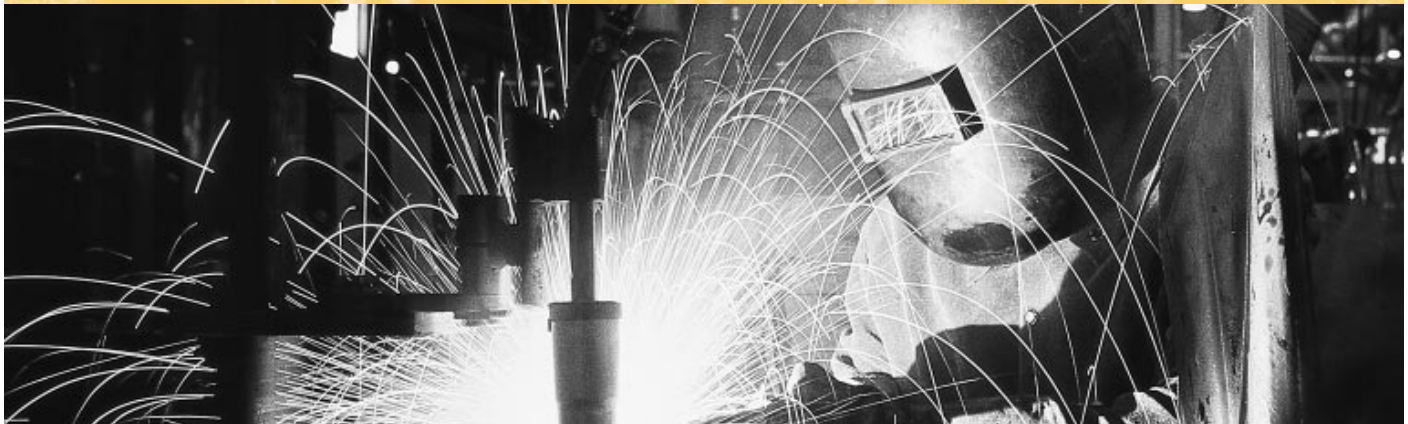


UI

*Implications of Extending
Unemployment Insurance
Coverage to Self-Employment
and Short Hours Work Week:
A Micro-Simulation
Approach*

**by Lars Osberg,
Shelley Phipps,
and Sadettin Erksoy**



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UI and the
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UI and the Labour Market

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Unemployment Insurance Evaluation Series

Human Resources Development Canada (HRDC), in its policies and programs, is committed to assisting all Canadians in their efforts to live contributing and rewarding lives and to promote a fair and safe workplace, a competitive labour market with equitable access to work, and a strong learning culture.

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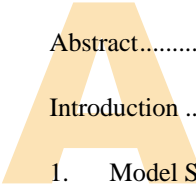
As part of this program of evaluative research, the Department has developed a major series of studies contributing to an overall evaluation of UI Regular Benefits. These studies involved the best available subject-matter experts from seven Canadian universities, the private sector and Departmental evaluation staff. Although each study represented a stand alone analysis examining specific UI topics, they are all rooted in a common analytical framework. The collective wisdom provides the single most important source of evaluation research on Unemployment Insurance ever undertaken in Canada and constitutes a major reference.

The Unemployment Insurance Evaluation Series makes the findings of these studies available to inform public discussion on an important part of Canada's social security system.

I.H. Midgley
Director General
Evaluation Branch

Ging Wong
Director
Insurance Programs

Table of Contents



Abstract.....	7
Introduction	9
1. Model Structure	15
2. Estimated Behavioral Equations	21
3. Results	28
4. Conclusion.....	37
Appendix A: Regression Results	39
Appendix B: Descriptive Statistical Results	85
Appendix C: The Impacts of Extended UI Coverage to Non-Standard Employment	90
Bibliography	102
List of UI Evaluation Technical Reports	103

List of Tables

Table 1	Unemployment Rates Used in Simulation	12
Table 2	Self-Employment Trend Regression	14
Table 3	The Impacts of Extended UI Coverage to Non-Standard Employment - 1994.....	29
Table 4	The Impacts of Extended UI Coverage to Non-Standard Employment - 2004.....	30
Table 5	Inequality Statistics - Males & Females.....	37

List of Figures

Figure 1	Logical Structure of Microsimulation Model	18
Figure 2	Newly Covered as a Percentage of the Labour Force	28
Figure 3	Newly Covered as a Percentage of the Labour Force by Age Group	31
Figure 4	Newly Covered as a Percentage of the Labour Force by Province.....	31
Figure 5	Distribution Among Income Deciles as a Percentage of the Total Who Collect Increased UI, 1994 and 2004	31
Figure 6	Distribution Among Age Cohorts as a Percentage of the Total Who Collect Increased UI, 1994 and 2004	32
Figure 7	Distribution Among Provinces as a Percentage of the Total Who Collect UI, 1994 and 2004	32
Figure 8	Base & Shock Benefits and Premiums by Decile, 1994 and 2004	33
Figure 9	Base & Shock Benefits and Premiums by Age Groups, 1994 and 2004	33
Figure 10	Base & Shock Benefits and Premiums by Province, 1994 and 2004	34
Figure 11	UI Collection in Base & Shock by Decile, 1994 and 2004.....	34
Figure 12	1994 & 2004 Gainers as a Percentage of Labour Force Participants	35
Figure 13	1994 & 2004 Gainers as a Percentage of Labour Force Participants by Age.....	35
Figure 14	1994 & 2004 Gainers as a Percentage of Labour Force Participants by Province.....	36



Abstract

This report summarizes the methodology and results of a simulation that examines the impact of extending Unemployment Insurance coverage to weeks of self-employment and weeks with short hours of employment (less than 15), which are not now covered by Unemployment Insurance. Specifically, we inquire as to:

- 1) Which socio-demographic groups would most benefit from such a policy change? and
- 2) How would aggregate income inequality be affected?

As the institutional form of employment changes over time, social welfare programs (like Unemployment Insurance) which are predicated upon a particular institutional arrangement may provide a poorer fit to labour market realities. The motivation for this research is a concern that growth in 'non-standard' forms of employment may mean that the present structure of the Unemployment Insurance program is not adequately meeting the income support needs of a growing proportion of the labour force.

There has, for example, been significant growth in the number of labour-force participants labelling themselves as 'self-employed.' However, many of these individuals may effectively be disempowered wage labourers rather than independent contractors. In cases where individuals are nominally self-employed, but are selling their services to a single buyer who exercises substantial control over the pace and the quality and direction of their work, the power of the 'labour services purchaser' to dictate the amount and type of work effort may be indistinguishable from that of an 'employer.' From the worker's perspective, however, there is at least one very important difference: the employee whose services are no longer required is eligible for Unemployment Insurance benefits while the 'independent contractor' is not.

Based on a microsimulation exercise, it was found that aggregate inequality decreased by extending Unemployment Insurance coverage to self-employment weeks and short hour work weeks, as measured by such indices as the Gini ratio or the coefficient of variation. The impact on aggregate inequality is, however, an average of the profound impact on the second to fourth deciles of the earnings distribution, and the much smaller impacts on the poorest and richest deciles of the income distribution.

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Introduction

Earlier reports from this research project have summarized the advantages of a microsimulation model as a tool for policy analysis, discussed the distributional implications of Unemployment Insurance revisions over the business cycle of the 1980's and tested the sensitivity of the 1980's version of the Dalhousie microsimulation model to alternative modelling assumptions.¹ The discussion of these papers will not be repeated here. This paper summarizes the development of the new "1990's" version of our microsimulation model.

Our previous papers have been based on what we call the "1980's version" of our microsimulation model. In previous work, we estimated behavioural equations using the 1986/87 Labour Market Activity Survey and based our analysis of the impacts of UI during the 1981-1989 business cycle on simulating the behaviour of the respondents to the 1983 Statistics Canada survey of assets and debts. That model remains in existence, and remains useful for issues which require a link to the wealth of households, and/or which refer to the business cycle of the 1980's. However, in order to take advantage of the additional information on personal characteristics (e.g. disability status, minority group membership, foreign born/Canadian born, employer size, etc.) captured in the 1988-90 LMAS and in order to provide a more reasonable basis for modelling labour market developments in the 1990s, we have rebased our microsimulation model to the population of respondents to the 1990 Labour Market Activity Survey.

Any microsimulation model has three key components — (1) micro-data on a sample of individuals whose behaviour is to be simulated; (2) a set of behavioural equations which predict the deterministic and stochastic elements of individual behaviour and (3) the computer code and accounting relationships which link individual behaviours in a consistent way.

Since each data set has its own peculiarities in the coding and availability of data, changes in the data base require corresponding changes in estimating equations and computer code. However, since policy interest in the results of microsimulation is likely to be greater if the model can claim to be representing the behaviour of the current population, it was considered worthwhile to use in the 1990's ver-

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¹ See:

- (1) S. Erksoy, L. Osberg and S. Phipps, "The Distributional Implications of Unemployment Insurance — A Microsimulation Analysis", April 1994 (Interim Report, November, 1993);
- (2) S. Erksoy, L. Osberg and S. Phipps, "Panel Data and Policy Analysis", paper presented at the Annual Meeting of the Canadian Economics Association, Calgary, June 1994, mimeo, Department of Economics, Dalhousie University, Halifax, June 1994;
- (3) S. Erksoy, L. Osberg and S. Phipps, "The Distributional Implications of Unemployment Insurance Revisions", paper presented at the Annual Meetings of the Canadian Economics Association, Calgary, June 1994, mimeo, 1994, Department of Economics, Dalhousie University, Halifax;
- (4) L. Osberg, S. Erksoy and S. Phipps, "The Distribution of Income, Wealth and Economic Security: The Impact of Unemployment Insurance Reforms in Canada", July, 1994, Dalhousie University, Department of Economics Working Paper, #94-08;
- (5) L. Osberg, S. Erksoy and S. Phipps, "Labour Market Impacts of the Canadian and U.S. Unemployment Insurance Systems", Dalhousie University, Economics Department, Working Paper #94-12, December 1994.

sion a sample which is relatively recent — i.e. the respondents to the 1990's LMAS — rather than continuing to use the 1983 Asset and Debt sample.

Since the 1988 to 1990 LMAS contains information on the type of employment and hours per week of respondents, one can distinguish self-employment and employment at hours less than 15 hours per week from other employment weeks, enabling us to model the implications of extension of Unemployment Insurance coverage to these types of employment weeks. With greater detail on household characteristics and greater possibilities for the calibration of our simulation results to observed microdata, we re-estimated all our behavioural equations, incorporating the greater information now available on the determinants of labour market outcomes. However, this was a major piece of work, since the model now consists of 54 behavioural equations in eight separate behavioural modules, plus many lines of detailed accounting relationships — over 12,000 lines of code in SAS at present.

In the current paper, we build in modules to predict the probability and duration of self-employment and the probability and duration of employment with weekly hours less than 15. Drawing a distinction between these types of employment and employment weeks with paid hours in excess of 15 enables us to distinguish between those employment weeks which are now covered² and those which are not covered, under current Unemployment Insurance legislation.

However, one should emphasize that these weeks of employment which are now excluded from UI coverage are only a subset of “non-standard employment”. The term “non-standard employment” is generally held to encompass a diverse variety of employment relationships — including employment at temporary help agencies, on-call worker arrangements, short-term employment contracts, “casual” employees, etc., *as well as* “self-employment” and short-time working. The reason for lumping together all these diverse institutional forms of the employment relationship is to concentrate on a common core experience of workers — increased employment insecurity, due to the fact that employment is no longer a continuing employer/employee relationship with an implicit (or explicit) guarantee of future employment, but has become a *contingent* relationship entirely dependent on the employer's uncertain future needs for labour.

