Female Employment Rates and Labour Market Attachment in Rural Canada

by

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Table of Contents


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Abstract

In this paper a dynamic employment model for women is estimated for rural and urban samples from the first four years of the Survey of Labour and Income Dynamics 1993 to 1996. The results provide evidence that there are significant differences between rural and urban labour markets. However, these do not appear to arise — as is often argued — from the influence of having children, differences in returns to human capital, or the existence of more 'traditional' attitudes to the proper role of women in rural areas. The results also suggest labour market segmentation within rural areas with clear differences in employment for women belonging to low income households as shown in the decomposition results.

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Introduction

Historically, female employment rates in rural North America have been significantly below the rates observed in urban areas (Bollman, 1992; Fuguitt, Brown and Beale). In part such differences may arise if rural labour markets operate in a way that particularly disadvantages certain groups including women (Shaffer, 1998). For example, there is evidence of significantly higher female underemployment in rural (or more precisely non-metropolitan) labour markets while more generally, the existence of rural-urban income and wage gaps are well documented (Renkow, 1996; Stabler 1999).

The principal objective of this paper is to explore the reasons for these rural-urban differences in female employment rates while focussing also on differences in the degree of persistence or continuity in female employment patterns. In particular, using Canadian panel data from the Survey of Labour Income and Dynamics, we compare rural and urban samples using a dynamic model of female employment.

Both demand and supply factors in rural labour market may operate to disadvantage rural women and therefore explain lower rural female employment. It is argued that a process of spatial division of labour is taking place with rural areas 'the recipients of the less skill intensive, low wage jobs' (Barkley, 1995); that human capital returns in rural labour markets may be less (Freshwater, 1997); and that generally there is a lack of demand for rural labour (Lichter and Constanzo, 1987; Stabler, 1999). Further, the lack of job mobility means both lower real wages and higher sensitivity to macro-economic shocks in rural labour markets (Renkow, 1996; Rhoades and Renkow, 1998; Tokle and Huffman, 1991). On the supply side, traditional attitudes to the 'proper' role of women, the lack of childcare facilities and transportation difficulties in rural areas are argued to be important factors depressing formal female employment (Shaffer; Lichter, Beaulieu, Findeis and Teixeira, 1991).

Different dynamic patterns of rural female employment may also act to reinforce observed rural-urban differences. The general evidence on female employment emphasizes the high degree of persistence or continuity in female employment with a clear split between 'workers' and 'non-workers'. One important cause of this observed persistence is argued to be fixed employment costs, namely job search costs (Boothby, 1984; Heckman and Willis, 1977; Nakamura and Nakamura 1985, 1994; Shaw, 1994). In 'thinner' rural labour markets, there is evidence of higher occupational mismatch that suggests less efficient job matching and consequently greater job search costs (Lichter and Constanzo, 1987). Hence, higher rural job search costs may be expected to reduce mobility into the rural labour force and therefore employment status persistence. Further, it has also been suggested that the continuity of female labour supply is less in rural markets (Findeis, and Jensen, 1998; Ollenburger, Granna and Moore, 1989).

Beyond the general issue as to whether rural labour markets are functioning as effectively as those elsewhere (Shaffer, 1998), whether the operation of rural markets lowers female employment has particular relevance for low income dynamics. Although the extent of the rural working poor is greater than for urban areas (and rising for the US), empirical evidence still suggests that getting a job is a significant pathway out of low income (Bane and Ellwood, 1996; Lichter Johnson and McLaughlin, 1994). Further, as recent welfare reform (at least in the United States) increasingly requires welfare recipients to work, there is concern that rural workers may be additionally disadvantaged (Porterfield, 1998).

