of lost independence occurs when those individuals at greatest risk of experiencing attrition and who have a certain value on the unmeasured covariate, experience attrition first. This means that the distribution of the omitted covariate within each category of the included covariates will change over time and at different rates of attrition in each category.

The problem has lead some statisticians to become somewhat sceptical of the utility of models which estimate a parameter reflecting the influence of time on the hazard rate (see Allison, 1984). The expressed concern is that it is extremely difficult to determine whether an observed decline in the hazard rate with time is a reflection of

a decline in the true underlying hazard or whether it reflects the omission of unobserved heterogeneity in the model.

One attempt at a solution has been to expand the hazard model to include a disturbance term (U) in order to capture unobserved sources of heterogeneity. In doing so, any observed decline in the hazard rate could then be attributed to a true decline in the underlying hazard independent of the effects of U . A study by Trussell and Richards (1985) using child mortality data from the Korean World Fertility Survey found that the hazard rate actually changed direction from a declining rate for the model not corrected for unmeasured heterogeneity to a gradually increasing rate for the corrected model. Some recent attempts using Monte Carlo experiments have been made to estimate models corrected for unmeasured heterogeneity (see Heckman and Singer, 1982b). These models assume a non-parametric form on the unmeasured heterogeneity distribution (more commonly referred to as the frailty distribution). Results have shown that while the parameter can be estimated with a high level of precision, the frailty distribution is not identified well.

Trussell and Richards (1985) warn that attempts to overcome the problem of model misspecification at this early stage in our knowledge of the form of the frailty distribution should be approached with considerable caution. They add that in large models with many correlated covariates, the problem of unmeasured heterogeneity is not all that serious since the omission of one covariate does not change the parameter estimates by significant amounts.

APPENDIX C

Adjusting Husband's Income

One method of adjusting for inflation is to use the consumer price index for the years 1949 (i.e. the earliest year of a reported work interruption) to 1984 (i.e. the survey date) based on 1984 dollars. This index is a measure of the value of all goods and services in Canada. The table below provides a listing of consumer price index figures with 1984 as the base year.

As an illustration of how this index works in the adjustment of income, consider a woman who reports leaving the work force in 1984 or the time of the survey. Since no time has elapsed between her date of leaving work and the survey date, inflation is not a factor. Her husband's income, therefore, remains unchanged. However, if a woman leaves work in 1977, the effect of inflation on her husband's income over the interim period (i.e. between 1977 and 1984) must be taken into account. According to the consumer price index, the dollar value of all goods and services in 1977 was approximately half the amount (i.e. .55) of all goods and services in 1984 or the base year (i.e. 1984=100). This figure of .55 serves as the adjustment factor and is simply multiplied by husband's income (measured at the survey date) for women who reported leaving work in 1977. For women not experiencing the event of interest (i.e. an employment exit or return to employment), husband's income remains unchanged.

In the analysis on rates of return to the second spell of employment, adjustment procedures on husband's income were carried out identical to the procedures described

above. In this case, income values at the time of the survey were adjusted to reflect the time the respondent returned to the second spell of employment after a period in the non-employed state. For example, if a woman reported that she returned to employment in 1980, her husband's income was adjusted by a factor of .72, the value corresponding to the year 1980 on the consumer price index listing using 1984 as the base year (i.e. $1984=100$).

In order to arrive at a measure of real income, husband's income was adjusted a second time for the effects of chronological age on income over the life cycle. The estimation of real income requires that the effect of age on income is held constant. The observed "age effect" is due to the fact that older men tend on average to earn more income than younger men as a result of greater job tenure and accumulated job skills.

The first step in the adjustment process made use of Canadian census data as a means of following real age cohorts of married men over the life cycle and then observing increases in their average level of income at regular intervals of time. The public use sample tapes (i.e. individual files) for the population censuses collect information on total husband's income as well as husband's age and marital status. This makes it possible to estimate the mean level of total income for a given age group of married men for a given census year. Unfortunately, year to year increases in average income are not directly observable from census data. Census taking is carried out every ten years with smaller mini-censuses conducted every five years. The smaller mini-censuses generally collect less detailed information than the larger decennial censuses and thus exclude information on husband's income.

Because average income is only available from the decennial censuses, in each census year (i.e. 1971, 1981, and 1986), age was collapsed into ten year groupings. In order to conform to the adopted ten year age categories from the 1961 census (i.e. the most recent census for which public use sample data is not available), age was collapsed as follows for all decennial census years: 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64 and 65 plus. Thus, those men age 15 to 24 in 1951 turned 25 to 34 in 1961, 35 to 44 in 1971, 45 to 54 in 1981 and 50 to 59 in 1986. In 1984, or the year in which the Canadian Fertility Survey was carried out, these men fell within the age range of 48 to 57. This cross-classification of age by census year allows one to trace various age cohorts over the life cycle in order to gauge the effect of changes in age on average income. The table at the end of this appendix reveals five different ten year age cohorts required for the adjustment of husband's income reported in the survey year 1984.

The use of ten-year age groups, however, bears with it an associated cost in terms of lost precision. For a given ten-year cohort, average income can only be derived at each ten year census period. What is not known is average income levels for each cohort for each intercensal year. In order to estimate or interpolate these single year values of average total income, ordinary least squares regression models were fitted to the observed average income values in each census year using the difference between each census year and a mid point year as the independent variable in the equations. Given the very limited number of observed data points (i.e. raw average income values), separate linear regression models were fitted between each pair of census years for each ten year age cohort. Thus, for example, for married men age 15 to 24 in 1961, three separate

regression models were fitted: the first for the census years 1961 to 1971, the second for the census years 1971 to 1981 and the third for the census years 1981 to 1986.

For each of the five identified age cohorts, the estimated average income values from the OLS models for the survey year of 1984 were used as denominators in the calculation of weights in order to adjust a husband's income in 1984 backwards in time to reflect the year that his wife (i.e. the female respondent) first left the labour force, or alternatively, the year that she first re-entered. For example, if the average total income in 1961 of married men in the age group 15 to 24 was \$3,000 and in 1984 it increased to \$20,000 (when these men turned 38 to 47 years) then the calculated weight (for the year 1961) used in the adjustment procedure was found by dividing \$3,000 by \$20,000. Because observed average income estimates for married men were not available in the 1951 census, the regression models estimated for the two ten year age cohorts in 1961 (i.e. those age 25 to 34 and 35 to 44) were used to extrapolate backwards in time the average income values for single years between the census years 1951 and 1961. These estimated income values were then divided by the estimated average values for 1984.

As a final step, the calculated weights corresponding to each single year for each of the five identified cohorts were multiplied by the level of husband's income reported in the Canadian Fertility survey. For example, married men age 15 to 24 in 1961, fell within the age range 38 to 47 in 1984. Thus, in the adjustment procedure, if a husband/partner's age in the survey fell within the range of 38 to 47, and if his wife reported leaving the labour force for the first time in 1970, then the calculated weight for that year was multiplied by his current reported income at the survey date. This step

results in a rough measure of real husband's income just prior to the year that his wife left the work force for the first time.

In the second analysis on rates of return to the second spell of employment, adjustment procedures on husband's income were carried out identical to the procedures described above. In this case, income values at the time of the survey were adjusted to reflect the time the respondent returned to the second spell of employment after a period in the non-employed state. For example, if a woman reported that she returned to employment in 1980, her husband's income was adjusted by a certain weight for that particular year estimated from the regression equation corresponding to his particular age cohort.

Some women were necessarily excluded from the adjustment procedure. These included women who reported a valid value on their husband's or partner's income at the survey date, who married or who entered a common-law union *prior* to leaving work (either the first or second time) but who then subsequently remarried *after* leaving. Obviously, there is no way of knowing the income level of their *first* husband during the time they were working. Also excluded were those women who could not report a valid value on husband's income because they were not currently married or in a common-law union at the survey date. Respondents not part of the adjustment procedure were assigned a value of zero on the income variable.

In the analysis on transition rates back into the second spell of employment, excluded were those women who reported a valid value on husband's income at the survey date but who married prior to returning to work, divorced, and then subsequently

remarried after returning. Also excluded were those women who did not receive a valid income value because they were not currently married or not living in a common-law union at the survey date. Respondents not part of the adjustment procedure were assigned a value of zero on the income variable.

Note that in each adjustment procedure, husband's income is fixed at the time a woman leaves or returns to a spell of employment. Moreover, women who do not experience the event of interest (censored cases) are not adjusted. It would have been desirable to fix husband's income for both censored and uncensored cases at the starting year of each spell. This was not done because many many women had not yet married (especially those entering the first spell) by that point in time which for them would have meant a value of zero on the income variable. In order to capture the effects of income over a wider cross-section of women, the ending date of each spell was chosen instead. One way to deal with the censored cases in this instance would be to fix husband's income at the midpoint year between the year a woman reported entering a spell and the survey year. This procedure, however, was not carried out. It was felt that the assignment of a midpoint value would constitute only a very rough approximation of income. Therefore, the value of income at the survey year was retained.

Table C1

**Consumer Price Indexes for Canada, Annual Averages Standardized on 1984
Dollars (1984=100)**

<u>Year</u>	<u>Index Value</u>
1947	17.01
1948	19.37
1949	20.03
1950	20.60
1951	22.81
1952	23.30
1953	23.13
1954	23.30
1955	23.30
1956	23.63
1957	24.36
1958	25.02
1959	25.34
1960	25.67
1961	25.88
1962	26.18
1963	26.63
1964	27.12
1965	27.77
1966	28.81
1967	29.84
1968	31.07
1969	32.46
1970	33.52
1971	34.50
1972	36.14
1973	38.92
1974	43.17
1975	47.83
1976	51.43
1977	55.51
1978	60.42
1979	65.98
1980	72.69
1981	81.76
1982	90.59
1983	95.82
1984	100.00

Table C2

Census Estimates of Husband's Mean Income by Selected Age Groups

Age	Census Year			
	1961	1971	1981	1986
15-24	2605.5	5014.04	12967.00	-
25-34	4051.0	7707.98	19840.96	20400.62
35-44	4502.0	9096.56	24307.74	29418.72
45-54	4410.0	9222.18	23916.02	33270.86
55-64	-	7725.30	20301.75	30989.85
		N=8158	N=4955	N=10,939

1

Note: The 1961 census did not report average earnings from all income sources by age, gender and marital status. Therefore, the figures for 1961 are mean estimates of husband's income from salaries only.

2

Note: Figures for the years 1971, 1981 and 1986 are based on selected random subsamples from the census public use sample tapes. Figures for 1961 are based on published data.