Some “non-standard” employment forms are already covered under current UI legislation. Individuals who are hired by a temporary help agency or under a short-term employment contract with wages greater than minimum insurable earnings per week or with hours greater than 15 per week already pay Unemployment Insurance premiums while employed and establish a potential entitlement to Unemployment Insurance benefits. Conversely, it is not strictly accurate to label employment in jobs with less than 15 hours work per week as “non-standard” if these jobs involve a continuing employer/employee relationship, with a continuing expectation of future employment. In the LMAS data, jobs

2 Current UI regulations cover weeks of employment in which hours of work are greater than 15 *or* in which weekly pay exceeds minimum insurable earnings (which are set at 1/5 maximum insurable earnings or \$156 per week in 1994). Hence *some* short hours work weeks are already covered - in this paper we are considering the extension of UI coverage to weeks of work with hours less than 15 *and* weekly pay less than \$156.

with less than 15 hours work per week are about 6 percent of all jobs, with no noticeable long-term trend, at least over the years 1986 to 1990. However, there has been a significant upward trend in the proportion of the labour force who declare themselves to be “self-employed”.

The rise of “self-employment” as an institutional arrangement raises a number of public policy issues, because there is a reasonable suspicion that many “self-employed” individuals can, in fact, be viewed more accurately as disempowered wage labourers than as independent contractors. In cases where individuals are nominally self-employed, but selling their services to a single buyer, who exercises substantial control over the pace, quality and direction of their work, the power of the “labour services purchaser” to dictate the amount and type of work effort may be indistinguishable from that of an “employer”.

However, there are costs to this change in nominal institutional arrangements. Some costs are borne by the income tax system, as “self-employed” workers write off commuting and “office” expenses with deductions which they could not claim against their income tax if their status was that of “employee”. Those individuals who go directly from self-employment status to social assistance, rather than drawing Unemployment Insurance during interruptions in their work, transfer the costs of their income support from the federal government to provincial governments.³ However, part of the cost is also borne by the individuals themselves, due to their ineligibility for Unemployment Insurance benefits during interruptions of work, and their lack of fringe benefits while self-employed.

As the institutional form of employment changes over time, social welfare programs (like Unemployment Insurance) which are predicated upon a particular institutional arrangement may provide a poorer and poorer fit to labour market realities. In the service economy, part-time work is much more feasible (and often preferable, from the employer’s point of view) than in the goods sector. The increased sophistication of computer data bases, in areas such as financial services and retail trade, now enables employers to plot with great accuracy the periods of their peak labour demand during each week (or each month) of operation and schedule part-time employees for those peak periods.⁴

However, under 1994 UI regulations, an individual who puts together an employment package of several jobs, each of which has less than 15 hours of work per week, is ineligible for Unemployment Insurance protection from an interruption in employment.⁵ Similarly, a “self-employed” individual whose labour services are no longer being purchased is, from their point of view, in essentially the same situation as a worker who has been laid off from their job — with the significant difference that they are ineligible for Unemployment Insurance benefits. There is, therefore, good social reason for examining the implications of extension of Unemployment Insurance coverage, to jobs with weekly hours of work less than 15 and to self-employment.

Those individuals who go directly from self-employment status to social assistance, rather than drawing Unemployment Insurance during interruptions in their work, transfer the costs of their income support from the federal government to provincial governments.

3 In Ontario, B.C. and Alberta, the marginal Social Assistance client is 100 percent a provincial cost — elsewhere CAP provides 50 percent federal 50 percent provincial funding.

4 For a series of case studies of employer adaptations, see L. Osberg, F. Wien and J. Grude (1995), *Vanishing Jobs and the Changing Workplace*, James Lorimer, Publishers, forthcoming, 1995.

5 More exactly, a worker in a low wage (\$10 per hour) job with hours less than 15 is ineligible for UI.

...if weeks of self-employment or short-time working are followed by enough weeks of regular employment to establish eligibility for Unemployment Insurance, then the exclusion of self-employment and short hours work weeks from UI coverage will not, in practice, have much impact on eligibility for Unemployment Insurance.

However, if weeks of self-employment or short-time working are followed by enough weeks of regular employment to establish eligibility for Unemployment Insurance, then the exclusion of self-employment and short hours work weeks from UI coverage will not, in practice, have much impact on eligibility for Unemployment Insurance. Since individuals move between UI covered employment, employment which is not covered by UI and unemployment, the impact of extending UI coverage depends on how many Unemployment Insurance covered weeks of employment an individual already has, *in addition to* those weeks of self-employment and weeks of short hours working which become eligible for UI, if coverage is extended. For some individuals, extension of UI coverage will provide them with enough UI covered weeks in total to meet the entrance qualification relevant for their region and establish eligibility for UI benefits, but in other cases the extension of UI coverage will simply add to the potential benefit duration of individuals who already have enough weeks of covered employment to be eligible for UI.⁶ Conversely, those individuals who have only a few weeks of self-employment or work-weeks with less than 15 hours, and no other employment, may not have enough weeks of work to qualify for Unemployment Insurance benefits, even if those weeks of self-employment and short hours are counted.

Our microsimulation model therefore proceeds by comparing, for each individual, two scenarios: an employment/unemployment/not in the labour force work history under 1994 Unemployment Insurance regulations and a work history in which self-employment and short hours work weeks become eligible for UI coverage, in addition to the already covered employment weeks. We simulate the work histories of individuals from 1994 to 2004, presuming that aggregate unemployment follows the alternative projections presented in Table 1.

**Table 1
Unemployment Rates¹ Used in Simulation**

Scenario 1		Scenario 2	
Year	%	Year	%
1994	11.8	1994	9.80
1995	11.6	1995	9.60
1996	11.4	1996	9.40
1997	11.2	1997	9.20
1998	11	1998	9.00
1999	10.2	1999	8.20
2000	10.2	2000	8.20
2001	10.2	2001	8.20
2002	10.2	2002	8.20
2003	10.2	2003	8.20
2004	10.2	2004	8.20

¹ *Infometrica Forecast*

⁶ Those individuals who do not now exhaust their UI benefits will, therefore, derive no direct benefit from an increase in the duration of their *potential* benefits.

We want to stress, however, that since our purpose is to examine the implications of non-coverage by Unemployment Insurance of these employment forms, we are modelling the distribution and duration of *real* spells of such employment, as captured in individuals' responses to the 1988 to 1990 Labour Market Activity Survey. Our simulations can be thought of as a thought experiment of what would happen to the Unemployment Insurance system if UI coverage were extended to self-employment and work weeks of less than 15 hours *and there was no fraud*. Human Resources Development Canada will face a major administrative challenge if it extends UI coverage to self-employment weeks, since it would be essential to have some way of distinguishing between real and fraudulent reported weeks of self-employment.

Currently, self-employed fishermen are the only category of the self-employed who are eligible for Unemployment Insurance benefits. For self-employed fishermen, the fish are the evidence that work has been done, and the fish plants are the agents who certify its existence. Although there are numerous anecdotes of individuals who trade catches, or sell their catch in parts to different fish plants, the perishability of fresh fish and the distances involved put limits on the feasible amount of rule bending. Fish plants have a financial incentive not to pay for non-existent fish and the accuracy of fish plant records (which contain data on dollars and on weights of fish processed) are open to audit. Self-employment in other sectors, particularly in the service sector, would pose much more difficult problems of policing of UI benefits. Even though, for example, a self-employed economic consultant might in fact be working for weeks or months on a particular consulting contract, their payment is typically on an infrequent basis. One does wonder how it would be possible to accurately record the weeks of self-employment work effort which would qualify such individuals for UI benefits, if UI coverage were extended. We would therefore reiterate that our simulations are a hypothetical thought experiment of the implications of extending UI coverage to *actual* weeks of self-employment and weeks with work hours less than 15.

Since the growing concern over inadequacies of Unemployment Insurance coverage has been fuelled in part by the increasing percentage of the labour force which is self-employed, we estimate a regression model of the trend in aggregate self-employment (see Table 2). We base our projections of the impact of extending UI to non-covered employment in future years on an extrapolation of these historic trends in the percentage of the labour force which is self-employed (an increase of 0.03 percent per year for men, 0.11 percent per year for women). We initialize our simulation with the observed percentage of self-employment in the labour force in 1990 (as revealed in the 1990 LMAS). Running our simulation to the year 2004, the extrapolation of the 1980's trends would predict that self-employment would increase over this period by about 6 percentage points as a fraction of the labour force.

Since there appears to be little trend, at least that we can detect in the 1986 to 1990 LMAS, to an increased proportion of the labour force with less than 15 hours of work per week, we hold the proportion with short hours work weeks constant over the simulation.⁷ In aggregate, the percentage of the labour force in non-covered employment is the sum of (1) the percentage self-employed (which is increasing over time in the simulation) and (2) the percentage which works less than 15 hours per week, at \$156 per week, or less (which we hold constant over the simulation period). As Section 2 indicates, we use different models to predict the probability and amount of self-employment and short hours work weeks.

Table 2
Self Employment Trend Regression
Ordinary Least Squares
Dependent Variables = Percentage of Self Employed¹ in the Labour Force, Males and Females, 1975-1993²

	Males		Females	
	Coefficient	Standard Error	Coefficient	Standard Error
Constant	9.6156	0.0897	4.8217	0.1289
Time Trend	0.03011	0.0079	0.1119	0.0113
	Adj R2=0.431		Adj R2=0.852	

1. Self employed includes only unincorporated businesses.

2. Source: Statistics Canada The Labour Force Cat. No. 71-001 V. 31-49 Annual 1975-1993.

⁷ Although there may be a positive trend in short hours work weeks over a longer period (the self employment trend uses 1975-1993), there is insufficient data. When trying to capture job hours per week and not person hours per week (i.e. if the person has more than one job, how many hours in each job), a data set such as the LMAS is essential, but this is only available for the period 1986 to 1990.



1. Model Structure

Figure 1 presents a flow chart of the logical structure of our microsimulation model. Each simulation year starts with individuals whose characteristics are the initial characteristics of individuals sampled in the 1990 Labour Market Activity Survey, as modified by the subsequent simulated behaviour. In each simulation run, two scenarios are compared, which we typically refer to as the “base” and the “shock” scenario. In this paper, the base and shock scenario differ in the assumed structure of Unemployment Insurance legislation, but have identical estimated behavioural response to Unemployment Insurance parameters, and the influence of personal characteristics.⁸

In both base and shock scenarios, the influence of “chance” is also held identical. In each estimated equation, the unexplained variance in the estimated regression is partitioned into “permanent” and “temporary” luck — currently the ratio is 60 percent transitory, 40 percent permanent. We think of “permanent” luck as corresponding to an individual’s good (or bad) fortune in drawing from the distribution of unobservable permanent personal characteristics, while temporary luck represents stochastic year to year variation in labour market outcomes. To assign permanent deviations from the expected value predicted, we draw a random variable from a standardized normal distribution and, after multiplying by $(0.4)^*$ (unexplained variance) add it to the predicted outcome. Permanent luck is the same in both base and shock scenarios, but differs as between labour market behaviours. To assign the remaining unexplained variation in labour market outcomes in each equation, we assign each year a random variable drawn from standard normal distribution times the “temporary” proportion (0.6) of total unexplained variation. Again, the influence of temporary “luck” is held constant in base and shock scenarios.⁹

Each behavioural equation in the model therefore contains the influence of:

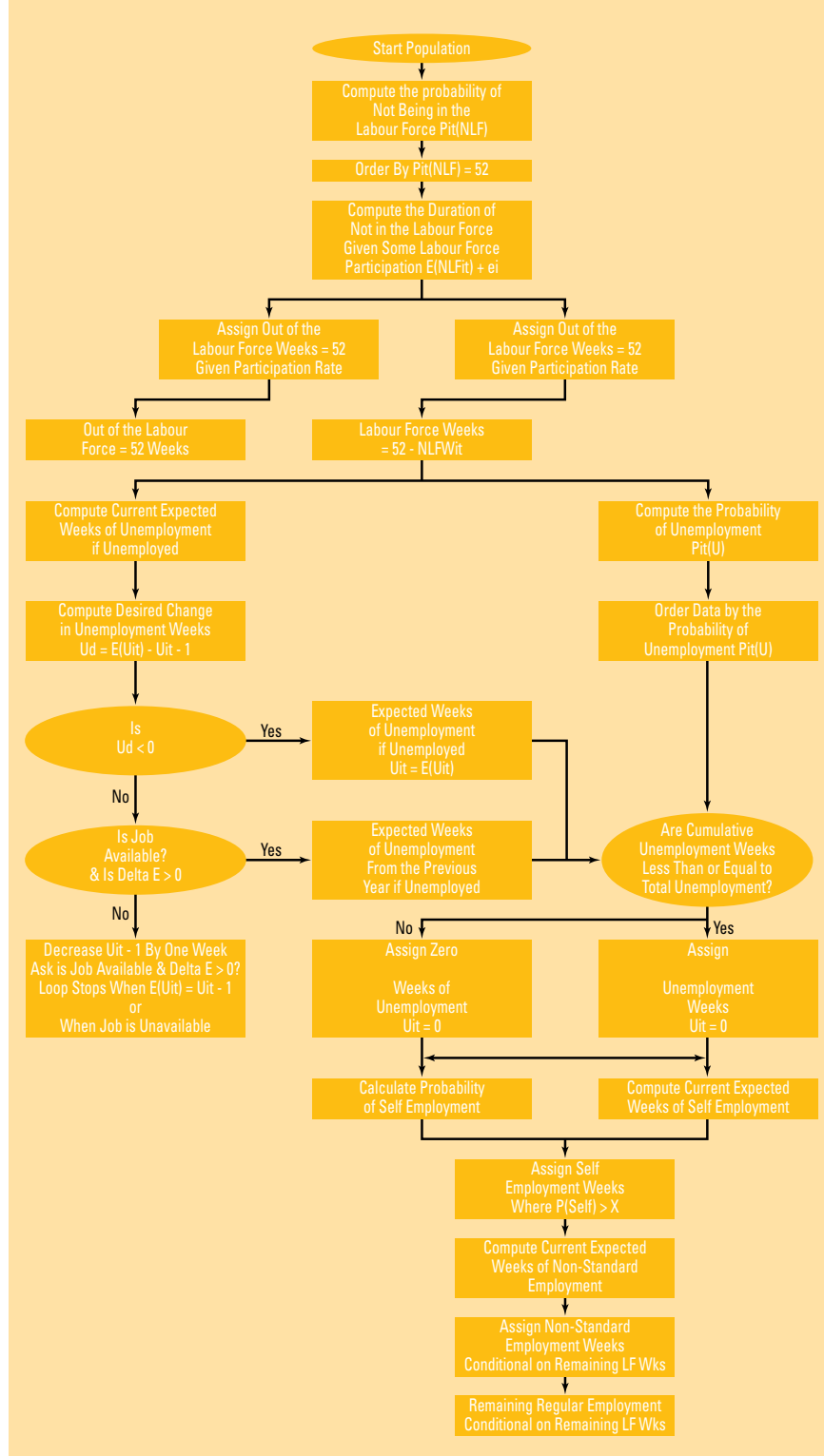
- measurable individual characteristics, including personal characteristics, some characteristics of the labour market within which individuals reside and the parameters of Unemployment Insurance legislation relevant to the individual; *plus*
- the influence of unobserved personal heterogeneity in characteristics which causes permanent deviations (above or below) the outcomes to be expected on the basis of observable personal characteristics; *and*,
- stochastic year to year variations in individual outcomes which cannot be explained either in terms of permanent observed characteristics, or in terms of permanent unobserved characteristics.

8 For the purposes of estimating model sensitivity to particular parameters, it is of course possible to hold the UI system constant, while comparing the implications of alternative estimates of the influence of behavioural parameters. Tables B.1 to B.6 examine the sensitivity of our results to some key behavioural parameters.

9 For a fuller discussion of the sensitivity of our simulation modelling strategy to alternative assumptions, see Erksøy, Osberg & Phipps “Panel Data and Policy Analysis”. The 0.4/0.6 split on permanent/temporary is based on the results of Lillard and Willis (1978) “Dynamic Aspects of Earnings Mobility” *Econometrica* Sept. 1978, pp. 985-1008.

In each simulation run, two scenarios are compared, which we typically refer to as the “base” and the “shock” scenario.

Figure 1
Logical Structure of a Microsimulation Model



The regressions which determine the operating characteristics of the model are discussed in Section 2. Eight distinct behaviours by each individual are modelled, but since we estimate separate behavioural equations for different demographic groups, the model contains 54 behavioural equations (in addition to accounting identities).

Currently, the model starts with a population whose demographic characteristics (age, marital status, number of children) do not change over time — we are in the process of building a “front-end” demographic module with exogenous probabilities of mortality and immigration and endogenous determinants of marital status and number of children. When complete, this module will greatly assist in improving model realism.

The first step in the simulation model is to determine the number of weeks (if any) that people want employment — i.e. are in the labour force.¹⁰ Particularly in the macroeconomics literature, there is sometimes a tendency to refer to the labour force participation rate at any point in time as if the population consists of 35 percent who never work or look for work and 65 percent who are always either employed or unemployed. In fact, the labour force participation decisions of people who are “occasionally” in the labour force creates a very large margin of labour supply in Canada. Heckman, writing in the May 1993 issue of the *American Economic Review*, on the subject, “What has been learned about labour supply in the last 20 years?” notes that the wage elasticity of labour supply *for those already working* is close to zero, but that elasticities of labour supply at the extensive margin of entry and exit are definitely not zero. Extensive experimentation with our model has convinced us of the *crucial* importance of the labour force participation decision for analysis of UI.

People who are part-year labour force participants may move into or out of the labour force for a few additional, or fewer, weeks in a way that can be highly sensitive to economic policy, such as Unemployment Insurance amendments. We therefore think it important to distinguish between those individuals who do not participate in the labour force at all, in any week of the year, and those individuals who spend *part* of the year outside the labour force (i.e. neither working or actively looking for work).

The simulation model therefore starts by computing for each individual their probability of being outside of the labour force for all 52 weeks of the year. The underlying regression is a probit model, as outlined in Section 2. Individuals are then ordered in descending order of the probability that they will be outside the labour force for 52 weeks and those with highest probability of complete labour force withdrawal are assigned 52 weeks of not-in-labour force up to the proportion of the population with complete labour force withdrawal (0.184 of the 16 to 65 age group in 1990). This proportion varies over time, as the average labour

¹⁰ For operational purposes, we adopt the strict Statistics Canada Labour Force Survey conception of unemployment as an individual who does not have work, but is actively looking for employment. The Labour Market Activity Survey in fact includes also a looser conception of unemployment, which we do not use.

force participation rate varies, since we fix the proportion with complete labour force withdrawal as the same constant *fraction* of the future average labour force participation rate as was observed in 1990.¹¹

If an individual is, at this stage of the model, assigned 52 weeks of not in the labour force, no further calculations of labour market behaviour are made for that simulation year. Such an individual may still be eligible for Unemployment Insurance benefits, as a continuation of a claim whose duration has not yet expired from the previous simulation year, but it is assumed that someone without any labour force participation has zero earnings and cannot establish a new Unemployment Insurance claim. Individuals without any labour force participation in a given year are retained in the model, since they may re-enter the labour force in a subsequent year, but the LMAS data indicates a high level of state dependence — i.e. the probability of complete labour force withdrawal is heavily influenced by whether there was complete labour force withdrawal in the prior year, and by the number of weeks of labour force withdrawal, if the person was a part year participant. There is a heavy tendency for individuals to remain outside the labour force, once they have left it for an entire year.

For those individuals who are in the labour force for some of the year, the next issue is to determine how many weeks of work they want. Section 2 of this paper describes our tobit model of the weeks of non-labour force participation, which determines labour force weeks by subtraction. (We use a tobit specification since Labour Force weeks are truncated at 52.).¹² Given that each individual has been assigned an estimate of their desired labour supply, the next issue is whether or not they can get employment for the weeks in which they are willing to supply labour to the labour market.

We take the aggregate unemployment rate from forecasts of the future performance of the Canadian macro economy. Table 1 presents the forecasts of Informetrica (Spring 1994 reference forecast) and a more optimistic scenario of a 2 percent lower unemployment rate in each year. The discussion of Section 3 will consider both scenarios, but in order to keep the length of this report manageable, most graphs and figures are based on the Informetrica projections. Total labour force weeks is given by the product of the average labour force participation rate and the population, and total unemployment weeks in any given simulation year is determined by the product of the forecast unemployment rate and the total number of labour force weeks. Section 2 of this paper also discusses the determinants of the probability of individual unemployment, as estimated by our logit model of any unemployment experience. As in our other behavioural equations, we estimate the expected probability with which an individual will experience

11 For example, if the average Labour Force Survey measure of labour force participation in 1990 was 0.65, the average non-labour force participation in 1990 is 0.35, but the Labour Market Activity Survey for 1990 indicates that only 0.184 of the population was outside the labour force for the entire year. In simulating the behaviour of the population forward during the scenario, we have to rely on forecast average labour force participation rates from macroeconomic models. If in 1999 the forecast of the average labour force participation rate (i.e. the LFS concept) is, for example, 0.67, we multiply 0.33 by 0.525 (= 0.184 divided by 0.35) to get the proportion (0.173) of the population which is entirely outside the labour force.

12 The combination of complete non-participants and partial labour force participants gives an average Labour Force Participation rate quite close to the LFS concept.

unemployment from the equations summarized in Section 2, and add the influence of permanent and temporary luck (as described above) to produce a calculated probability of individual unemployment. All observations are then ordered in order of descending probability of experience of unemployment.¹³

Conditional on experiencing some unemployment, Section 2 outlines our accelerated failure time model of annual unemployment experience.¹⁴ If, after taking account of deterministic and stochastic influences, an individual's unemployment experience this year is predicted to be greater than that of last year, we assume that the person faces no constraint in increasing their weeks of unemployment experience. However, given that total labour force weeks have already been assigned, if weeks of unemployment this year are to be less than weeks of unemployment last year, an individual must locate additional employment. Section 2 of this paper outlines our logit model of the probability that an individual will be constrained in locating an additional week of employment. We compute, for all individuals with an expected decrease in unemployment, the probability that they will encounter constraints in getting one more week of work. We compare that probability with a random draw from a uniform distribution and assign one more week of employment if the random draw exceeds the estimated probability of constraint. Those who want to increase their labour supply by *more* than one week of work, given that they have been successful in obtaining one additional week of employment, face a certain probability of being able to get the second additional week of employment, etc. We determine whether the individual is constrained in getting a second week of additional work by again comparing a random draw with their probability of constraint. We proceed in this way until the individual has either reached their expected additional employment or encountered a constraint in obtaining an additional week of work. Together, the duration model and underemployment model determine for each person their expected weeks of unemployment, if they experience any unemployment.

The influence of a changing macroeconomic environment is incorporated into our model by allowing the macroeconomic total of unemployment weeks to vary over time, in accordance with forecast macroeconomic unemployment rates. Since individuals are ordered in descending order of the probability of experiencing unemployment in a given year and the cumulative sum of unemployment weeks is calculated across individuals, unemployment can be assigned to those with the highest probability of experiencing unemployment, up to the point where the total number of unemployment weeks equals aggregate unemployment experience for the year.