Past empirical research using standard models of labour supply to capture the employment decisions of rural women (and/or farmer's wives) has been restricted by data availability to static cross-sectional analyses. Further, few have made comparisons across the rural – urban divide as a way of evaluating whether specific differences in rural labour barriers exist (Tokle and Huffman). Recent work by Findeis and Jensen has considered employment dynamics within an analysis of underemployment in rural labour markets. However, from an economic perspective the underemployment category is arguably too broad and heterogeneous to distinguish the separate components of labour supply and demand which may be important. Further, they do not explicitly consider the labour force continuity effect, while they are not able to explore many of the potential rural-urban differences discussed above, namely the effect of children and other household characteristics. Therefore this paper extends the previous research by considering labour force status persistence effects, while systematically exploring rural-urban differences from within the perspective described by the neo-classical labour supply model.

The plan of the paper is as follows. In the next section we present the empirical model and explain the reasons for allowing state dependence in the classical model of employment. Further, in this section a decomposition method is described which is used to determine the extent to which observable rural-urban differences may be explained by differences in observed structure, educational, age, demographic structure differences. Section 3 provides a description of the data, the definition of rural and urban labour markets, and reports descriptive statistics on the overall mobility and employment rates of women in the urban and rural samples. Further, empirical evidence indicates that local labour markets are not homogenous but also tend to be segmented by occupation and industry into 'primary' and 'secondary' markets (Leontardi). Hence, to capture any rural-urban differences in the 'secondary' market we also analyze rural–urban differences in the employment rates of women in low income households. In Section 4 the model of factors associated with employment is estimated both for the whole sample of women (allowing for rural-urban differences) and for the sample of women in low income households. These sets of results are then decomposed into differences explained by observed differences in the structure of the relevant rural and urban samples and an unexplained remainder. Section 5 concludes.

II. Participation Model

Econometric Specification

The typical labour force participation model assumes individual *i* belongs to one of two labour market states in a given period *t*; employed (Y_{it}=1) or not working (Y_{it}=0). The decision to participate arises from the maximization of a utility function that depends on the level of consumption and leisure. Participation results if the labour market rewards are greater than the non-market opportunity cost or reservation wage evaluated at zero hours of market work (employment rates). The relative values for the wage rate and reservation wage depend on the individual and the prevailing labour market conditions summarized by the vector *Z*. This typical participation model can be described by;

$$prob[Y_{it} = 1] = \Phi\left(b\mathbf{z}_{it}\right) \qquad (1)$$

where Φ is — for the purposes of the paper — assumed to be the cumulative standard normal density function and ß are estimated parameters measuring the impact of the explanatory variables on labour market participation.

The types of variables affecting (female) participation can be categorized into human capital, family and regional characteristics. Education and experience are human capital variables that generally increase the likelihood of employment whereas the number of small children is an example of a family characteristic that reduces the probability of participation by increasing the opportunity cost for market labour. Regional characteristics such as the unemployment rate affect the level of market wage and the probability of receiving a job offer.

The majority of labour market participation studies tend to be static with the analysis based on a cross-sectional data set for a single period of time. However, there is extensive evidence to suggest that an individual's present working state influences the probability of labour in subsequent time periods (Boothby, 1984; Heckman and Willis, 1977; Nakamura and Nakamura 1985, 1994; Shaw, 1994). Theoretically, the intertemporal dependence of working states may be due to a variety of factors. Heckman and Willis argue that transaction costs associated with search or hiring can induce state dependence in labour market status. More formally Burdett et al show how individual shocks in available offered wages and the value of time can lead to Markov type specifications for participation models. However, state dependence may also arise from the presence of fixed effects either through individual unobserved differences in the asking and observed wage functions (Nakamura and Nakamura, 1985) or simply through individual differences in 'tastes' (Nakamura and Nakamura, 1994). Here the potential persistence or continuity effects in employment are modelled in the simplest way possible, namely, by including the lagged status variable as a regressor. That is $\mathbf{z}'_{it} = [y_{it-1}\ \mathbf{x}'_{it}]$, where $\mathbf{x}_{it}$ is the set of other explanatory variables as discussed above.[1]

If rural labour markets do function differently to their urban counterparts and this poses particular problems for women, then it should not be assumed that the impact of the explanatory variables is independent of location. For example, if rural women face lower returns to human capital than is the case for urban women, then the human capital variables for rural women should have a less positive effect on participation than for urban women. Likewise, for example if the lack of childcare facilities imposes extra burdens on rural women then the presence of young children should be expected — all other things remaining equal — to depress participation to a greater extent in the rural case than for the urban.