TABLE C3
Interpolated Weights for the Effect of Husband's Age on Total Income For Single Years

Census Year	1981	1971	1961	1961	1961
Census Age Cohort	15-24	15-24	15-24	25-34	35-44
1984	1.0000	1.0000	1.0000	1.0000	1.0000
1983	.9147	.9251	.9400	.9497	.9612
1982	.8294	.8502	.8792	.8995	.9225
1981	.7440	.7753	.8188	.8492	.8839
1980		.7174	.7629	.7966	.8356
1979		.6569	.7069	.7440	.7874
1978		.6015	.6510	.6914	.7392
1977		.5436	.5951	.6387	.6909
1976		.4856	.5392	.5861	.6427
1975		.4277	.4833	.5335	.5945
1974		.3697	.4273	.4809	.5462
1973		.3118	.3714	.4282	.4980
1972		.2539	.3155	.3756	.4497
1971		.1959	.2596	.3230	.4015
1970			.2424	.3051	.3809
1969			.2252	.2872	.3604
1968			.2080	.2692	.3398
1967			.1908	.2514	.3193
1966			.1736	.2334	.2987
1965			.1564	.2155	.2782
1964			.1373	.1976	.2576
1963			.1221	.1797	.2371
1962			.1049	.1617	.2165
1961			.0877	.1438	.1960

APPENDIX D

Missing Values

In the Canadian Fertility Survey (1984) a fairly large number of cases (between ten and fifteen percent) are classified as "missing" on the salary and income variables of the respondent and the respondent's husband. This problem is in no way confined to the CFS but instead is quite widespread and common among other data sets of comparable quality. Large percentages of missing values frequently occur as a result of a perception on the part of respondents that a request to disclose one's level of income is an invasion of privacy, and thus, may have little to do with a poor questionnaire design or interview method. A second reason is that many older respondents may find it difficult to remember the exact amount of salary they earned at the time they first started working. Methodologists have developed a wide range of techniques to deal with missing data arising from the respondent's failure to answer certain questions contained in a survey questionnaire or interview schedule. This problem is often referred to as "item non-response" separate or distinct from "unit non-response" where entire subsets of units are missing from the data set due to omissions in the sampling frame, respondents' refusal to participate or difficulty in reaching or locating respondents at home.

Many techniques devised to handle the problem of missing cases consist of using other information in the data set to *impute* a value for the missing item. If the number of missing cases on a income question is not too high, for example, below five percent of the valid cases, it is usually considered appropriate to simply assign those individuals for whom data are missing the mean value of income of those respondents providing an

income or salary value. However, when item non-response is high, resorting to this method becomes problematic because it automatically leads to a serious reduction in variance on the income or wage variable.

The corrective procedure for handling missing values in the present analysis parallels the *hot-deck method* discussed in most advanced methodology textbooks. According to Tanur (1982), these hot-deck procedures "fill in the missing value for the item from the value appearing for another respondent in the same survey who is similar to the respondent with missing data. "Similar" is defined by the variables thought to influence the one missing (for example, for number of children, these variables might still be marital status, race and age) and all respondents who are the same on these variables are said to constitute an "adjustment class" (Tanur, 1982:28).

The choice of using the hot-deck method to deal with item non-response usually involves as a first step the selection of suitable proxies for the variables for which data are missing (in this case, respondent's salary or husband's income). The logic behind doing this is that if we can identify other characteristics of the respondents who are missing on the income variable and if such characteristics are highly related to income (for example, age, education or occupation) with little or no missing information of their own, then we can come up with a reasonably accurate "guess" of the level of their actual income based on our knowledge of the valid income values we do have corresponding to different levels or categories of our proxy variables.

The hot deck method assumes that individuals who provide a valid value on income or salary do not differ substantially from those who do not across categories of

the chosen proxy variables. If those who refuse to provide a valid income value are disproportionately represented among certain categories of the proxy variables, for example, in higher education and in the professional occupations, then selection bias will result possibly leading to an upward or downward bias in the income/wage effect on work behaviour.

In the CFS respondent's education at first work and age at first starting work were selected as proxy variables for respondent's salary at first starting work. Husband's education and occupation were chosen as proxies for his level of income. A cross-classification of husband's income (divided into valid versus non-valid responses) with husband's education and occupation revealed only minimal selection bias. Individuals not providing a valid income response were very similar to terms of level of their level of education and occupational attainment compared to individuals who did provide a valid value. A similar cross-classification of respondent's salary (divided into valid versus non-valid responses) by respondent's education and age at first work also revealed little bias.

In the imputation procedure the selected proxies were first divided or recoded into broad categories and then cross-classified with respondent's salary or husband's income by way of a "means" or "breakdown" procedure using only the *valid* cases on respondent's salary or on husband's income (i.e. cases for which complete information on salary or income was provided). Education at first work and age at first work were each collapsed into three categories. The resulting 3x3 tables each contained nine different mean salary or income values pertaining to each of the nine cells. Using Eta

squared, the effect of education and age at first work on the salary of respondents with both continuous and discontinuous work experience was approximately seven percent and significant at $p < .001$. Husband's education was collapsed into three categories and husband's occupation into two. For husband's income, education yielded an Eta squared value of seven percent while the figure for husband's occupation stood at nine percent. Both figures were significant at $p \leq .001$. This process was repeated for three separate birth cohorts: women age 18-29, 30-39 and 40-49 at the time of the survey and for three separate analyses: the rate at which women leave their first spell of employment (including all women who began working for the first time), the rate at which women return to the second spell of employment (including all women who reported leaving the first spell of employment) and the rate at which women leave the second spell (see the attached tables that follow this discussion).

Following the cross-classification procedure, only respondents who *failed* to provide a valid salary or income value were selected. Within this selection, the valid mean salary or income values derived from the cross-classification procedure described above were imputed or assigned to the missing item (i.e. respondent's salary or husband's income). So for example, if a mean salary of \$5000 was calculated using valid data and it corresponded to the low education and low age at first work categories, it was assigned to respondents belonging to the very same categories but for whom valid salary data were missing. For each of the two respondent's salary variables, this procedure resulted in nine imputations. For husband's income, six imputations were made.

The advantage of making multiple imputations over simply assigning the missing category the mean salary value of the valid cases is that in the former case the variance on the salary variable remains pretty much unchanged. In other words, imputing several values "preserves" the variation of values on the salary variable.

Table D1

**Mean Salary at First Work by Education and Age at First Work
for Continuously Worked, Ever-In Union Women, All Ages,
Canadian Fertility Survey, 1984**

Age at First Work

<u>Education at First Work</u>	<19	19-22	23PL	Total
Less Grade 12	43.17 (142)	71.01 (97)	70.45 (182)	61.24 (421)
Grades 12-13	61.87 (161)	75.83 (174)	86.84 (98)	73.11 (433)
Over Grade 13	61.91 (14)	94.32 (176)	119.41 (105)	101.78 (295)
Total	53.49 (317)	82.07 (447)	87.98 (385)	N=1148

²
Eta for Education: 8 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

1:

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D2

**Mean Salary at First Work by Education and Age at First Work
for Continuously Worked, Ever-In Union Women, Age 18-29,
Canadian Fertility Survey, 1984**

Age at First Work

<u>Education at First Work</u>	<19	19-22	23PL	Total
Less Grade 12	62.57 (56)	91.41 (52)	91.76 (17)	78.52 (126)
Grades 12-13	76.26 (98)	93.12 (84)	96.85 (13)	84.90 (195)
Over Grade 13	78.38 (6)	119.30 (81)	170.83 (29)	130.21 (116)
Total	71.52 (160)	102.50 (217)	131.74 (60)	N=437

²
Eta for Education: 16 percent (sig. p<.001)

²
Eta for Age at First Work: 11 percent (sig. p<.001)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D3

**Mean Salary at First Work by Education and Age at First Work
for Continuously Worked, Ever-In Union Women, Age 30-39
Canadian Fertility Survey, 1984**

Age at First Work

<u>Education at First Work</u>	<19	20-22	23PL	Total
Less Grade 12	30.69 (49)	53.67 (35)	76.44 (64)	55.67 (150)
Grades 12-13	40.33 (55)	67.30 (72)	101.61 (44)	67.37 (171)
Over Grade 13	64.09 (6)	80.59 (80)	98.31 (50)	86.42 (136)
<hr/> <u>Total</u>	37.29 (110)	70.40 (187)	90.33 (158)	N=455

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 16 percent (sig. p<.001)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D4

**Mean Salary at First Work by Education and Age at First Work
for Continuously Worked, Ever-In Union Women, Age 40-49
Canadian Fertility Survey, 1984**

Age at First Work

<u>Education at First Work</u>	<19	19-22	23PL	Total
Less Grade 12	29.96 (37)	23.30 (9)	62.92 (100)	52.12 (147)
Grades 12-13	33.38 (8)	28.76 (18)	67.81 (41)	53.30 (67)
Over Grade 13	8.49 (2)	30.79 (15)	102.00 (26)	73.01 (43)
<hr/> <u>Total</u>	29.58 (47)	28.26 (42)	70.17 (167)	N=256

²
Eta for Education: 1 percent (not sig. $p < .001$)

²
Eta for Age at First Work: 7 percent (sig. $p < .001$)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D5

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, All Ages,
Canadian Fertility Survey, 1984**

Age at First Work

Education at First Work	<19	19-22	23PL	Total
Less Grade 12	36.22 (252)	49.76 (103)	54.76 (98)	43.22 (455)
Grades 12-13	49.41 (236)	56.23 (191)	75.12 (42)	54.51 (469)
Over Grade 13	42.41 (23)	64.71 (169)	96.29 (61)	70.35 (253)
Total	42.59 (510)	57.89 (463)	71.61 (202)	N=1175

2

Eta for Education: 5 percent (sig. $p < .001$)

2

Eta for Age at First Work: 7 percent (sig. $p < .001$)

1

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D6

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, Age 18-29,
Canadian Fertility Survey, 1984**

Age at First Work

Education at First Work	<19	19-22	23PL	Total
Less Grade 12	60.97 (47)	82.52 (20)	79.30 (7)	68.54 (73)
Grades 12-13	69.71 (46)	81.98 (35)	85.17 (9)	76.02 (90)
Over Grade 13	53.40 (2)	103.56 (22)	134.55 (4)	105.08 (40)
Total	65.10 (94)	88.31 (78)	93.70 (20)	N=192

2

Eta for Education: 10 percent (sig. p<.001)

2

Eta for Age at First Work: 10 percent (sig. p<.001)

1

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D7

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, Age 30-39
Canadian Fertility Survey, 1984**

Age at First Work

Education at First Work	<19	19-22	23PL	Total
Less Grade 12	37.03 (101)	49.97 (51)	79.59 (28)	47.36 (180)
Grades 12-13	50.73 (106)	55.05 (120)	75.75 (18)	54.68 (244)
Over Grade 13	82.66 (6)	69.41 (96)	90.97 (39)	75.96 (141)
Total	45.18 (213)	59.22 (267)	84.02 (85)	N=565

²
Eta for Education: 7 percent (sig. p<.001)

²
Eta for Age at First Work: 10 percent (sig. p<.001)

¹
Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D8

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, Age 40-49
Canadian Fertility Survey, 1984**

Age at First Work

Education at First Work	<19	19-22	23PL	Total
Less Grade 12	24.39 (104)	28.51 (31)	41.24 (64)	30.30 (201)
Grades 12-13	36.53 (84)	34.78 (36)	68.74 (16)	39.82 (135)
Over Grade 13	24.22 (15)	38.98 (51)	98.95 (18)	49.20 (84)
Total	29.38 (203)	34.93 (118)	56.29 (97)	N=418