13 In running our 1980's microsimulation model, historic data on male and female unemployment rates was available for the 1980's business cycle. Hence, in that model we calculated the probability of unemployment experience separately for males and females and since the model was fitted to historic data, it could not produce a *shift* in the gender incidence of unemployment. By contrast, the 1990's microsimulation model assigns male and female probabilities of unemployment experience jointly and changes in UI *can* produce shifts in the gender incidence of unemployment. In Tables B.1 to B.6 we examine the sensitivity of our results to variations in relative probabilities of unemployment.

14 Note that here and elsewhere all weeks of unemployment are aggregated into a single "spell" which we refer to as "annual unemployment experience".

...the major distinction between the 1990's and 1980's version of the micro-simulation model is that UI covered, and UI non-covered, employment are now explicitly distinguished.

To this point, the structure of the 1990's version of the Dalhousie microsimulation model is broadly similar to the 1980's version, as extant at July 1994.¹⁵ Conceptually, the major difference is that males and females are jointly ranked in probability of unemployment, and are assigned unemployment weeks from a common aggregate total of unemployment weeks, implying that the distribution of unemployment weeks between men and women is not exogenously specified. Changes in Unemployment Insurance parameters, or in other behavioural assumptions, can therefore shift the gender distribution of unemployment, in the 1990's microsimulation model. Furthermore, in anticipation of the introduction of a demographic module, behavioural equations are substantially more disaggregated in the 1990's version of our microsimulation model — separate equations have been estimated for single and married males and females, within each age group. Finally, the availability of additional information on personal characteristics has added to the explanatory variables predicting individual behaviour.

For the purposes of this paper, the major distinction between the 1990's and 1980's version of the microsimulation model is that UI covered, and UI non-covered, employment are now explicitly distinguished. Each individual faces a particular probability of having some self-employment weeks. As Table 2 reported, there is an upward trend in the aggregate rate of self-employment, hence individuals are assigned some self-employment weeks if their calculated individual probability of self-employment exceeds the average value of the probability of self-employment, which increases over time as Table 2 would predict. Given that an individual has some self-employment weeks, their duration of self-employment experience is assigned as discussed below. Since there is no upward trend over time in the incidence of short hours work weeks, we estimate both incidence and duration in a one step procedure (i.e. a tobit model).

Given an individual's experiences of not in the labour force, unemployment, self-employment, short hours work weeks and regular employment, the expected weekly wages of individuals, plus the rules of the Unemployment Insurance system applicable to someone with their work history, living in their particular economic region, determine their income from employment and UI payments.

¹⁵ See S. Erksøy, L. Osberg and S. Phipps (1994) *Panel Data and Policy Analysis*, paper presented to the annual meetings of the Canadian Economics Association.



2. Estimated Behavioural Equations

Appendix A presents the specific regression results used to form the behavioural equations of the microsimulation model. All regressions have been estimated using SAS and the 1988 to 1990 LMAS data of Statistics Canada — in most cases using the 1988 and 1989 waves, since 1990 labour market outcomes were influenced by the “natural experiment” of a common entrance requirement for Unemployment Insurance, due to the hold up in the Senate of Bill C-13 to reform Unemployment Insurance. Since there is no identifying variation in Unemployment Insurance entrance requirements in 1990, and since the problem of sample attrition in the panel will be less acute in 1989 than in 1990, we use the 1988/89 panel years for most of our estimation runs.

In principle, one could estimate a single equation for each labour market behaviour, incorporating dummy variables to pick up the influence of gender, age or marital status on labour force withdrawal, the probability of unemployment, etc. Although this procedure is efficient in minimizing the work input of researchers, we do not follow this approach since it is quite clear from the data that males and females, married and single, and people of different age groups differ structurally in their behaviour, in a way which cannot be picked up by a simple intercept shift through inclusion of a dummy variable for demographic status. We estimate most of our behavioural equations for men and for women separately, due to the substantial structural differences in labour force behaviour between men and women. (Since men and women “compete” for the same aggregate total of unemployment weeks, we use a joint estimate of unemployment probability.) Particularly for labour force participation, it is also important to model carefully the labour market behaviour of youth (24 and under) who may be wholly or partially outside the labour force due to school attendance, and older workers (ages 55-64) who are particularly likely to withdraw from the labour force, especially following a period of unemployment.

In anticipation of forthcoming additions to this microsimulation model, we also model separately the behaviour of married and single persons. Our demographic module will incorporate a probability of marriage (for singles), and probability of divorce (for married). However, small sample size for some demographic groups (e.g., married under 24) does force the consolidation of some demographic categories. Since the demographic module will have some mortality probability, retirement and labour force entry/immigration, it will enable us to track the implications of changes in labour force composition.

Since the objective of microsimulation modelling is predictive accuracy, rather than hypothesis testing, and since the microsimulation model involves the addition of a random error term representing unexplained variation to the expected value of individual behavioural outcomes, we do not necessarily follow the strategy of excluding variables which are not statistically significant at 5 percent (or other similar confidence levels). Our modelling philosophy is to keep variables in the equation if they add to the overall explanatory power of the regression

We estimate most of our behavioural equations for men and for women separately, due to the substantial structural differences in labour force behaviour between men and women.

(i.e. approximately $t > 1$) and if they have a strong reason for inclusion.¹⁶ For example, theory and other common empirical results argue that we have strong reason to expect number and age of children to predict labour force participation patterns, especially for young and middle aged women. Furthermore, in the public use version of the LMAS, Statistics Canada often uses a series of categorical variables, rather than a single continuous variable (e.g. for years of education). In such cases, a single dimension of the underlying data is captured in a *set* of categorical variables. Since the interpretation of a single dummy variable is, in this context problematic, we include or exclude education, occupation and industry variables as *sets* of dummy variables.

The Probability of Complete Labour Force Withdrawal

Tables A.1 to A.11 present the detailed results of a series of logit models of the probability that an individual will be outside the labour force for the entire year. Our regressions follow a common structure, including education, past labour force experience and the weeks needed to qualify for Unemployment Insurance in the individual's region. We presume that single females aged 55-64 and older males (55-64) are not influenced in their behaviour by the presence of children in the household. Since there is very strong state dependence in complete labour force withdrawal, past labour market history is a strong predictor (particularly for older cohorts) of the probability that an individual will stay completely outside the labour force. In addition, an important advantage of using the 1988/89 LMAS is that there is an observation on the disability status of an individual. Disability status, and the degree of limitation imposed by that disability, is an important predictor for most age cohorts of the probability that an individual will completely withdraw from the labour force, over and above the influence which we observe in the data from the past years weeks of labour force withdrawal and unemployment.

The base case for the dummy variables of occupational status is a blue collar worker. Our base case individual also has a high school education and no children, and is not limited by disability, but is Canadian born and English-speaking.

Weeks of Labour Force Withdrawal

Since individuals who have some labour force participation typically also have an occupation of employment, the regressions summarized in Tables A.12 to A.22 contain broad occupational categories of employment, in addition to the educational, family status, work history and disability status variables. State dependence in labour force withdrawal shows up clearly in the role played by weeks unemployed in the previous year and whether or not the individual was out of the labour force for part of the previous year. Among personal characteristics, disability status plays a clear causal role, but with very significant differences between those who state that they are limited by a disability and those

¹⁶ This philosophy is based largely on the theoretical argument that coefficient estimates on included variables will be biased if variables are omitted from the equation which influences the dependent variable, (albeit with a large standard error). It is also based on practical experience — if we try to run a microsimulation model in which behavioural equations contain only those variables significant at 95 percent, the results are not very sensible.

who state that they have a disability but it is not limiting, or it is not known if it is limiting.¹⁷

The impact of Unemployment Insurance regulations on labour force participation is picked up by the variable “weeks needed to qualify for Unemployment Insurance”. In Tables A.12 to A.22, a tobit model of duration of non-labour force experience has been estimated. Among the population of those who have some labour force weeks, the number of labour force weeks is truncated — nobody can have more than 52 — hence a tobit model is appropriate. Among labour force participants, most people have a substantial number of weeks of labour force participation (note the large negative constant element in non-labour force weeks, often in excess of 52). Given the expectation of the number of non-labour force weeks on the basis of other characteristics, weeks needed to qualify for Unemployment Insurance tend to have a positive relationship with the weeks of non-labour force participation, for most cohorts. In short, in all regions, most of those who enter the labour force at all tend to be in the labour force for most of the year, but in regions where fewer weeks are needed to qualify for UI, fewer weeks of labour force participation are observed, on average.

The Probability of Unemployment

Tables A.23 to A.26 present the determinants of the probability of experiencing any unemployment in 1989, estimated separately for married and single individuals, aged 16 to 24 and aged 25-64. Males and females are pooled, with a dummy variable for gender, in order to ensure that the overall incidence of unemployment by gender fits observed patterns. The influence of unemployment in the prior year (weeks unemployed in 1988) is very clear. In all cases, the coefficient is positive and highly significant. There is bound to be some correlation between unemployment experience one year and unemployment experience the next year, since an individual with a spell of unemployment which runs over the end of one year and into the next will be counted as unemployed in both years — but if this were all that was going on, individuals with a longer spell of unemployment in 1988 would be more likely to have all their unemployment experience captured in 1988. The size and strong positive significance of *weeks* unemployed in 1988 as a predictor of the probability of unemployment in 1989 is more likely evidence of state dependence (“microhysteresis”) in unemployment experience.

The Unemployment Insurance benefit/wage replacement ratio is calculated from the weekly earnings of each individual in accordance with UI regulations:

$$(\text{=0.6 below maximum insurable earnings}); = (0.6) (\text{maximum insurable})/(\text{actual earnings}),$$

if actual earnings were greater than maximum insurable. It enters with a positive coefficient — i.e. those with a greater benefit/wage replacement ratio are more likely to become unemployed, *ceteris paribus*. The relationship is, however, not statistically significant at standard confidence levels for the 16 to 24 year old population.

There is bound to be some correlation between unemployment experience one year and unemployment experience the next year, since an individual with a spell of unemployment which runs over the end of one year and into the next will be counted as unemployed in both years...

¹⁷ The role of disability status in labour force behaviour is examined in much more detail in Lucie Zeman (1994) “The Effects of Disability on the Labour Market Activities of Canadians” M.A. thesis, Department of Economics, Dalhousie University.

As one might expect, the probability of unemployment is positively correlated to the provincial unemployment rate, and negatively correlated with membership in a white collar occupational group.

Since we order all individuals in the same “queue” for unemployment, we have been able to experiment, for simulation purposes, with the estimates of Table A.23 to Table A.24 in order to test the sensitivity of aggregate distributional results to the relative incidence of unemployment observed by demographic group.

In Table B.1 we report aggregate statistics on the percentage in 1994 who report having some Unemployment Insurance, some self-employment, some unemployment or some paid employment, and the average duration of unemployment experienced under a number of alternative assumptions. The first column reproduces results obtained if we simply accept all the coefficients, as initially estimated, in all behavioural equations. We need to scale down estimated unemployment durations to reproduce historically observed data, and this is done in panels 2 to 5 of Table B.2. In these panels, the constant term in the duration of unemployment equations is multiplied by 0.6, for both males and females, but these panels differ in the assumptions made about the relative probability of males and females, and older and younger Canadians, in experiencing unemployment.

If we want to see the implications of increasing the relative probability of unemployment experience of older Canadians, we can multiply the intercept in the unemployment probability equation for older Canadians by some number greater than 1, while if we want to see the implications of assuming that female unemployment probability should be increased, we can multiply the value of the dummy variable for gender by some number greater than 1. Panels 2 to 5 of Table B.2 demonstrate the impact on some aggregate statistics of labour market behaviour of these alternative operational assumptions on the relative probability of unemployment by gender and age.