The discussion above gives rise to a simple extension of the labour market participation model (1) where impact of the explanatory variables on the probability that an individual works in time *t* is allowed to vary by location, i.e.

$$prob[Y_{it} = 1] = \Phi\left(b\mathbf{z}_{it} + d\mathbf{z}_{it}d_{it}\right) \qquad (2)$$

where d_{it} is a rural residence dummy variable (equal to one if individual i is resident in a rural area in period *t*). The parameter vector **ß** measures the impact of the explanatory variables on the probability of participation in the urban sample, while the vector $\mathbf{d}$ measures the extent of the rural effect for each of the explanatory variables. Within this structure the presence of overall rural effects is simply the test of the joint hypothesis $H_o : \mathbf{d} = \mathbf{0}$, while the overall impact of the

[1] The lagged specification may be interpreted as a restricted version of a Markov model with the impact of the independent variables on the transition probabilities restricted to be equal for entry into and out of the labour force.

explanatory variables in the rural sample is given by $\beta + \delta$. Similarly, individual issues, e.g. whether returns to human capital are less in rural areas, can be explored by testing the significance of the relevant rural coefficients.

Decomposition

Within the simple model proposed, there are two reasons why the rural-urban participation rate differences observed in Table 1 may occur, namely, differences in observed heterogeneity, e.g. age, educational and demographic structure, and differences in the impact of the explanatory variables across the two samples. Following Even and MacPherson, once estimates of β and δ are known, it is possible to decompose the difference in average predicted probabilities for the two samples into these two components.

In fact, two separate decompositions are possible depending upon whether the estimated coefficients for the urban (β) or rural samples ($\beta + \delta$) are used to calculate the observed heterogeneity effect. Define the difference in the (weighted) average predicted participation probabilities for the two samples as follows,

$$\overline{\hat{P}}_U - \overline{\hat{P}}_R = \frac{1}{T}\sum_{t=1}^{T}\sum_{i=1}^{U} w_i \Phi(Z_{it}^U \hat{b}\ ) - \frac{1}{T}\sum_{t=1}^{T}\sum_{j=1}^{R} w_j \Phi(Z_{jt}^R(\hat{b} + \hat{d}))$$

where Z_{it}^U, Z_{jt}^R are vectors of the explanatory variable values for the ith and jth members of the urban and rural samples respectively, w_i, w_j are individual weights.Using the urban coefficients the decomposition may then be written as;

$$\overline{\hat{P}}_U - \overline{\hat{P}}_R = \frac{1}{T}\sum_{t=1}^{T}\left(\left[\sum_{i=1}^{U} w_i \Phi(Z_{it}^U \hat{b}\ ) - \sum_{j=1}^{R} w_j \Phi(Z_{jt}^R \hat{b}\ )\right] + \left[\sum_{j=1}^{R} w_j \Phi(Z_{jt}^R \hat{b}) - \sum_{j=1}^{R} w_j \Phi(Z_{jt}^R(\hat{b} + \hat{d}))\right]\right) \quad (3)$$

Explained Unexplained

The first term is the difference in average predicted probability for the two samples if the urban estimated coefficients are applied. This provides a measure of how much of the observed difference in predicted probabilities is 'explained' by differences in the structure of the two samples. The second term, the unexplained component, is the difference in the average predicted probabilities attributable to the difference in the estimated coefficients between the two samples. While the exact values of the two components are sensitive to the definition of any dummy variables included in the analysis and the choice of the control omitted dummies, that is differences between the intercepts and the portion attributable to differing coefficients, the relative values of the two components can be used to explore the extent to which rural-urban differences vary across sub-samples, such as between the whole and low income individuals.