²
Eta for Education: 4 percent (sig. p<.001)

²
Eta for Age at First Work: 6 percent (sig. p<.001)

¹
Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D9

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, Returning
to Work, All Ages, Canadian Fertility Survey, 1984**

Age at First Work

Education at First Work	<19	19-22	23PL	Total
Less Grade 12	34.12 (416)	50.03 (144)	55.86 (102)	40.95 (663)
Grades 12-13	49.67 (302)	56.07 (233)	75.38 (48)	54.33 (583)
Over Grade 13	39.14 (31)	64.50 (192)	95.21 (70)	69.18 (293)
Total	40.60 (749)	57.38 (570)	72.60 (220)	N=1539

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D10

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, Returning
to Work, Ages 18-29, Canadian Fertility Survey, 1984**

Age at First Work

Education at First Work	<19	19-22	23PL	Total
Less Grade 12	63.27 (79)	78.33 (35)	79.30 (7)	68.48 (120)
Grades 12-13	72.65 (63)	83.45 (49)	86.88 (10)	78.17 (122)
Over Grade 13	50.74 (3)	110.55 (27)	142.50 (5)	110.85 (35)
<hr/> Total	67.12 (144)	88.51 (111)	97.70 (21)	N=277

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D11

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, Returning
to Work, Ages 30-39, Canadian Fertility Survey, 1984**

Age at First Work

Education at First Work	<19	19-22	23PL	Total
Less Grade 12	35.08 (141)	50.43 (63)	81.71 (30)	45.19 (234)
Grades 12-13	48.87 (130)	53.50 (133)	77.10 (21)	53.14 (285)
Over Grade 13	68.15 (9)	68.30 (104)	90.221 (45)	74.56 (158)
<hr/> Total	42.52 (280)	57.99 (300)	84.68 (97)	N=677

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D12

**Mean Salary at First Work by Education and Age at First Work
for Discontinuously Worked, Ever-In Union Women, Returning
to Work, Ages 40-49, Canadian Fertility Survey, 1984**

Education at First Work	Age at First Work			Total
	<19	19-22	23PL	
Less Grade 12	21.63 (196)	28.68 (47)	41.63 (66)	26.97 (308)
Grades 12-13	37.49 (109)	36.04 (50)	66.48 (17)	39.82 (177)
Over Grade 13	24.53 (19)	37.40 (61)	94.45 (20)	46.16 (100)
Total	27.15 (324)	34.38 (158)	55.90 (102)	N=585

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹
Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D13

Mean Salary at First Work by Education and Age at First Work for Discontinuously Worked. Ever-In Union Women, Leaving Work the Second Time, All Ages, Canadian Fertility Survey, 1984

Education at First Work	Age at First Work			
	<19	19-22	23PL	Total
Less Grade 12	21.63 (196)	28.68 (47)	41.63 (66)	26.97 (308)
Grades 12-13	37.49 (109)	36.04 (50)	66.48 (17)	39.82 (177)
Over Grade 13	24.53 (19)	37.40 (61)	94.45 (20)	46.16 (100)
<hr/> <u>Total</u>	27.15 (324)	34.38 (158)	55.90 (102)	N=585

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D14

Mean Salary at First Work by Education and Age at First Work for Discontinuously Worked, Ever-In Union Women, Leaving Work the Second Time, Ages 18-29, Canadian Fertility Survey, 1984

Education at First Work	Age at First Work			Total
	<19	19-22	23PL	
Less Grade 12	62.75 (45)	88.91 (18)	110.18 (2)	71.74 (65)
Grades 12-13	71.19 (41)	80.78 (28)	68.78 (4)	74.76 (73)
Over Grade 13	45.00 (1)	111.30 (12)	106.16 (3)	107.06 (16)
Total	66.60 (87)	89.78 (58)	92.74 (9)	N=155

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹
Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D15

Mean Salary at First Work by Education and Age at First Work for Discontinuously Worked, Ever-In Union Women, Leaving Work the Second Time, Ages 30-39, Canadian Fertility Survey, 1984

Education at First Work	Age at First Work			Total
	<19	19-22	23PL	
Less Grade 12	34.44 (108)	50.74 (41)	82.66 (16)	43.22 (165)
Grades 12-13	50.51 (97)	51.21 (94)	82.66 (11)	52.40 (202)
Over Grade 13	46.89 (6)	71.95 (66)	93.21 (29)	76.56 (101)
Total	42.19 (211)	57.98 (201)	87.28 (56)	N=469

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹
Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D16

Mean Salary at First Work by Education and Age at First Work for Discontinuously Worked, Ever-In Union Women, Leaving Work the Second Time, Ages 40-49, Canadian Fertility Survey, 1984

Education at First Work	Age at First Work			Total
	<19	19-22	23PL	
Less Grade 12	23.66 (142)	27.99 (32)	40.46 (46)	27.82 (221)
Grades 12-13	36.56 (95)	37.10 (40)	73.48 (18)	39.91 (147)
Over Grade 13	23.94 (20)	36.15 (49)	95.52 (18)	45.37 (88)
Total	28.43 (257)	34.31 (122)	58.68 (77)	N=456

²
Eta for Education: 5 percent (sig. p<.001)

²
Eta for Age at First Work: 7 percent (sig. p<.001)

¹

Note: Mean salary estimates are measured in hundreds of dollars and are based on valid values of respondent's salary.

Table D17

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, All Ages, Canadian Fertility Survey, 1984

Education	Occupation at Interview		Total
	Professional	Non-Professional	
Less Grade 12	301.17 (52)	241.68 (609)	245.95 (662)
Grades 12-13	341.02 (104)	279.45 (510)	289.84 (615)
Over Grade 13	380.49 (482)	286.03 (301)	344.16 (784)
Total	367.60 (638)	264.65 (1421)	(N=2490)
² Eta for Education: 7 percent (sig. p<.001)			
² Eta for Occupation at Interview: 9 percent (sig. p<.001)			

1

Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

TABLE D18

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, Age 18-29, Canadian Fertility Survey, 1984

Occupation at Interview

Education	Professional	Non-Professional	Total
Less Grade 12	253.88 (13)	201.51 (144)	204.37 (158)
Grades 12-13	297.93 (28)	235.27 (197)	242.96 (225)
Over Grade 13	306.22 (93)	232.56 (110)	266.42 (203)
<hr/>			
Total	299.52 (134)	223.82 (451)	(N=585)

Eta² for Education: 4 percent (sig. p<.001)

Eta² for Occupation at Interview: 5 percent (sig. p<.001)

Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

Table D19

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, Age 30-39, Canadian Fertility Survey, 1984

Occupation at Interview

Education	Professional	Non-Professional	Total
Less Grade 12	389.20 (15)	247.56 (240)	256.08 (255)
Grades 12-13	351.36 (45)	299.40 (204)	308.52 (250)
Over Grade 13	393.07 (264)	303.27 (133)	362.99 (397)
Total	385.80 (324)	278.74 (577)	N=(901)

Eta² for Education: 9 percent (sig. p<.001)

Eta² for Occupation at Interview: 11 percent (sig. p<.001)

1

Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

Table D20

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, Age 40-49, Canadian Fertility Survey, 1984

Education	Occupation at Interview		Total
	Professional	Non-Professional	
Less Grade 12	269.58 (24)	261.16 (225)	261.96 (249)
Grades 12-13	363.78 (32)	322.00 (109)	331.48 (141)
Over Grade 13	409.36 (125)	346.92 (59)	389.41 (183)
Total	382.93 (182)	290.85 (396)	(N=579)

²
Eta for Education: 11 percent (sig. p<.001)

²
Eta for Occupation at Interview: 7 percent (sig. p<.001)

¹

Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

Table D21

Mean Income of Husband by Husband's Education and Occupation at Interview for Discontinuously Worked, Ever-In Union Women, Returning to Work, All Ages, Canadian Fertility Survey, 1984

<u>Education</u>	<u>Occupation at Interview</u>		
	Professional	Non-Professional	Total
Less Grade 12	339.39 (34)	254.35 (450)	259.39 (486)
Grades 12-13	377.67 (62)	291.88 (311)	305.97 (374)
Over Grade 13	398.97 (330)	318.36 (178)	370.73 (508)
<hr/> <u>Total</u>	390.75 (431)	278.90 (948)	N=(1379)

²
Eta for education: 9 percent (sig. $p < .001$)

²
Eta for occupation: 11 percent (sig. $p < .001$)

¹

Note: Mean income estimates are measured in hundreds of dollars and are based on valid values of husband's income at the time of the survey.

Table D22

Mean Income of Husband by Husband's Education and Occupation at Interview for Discontinuously Worked, Ever-In Union Women, Returning to Work, Ages 18-29, Canadian Fertility Survey, 1984

<u>Education</u>	<u>Occupation at Interview</u>		
	Professional	Non-Professional	Total
Less Grade 12	226.91 (6)	224.10 (78)	219.77 (84)
Grades 12-13	425.31 (8)	254.04 (91)	267.27 (99)
Over Grade 13	315.36 (31)	259.70 (37)	285.11 (68)
<hr/> <u>Total</u>	322.71 (44)	243.70 (205)	N=(249)

²
Eta for education: 5 percent (sig. $p < .001$)

²
Eta for occupation: 5 percent (sig. $p < .001$)

¹

Note: Mean income estimates are measured in hundreds of dollars and are based on valid values of husband's income at the time of the survey.

Table D23

Mean Income of Husband by Husband's Education and Occupation at Interview for Discontinuously Worked, Ever-In Union Women, Returning to Work, Ages 30-39 Canadian Fertility Survey, 1984

<u>Education</u>	<u>Occupation at Interview</u>		
	Professional	Non-Professional	Total
Less Grade 12	455.72 (12)	246.58 (178)	259.69 (190)
Grades 12-13	384.75 (31)	290.09 (135)	307.54 (167)
Over Grade 13	403.70 (183)	318.28 (93)	374.80 (276)
<hr/> <u>Total</u>	402.07 (230)	277.66 (410)	N=(639)

²
Eta for education: 10 percent (sig. p<.001)

²
Eta for occupation: 14 percent (sig. p<.001)

¹

Note: Mean income estimates are measured in hundreds of dollars and are based on valid values of husband's income at the time of the survey.

Table D24

Mean Income of Husband by Husband's Education and Occupation at Interview for Discontinuously Worked, Ever-In Union Women, Returning to Work, Ages 40-49 Canadian Fertility Survey, 1984

<u>Occupation at Interview</u>			
<u>Education</u>	Professional	Non-Professional	Total
Less Grade 12	295.19 (16)	273.53 (195)	275.19 (211)
Grades 12-13	352.52 (23)	334.89 (85)	338.65 (109)
Over Grade 13	413.69 (116)	363.60 (48)	399.11 (164)
<hr/>			
<u>Total</u>	392.27 (156)	302.63 (328)	N=(484)

²
Eta for education: 12 percent (sig. $p < .001$)

²
Eta for occupation: 8 percent (sig. $p < .001$)

¹

Note: Mean income estimates are measured in hundreds of dollars and are based on valid values of husband's income at the time of the survey.