Table B.4 reproduces the distributional results (i.e. the share by income decile of the increase in UI benefits from extending UI coverage) when we change the relative unemployment probability associated with age and gender. For example, in column 2, the constant in the regression coefficients in Tables A.24 and A.26 is multiplied by 1.5 and the female dummy variable is multiplied by 4.0, while for the youth cohort, we multiply the female dummy variable by 2.0. Although these experiments clearly affect the demographic incidence of UI extension, Table B.4 indicates that the income distribution results are pretty robust.

In Table B.4 and B.6 we look at “the bottom line” from the point of view of this study, whether or not such changes in the assumed relative probability of unemployment experience by gender and age alter significantly (1) the decile share of the change in total value of Unemployment Insurance benefits produced by extending coverage to self-employment and short hours work weeks and (2) the percentage of those who collected Unemployment Insurance in the base case found within each income decile.

Since the experiment we are conducting alters the relative probability of unemployment between men and women, one would expect that it would also alter

(for constant unemployment duration equations) the distribution of the Unemployment Insurance recipient population among males and females in the base case (see Table B.6). Our confidence in our aggregate results is, however, strengthened by the observation that the decile shares of the increase in Unemployment Insurance benefits changed somewhat, but not hugely, as we simulated alternative relative probabilities of unemployment by gender and age (Table B.4). The distribution of the Unemployment Insurance recipient population across income deciles changes even less (see Table B.6).

In principle, if we are doing a good job in microsimulation modelling, we should be able to march the 1990 population through time to 1994, using our estimated behavioural equations, and reproduce “accurately” observed 1994 labour market outcomes. One of the difficulties to be faced in validating a microsimulation model is, however, the fact that one must select some subset of labour market outcomes (e.g., claiming Unemployment Insurance, experiencing unemployment, weeks of unemployment duration) and some summary statistics describing that labour market outcome (percentage incidence, mean, variance, skew, kurtosis decile shares) with which to test the “similarity” of the distributions of simulated and actual historical labour market outcomes.

Since we know that important aspects of labour market behaviour have yet to be included in the microsimulation model (e.g., demographic change) we cannot expect that our model will align exactly with observed labour market outcomes, and it is possible that we will have to calibrate the model in order to make it fit observed labour market outcomes. We do not like doing this. Our basic preference is to use unaltered, wherever possible, the directly estimated behavioural equations summarized in this section.

Our conclusions from Tables B.2, B.4 and B.6 indicate that our results are fairly robust to alternative calibrations of the unemployment probability equations, and since we prefer to use the behavioural equations without alteration, the results reported in Section 3 are based on the use of an unaltered unemployment probability equation (which is equivalent to multiplying the coefficients on the gender dummy and the intercepts in the unemployment probability for younger and older workers by 1).

Duration of Unemployment

Tables A.27 to A.34 present the results of our accelerated failure time (Weibull) model of duration of unemployment spell. Again, the influence of past outcomes is clear. Weeks of unemployment in 1989 are, in each demographic group, positively related to weeks unemployed in 1988.

In each regression, the UI benefit/wage replacement ratio is negatively correlated with duration of unemployment experience, other things equal. Although, in some cases, this result is not statistically significant at standard confidence levels, this is not the relationship that a standard “disincentives” approach to Unemployment Insurance analysis would have predicted. We have, in fact, tried rather hard to dislodge the negative coefficient on the benefit/wage replacement ratio in the unemployment duration equation. The result is robust to a large number of alternative specifications, and is found as well in the 1986/87 LMAS. We can only

As one might expect, prior experience of self-employment increases considerably the probability of self-employment. Self-employment probabilities seem to increase with education, with the exception of married women.

note that Jones (1994) found a similar negative coefficient, and Devine and Kiefer (1991) note that the benefit/wage replacement effect is far from settled.

The positive coefficient on maximum *duration* of benefits as a predictor of duration of unemployment is consistent with a standard “disincentives” story and is almost always statistically significant at standard confidence levels (the exception being married males aged 25-64).

Initial passes with the microsimulation model produced excessively long durations of unemployment, and a correspondingly excessively low incidence of unemployment, and UI use, (see Panel 1 of Table B.2). After trial and error we scaled the constant term in the female unemployment duration equation by factor of 0.6 and the constant in the male unemployment duration by 0.7 in order to reproduce observed 1990 LMAS incidence and average durations of unemployment. Tables B.1, B.3 and B.5 illustrate the sensitivity of our results to alternative calibrations of the unemployment duration equations.

Probability of Constraint in Employment Weeks

Tables A.35 to A.38 present the results of a logit model of the probability of wanting, but not getting, an additional week of work in 1989. If these results were being interpreted as some sort of test of whether or not unemployment is “voluntary” or “involuntary”, they would tell a somewhat mixed story. The benefit/wage replacement wage ratio enters with a negative coefficient — i.e. those whose UI benefits replace a higher fraction of their employment wage are less likely to want an additional week of work — a result consistent with the disincentives/voluntary unemployment story. However, those with more weeks of unemployment and those who received Unemployment Insurance are more likely to be limited by unemployment constraint in their weeks of work — i.e. they want more employment at the going weekly wage — a result which is consistent with the “constraint” perspective on involuntary unemployment. In both cases, results are highly statistically significant and uniform across demographic groups. Fortunately, for the purposes of predictive accuracy in modelling unemployment experience, it is not necessary to decide between “voluntary” and “involuntary” perspectives.

Probability of Self-Employment

Tables A.39 to A.42 present, for married and single males and females, our logit model of the determinants of the probability of any self-employment, estimated over the population of those with employment weeks in 1989. As one might expect, prior experience of self-employment increases considerably the probability of self-employment. Self-employment probabilities seem to increase with education, with the exception of married women. The probability of self-employment experience is negatively correlated to the provincial unemployment rate, but holding constant the provincial probability, those persons with more weeks of unemployment in 1988 are more likely to turn to self-employment.

Duration of Self-Employment

Tables A.43 to A.46 present our OLS model of the duration of self-employment experience, given that the person had some weeks of self-employment. Although a tobit model would be, conceptually, a better approach than ordinary least squares (due to the censoring at 52 of maximum weeks of self-employment), we use OLS because it provided a better fit to the distribution of self-employment weeks. Both OLS and Tobit specifications predicted mean self-employment experience, within demographic groups, with similar accuracy and both underestimated the variance in self-employment experience, but the OLS model underestimated true variance by less. The top end of self-employment experience is truncated necessarily at 52, but because our OLS results seemed to model better the shorter experiences of self-employment, we used it, despite its recognized econometric imperfections with truncated data.



...one of the implications of the extension of UI coverage to short hours work weeks and self-employment would be a considerable increase in the income security of poorer deciles.

3. Results

Extending UI coverage would provide major benefits to some relatively poor Canadians. Table 3 and 4 summarize the results of extending UI coverage, which Figures 2 to 14 present in more detail. Appendix C summarizes the results obtained with lower unemployment rates. Figure 2 presents the percentage of the labour force in each income decile who would gain Unemployment Insurance coverage as a result of the extension of UI to self-employment and short hours work weeks, in 1994 and for the year 2004. As can be seen, many of the people at the bottom of the income distribution would gain UI coverage as a result of the extension to self-employment and short hours work weeks. The very poorest decile is poor because its members have very little labour market participation of any sort, hence the extension of Unemployment Insurance coverage only affects 4 percent of the bottom decile. However, 66 percent of those in the second decile gain UI coverage and 51 percent of those in the third decile. It is clear that one of the implications of the extension of UI coverage to short hours work weeks and self-employment would be a considerable increase in the income security of poorer deciles.

Figure 2
Newly Covered as a Percentage of the Labour Force

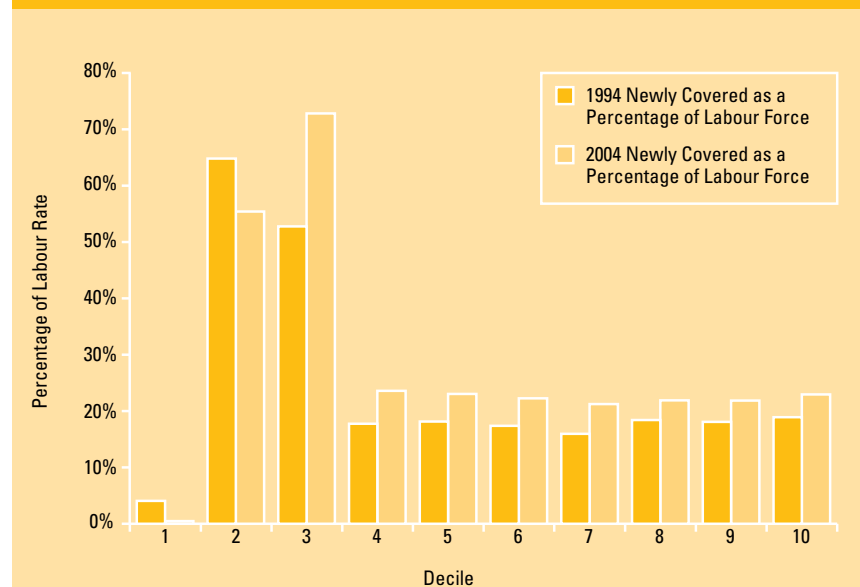


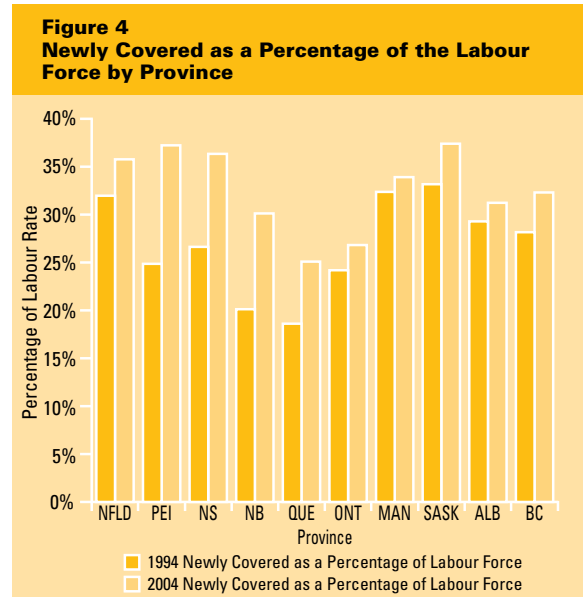
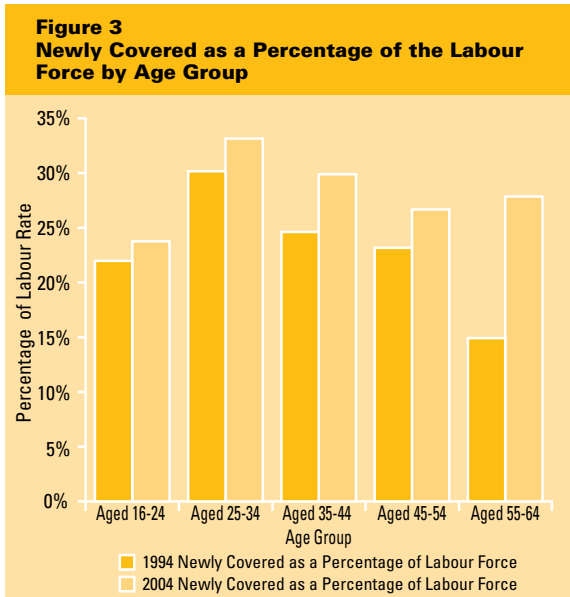
Figure 3 looks at the percentage of labour force who are newly covered by age group. As one might expect, the cohorts aged 16 to 24 and aged 25 to 34 have a higher fraction gaining UI coverage than other cohorts, but the difference is nowhere near as dramatic as the differences observed in Figure 2. Although Ontario is the province with the largest single net gain from extending UI coverage (see Figures 7A and 7B), Newfoundland and the Western provinces (particularly Saskatchewan and Manitoba) in fact have the highest *percentage* newly covered of the labour force (see Figure 4).