Data Description and Definitions

The data is for the calendar years 1993 to 1996 of the Survey of Labour and Income Dynamics (SLID). The SLID is a longitudinal household survey conducted by Statistics Canada of a representative sample of approximately 15,000 households containing a total of around 31,000

individuals aged 16 and over. The target population for SLID is all persons living in Canada, excluding people in the Yukon or Northwest Territories, residents of institutions, persons living on Reserves, and full-time members of the Canadian Armed Forces living in barracks. The initial sample is drawn from the Labour Force Survey (LFS). Following similar work undertaken by Booth, Garcia-Serrano and Jenkins (1986) our analysis is based on the balanced panel of 9,234 women aged between 18 or more in 1993 and 60 years of age or less in 1996 who provided complete information at each of the four interview dates.

The SLID sample is drawn using a stratified, multi-stage design using probability sampling. The principal stratification of the sample takes place by province, economic regions, and urban and rural areas. Primary sampling units were selected in different ways depending upon whether the relevant part of the stratum was deemed to be urban or rural (Statistics Canada, 1999). The effects of the sampling design and in particular, the clustering, stratification and unequal selection probabilities means that for analysis it cannot be assumed that the sample is drawn from independent and identical distributions. Otherwise both parameter estimates and estimated standard errors may be seriously biased. Importantly given the focus of the paper, the 'direct application of i.i.d. methods to clustered based design data' means 'hypothesis tests may have Type I error rates that are substantially above their nominal level a (Eltinge and Sribney, pp.210 1997), thus increasing the likelihood of (falsely) finding statistically significant rural-urban differences.

The definition of the rural and urban samples is based upon the concept of the relevant labour market rather than a simple population based measure. The Large Urban sample (henceforth the urban sample) is composed of Census metropolitan areas and Census Agglomeration (CMA/CA) containing large urban areas, together with adjacent urban and rural areas that have a high degree of economic and social integration with that urban area (Howatson, 1995). The Rural and Small Town sample (henceforth the rural sample) is composed of Non-CMA and Non-CA areas.

Finally, the sub-samples of rural and urban women in low-income are defined as those women in period *t* who live in households where household income in period *t-1* was below the low income cut-off (LICO)[2] defined by Statistics Canada. Although using lagged information makes this definition somewhat inexact this avoids any possible endogeneity problems in the econometric estimation.

Descriptive Analysis

Table 1 reports the extent of mobility into and out of work in the four samples analyzed: rural women, urban women, plus rural and urban women in low-income households. For example, in the rural and urban samples the figures show differences in the overall participation rates with on average 75% of rural women in the labour force as against 79% in the urban sample. In terms of labour mobility, the differences between rural and urban samples are rather small. More striking is the degree of persistence in labour market states in both samples.Thus 80% of women in the rural sample who did not work in period *t-1* do not work in period *t* while 93% of those who work in period *t-1* also worked in period *t*.

[2] This low-income cut-off refers to after tax low-income.

More significant differences are apparent when the participation rates and mobility of women in low income households are considered. Firstly, relative to the wider samples participation rates are considerably less while the degree of persistence for those in work is also much reduced. These differences are not unexpected given the evidence of the more marginal attachment of this group in labour markets (Lichter, Johnson and McLaughlin, 1993). Further, some rural -urban differences are also apparent. For example, 84% of rural women who were out of the labour force in period *t-1* also did not participate in period *t*, while the relevant figure for urban women was 76%. While consistent with the hypothesis that barriers to labour market entry are higher in rural areas, it does not take account of any differences in the structure of the two samples.