Table D25

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, Leaving Work the Second Time, All Ages, Canadian Fertility Survey, 1984

Occupation at Interview

Education	Professional	Non-Professional	Total
Less Grade 12	345.66 (23)	253.63 (314)	258.62 (340)
Grades 12-13	387.99 (42)	284.48 (221)	300.96 (264)
Over Grade 13	400.96 (222)	319.61 (132)	370.71 (354)

Total	394.60 (292)	276.87 (670)	(N=962)
--------------	-----------------	-----------------	---------

2

Eta for Education: 7 percent (sig. $p < .001$)

2

Eta for Occupation at Interview: 9 percent (sig. $p < .001$)

1

Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

Table D26

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, Leaving Work the Second Time, Ages 18-29, Canadian Fertility Survey, 1984

Occupation at Interview

Education	Professional	Non-Professional	Total
Less Grade 12	189.51 (2)	238.03 (41)	226.96 (43)
Grades 12-13	434.74 (8)	244.25 (55)	267.11 (63)
Over Grade 13	282.66 (14)	255.52 (22)	266.18 (36)

Total	325.46 (24)	244.15 (118)	(N=141)
--------------	----------------	-----------------	---------

²
Eta for Education: 7 percent (sig. p<.001)

²
Eta for Occupation at Interview: 9 percent (sig. p<.001)

¹

Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

Table D27

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, Leaving Work the Second Time, Ages 30-39, Canadian Fertility Survey, 1984

Occupation at Interview

Education	Professional	Non-Professional	Total
Less Grade 12	460.53 (11)	248.61 (123)	265.70 (134)
Grades 12-13	399.91 (19)	278.27 (91)	298.51 (111)
Over Grade 13	407.64 (109)	308.16 (73)	367.68 (82)
Total	409.99 (140)	273.06 (288)	(N=428)

²
Eta for Education: 7 percent (sig. p<.001)

²
Eta for Occupation at Interview: 9 percent (sig. p<.001)

¹

Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

Table D28

Mean Income of Husband by Husband's Education and Occupation at Interview for Ever-In Union, Ever-Worked Women, Leaving Work the Second Time, Ages 40-49, Canadian Fertility Survey, 1984

Occupation at Interview

Education	Professional	Non-Professional	Total
Less Grade 12	254.77 (11)	261.98 (150)	261.50 (161)
Grades 12-13	352.11 (16)	322.46 (74)	327.76 (90)
Over Grade 13	410.29 (100)	379.59 (37)	401.98 (137)
Total	391.04 (127)	295.92 (264)	(N=393)

²
Eta for Education: 7 percent (sig. $p < .001$)

²
Eta for Occupation at Interview: 9 percent (sig. $p < .001$)

¹
Note: Mean income estimates are measured in hundreds of dollars and are based on valid income values of husband's income at the time of the survey.

APPENDIX E

Table E1

National Unemployment Rates

<u>Year</u>	
1984	11.2
1983	12.0
1982	11.0
1981	7.0
1980	6.9
1979	6.6
1978	7.5
1977	7.3
1976	6.3
1975	7.4
1974	5.7
1973	5.9
1972	6.8
1971	7.0
1970	6.6
1969	5.2
1968	5.5
1967	4.6
1966	4.0
1965	4.4
1964	5.3
1963	6.4
1962	6.9
1961	8.4
1960	8.1
1959	6.9
1958	8.1
1957	5.3
1956	3.9
1955	4.9
1954	5.1
1953	3.4
1952	3.1
1951	2.5
1950	3.9
1949	3.1
1948	2.4

APPENDIX F

Descriptive Statistics of Study Variables

Table F1

Descriptive Statistics for Study Covariates, All Birth Cohorts, Women Leaving the Labour Force N=2901

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>	176.473	150.425	0.00	996.00	
<u>Natural Log</u>	4.002	1.894	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.209	--	0.00	1.00	(608)
Employed	.681	--	0.00	1.00	(1975)
Missing	.110	--	0.00	1.00	(318)
<u>Marital Status</u>					
Cont Married	.867	--	0.00	1.00	(2516)
Div/Sep/Wid	.133	--	0.00	1.00	(385)
<u>Number of Children Under Age Six</u>					
None	.693	--	0.00	1.00	(2010)
One	.198	--	0.00	1.00	(575)
Two	.072	--	0.00	1.00	(208)
Three	.004	--	0.00	1.00	(13)
Missing	.033	--	0.00	1.00	(95)
<u>Number of Children Age Six and Over</u>					
	.7957	1.2435	0.00	7.00	
None	.762	--	0.00	1.00	(2210)
One	.107	--	0.00	1.00	(311)
Two	.062	--	0.00	1.00	(179)
Three Plus	.036	--	0.00	1.00	(106)
Missing	.033	--	0.00	1.00	(95)

Table F1 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering</u>					
<u>Spell of Employment</u>					
	X=21.252	5.580	11.417	48.33	
<u>Age at Leaving</u>					
<u>Spell of Employment</u>					
	X=29.435	7.526	17.250	50.33	
<u>Geographic</u>					
<u>Mobility</u>					
No Move	.387	--	0.00	1.00	(1123)
Move	.613	--	0.00	1.00	(1778)
<u>Timing of</u>					
<u>First Birth</u>					
Before	.207	--	0.00	1.00	(600)
After First Work	.623	--	0.00	1.00	(1806)
Childless	.170	--	0.00	1.00	(494)
<u>Timing of</u>					
<u>First Marriage</u>					
Before	.283	--	0.00	1.00	(821)
After First Work	.717	--	0.00	1.00	(2080)
<u>Education at</u>					
<u>First Starting</u>					
<u>Work</u>					
	12.060	2.622	3.00	23.00	
<u>Occupation at</u>					
<u>First Work</u>					
Professional	.245	--	0.00	1.00	(712)
Non-Professional	.755	--	0.00	1.00	(2189)

Table F1 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment at Start of Spell of Employment</u>					
	6.357	1.590	2.50	12.00	
<u>Unemployment At Leaving Spell of Employment</u>					
	7.247	1.824	3.40	12.00	
<u>Work Status</u>					
Full-Time	.854	--	0.00	1.00	(2478)
Part-Time	.146	--	0.00	1.00	(423)
<u>Wage/Salary at First Work</u>					
	64.156	45.519	0.00	550.00	
<u>Natural Log</u>					
	3.901	.786	0.00	6.310	
<u>Region of Residence</u>					
Prairies	.178	--	0.00	1.00	(516)
B.C.	.099	--	0.00	1.00	(288)
Ont	.384	--	0.00	1.00	(1114)
Que	.252	--	0.00	1.00	(732)
Maritimes	.086	--	0.00	1.00	(250)
<u>Country of Birth</u>					
Canadian Born	.838	--	0.00	1.00	(2430)
Foreign Born	.162	--	0.00	1.00	(471)
<u>Church Attendance</u>					
	2.770	1.383	1.00	5.00	
Once Week	.277	--	0.00	1.00	(803)
Every Month	.137	--	0.00	1.00	(398)
Few Times a Year	.255	--	0.00	1.00	(739)
Rarely	.202	--	0.00	1.00	(585)
Never	.130	--	0.00	1.00	(376)

Table F1 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.451	--	0.00	1.00	(1308)
Protestant	.385	--	0.00	1.00	(1116)
Other	.091	--	0.00	1.00	(264)
No Religion	.074	--	0.00	1.00	(213)
<u>Ethnicity</u>					
English	.252	--	0.00	1.00	(732)
French	.250	--	0.00	1.00	(724)
Other	.498	--	0.00	1.00	(1444)
<u>Place of Residence</u>					
Rural	.622	--	0.00	1.00	(1803)
Urban	.378	--	0.00	1.00	(1097)
<u>Number of Siblings</u>					
	4.926	3.039	1.00	21.00	
<u>Year of Entering Spell of Employment</u>					
	69.85	7.971	47.00	84.00	
<u>Dependent Variable</u>					
	98.101	73.853	0.00	440.00	

1

Note: Fifty-six percent of the cases on the dependent variable are censored

Table F2

Descriptive Statistics for Study Covariates, 1955-65 Birth Cohort, Women Leaving the Labour Force N=749

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>					
	206.71	113.45	0.00	996.00	
<u>Natural Log</u>					
	4.60	1.73	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.321	--	0.00	1.00	(241)
Employed	.599	--	0.00	1.00	(449)
Missing	.080	--	0.00	1.00	(60)
<u>Marital Status</u>					
Cont Married	.895	--	0.00	1.00	(670)
Div/Sep/Wid	.105	--	0.00	1.00	(79)
<u>Number of Children Under Age Six</u>					
	.8675	.8598	0.00	3.00	
None	.591	--	0.00	1.00	(443)
One	.268	--	0.00	1.00	(201)
Two	.102	--	0.00	1.00	(76)
Three	.010	--	0.00	1.00	(8)
Missing	.028	--	0.00	1.00	(21)
<u>Number of Children Age Six and Over</u>					
	.7957	1.2435	0.00	3.00	
None	.911	--	0.00	1.00	(682)
One	.046	--	0.00	1.00	(35)
Two	.014	--	0.00	1.00	(11)
Three Plus	.001	--	0.00	1.00	(1)
Missing	.028	--	0.00	1.00	(21)

Table F2 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering Spell of Employment</u>					
	19.50	2.506	11.83	28.16	
<u>Age at Leaving Spell of Employment</u>					
	24.62	2.832	17.33	29.33	
<u>Geographic Mobility</u>					
No Move	.270	--	0.00	1.00	(202)
Move	.730	--	0.00	1.00	(547)
<u>Timing of First Birth</u>					
Before	.123	--	0.00	1.00	(92)
After First Work	.505	--	0.00	1.00	(378)
Childless	.372	--	0.00	1.00	(279)
<u>Timing of First Marriage</u>					
Before	.223	--	0.00	1.00	(167)
After First Work	.777	--	0.00	1.00	(582)
<u>Education at First Starting Work</u>					
	12.243	2.216	3.00	22.00	
<u>Occupation at First Work</u>					
Professional	.187	--	0.00	1.00	(140)
Non-Professional	.813	--	0.00	1.00	(609)

Table F2 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment at Start of Spell of Employment</u>					
	7.270	1.540	4.60	12.00	
<u>Unemployment At Leaving Spell of Employment</u>					
	8.271	2.084	5.70	12.00	
<u>Work Status</u>					
Full-Time	.843	--	0.00	1.00	(632)
Part-Time	.157	--	0.00	1.00	(118)
<u>Wage/Salary at First Work</u>					
	89.01	46.59	0.00	350.00	
<u>Natural Log</u>	4.33	.63	0.00	5.85	
<u>Region of Residence</u>					
Prairies	.19	--	0.00	1.00	(148)
B.C.	.11	--	0.00	1.00	(79)
Ont	.36	--	0.00	1.00	(275)
Que	.24	--	0.00	1.00	(179)
Maritimes	.09	--	0.00	1.00	(69)
<u>Country of Birth</u>					
Canadian Born	.90	--	0.00	1.00	(676)
Foreign Born	.09	--	0.00	1.00	(73)
<u>Church Attendance</u>					
	2.882	1.278	1.00	5.00	
Once Week	.21	--	0.00	1.00	(159)
Every Month	.14	--	0.00	1.00	(105)
Few Times a Year	.30	--	0.00	1.00	(227)
Rarely	.24	--	0.00	1.00	(180)
Never	.10	--	0.00	1.00	(78)