Table 3
The Impacts of Extended U.I. Coverage to Non-Standard Employment: 1994 - 33%

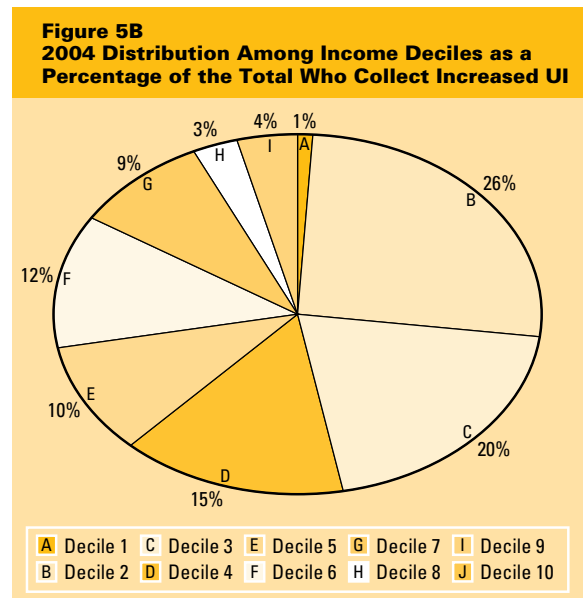
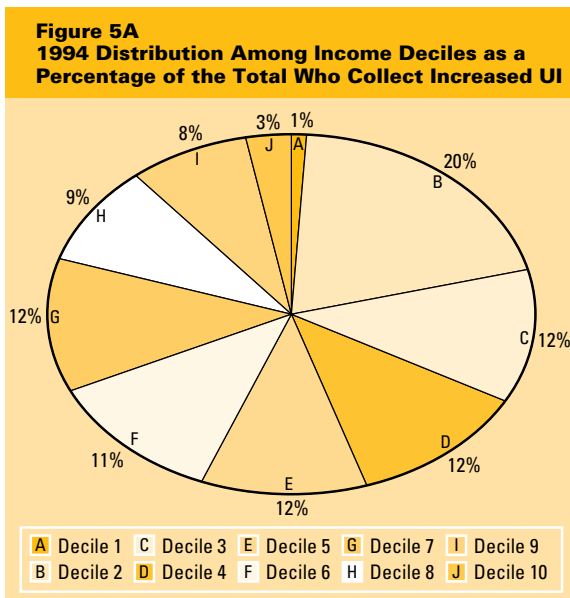
	(a) Gainers as a % of Labour Force	(b) Gainers as a % of Those Who Collected in the Base	(c) Δ U.I. > 0 as a % of Total With Δ UI > 0	(d) Average UI Increase	(e) Number of People With Newly Covered Weeks	(f) Experiment Less Base Benefits to Those With Newly Covered Weeks	(g) Experiment Less Base Premiums to Those With Newly Covered Weeks	(h) Net Gain/Loss Of UI Payments For Those With Newly Covered Weeks
1	1.80	49.97	1.27	141	55,068	3,430,080	960,453	2,469,627
2	29.11	1,171.75	20.57	598	877,962	233,045,472	73,890,678	159,154,794
3	16.27	99.17	11.51	675	715,743	117,727,149	124,162,227	(6,435,078)
4	17.60	72.63	12.44	974	240,657	163,315,590	67,581,726	95,733,864
5	16.45	84.95	11.65	1,576	246,405	238,594,473	91,806,543	146,787,930
6	15.77	82.78	11.14	1,940	235,389	293,353,458	117,853,494	175,499,964
7	16.42	92.99	11.62	1,736	216,639	292,802,628	137,278,107	155,524,521
8	12.73	117.99	8.99	1,975	249,318	265,904,793	185,811,294	80,093,499
9	10.75	147.94	7.61	2,269	245,562	275,496,867	231,349,983	44,146,884
10	4.54	277.08	3.21	2,235	256,419	129,542,649	253,454,802	(123,912,153)
Total	14.14	115.45	100.00		3,339,162	2,013,213,159	1,284,149,307	729,063,852
Male	15.54	96.67	61.79	1,784	1,560,009	1,651,963,455	922,210,293	729,753,162
Female	12.35	168.36	38.21	640	1,779,150	361,249,701	361,939,011	(689,310)
Total	14.14	115.45	100.00		3,339,159	2,013,213,156	1,284,149,304	729,063,852
16 to 24 Yrs	15.95	71.05	27.26	762	720,072	255,888,891	101,663,496	154,225,395
25 to 34 Yrs	19.79	172.08	40.66	1,387	1,188,531	850,222,023	553,170,012	297,052,011
35 to 44 Yrs	10.81	154.11	17.46	1,947	762,696	549,713,010	403,819,866	145,893,144
45 to 54 Yrs	7.22	142.91	8.37	1,384	515,184	169,126,458	170,949,942	(1,823,484)
55 to 64 Yrs	11.72	84.15	6.25	1,913	152,679	188,262,777	54,545,988	133,716,789
Total	14.14	115.45	100.00		3,339,162	2,013,213,159	1,284,149,304	729,063,855
Newfoundland	22.33	150.31	4.07	1,316	111,852	91,472,544	31,225,173	60,247,371
Prince Edward Island	14.93	125.21	0.58	1,720	18,576	17,863,029	6,565,482	11,297,547
Nova Scotia	14.33	124.98	4.21	1,356	149,841	97,163,580	53,004,537	44,159,043
New Brunswick	13.64	74.37	3.08	1,242	87,210	63,817,233	29,217,108	34,600,125
Quebec	11.13	82.45	19.06	1,329	611,202	303,205,632	184,180,455	119,025,177
Ontario	13.10	111.32	33.83	1,304	1,198,473	630,995,169	495,718,347	135,276,822
Manitoba	20.92	209.46	6.07	1,372	179,937	143,629,695	67,479,864	76,149,831
Saskatchewan	20.40	198.48	5.22	1,458	162,765	135,329,685	62,818,620	72,511,065
Alberta	15.93	153.47	10.98	1,393	386,934	247,659,096	162,800,385	84,858,711
British Columbia	16.11	132.46	12.90	1,406	432,372	282,077,493	191,139,333	90,938,160
Total	14.14	115.45	100.00		3,339,162	2,013,213,156	1,284,149,304	729,063,852

Table 4
The Impacts of Extended U.I. Coverage to Non-Standard Employment: 2004 - 33%

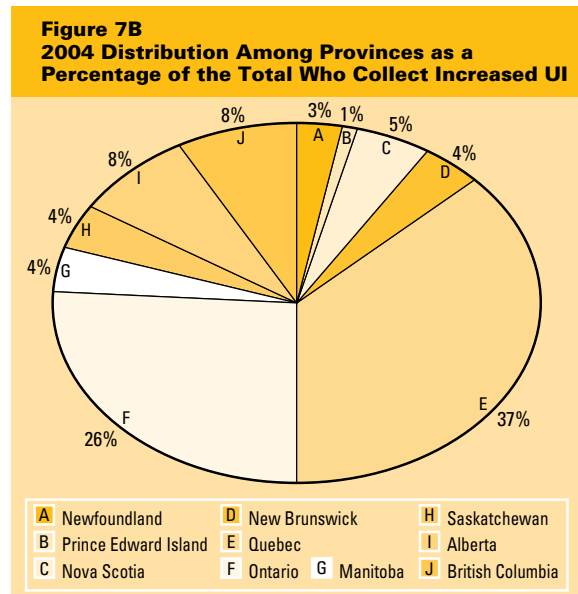
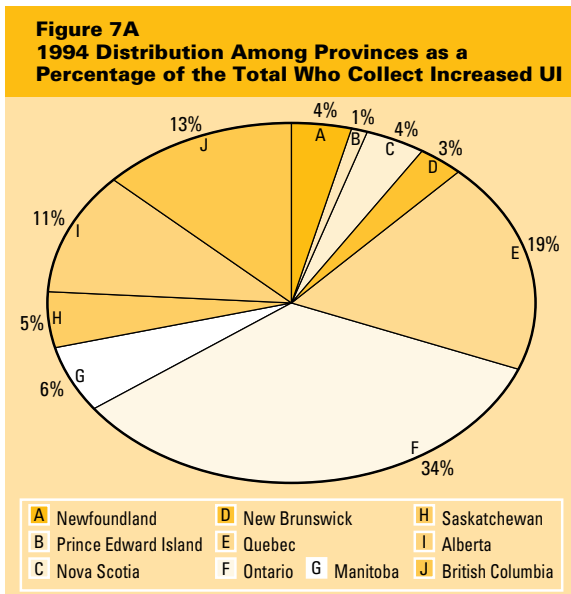
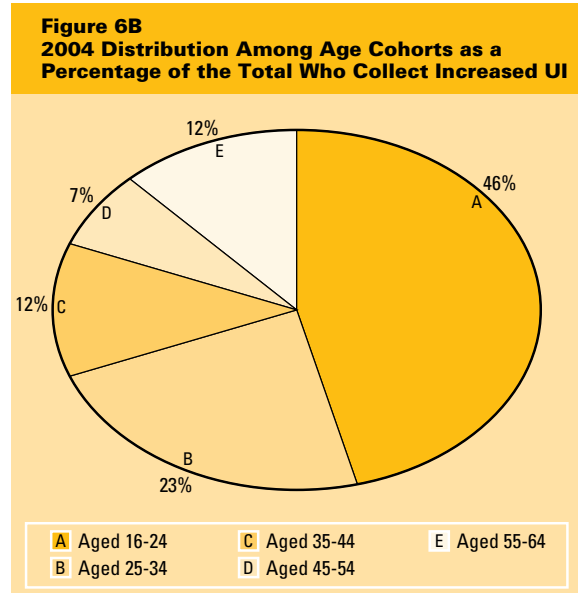
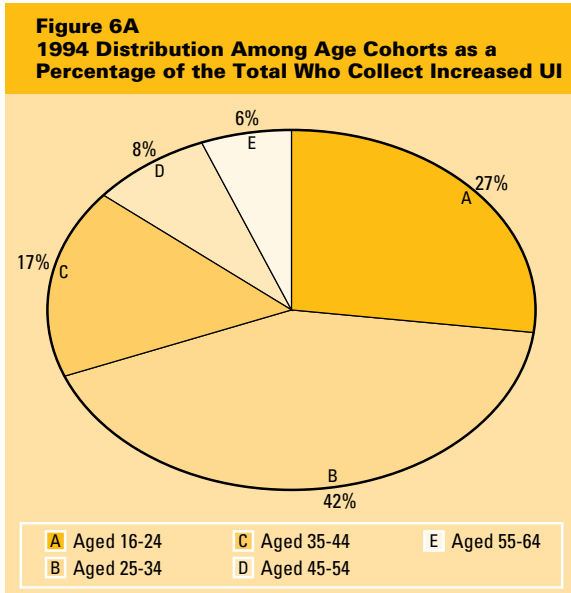
	(a) Gainers as a % of Labour Force	(b) Gainers as a % of Those Who Collected in the Base	(c) Δ U.I. > 0 as a % of Total With Δ UI > 0	(d) Average UI Increase	(e) Number of People With Newly Covered Weeks	(f) Experiment Less Base Benefits to Those With Newly Covered Weeks	(g) Experiment Less Base Premiums to Those With Newly Covered Weeks	(h) Net Gain/Loss Of UI Payments For Those With Newly Covered Weeks
1	0.13	2.62	0.12	143	6,393	248,520	49,353	199,167
2	28.84	1,956.84	26.10	542	751,377	209,978,010	53,668,668	156,309,342
3	22.23	342.77	20.09	829	986,145	202,614,489	149,428,662	53,185,827
4	16.71	94.09	15.14	1,306	320,346	177,754,509	76,836,876	100,917,633
5	10.80	94.62	9.76	1,874	311,838	147,161,475	104,176,308	42,985,167
6	12.73	104.36	11.54	2,978	302,520	295,353,276	138,838,533	156,514,743
7	10.50	142.99	9.49	3,187	287,937	261,123,072	176,627,181	84,495,891
8	3.84	104.02	3.48	3,998	296,952	155,881,698	223,925,103	(68,043,405)
9	4.14	170.52	3.74	3,198	295,806	109,488,669	285,239,151	(175,750,482)
10	0.60	75.98	0.54	3,581	311,988	22,559,367	313,288,695	(290,729,328)
<i>Total</i>	11.05	161.35	100.00	21,636	3,871,302	1,582,163,085	1,522,078,530	60,084,555
Male	10.08	120.10	49.66	2,400	1,899,231	1,187,975,853	1,133,392,449	54,583,404
Female	12.21	244.03	50.34	836	1,972,071	394,187,229	388,686,081	5,501,148
<i>Total</i>	11.05	161.35	100.00		3,871,302	1,582,163,082	1,522,078,530	60,084,552
16 to 24 Yrs	21.23	143.07	46.65	984	782,397	419,953,407	123,743,322	296,210,085
25 to 34 Yrs	9.57	168.60	22.96	2,157	1,190,838	476,915,118	582,394,971	(105,479,853)
35 to 44 Yrs	5.74	232.45	12.06	2,615	941,190	326,249,076	489,767,841	(163,518,765)
45 to 54 Yrs	4.57	169.78	6.55	2,016	571,653	97,775,670	195,605,631	(97,829,961)
55 to 64 Yrs	12.77	175.65	11.79	1,794	385,224	261,269,811	130,566,765	130,703,046
<i>Total</i>	11.05	161.35	100.00		3,871,302	1,582,163,082	1,522,078,530	60,084,552
Newfoundland	12.10	186.23	2.83	1,756	125,166	58,150,899	41,650,686	16,500,213
Prince Edward Island	10.45	175.69	0.52	2,242	27,819	15,043,233	9,533,439	5,509,794
Nova Scotia	12.97	214.42	4.87	1,590	204,471	88,254,486	69,605,742	18,648,744
New Brunswick	12.92	144.56	3.74	1,898	130,971	77,731,341	42,892,593	34,838,748
Quebec	13.03	179.45	37.81	1,638	1,091,211	510,331,149	296,803,506	213,527,643
Ontario	8.98	138.03	26.45	1,819	1,183,776	402,515,988	549,461,016	(146,945,028)
Manitoba	11.33	209.49	3.64	1,781	163,236	80,132,181	71,039,316	9,092,865
Saskatchewan	14.00	215.96	3.89	1,927	155,760	84,811,374	69,444,042	
Alberta	10.44	161.06	7.89	1,509	353,325	137,257,815	163,017,300	(25,759,485)
British Columbia	9.30	126.08	8.37	1,473	435,567	127,934,619	208,630,884	(80,696,265)
<i>Total</i>	11.05	161.35	100.00		3,871,302	1,582,163,085	1,522,078,524	60,084,561