Estimation Results

To allow for the sample design, the probit model (2) is estimated using a psuedo –maximum likelihood estimator based. While the estimates of the parameters **ß** and **d** generated are therefore not efficient they are consistent and the estimator of the associated covariance matrix is robust. (Eltinge and Sribney, 1997). However, the use of this estimation technique does preclude the use of the likelihood ratio test so that all joint hypothesis test results reported below are calculated from an adjusted Wald test procedure. (Sribney, 1997).

Tables 2 and 3 report the results of the estimation of the probit equation for the entire sample of women and the sub-sample of women in low-income households respectively. In both cases two specifications are presented. The first (columns 1-2) is the estimation of a simple cross-sectional participation model pooled across the four years 1993-1996. The second specification includes the lagged labour force status variable and therefore also captures the female employment persistence or continuity effect. In each case, the urban estimated coefficients, i.e. the estimates of **ß**, and the extent of the rural –urban difference, i.e. the estimates of **d**, are reported. For example, the coefficient on the age variable in column 1 of Table 2 represents the impact of age on female participation in the urban sample, while the coefficient in the second column measures the rural-urban difference. The *t* values presented below each coefficient are those associated with the null hypotheses $H_o : b_i = 0$ and $H_o : d_i = 0$. Hence the latter provides an immediate indication of whether the impact of any specific variable varies across the rural and urban samples.

The independent variables chosen reflect a fairly standard set of factors thought to influence female participation, namely, age, presence of children, education level, marital status, other household earnings, etc. Firstly, consider the estimated coefficients for the entire urban sample (Columns 1 and 3 in Table 2). Overall these coefficients are as expected with the probability of participation falling with age, where children are present, as other household income increases, if the individual has a physical limitation, while it increases with education, house ownership, and (in the second specification) if the individual worked in the previous period.

Column 3 shows that the inclusion of the lagged labour status variable tends to reduce the absolute value of the estimated coefficient on the other explanatory variables. For example, in column 3 the coefficient on the number of children is much reduced and no longer statistically significant at 5% relative to its column 1 value. The known weakness of the cross-sectional model is illustrated by its poor predictive power, with only 20% of the non-working sample predicted correctly (Nakamura and Nakamura, 1985). After controlling for the other observed factors, the persistence in employment status is given by the coefficient on the lagged labour

force status variable. Hence, the positive coefficient on the lagged labour force status indicates that being in employment in period *t-1* increases substantially the probability of being in the labour force in period *t*.

The results in columns 2 and 4 combined with the joint hypotheses tests reported in Table 4 indicate the extent to which in general the responses differ in the rural sample and whether there are differences in employment persistence. Although the results indicate that only a limited number of variables have differing impacts between the rural and urban samples, the tests on all the rural-urban difference coefficients simultaneously do provide evidence of overall rural differences. However, the pattern of significant rural-urban differences contrast somewhat with *a priori* expectations. For example, although there is weak evidence that the impact of children may be different in the rural sample, for both the number of children and presence of a child under 5, the impact of these variables is less negative in the rural sample than the urban. If childcare was a problem, then having a child would pose a bigger obstacle for participation in rural areas and hence the rural-urban difference coefficient should be negative and significant. This is not the case. The rural-urban coefficient on the partner variable is negative but not significant (at 10%), while the impact of (lagged) other household income is significantly less negative in the rural sample. That is, the 'additional worker effect' appears to be less for the rural case. Further, there is no evidence that the impact of educational level differs across the two samples. Despite the aggregate nature of the regional dummies, there is however evidence of regional rural effects, i.e. rural diversity, with a statistically significant different pattern of regional effects evident for the rural sample. Finally, in terms of the persistence in employment status, the positive estimated coefficient on the rural-urban difference on lagged labour status is consistent with the hypothesis that of greater persistence in the rural sample. That is, the marginal effect on the participation probability of being employed in the previous period is greater for the rural sample. However, the difference is small (relative to the urban coefficient) and not statistically significant.