Table F2 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.47	--	0.00	1.00	(348)
Protestant	.36	--	0.00	1.00	(266)
Other	.11	--	0.00	1.00	(79)
No Religion	.07	--	0.00	1.00	(56)
<u>Ethnicity</u>					
English	.26	--	0.00	1.00	(193)
French	.24	--	0.00	1.00	(179)
Other	.50	--	0.00	1.00	(377)
<u>Place of Residence</u>					
Rural	.61	--	0.00	1.00	(458)
Urban	.39	--	0.00	1.00	(291)
<u>Number of Siblings</u>					
	4.516	2.438	1.00	16.00	
<u>Year of Entering Spell of Employment</u>					
	77.44	2.996	67.00	84.00	
<u>Dependent Variable</u>					
	61.41	34.835	0.00	201.00	

1

Note: Fifty-six percent of the cases on the dependent variable are censored

Table F3

Descriptive Statistics for Study Covariates, 1945-54 Birth Cohort, Women Leaving the Labour Force N=1270

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>					
	182.39	154.09	0.00	996.00	
<u>Natural Log</u>					
	3.98	2.02	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.196	--	0.00	1.00	(249)
Employed	.691	--	0.00	1.00	(878)
Missing	.113	--	0.00	1.00	(318)
<u>Marital Status</u>					
Cont Married	.856	--	0.00	1.00	(1088)
Div/Sep/Wid	.144	--	0.00	1.00	(183)
<u>Number of Children Under Age Six</u>					
	.404	.656	0.00	3.00	
None	.663	--	0.00	1.00	(843)
One	.217	--	0.00	1.00	(275)
Two	.082	--	0.00	1.00	(105)
Three	.003	--	0.00	1.00	(4)
Missing	.035	--	0.00	1.00	(44)
<u>Number of Children Age Six and Over</u>					
	.378	.775	0.00	5.00	
None	.734	--	0.00	1.00	(933)
One	.129	--	0.00	1.00	(164)
Two	.078	--	0.00	1.00	(99)
Three Plus	.023	--	0.00	1.00	(30)
Missing	.035	--	0.00	1.00	(44)

Table F3 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering Spell of Employment</u>					
	20.83	4.211	11.417	37.33	
<u>Age at Leaving Spell of Employment</u>					
	29.15	5.306	17.250	39.33	
<u>Geographic Mobility</u>					
No Move	.393	--	0.00	1.00	(500)
Move	.607	--	0.00	1.00	(771)
<u>Timing of First Birth</u>					
Before	.176	--	0.00	1.00	(223)
After First Work	.695	--	0.00	1.00	(883)
Childless	.129	--	0.00	1.00	(164)
<u>Timing of First Marriage</u>					
Before	.261	--	0.00	1.00	(331)
After First Work	.739	--	0.00	1.00	(939)
<u>Education at First Starting Work</u>					
	12.440	2.599	4.00	23.00	
<u>Occupation at First Work</u>					
Professional	.279	--	0.00	1.00	(355)
Non-Professional	.721	--	0.00	1.00	(916)

Table F3 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment</u> <u>at Entering Spell of Employment</u>					
	6.046	1.282	4.00	12.00	
<u>Unemployment</u> <u>At Leaving Spell of Employment</u>					
	7.091	1.824	4.00	12.00	
<u>Work Status</u>					
Full-Time	.871	--	0.00	1.00	(1107)
Part-Time	.129	--	0.00	1.00	(164)
<u>Wage/Salary</u> <u>at First Work</u>					
	62.51	44.21	0.00	552.00	
<u>Natural Log</u>	3.91	.71	0.00	6.25	
<u>Region of Residence</u>					
Prairies	.173	--	0.00	1.00	(220)
B.C.	.098	--	0.00	1.00	(124)
Ont	.379	--	0.00	1.00	(482)
Que	.262	--	0.00	1.00	(333)
Maritimes	.088	--	0.00	1.00	(111)
<u>Country of Birth</u>					
Canadian Born	.826	--	0.00	1.00	(1049)
Foreign Born	.174	--	0.00	1.00	(222)
<u>Church Attendance</u>					
	2.781	1.388	1.00	5.00	
Once Week	.270	--	0.00	1.00	(343)
Every Month	.145	--	0.00	1.00	(184)
Few Times a Year	.259	--	0.00	1.00	(329)
Rarely	.186	--	0.00	1.00	(236)
Never	.140	--	0.00	1.00	(178)

Table F3 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.455	--	0.00	1.00	(578)
Protestant	.372	--	0.00	1.00	(472)
Other	.089	--	0.00	1.00	(113)
No Religion	.084	--	0.00	1.00	(107)
<u>Ethnicity</u>					
English	.256	--	0.00	1.00	(325)
French	.265	--	0.00	1.00	(336)
Other	.479	--	0.00	1.00	(609)
<u>Place of Residence</u>					
Rural	.615	--	0.00	1.00	(781)
Urban	.385	--	0.00	1.00	(489)
<u>Number of Siblings</u>					
	4.977	3.019	1.00	21.00	
<u>Year of Entering Spell of Employment</u>					
	70.37	4.759	57.00	83.00	
<u>Dependent Variable</u>					
	99.85	61.939	0.00	313.00	

1

Note: percent of the cases on the dependent variable are censored

Table F4

Descriptive Statistics for Study Covariates, 1934-44 Birth Cohort, Women Leaving the Labour Force N=881

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>					
	138.92	166.93	0.00	996.00	
<u>Natural Log</u>	3.27	2.08	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.135	--	0.00	1.00	(119)
Employed	.736	--	0.00	1.00	(648)
Missing	.130	--	0.00	1.00	(114)
<u>Marital Status</u>					
Cont Married	.860	--	0.00	1.00	(758)
Div/Sep/Wid	.140	--	0.00	1.00	(123)
<u>Number of Children Under Age Six</u>					
	.8675	.8598	0.00	3.00	
None	.822	--	0.00	1.00	(724)
One	.112	--	0.00	1.00	(99)
Two	.031	--	0.00	1.00	(27)
Three Plus	.001	--	0.00	1.00	(1)
Missing	.034	--	0.00	1.00	(30)
<u>Number of Children Age Six and Over</u>					
	.7957	1.2435	0.00	7.00	
None	.675	--	0.00	1.00	(594)
One	.127	--	0.00	1.00	(112)
Two	.079	--	0.00	1.00	(70)
Three Plus	.084	--	0.00	1.00	(75)
Missing	.034	--	0.00	1.00	(30)

Table F4 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering Spell of Employment</u>					
	23.36	8.00	12.25	48.33	
<u>Age at Leaving Spell of Employment</u>					
	33.94	9.93	17.66	50.33	
<u>Geographic Mobility</u>					
No Move	.477	--	0.00	1.00	(420)
Move	.523	--	0.00	1.00	(460)
<u>Timing of First Birth</u>					
Before	.323	--	0.00	1.00	(285)
After First Work	.618	--	0.00	1.00	(545)
Childless	.058	--	0.00	1.00	(51)
<u>Timing of First Marriage</u>					
Before	.366	--	0.00	1.00	(322)
After First Work	.634	--	0.00	1.00	(559)
<u>Education at First Starting Work</u>					
	11.35	2.82	4.00	23.00	
<u>Occupation at First Work</u>					
Professional	.246	--	0.00	1.00	(217)
Non-Professional	.754	--	0.00	1.00	(664)

Table F4 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment</u> <u>at Start of Spell of Employment</u>					
	6.02	1.72	2.50	12.00	
<u>Unemployment</u> <u>At Leaving Spell of Employment</u>					
	6.59	1.64	3.40	12.00	
<u>Work Status</u>					
Full-Time	.840	--	0.00	1.00	(740)
Part-Time	.160	--	0.00	1.00	(141)
<u>Wage/Salary</u> <u>at First Work</u>					
	43.85	44.79	0.00	550.00	
<u>Region of Residence</u>					
Prairies	.168	--	0.00	1.00	(148)
B.C.	.097	--	0.00	1.00	(85)
Ont	.406	--	0.00	1.00	(358)
Que	.250	--	0.00	1.00	(220)
Maritimes	.079	--	0.00	1.00	(70)
<u>Country of Birth</u>					
Canadian Born	.800	--	0.00	1.00	(705)
Foreign Born	.200	--	0.00	1.00	(176)
<u>Church Attendance</u>					
	2.659	1.452	1.00	5.00	
Once Week	.340	--	0.00	1.00	(300)
Every Month	.124	--	0.00	1.00	(109)
Few Times a Year	.207	--	0.00	1.00	(183)
Rarely	.192	--	0.00	1.00	(169)
Never	.136	--	0.00	1.00	(120)

Table F4 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.433	--	0.00	1.00	(382)
Protestant	.428	--	0.00	1.00	(377)
Other	.081	--	0.00	1.00	(71)
No Religion	.058	--	0.00	1.00	(51)
<u>Ethnicity</u>					
English	.250	--	0.00	1.00	(220)
French	.230	--	0.00	1.00	(202)
Other	.520	--	0.00	1.00	(458)
<u>Place of Residence</u>					
Rural	.640	--	0.00	1.00	(564)
Urban	.360	--	0.00	1.00	(317)
<u>Number of Siblings</u>					
	5.202	3.46	1.00	21.00	
<u>Year of Entering Spell of Employment</u>					
	62.63	8.22	47.00	83.00	
<u>Dependent Variable</u>					
	126.84	96.88	0.00	440.00	

1

Note: percent of the cases on the dependent variable are censored

Table F5

Descriptive Statistics for Study Covariates, All Birth Cohorts, Women Leaving the Labour Force the Second Time N=1401

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income (LN)</u>	4.018	2.236	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.076	--	0.00	1.00	(106)
Employed	.789	--	0.00	1.00	(1104)
Missing	.135	--	0.00	1.00	(189)
<u>Marital Status</u>					
Cont Married	.818	--	0.00	1.00	(1146)
Div/Sep/Wid	.182	--	0.00	1.00	(255)
<u>Number of Children Under Age Six</u>					
	.511	.743	0.00	3.00	
None	.626	--	0.00	1.00	(876)
One	.252	--	0.00	1.00	(353)
Two	.108	--	0.00	1.00	(151)
Three	.014	--	0.00	1.00	(20)
<u>Number of Children Age Six and Over</u>					
	.5333	.9540	0.00	8.00	
None	.663	--	0.00	1.00	(928)
One	.217	--	0.00	1.00	(303)
Two	.074	--	0.00	1.00	(104)
Three Plus	.045	--	0.00	1.00	(65)
<u>Age at Leaving Spell of Non-Employment</u>	34.07	7.376	17.50	50.53	