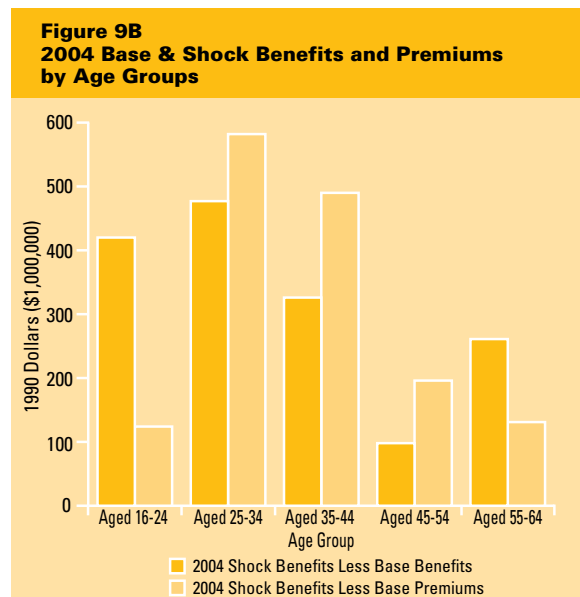
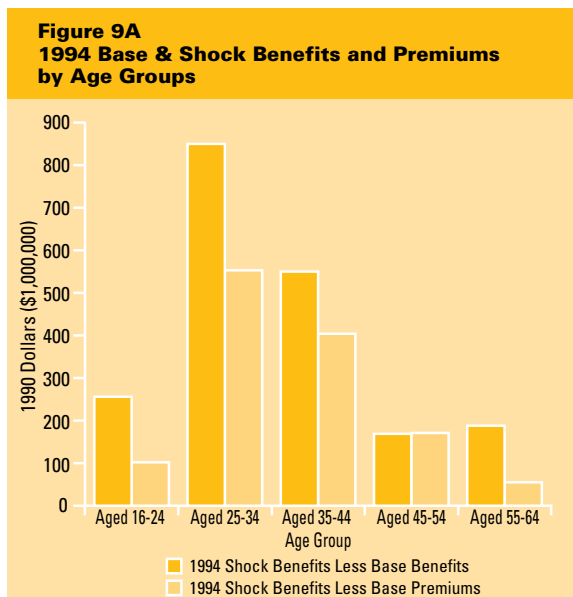
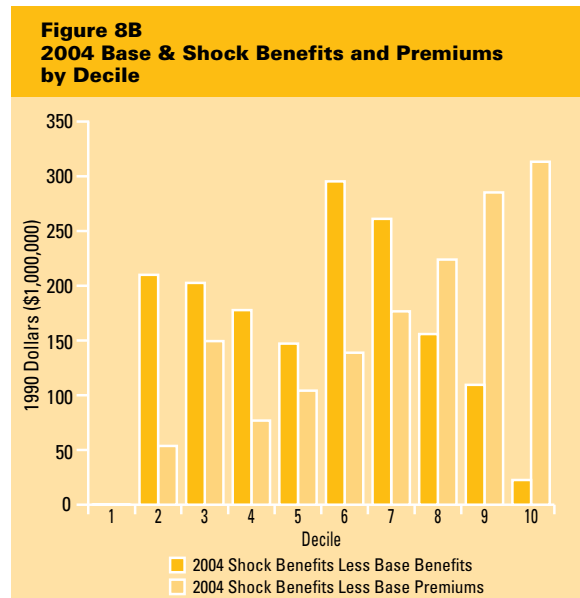
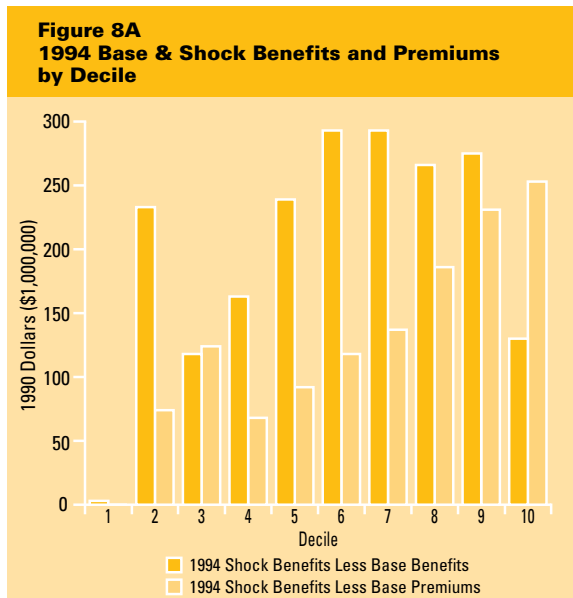
From the point of view of the Unemployment Insurance Fund, the number that *collect* UI must be distinguished from the number who become *covered* by UI. Figures 5A and 5B present the number within each income decile who increase their Unemployment Insurance claims (either as a result of qualifying for coverage and receiving benefits, or a result of qualifying for more weeks of UI benefits, and claiming for longer). Expressed as a percentage of the total number who collect increased Unemployment Insurance benefits, nearly half (46 percent) of those who collect increased UI benefits in 2004 are to be found in the second and third deciles.



Figures 6A and 6B present a comparable breakdown of those with increased UI benefits, by age cohort and Figures 7A and 7B do the same breakdown by province. The relatively large benefits of UI extension which accrue to the province of Ontario are particularly apparent in Figure 7 — but proportionately speaking the benefits received by British Columbia are also noteworthy.



Figures 8, 9 and 10 look at the extension of UI coverage from the point of view of the change in the total benefits and total premiums of the UI fund. The extension of UI coverage has impacts on both the revenue and expenditure sides of the UI fund, but the increase in benefits paid is substantially larger. In Figures 8A and 8B the increase in benefits and the increase in premiums paid are compared by income decile. Clearly, there are net gains throughout the income distribution (except for decile 10), but the dollar value of the gains received by the second decile is largest.



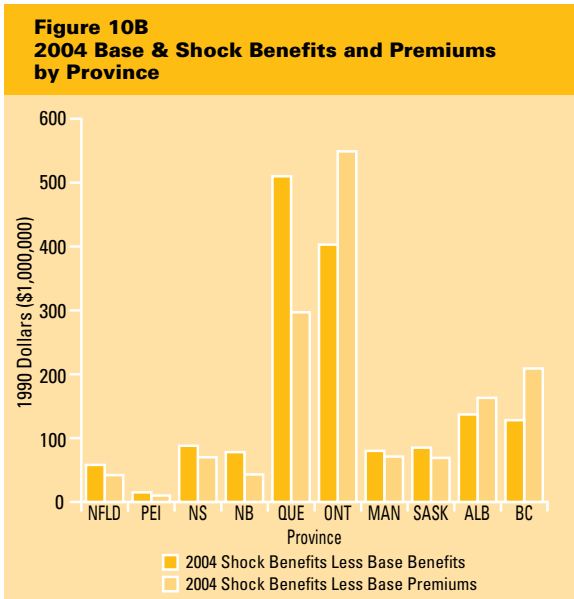
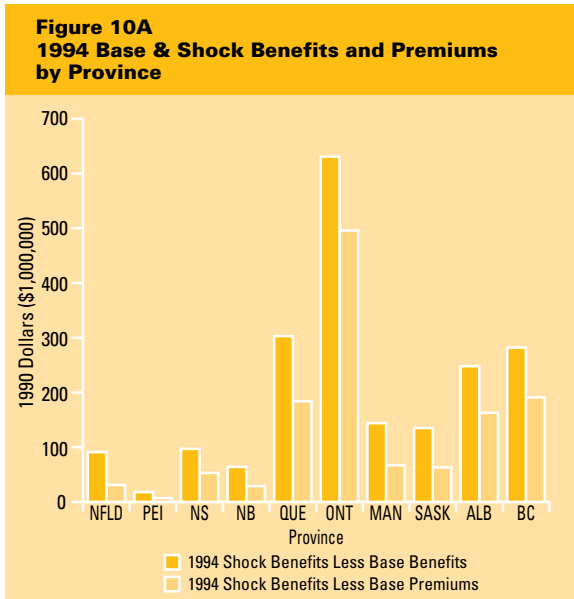
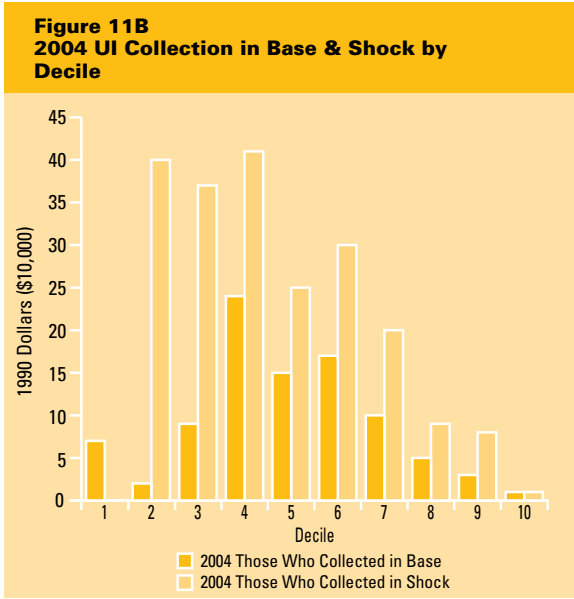
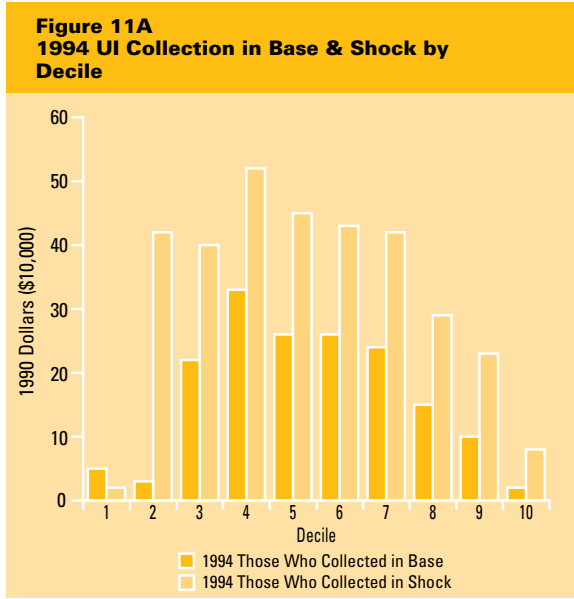