Table 3 reports a set of results identical to those presented in Table 2 but for those women living in low-income households. The results in columns 1 and 3 for this urban sample are consistent in general with those for the whole urban sample. However, consistent with the raw data in Table 1, the coefficient on the lagged labour force variable is considerably reduced in size reflecting the lower proportion in work in consecutive periods. Few of the individual coefficients capturing rural-urban differences are statistically significant at 10% but the results of the joint hypotheses tests on the entire set of rural-urban differences again indicates the presence of a significant overall rural effect. The two variables capturing children effects are again jointly significant in the cross-sectional model but are positive reflecting the lower negative impact of these variables on the participation probability in the rural low income sample. The regional rural effects evident in Table 2 are not repeated here although the negative (and for the lagged specification significant) coefficients on the time dummies for the rural sample provide an indication of differing time effects. While these may reflect the differential impact of macro-economic shocks in rural labour markets found elsewhere (Rhoades and Renkow), these variables need to be interpreted with some caution as they capture a range of possible effects. In terms of the persistence of participation, the positive rural-urban difference on lagged labour status is large (relative to the urban estimated value). While this difference is not significant at 10% (p-value 0.184) it does provide some evidence of higher labour force persistence in the rural low income sample.

Decomposition Results

Table 5 provides the results of the decomposition in the average predicted probabilities presented in equation (3). The results reported in the first two columns are generated from the lagged model estimation results from Table 2, while the last two column results are based on the lagged model estimation presented in Table 3. The final row of the table represents the difference in the average probabilities ($\overline{\hat{P}}_U - \overline{\hat{P}}_R$). This value is comparable with the differences in the average participation rates for the samples given in Table 1. Hence, while the difference predicted for the whole sample reflects the actual value closely, the actual difference for the women in low-income households is over-predicted.[3]

For whole and low income samples the decomposition has been calculated using both the urban and rural coefficients as the control group. That is the column 1 and 3 results use equation(3) directly while columns 2 and 4 repeat the decomposition but using the rural coefficients as the basis for comparison. While the choice of control group does affect the calculated values, qualitatively the nature of the results is similar for both. For the whole sample the differences in observed characteristics explain a large proportion of the difference in the average predicted probabilities. However, in the low income sample these differences explain a negative proportion of the difference, i.e. they predict an even wider gap in employment rates and leave a substantial part of the difference unexplained. Although both the residual nature of the unexplained category and the lower level of precision associated with the Table 3 estimates must be recognized, these results point to rural-urban differences but also significant segmentation within rural labour markets.

Summary and Conclusions

This paper considers the dynamics of female participation in the rural labour market. Through the estimation of dynamic probit equations, it quantifies the extent to which female labour participation in rural areas differs from that observed in rural areas. Further, it provides new information on the extent of rural-urban differences in the persistence of employment.

The results indicate that there are significant differences between female participation in rural and urban labour markets. However, these do not appear to arise — as is often argued — from the influence of having children, or differences in returns to human capital. However, there is some evidence in the low income sample that employment persistence is greater in rural areas.

Further, the results suggest labour market segmentation within rural areas as well as between rural and non-rural markets. For example, considerable differences are observed in the labour force persistence between the results for all women as compared to those whose were resident in low income households. Further it is for the latter case that the largest unexplained rural-urban differences in labour force participation occur. This indicates that differences in the way rural labour markets function (and therefore barriers to entry) are likely to impact most on those with low levels of human capital, mobility etc.

[3] Unlike in the standard probit case, the quasi-maximum likelihood estimation does not guarantee equality between the average predicted probability and actual proportion.