Table F5 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Geographic Mobility</u>					
No Move	.567	--	0.00	1.00	(793)
Move	.433	--	0.00	1.00	(607)
<u>Timing of First Birth</u>					
Before	.107	--	0.00	1.00	(150)
After First Work	.806	--	0.00	1.00	(1129)
Childless	.087	--	0.00	1.00	(122)
<u>Education at First Starting Work</u>					
	11.74	2.517	2.00	23.00	
<u>Occupation at First Work</u>					
Professional	.225	--	0.00	1.00	(315)
Non-Professional	.775	--	0.00	1.00	(1086)
<u>Unemployment at Start of Spell of Non-Employment</u>					
	7.352	2.032	3.90	12.00	
<u>Unemployment At Leaving Spell of Non-Employment</u>					
	8.277	2.294	3.90	12.00	
<u>Work Status</u>					
Full-Time	.887	--	0.00	1.00	(1242)
Part-Time	.113	--	0.00	1.00	(158)
<u>Wage/Salary at First Work</u>					
	3.652	.743	0.00	6.31	

Table F5 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Region of Residence</u>					
Prairies	.182	--	0.00	1.00	(255)
B.C.	.117	--	0.00	1.00	(164)
Ont	.368	--	0.00	1.00	(515)
Que	.243	--	0.00	1.00	(340)
Maritimes	.090	--	0.00	1.00	(126)
<u>Country of Birth</u>					
Canadian Born	.827	--	0.00	1.00	(1158)
Foreign Born	.173	--	0.00	1.00	(242)
<u>Church Attendance</u>					
	2.772	1.452	1.00	5.00	
Once Week	.305	--	0.00	1.00	(428)
Every Month	.122	--	0.00	1.00	(171)
Few Times a Year	.223	--	0.00	1.00	(312)
Rarely	.195	--	0.00	1.00	(272)
Never	.155	--	0.00	1.00	(217)
<u>Religion</u>					
Catholic	.428	--	0.00	1.00	(600)
Protestant	.396	--	0.00	1.00	(554)
Other	.091	--	0.00	1.00	(127)
No Religion	.085	--	0.00	1.00	(119)
<u>Ethnicity</u>					
English	.251	--	0.00	1.00	(352)
French	.240	--	0.00	1.00	(336)
Other	.509	--	0.00	1.00	(713)
<u>Place of Residence</u>					
Rural	.633	--	0.00	1.00	(886)
Urban	.367	--	0.00	1.00	(514)

Table F5 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Number of Siblings</u>	5.115	3.164	1.00	21.00	
<u>Year of Entering Spell of Non-Employment</u>	74.97	6.644	55.00	84.00	
<u>Duration in First Employment Spell</u>	5.10	3.863	.083	26.91	
<u>Duration in First Non-Employment Spell</u>	4.534	4.498	1.00	22.50	
<u>Dependent Variable</u>	58.880	61.200	0.00	345.00	

1

Note: percent of the cases on the dependent variable are censored

Table F6

Descriptive Statistics for Study Covariates, 1955-65 Birth Cohort, Women Leaving the Labour Force the Second Time N=195

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income (LN)</u>	4.276	2.129	0.00	6.62	
<u>Husband's Employment Status</u>					
Unemployed	.190	--	0.00	1.00	(37)
Employed	.697	--	0.00	1.00	(136)
Missing	.113	--	0.00	1.00	(22)
<u>Marital Status</u>					
Cont Married	.844	--	0.00	1.00	(164)
Div/Sep/Wid	.156	--	0.00	1.00	(30)
<u>Number of Children Under Age Six</u>					
	.9100	.8150	0.00	3.00	
None	.359	--	0.00	1.00	(70)
One	.391	--	0.00	1.00	(76)
Two	.229	--	0.00	1.00	(45)
Three	.020	--	0.00	1.00	(4)
<u>Number of Children Age Six and Over</u>					
	.1760	.4560	0.00	3.00	
None	.851	--	0.00	1.00	(166)
One	.125	--	0.00	1.00	(24)
Two	.021	--	0.00	1.00	(4)
Three Plus	.001	--	0.00	1.00	(1)
<u>Age at Leaving Spell of Employment</u>	29.25	25.43	2.391	17.59	

Table F6 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Geographic Mobility</u>					
No Move	.529	--	0.00	1.00	(103)
Move	.471	--	0.00	1.00	(92)
<u>Timing of First Birth</u>					
Before	.100	--	0.00	1.00	(19)
After First Work	.731	--	0.00	1.00	(142)
Childless	.170	--	0.00	1.00	(33)
<u>Education at First Starting Work</u>					
	11.56	1.903	6.00	18.00	
<u>Occupation at First Work</u>					
Professional	.110	--	0.00	1.00	(22)
Non-Professional	.889	--	0.00	1.00	(173)
<u>Unemployment at Start of Spell of Employment</u>					
	8.922	2.322	5.70	12.00	
<u>Unemployment At Leaving Spell of Employment</u>					
	10.140	2.249	6.30	12.00	
<u>Work Status</u>					
Full-Time	.858	--	0.00	1.00	(167)
Part-Time	.142	--	0.00	1.00	(28)
<u>Wage/Salary at First Work</u>					
	4.226	1.48	0.00	5.43	

Table F6 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Region of Residence</u>					
Prairies	.204	--	0.00	1.00	(40)
B.C.	.147	--	0.00	1.00	(29)
Ont	.348	--	0.00	1.00	(68)
Que	.196	--	0.00	1.00	(38)
Maritimes	.105	--	0.00	1.00	(20)
<u>Country of Birth</u>					
Canadian Born	.887	--	0.00	1.00	(173)
Foreign Born	.113	--	0.00	1.00	(22)
<u>Church Attendance</u>					
	2.294	1.387	1.00	5.00	
Once Week	.255	--	0.00	1.00	(50)
Every Month	.093	--	0.00	1.00	(18)
Few Times a Year	.262	--	0.00	1.00	(51)
Rarely	.250	--	0.00	1.00	(49)
Never	.139	--	0.00	1.00	(27)
<u>Religion</u>					
Catholic	.410	--	0.00	1.00	(80)
Protestant	.372	--	0.00	1.00	(72)
Other	.118	--	0.00	1.00	(23)
No Religion	.100	--	0.00	1.00	(20)
<u>Ethnicity</u>					
English	.196	--	0.00	1.00	(38)
French	.236	--	0.00	1.00	(46)
Other	.568	--	0.00	1.00	(111)
<u>Place of Residence</u>					
Rural	.576	--	0.00	1.00	(112)
Urban	.424	--	0.00	1.00	(83)

Table F6 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Number of Siblings</u>	4.780	2.623	1.00	16.00	
<u>Year of Entering Spell of Employment</u>	80.70	2.527	74.00	84.00	
<u>Duration in First Employment Spell</u>	3.04	2.096	.08	9.75	
<u>Duration in First Non-Employment Spell</u>	1.94	1.074	1.00	6.91	
<u>Dependent Variable</u>	23.47	22.54	0.00	115.00	

1

Note: percent of the cases on the dependent variable are censored

Table F7

Descriptive Statistics for Study Covariates, 1945-54 Birth Cohort, Women Leaving the Labour Force the Second Time N=600

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income (LN)</u>	4.253	2.185	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.073	--	0.00	1.00	(44)
Employed	.805	--	0.00	1.00	(482)
Missing	.122	--	0.00	1.00	(73)
<u>Marital Status</u>					
Cont Married	.798	--	0.00	1.00	(478)
Div/Sep/Wid	.202	--	0.00	1.00	(121)
<u>Number of Children Under Age Six</u>					
	.579	.731	0.00	3.00	
None	.560	--	0.00	1.00	(336)
One	.307	--	0.00	1.00	(184)
Two	.126	--	0.00	1.00	(76)
Three	.006	--	0.00	1.00	(4)
<u>Number of Children Age Six and Over</u>					
	.534	.803	0.00	4.00	
None	.618	--	0.00	1.00	(370)
One	.272	--	0.00	1.00	(163)
Two	.074	--	0.00	1.00	(45)
Three Plus	.037	--	0.00	1.00	(22)
<u>Age at Leaving Spell of Employment</u>					
	32.20	4.557	19.50	39.33	

Table F7 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Geographic Mobility</u>					
No Move	.558	--	0.00	1.00	(335)
Move	.442	--	0.00	1.00	(265)
<u>Timing of First Birth</u>					
Before	.088	--	0.00	1.00	(53)
After First Work	.831	--	0.00	1.00	(498)
Childless	.081	--	0.00	1.00	(49)
<u>Education at First Starting Work</u>					
	12.14	2.556	2.00	23.00	
<u>Occupation at First Work</u>					
Professional	.244	--	0.00	1.00	(146)
Non-Professional	.756	--	0.00	1.00	(453)
<u>Unemployment at Entering Spell of Employment</u>					
	7.494	1.966	4.00	12.00	
<u>Unemployment At Leaving Spell of Employment</u>					
	8.479	2.269	5.20	12.00	
<u>Work Status</u>					
Full-Time	.894	--	0.00	1.00	(536)
Part-Time	.106	--	0.00	1.00	(63)
<u>Wage/Salary at First Work</u>					
	3.788	.677	0.00	6.25	

Table F7 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Region of Residence</u>					
Prairies	.118	--	0.00	1.00	(113)
B.C.	.127	--	0.00	1.00	(76)
Ont	.357	--	0.00	1.00	(214)
Que	.246	--	0.00	1.00	(147)
Maritimes	.082	--	0.00	1.00	(49)
<u>Country of Birth</u>					
Canadian Born	.814	--	0.00	1.00	(488)
Foreign Born	.186	--	0.00	1.00	(112)
<u>Church Attendance</u>					
	2.814	1.447	1.00	5.00	
Once Week	.283	--	0.00	1.00	(169)
Every Month	.135	--	0.00	1.00	(81)
Few Times a Year	.241	--	0.00	1.00	(145)
Rarely	.169	--	0.00	1.00	(101)
Never	.173	--	0.00	1.00	(104)
<u>Religion</u>					
Catholic	.430	--	0.00	1.00	(258)
Protestant	.367	--	0.00	1.00	(220)
Other	.095	--	0.00	1.00	(57)
No Religion	.103	--	0.00	1.00	(65)
<u>Ethnicity</u>					
English	.246	--	0.00	1.00	(147)
French	.260	--	0.00	1.00	(156)
Other	.494	--	0.00	1.00	(296)
<u>Place of Residence</u>					
Rural	.654	--	0.00	1.00	(392)
Urban	.346	--	0.00	1.00	(207)

Table F7 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Number of Siblings</u>	5.051	2.991	1.00	16.00	
<u>Year of First Entering Spell of Employment</u>	76.93	4.432	62.00	84.00	
<u>Duration in First Employment Spell</u>	4.88	3.150	.08	16.66	
<u>Duration in First Non-Employment Spell</u>	3.66	3.036	1.00	15.41	
<u>Dependent Variable</u>	50.16	45.530	0.00	262.00	