Table 1: Descriptive Statistics

All women	**Rural (N=10095)**		**Urban (N=17607)**	
Employment Status t-1/t	*Not Working*	*Working*	*Not Working*	*Working*
Not working	0.80	0.20	0.78	0.21
Working	0.07	0.93	0.06	0.94
Total	0.25	0.75	0.21	0.79
Low income	**Rural (N=759)**		**Urban (N=1755)**	
Not working	0.84	0.16	0.76	0.24
Working	0.17	0.83	0.14	0.86
Total	0.49	0.51	0.44	0.56

Table 2: Participation Probit: All Women 1994-1996

	Cross-section		Lagged	
	Urban	Rural –Urban Difference	Urban	Rural –Urban Difference
Constant	1.6840	-0.3245	-0.1149	-0.2854*
	(12.84)**	(1.77)*	(1.02)	(1.67)
Employment status *t-1*			2.1765	0.0374
			(46.08)**	(0.51)
Age	-0.0280	0.0090	-0.0176	0.0065
	(9.66)**	(2.26)**	(7.76)**	(1.91)*
Number of children	-0.0894	0.0512	-0.0125	0.0104
	(3.54)**	(1.34)	(0.49)	(0.24)
Youngest child Below 5	-0.5301	0.1550	-0.4302	0.1505
	(8.25)**	(1.47)	(7.97)**	(1.58)
Education level 2	0.4326	0.0065	0.2390	0.0276
	(7.33)**	(0.08)	(5.24)**	(0.40)
Education level 3	0.7988	0.0486	0.5065	0.0311
	(8.43)**	(0.31)	(6.56)**	(0.25)
Marriage/partner dummy	0.0591	-0.0220	0.0621	-0.0954
	(1.12)	(0.25)	(1.57)	(1.21)
Owner occupier	0.3591	-0.1911	0.1018	0.0035
	(6.16)**	(1.69)*	(2.31)**	(0.04)
Other Household Income *t-1*	-0.0002	0.0001	-0.0001	0.0001
	(3.78)**	(1.95)*	(4.39)**	(2.01)**
Work limitations	-1.0551	0.1031	-0.8518	0.0445
	(15.47)**	(1.09)	(12.87)**	(0.44)
Prince Edward Island	0.1079	0.0690	0.0481	0.0285
	(0.58)	(0.42)	(0.39)	(0.28)
Nova Scotia	-0.0492	-0.2251	-0.0137	-0.1133
	(0.64)	(1.74)*	(0.19)	(1.13)
New Brunswick	-0.1550	-0.0842	-0.0757	-0.0583
	(1.82)	(0.68)	(1.04)	(0.52)
Quebec	-0.2597	-0.1589	-0.1311	-0.0772
	(4.04)**	(1.40)	(2.94)**	(0.91)
Newfoundland	-0.2599	-0.3736	-0.0300	-0.3456
	(3.07)**	(2.49)**	(0.47)	(3.50)**
Manitoba	0.3666	-0.4275	0.3544	-0.3367
	(2.51)**	(2.33)**	(2.99)**	(2.27)**
Saskatchewan	0.1063	0.1586	0.1306	0.0233
	(1.85)*	(0.96)	(2.83)**	(0.21)
Alberta	0.0143	-0.0022	0.0258	0.0456
	(0.22)	(0.02)	(0.57)	(0.42)
British Columbia	0.2495	-0.2745	0.1784	-0.1037
	(3.49)**	(2.38)**	(3.98)**	(1.04)
Year 1995	0.0018	0.0660	0.0801	0.0291
	(0.06)	(1.70)*	(1.18)	(0.35)
Year 1996	0.0598	0.0005	0.1433	-0.0584
	(2.03)**	(0.01)	(2.48)**	(0.78)
Observations	27702		27702	
	% Correct Predictions			
Working	0.969		0.943	
Not working	0.209		0.777	

Absolute value of t-statistics in parentheses, ** significant at 5% * significant at 10%