1

Note: percent of the cases on the dependent variable are censored

Table F8

Descriptive Statistics for Study Covariates, 1934-44 Birth Cohort, Women Leaving the Labour Force the Second Time N=606

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income (LN)</u>	3.701	2.282	0.00	6.68	
<u>Husband's Employment Status</u>					
Unemployed	.042	--	0.00	1.00	(26)
Employed	.803	--	0.00	1.00	(486)
Missing	.155	--	0.00	1.00	(94)
<u>Marital Status</u>					
Cont Married	.830	--	0.00	1.00	(503)
Div/Sep/Wid	.170	--	0.00	1.00	(103)
<u>Number of Children Under Age Six</u>					
	.316	.665	0.00	3.00	
None	.776	--	0.00	1.00	(470)
One	.152	--	0.00	1.00	(92)
Two	.051	--	0.00	1.00	(31)
Three	.021	--	0.00	1.00	(13)
<u>Number of Children Age Six and Over</u>					
	.646	1.160	0.00	8.00	
None	.647	--	0.00	1.00	(392)
One	.191	--	0.00	1.00	(116)
Two	.092	--	0.00	1.00	(55)
Three Plus	.069	--	0.00	1.00	(17)
<u>Age at Leaving Spell of Employment</u>	38.69	7.863	19.33	50.33	

Table F8 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Geographic Mobility</u>					
No Move	.587	--	0.00	1.00	(356)
Move	.413	--	0.00	1.00	(250)
<u>Timing of First Birth</u>					
Before	.128	--	0.00	1.00	(78)
After First Work	.806	--	0.00	1.00	(488)
Childless	.066	--	0.00	1.00	(40)
<u>Education at First Starting Work</u>					
	11.39	2.599	5.00	23.00	
<u>Occupation at First Work</u>					
Professional	.242	--	0.00	1.00	(147)
Non-Professional	.758	--	0.00	1.00	(459)
<u>Unemployment at Entering Spell of Employment</u>					
	6.699	1.715	3.90	12.00	
<u>Unemployment At Leaving Spell of Employment</u>					
	7.496	2.108	3.900	12.00	
<u>Work Status</u>					
Full-Time	.890	--	0.00	1.00	(539)
Part-Time	.110	--	0.00	1.00	(67)
<u>Wage/Salary at First Work</u>					
	3.289	.730	0.00	6.31	

Table F8 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Region of Residence</u>					
Prairies	.169	--	0.00	1.00	(102)
B.C.	.098	--	0.00	1.00	(59)
Ont	.385	--	0.00	1.00	(233)
Que	.254	--	0.00	1.00	(154)
Maritimes	.093	--	0.00	1.00	(56)
<u>Country of Birth</u>					
Canadian Born	.820	--	0.00	1.00	(497)
Foreign Born	.180	--	0.00	1.00	(109)
<u>Church Attendance</u>					
	2.681	1.473	1.00	5.00	
Once Week	.344	--	0.00	1.00	(203)
Every Month	.119	--	0.00	1.00	(72)
Few Times a Year	.192	--	0.00	1.00	(116)
Rarely	.202	--	0.00	1.00	(123)
Never	.143	--	0.00	1.00	(86)
<u>Religion</u>					
Catholic	.433	--	0.00	1.00	(262)
Protestant	.432	--	0.00	1.00	(261)
Other	.078	--	0.00	1.00	(47)
No Religion	.058	--	0.00	1.00	(35)
<u>Ethnicity</u>					
English	.261	--	0.00	1.00	(158)
French	.233	--	0.00	1.00	(141)
Other	.505	--	0.00	1.00	(306)
<u>Place of Residence</u>					
Rural	.630	--	0.00	1.00	(382)
Urban	.370	--	0.00	1.00	(224)

Table F8 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Number of Siblings</u>	5.285	3.481	1.00	21.00	
<u>Year of Entering Spell of Employment</u>	71.14	7.346	55.00	84.00	
<u>Duration in First Employment Spell</u>	5.997	4.680	.25	26.91	
<u>Duration in First Non-Employment Spell</u>	6.249	5.732	1.00	28.50	
<u>Dependent Variable</u>	78.85	78.35	0.00	345.00	

1

Note: percent of the cases on the dependent variable are censored

Table F9

Descriptive Statistics for Study Covariates, All Birth Cohorts, Women Returning to the Labour Force N=2011

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>					
	195.14	153.84	0.00	996.00	
<u>Natural Log</u>	4.02	2.07	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.157	--	0.00	1.00	(315)
Employed	.723	--	0.00	1.00	(1454)
Missing	.120	--	0.00	1.00	(242)
<u>Marital Status</u>					
Cont Married	.886	--	0.00	1.00	(1782)
Div/Sep/Wid	.114	--	0.00	1.00	(230)
<u>Number of Children Under Age Six</u>					
	.868	.860	0.00	4.00	
None	.406	--	0.00	1.00	(816)
One	.358	--	0.00	1.00	(721)
Two	.201	--	0.00	1.00	(404)
Three Plus	.035	--	0.00	1.00	(71)
<u>Number of Children Age Six and Over</u>					
	.7996	1.243	0.00	13.00	
None	.612	--	0.00	1.00	(1230)
One	.149	--	0.00	1.00	(300)
Two	.134	--	0.00	1.00	(270)
Three Plus	.105	--	0.00	1.00	(212)

Table F9 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering Spell of Non-Employment</u>					
	25.09	5.45	15.66	48.75	
<u>Age at Leaving Spell of Non-Employment</u>					
	31.47	7.100	18.00	50.33	
<u>Geographic Mobility</u>					
No Move	.44	--	0.00	1.00	(893)
Move	.56	--	0.00	1.00	(1118)
<u>Timing of First Birth</u>					
Before	.114	--	0.00	1.00	(229)
After First Work	.815	--	0.00	1.00	(1640)
Childless	.071	--	0.00	1.00	(143)
<u>Timing of First Marriage</u>					
Before First	.177	--	0.00	1.00	(357)
After First Work	.823	--	0.00	1.00	(1655)
<u>Job Duration</u>					
	5.52	4.240	0.00	28.58	
<u>Education at First Starting Work</u>					
	11.69	2.560	2.00	23.00	
<u>Occupation at First Work</u>					
Professional	.207	--	0.00	1.00	(417)
Non-Professional	.793	--	0.00	1.00	(1594)

Table F9 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment at Entering Spell of Non-Employment</u>					
	6.785	1.688	3.10	12.00	
<u>Unemployment at Leaving Spell of Non-Employment</u>					
	7.734	2.157	3.90	12.00	
<u>Work Status</u>					
Full-Time	.883	--	0.00	1.00	(1776)
Part-Time	.117	--	0.00	1.00	(236)
<u>Wage/Salary at First Work</u>					
	51.30	40.06	0.00	550.00	
<u>Natural Log</u>					
	3.68	.76	0.00	6.31	
<u>Region of Residence</u>					
Prairies	.185	--	0.00	1.00	(372)
B.C.	.111	--	0.00	1.00	(223)
Ont	.350	--	0.00	1.00	(704)
Que	.265	--	0.00	1.00	(532)
Maritimes	.090	--	0.00	1.00	(180)
<u>Country of Birth</u>					
Canadian Born	.840	--	0.00	1.00	(1689)
Foreign Born	.160	--	0.00	1.00	(322)
<u>Church Attendance</u>					
	2.68	1.41	1.00	5.00	
Once Week	.320	--	0.00	1.00	(644)
Every Month	.125	--	0.00	1.00	(251)
Few Times a Year	.239	--	0.00	1.00	(480)
Rarely	.188	--	0.00	1.00	(378)
Never	.128	--	0.00	1.00	(258)

Table F9 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.448	--	0.00	1.00	(902)
Protestant	.385	--	0.00	1.00	(775)
Other	.093	--	0.00	1.00	(183)
No Religion	.073	--	0.00	1.00	(147)
<u>Ethnicity</u>					
English	.245	--	0.00	1.00	(494)
French	.266	--	0.00	1.00	(534)
Other	.489	--	0.00	1.00	(983)
<u>Place of Residence</u>					
Rural	.636	--	0.00	1.00	(1279)
Urban	.364	--	0.00	1.00	(732)
<u>Number of Siblings</u>					
	5.141	3.205	1.00	25.00	
<u>Year of Entering Spell of Non-Employment</u>					
	71.94	7.556	52.00	71.94	
<u>Dependent Variable</u>					
	75.86	71.57	12.00	381.00	

1

Note: percent of the cases on the dependent variable are censored

Table F10

Descriptive Statistics for Study Covariates, 1955-65 Birth Cohort, Women Returning to the Labour Force N=347

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>					
	214.34	115.88	0.00	996.00	
<u>Natural Log</u>					
	4.46	1.92	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.286	--	0.00	1.00	(99)
Employed	.593	--	0.00	1.00	(206)
Missing	.121	--	0.00	1.00	(42)
<u>Marital Status</u>					
Cont Married	.865	--	0.00	1.00	(300)
Div/Sep/Wid	.135	--	0.00	1.00	(47)
<u>Number of Children Under Age Six</u>					
	1.22	.801	0.00	4.00	
None	.184	--	0.00	1.00	(64)
One	.453	--	0.00	1.00	(157)
Two	.319	--	0.00	1.00	(111)
Three	.044	--	0.00	1.00	(15)
<u>Number of Children Age Six and Over</u>					
	.148	.434	0.00	2.00	
None	.883	--	0.00	1.00	(306)
One	.086	--	0.00	1.00	(30)
Two	.031	--	0.00	1.00	(11)
Three Plus	.000	--	0.00	1.00	(0)

Table F10 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering Spell of Non-Employment</u>	21.91	2.52	16.16	28.08	
<u>Age at Returning to Work</u>	25.01	2.60	18.00	29.25	
<u>Geographic Mobility</u>					
No Move	.409	--	0.00	1.00	(142)
Move	.591	--	0.00	1.00	(205)
<u>Timing of First Birth</u>					
Before	.107	--	0.00	1.00	(37)
After First Work	.778	--	0.00	1.00	(270)
Childless	.114	--	0.00	1.00	(40)
<u>Timing of First Marriage</u>					
Before	.180	--	0.00	1.00	(62)
After First Work	.820	--	0.00	1.00	(285)
<u>Job Duration in First Spell of Employment</u>	3.24	2.27	0.00	10.25	
<u>Education at First Starting Work</u>	11.57	1.91	5.00	18.00	
<u>Occupation at First Work</u>					
Professional	.097	--	0.00	1.00	(33)
Non-Professional	.903	--	0.00	1.00	(313)

Table F10 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment at Entering Spell of Non-Employment</u>					
	7.925	1.893	5.70	12.00	
<u>Unemployment Leaving Spell of Non-Employment</u>					
	9.464	2.282	6.30	12.00	
<u>Work Status</u>					
Full-Time	.853	--	0.00	1.00	(296)
Part-Time	.147	--	0.00	1.00	(51)
<u>Wage/Salary at First Work</u>					
	77.43	37.89	0.00	240.00	
<u>Natural Log</u>	4.22	.52	0.00	5.48	
<u>Region of Residence</u>					
Prairies	.178	--	0.00	1.00	(73)
B.C.	.130	--	0.00	1.00	(45)
Ont	.313	--	0.00	1.00	(109)
Que	.238	--	0.00	1.00	(83)
Maritimes	.108	--	0.00	1.00	(37)
<u>Country of Birth</u>					
Canadian Born	.906	--	0.00	1.00	(314)
Foreign Born	.094	--	0.00	1.00	(32)
<u>Church Attendance</u>					
	2.837	1.36	1.00	5.00	
Once Week	.266	--	0.00	1.00	(92)
Every Month	.101	--	0.00	1.00	(35)
Few Times a Year	.279	--	0.00	1.00	(97)
Rarely	.237	--	0.00	1.00	(82)
Never	.117	--	0.00	1.00	(41)

Table F10 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.433	--	0.00	1.00	(150)
Protestant	.362	--	0.00	1.00	(126)
Other	.115	--	0.00	1.00	(40)
No Religion	.089	--	0.00	1.00	(31)
<u>Ethnicity</u>					
English	.237	--	0.00	1.00	(82)
French	.252	--	0.00	1.00	(88)
Other	.511	--	0.00	1.00	(177)
<u>Place of Residence</u>					
Rural	.632	--	0.00	1.00	(219)
Urban	.368	--	0.00	1.00	(128)
<u>Number of Siblings</u>					
	4.981	2.89	1.00	25.00	
<u>Year of Entering Spell of Non-Employment</u>					
	79.42	2.50	72.00	83.00	
<u>Dependent Variable</u>					
	36.98	25.96	12.00	142.00	

1

Note: percent of the cases on the dependent variable are censored

Table F11

Descriptive Statistics for Study Covariates, 1945-54 Birth Cohort, Women Returning to the Labour Force N=884

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>					
	216.76	154.39	0.00	996.00	
<u>Natural Log</u>	4.60	1.41	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.127	--	0.00	1.00	(113)
Employed	.778	--	0.00	1.00	(688)
Missing	.095	--	0.00	1.00	(84)
<u>Marital Status</u>					
Cont Married	.886	--	0.00	1.00	(783)
Div/Sep/Wid	.114	--	0.00	1.00	(101)
<u>Number of Children Under Age Six</u>					
	.949	.824	0.00	4.00	
None	.330	--	0.00	1.00	(292)
One	.423	--	0.00	1.00	(374)
Two	.216	--	0.00	1.00	(191)
Three	.031	--	0.00	1.00	(28)
<u>Number of Children Age Six and Over</u>					
	.668	.955	0.00	4.00	
None	.602	--	0.00	1.00	(532)
One	.193	--	0.00	1.00	(171)
Two	.150	--	0.00	1.00	(132)
Three Plus	.055	--	0.00	1.00	(49)

Table F11 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering Spell of Non-Employment</u>					
	25.11	4.047	15.66	37.58	
<u>Age at Leaving Spell of Non-Employment</u>					
	30.49	4.710	18.91	39.33	
<u>Geographic Mobility</u>					
No Move	.452	--	0.00	1.00	(400)
Move	.548	--	0.00	1.00	(484)
<u>Timing of First Birth</u>					
Before	.099	--	0.00	1.00	(88)
After First Work	.834	--	0.00	1.00	(737)
Childless	.067	--	0.00	1.00	(59)
<u>Timing of First Marriage</u>					
Before	.177	--	0.00	1.00	(156)
After First Work	.823	--	0.00	1.00	(728)
<u>Job Duration in First Spell of Employment</u>					
	5.50	3.50	0.08	20.50	
<u>Education at First Starting Work</u>					
	12.15	2.541	2.00	23.00	
<u>Occupation at First Work</u>					
Professional	.235	--	0.00	1.00	(203)
Non-Professional	.765	--	0.00	1.00	(677)

Table F11 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment Entering Spell of Non-Employment</u>					
	6.73	1.39	4.00	12.00	
<u>Unemployment Leaving Spell of Non-Employment</u>					
	7.80	2.00	4.00	12.00	
<u>Work Status</u>					
Full-Time	.900	--	0.00	1.00	(795)
Part-Time	.100	--	0.00	1.00	(89)
<u>Wage/Salary at First Work</u>					
	55.15	39.22	0.00	520.00	
<u>Natural Log</u>					
	3.80	.62	0.00	6.25	
<u>Region of Residence</u>					
Prairies	.184	--	0.00	1.00	(163)
B.C.	.117	--	0.00	1.00	(103)
Ont	.346	--	0.00	1.00	(306)
Que	.266	--	0.00	1.00	(235)
Maritimes	.087	--	0.00	1.00	(76)
<u>Country of Birth</u>					
Canadian Born	.834	--	0.00	1.00	(737)
Foreign Born	.166	--	0.00	1.00	(147)
<u>Church Attendance</u>					
	2.695	1.419	1.00	5.00	
Once Week	.309	--	0.00	1.00	(273)
Every Month	.138	--	0.00	1.00	(122)
Few Times a Year	.243	--	0.00	1.00	(215)
Rarely	.170	--	0.00	1.00	(150)
Never	.140	--	0.00	1.00	(124)

Table F11 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.448	--	0.00	1.00	(396)
Protestant	.370	--	0.00	1.00	(327)
Other	.093	--	0.00	1.00	(82)
No Religion	.090	--	0.00	1.00	(80)
<u>Ethnicity</u>					
English	.247	--	0.00	1.00	(219)
French	.280	--	0.00	1.00	(248)
Other	.473	--	0.00	1.00	(418)
<u>Place of Residence</u>					
Rural	.626	--	0.00	1.00	(554)
Urban	.374	--	0.00	1.00	(331)
<u>Number of Siblings</u>					
	4.98	2.98	1.00	21.00	
<u>Year of Entering Spell of Non-Employment</u>					
	74.42	4.45	62.00	83.00	
<u>Dependent Variable</u>					
	63.78	49.88	12.00	238.00	

1

Note: percent of the cases on the dependent variable are censored

Table F12

Descriptive Statistics for Study Covariates, 1934-44 Birth Cohort, Women Returning to the Labour Force N=781

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Husband's Income</u>					
	158.43	162.35	0.00	996.00	
<u>Natural Log</u>					
	3.45	2.14	0.00	6.90	
<u>Husband's Employment Status</u>					
Unemployed	.133	--	0.00	1.00	(104)
Employed	.718	--	0.00	1.00	(561)
Missing	.149	--	0.00	1.00	(116)
<u>Marital Status</u>					
Cont Married	.895	--	0.00	1.00	(699)
Div/Sep/Wid	.105	--	0.00	1.00	(82)
<u>Number of Children Under Age Six</u>					
	.616	.852	0.00	4.00	
None	.589	--	0.00	1.00	(460)
One	.244	--	0.00	1.00	(190)
Two	.131	--	0.00	1.00	(102)
Three Plus	.036	--	0.00	1.00	(28)
<u>Number of Children Age Six and Over</u>					
	1.229	1.574	0.00	13.00	
None	.502	--	0.00	1.00	(392)
One	.127	--	0.00	1.00	(99)
Two	.163	--	0.00	1.00	(127)
Three Plus	.208	--	0.00	1.00	(164)

Table F12 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Age at Entering Spell of Non-Employment</u>	26.49	7.00	16.41	48.75	
<u>Age at Leaving Spell of Non-Employment</u>	35.52	8.14	18.16	50.33	
<u>Geographic Mobility</u>					
No Move	.450	--	0.00	1.00	(351)
Move	.550	--	0.00	1.00	(429)
<u>Timing of First Birth</u>					
Before	.133	--	0.00	1.00	(104)
After First Work	.810	--	0.00	1.00	(633)
Childless	.057	--	0.00	1.00	(44)
<u>Timing of First Marriage</u>					
Before	.177	--	0.00	1.00	(138)
After First Work	.823	--	0.00	1.00	(642)
<u>Job Duration in First Spell of Employment</u>	6.55	5.18	.25	28.58	
<u>Education at First Starting Work</u>	11.22	2.73	4.00	23.00	
<u>Occupation at First Work</u>					
Professional	.226	--	0.00	1.00	(176)
Non-Professional	.774	--	0.00	1.00	(604)

Table F12 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Unemployment at Entering Spell of Non-Employment</u>					
	6.33	1.67	3.10	12.00	
<u>Unemployment at Leaving Spell of Non-Employment</u>					
	6.87	1.75	3.90	12.00	
<u>Work Status</u>					
Full-Time	.877	--	0.00	1.00	(685)
Part-Time	.123	--	0.00	1.00	(96)
<u>Wage/Salary at First Work</u>					
	34.53	34.40	0.00	550.00	
<u>Region of Residence</u>					
Prairies	.174	--	0.00	1.00	(136)
B.C.	.095	--	0.00	1.00	(74)
Ont	.371	--	0.00	1.00	(290)
Que	.275	--	0.00	1.00	(214)
Maritimes	.085	--	0.00	1.00	(66)
<u>Country of Birth</u>					
Canadian Born	.817	--	0.00	1.00	(638)
Foreign Born	.183	--	0.00	1.00	(143)
<u>Church Attendance</u>					
	2.592	1.432	1.00	5.00	
Once Week	.357	--	0.00	1.00	(279)
Every Month	.121	--	0.00	1.00	(94)
Few Times a Year	.215	--	0.00	1.00	(168)
Rarely	.187	--	0.00	1.00	(146)
Never	.120	--	0.00	1.00	(94)

Table F12 (Cont'd)

<u>Covariate</u>	<u>Mean</u>	<u>Standard Dev.</u>	<u>Minimum</u>	<u>Maximum</u>	<u>N</u>
<u>Religion</u>					
Catholic	.456	--	0.00	1.00	(356)
Protestant	.413	--	0.00	1.00	(323)
Other	.085	--	0.00	1.00	(66)
No Religion	.046	--	0.00	1.00	(36)
<u>Ethnicity</u>					
English	.247	--	0.00	1.00	(193)
French	.255	--	0.00	1.00	(199)
Other	.498	--	0.00	1.00	(388)
<u>Place of Residence</u>					
Rural	.649	--	0.00	1.00	(507)
Urban	.351	--	0.00	1.00	(274)
<u>Number of Siblings</u>					
	5.384	3.54	1.00	24.00	
<u>Year of Entering Spell of Non-Employment</u>					
	65.77	7.30	52.00	83.00	
<u>Dependent Variable</u>					
	107.22	91.19	0.00	381.00	

1

Note: percent of the cases on the dependent variable are censored

APPENDIX G

The formula to calculate a standardized percentage change in elapsed time on the dependent variable for a given change in values on a covariate is given as follows:

$$\Delta_{xi} - \left(\frac{1}{[\exp(B_i)]^{\Delta_{xi}}} - 1 \right) \times 100$$

The effect of husband's income (expressed in logarithmic units), on the rate of leaving the first spell of non-employment is given as:

$$(1/\exp(-.0571) - 1) \times 100 = 5.876\%$$

A doubling of husband's income would give:

$$(1/\exp(-.0571)^{(.693)} - 1) \times 100 = 4.036\%$$

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