Table 3: Participation Probit: Women in Low Income Households (*t-1)* 1994-1996

	Cross-section Urban	Rural –Urban Difference	Lagged Urban	Rural –Urban Difference
Constant	1.2163	-0.3874	0.0623	-0.6982
	(6.15)**	(1.01)	(0.27)	(1.62)
Employment status *t-1*			1.5920	0.2711
			(13.78)**	(1.33)
Age	-0.0288	0.0106	-0.0182	0.0068
	(6.10)**	(1.30)	(3.78)**	(0.94)
Number of children	-0.1281	0.1996	-0.0096	0.0266
	(1.68)	(1.73)	(0.14)	(0.23)
Youngest child Below 5	-0.6931	0.2236	-0.4836	0.2683
	(5.18)**	(0.91)	(4.14)**	(1.15)
Education level 2	0.4594	-0.0891	0.3032	0.0752
	(4.69)**	(0.49)	(3.41)**	(0.42)
Education level 3	0.6337	-0.2517	0.5099	-0.2321
	(3.21)**	(0.53)	(2.86)**	(0.59)
Marriage/partner dummy	0.1250	-0.1613	-0.0161	-0.0135
	(1.06)	(0.80)	(0.15)	(0.07)
Owner occupier	0.3770	-0.3701	0.1516	0.0639
	(2.90)**	(1.66)	(1.38)	(0.31)
Other Household Income *t-1*	-0.0010	-0.0011	-0.0006	-0.0010
	(2.89)**	(1.41)	(1.70)*	(0.99)
Work limitations	-0.8092	-0.0850	-0.7509	-0.1553
	(6.03)**	(0.37)	(6.45)**	(0.72)
Prince Edward Island	0.1870	-0.2233	0.1127	-0.2331
	(0.52)	(0.30)	(0.41)	(0.49)
Nova Scotia	-0.0246	-0.1331	-0.0861	0.4017
	(0.14)	(0.36)	(0.54)	(1.12)
New Brunswick	-0.3355	0.1796	-0.2890	0.5156
	(1.87)	(0.55)	(1.54)	(1.52)
Quebec	-0.3430	-0.1675	-0.3204	0.2477
	(1.94)	(0.48)	(2.25)**	(0.82)
Newfoundland	-0.3014	-0.0600	-0.3151	0.4530
	(1.03)	(0.15)	(1.21)	(1.26)
Manitoba	0.4820	-0.1844	0.4469	0.0859
	(1.87)	(0.46)	(2.31)**	(0.27)
Saskatchewan	-0.1153	1.0575	-0.0610	0.6875
	(0.59)	(2.84)**	(0.42)	(2.00)**
Alberta	0.2819	0.2423	0.1180	0.3667
	(1.63)	(0.72)	(0.82)	(1.25)
British Columbia	0.0982	0.5401	-0.1190	0.8403
	(0.48)	(1.33)	(0.78)	(2.24)**
Year 1995	0.0579	-0.1122	0.1884	-0.4980
	(0.72)	(0.78)	(1.79)*	(2.67)**
Year 1996	0.0924	-0.2204	0.2048	-0.4206
	(1.13)	(1.52)	(1.87)*	(2.43)**
Observations	27576		27576	
Working	0.760		0.834	
Not working	0.641		0.820	

Absolute value of t-statistics in parentheses ** significant at 5% * significant at 10%

Table 4: Wald Test of Joint Significance: p-values

	All Women		Low Income	
	Cross section	**Lagged**	**Level**	**Lagged**
All	0.018	0.060	0.041	0.079
Rural-urban differences				
Children	0.051	0.148	0.028	0.382
Education	0.953	0.921	0.809	0.380
Regions	0.020	0.029	0.095	0.327
Wave	0.094	0.516	0.289	0.004

Table 5: Decomposition of Participation Rate Differences

	All Women		Low income	
	Urban	**Rural**	**Urban**	**Rural**
Explained	2.986	3.758	-0.157	-1.486
Unexplained	0.695	-0.203	5.647	6.976
Total	3.555	3.555	5.490	5.490

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