Figure 9 compares the change in benefits and the change in premiums by age cohort — the age groups of 25-34 and 35-44 clearly receive the largest increase in UI benefits, as well as paying the largest increase in UI premiums.

Similarly, as Figure 10 indicates, both Ontario and Quebec pay increased UI premiums if coverage is extended, but they also receive substantial increases in UI benefits.



In Figure 11, we examine the number of UI claimants, comparing the number who are eligible to claim UI, and do so, in the base case of the 1994 UI regulations and in the shock case where UI coverage is extended to the self-employed and to those with short work weeks. The advantage of a graphical presentation is that it gives one some idea of the relative magnitudes of the population which was already claiming, in each income decile, as well as the magnitude of the *increase* in that population with extended UI coverage. In the fourth to ninth deciles, there is some increase in UI collection, but from a relatively high initial base. In the third income decile, the number who collect UI remains below the number who collect in the fourth decile, but the *increase* in UI collection is much larger, proportionately speaking. The first decile of income recipients is the poorest decile, precisely because they have next to no earnings. With extremely small earnings, they do not qualify for Unemployment Insurance either before or after the extension of UI coverage. However, the second decile benefits very significantly from increased UI coverage — even if the total proportion of UI claimants in the second decile remains below that percentage claiming UI benefits in the middle 40 percent of the income distribution.

In Figure 12, we define “gainers” as those who receive increased Unemployment Insurance benefits (either because they become eligible for UI benefits or because they can claim a longer duration of Unemployment Insurance benefits) as a result of the extension of UI coverage. Both in 1994, and in running the simulation model out to 2004, it is clear that such gainers are a very significant percentage of the people in the second decile of the income distribution. As our other tables also indicate, the very poorest decile receives little benefit from the extension of UI coverage, while the percentage of labour force participants in each decile who are gainers diminishes steadily as one moves up the income distribution.

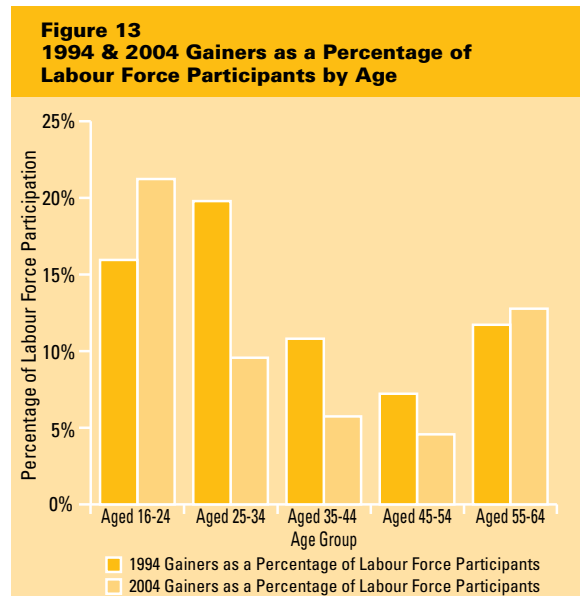
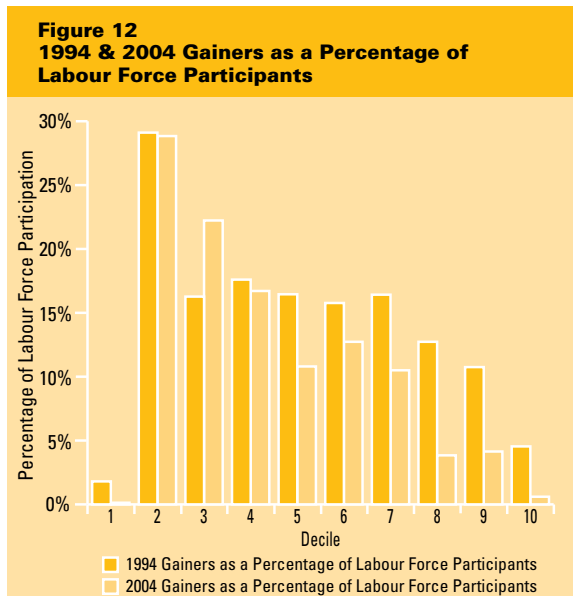
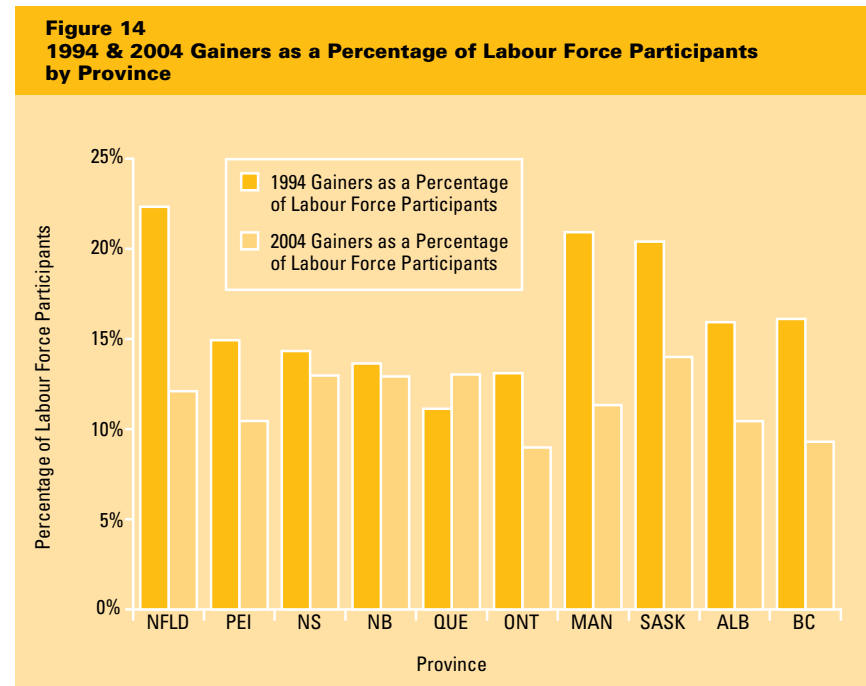


Figure 13 breaks out the gainers from UI coverage extension as a percentage of the labour force by age cohort. Although the pattern of gainers differs between 1994 and 2004 in our simulation, readers are cautioned that this version of the 1990's microsimulation model does not yet include a modelling of the process of labour force entry by young workers and labour force withdrawal/retirement by 65 year olds. Hence, readers are urged to place more emphasis on the 1994 results, which indicate that gainers are a relatively high percentage of the younger (ages 16 to 24 and 25 to 34) cohorts.



In Figure 14, we examine gainers of the percentage of labour force participants by province. It is notable that although some provinces stand out in 1994 as having above average percentages of gainers, the range of variation is relatively small in 1994, and diminishes further as the simulation model is run out to 2004. Relative to the differences between age cohorts and income classes, the differences across provinces are relatively small.



4. Conclusion

Table 5 presents some summary statistics on the extent of inequality before and after the extension of Unemployment Insurance coverage to short hours work weeks and self-employment. It is clear that whether one looks at the present value of the total earning stream received by individuals or earnings in particular years, such as 1994 or 2004, the extension of Unemployment Insurance coverage would reduce inequality. Since the impacts of extension of UI coverage are particularly large for the second decile of the population, a measure like the share of the bottom 20 percent in total income is particularly sensitive to this policy change. For other deciles of the distribution, the impact is much smaller, hence aggregate measures such as the Gini co-efficient or co-efficient of variation do not tend to have the same sort of dramatic change as the share of the bottom 20 percent. Nevertheless, these are changes in summary measures of inequality which are large enough to be socially significant.¹⁸

...extending the coverage of the Unemployment Insurance system to self-employment and to short hours work weeks would provide significant financial benefits to the poorer deciles of labour market participants, and would significantly reduce inequality in the distribution of earnings.

Table 5
Inequality Statistics
Males & Females
Non-Standard/Self Employment Experiment
Present Value of Income Before Tax
33% Sample

Policy Experiment	Mean	Coefficient of Variation	Gini Coefficient	Share of Top 10%	Share of Top 20%	Share of Bottom 20%
1994 Policy - Present Value	130,873	1.055	0.543	0.328	0.531	0.003
Include Self & Non-Standard Employment - Present Value	132,928	1.040	0.538	0.322	0.522	0.013
1994 Policy - 1994	15,792	1.066	0.554	0.326	0.531	0.000
Include Self & Non-Standard Employment - 1994	15,916	1.051	0.548	0.321	0.523	0.009
1994 Policy - 2004	15,139	1.100	0.567	0.337	0.545	0.000
Include Self & Non-Standard Employment - 2004	15,503	1.079	0.559	0.325	0.528	0.016

In short, we conclude that:

- (1) Extending the coverage of the Unemployment Insurance system to self-employment and to short hours work weeks would provide significant financial benefits to the poorer deciles of labour market participants, and would significantly reduce inequality in the distribution of earnings. The financial benefits to extended coverage would be concentrated in the second decile of the income distribution.
- (2) Most of the benefits of extended UI coverage would be received by women. This is as one might expect, given the greater probability of women to be employed in part-time or self-employment arrangements.

¹⁸ As Fritzell (1992) noted, the difference between Canada and Germany in the Gini Index of adjusted disposable income was in both 1981 and 1987 about 0.04 while the difference between Canada and Sweden in Gini Index was 0.1 in 1981 and 0.08 in 1987.

- (3) Because: (a) self-employment and short hours work weeks are still a minority phenomenon in the Canadian labour market;
- (b) some of the individuals in these employment situations for part of the year already gain eligibility for Unemployment Insurance coverage through other “standard” UI-covered jobs; and
- (c) the relative pay of self-employment and short hours work weeks is fairly low;

extending coverage of UI benefits increases the net costs of the system by a relatively small percentage (see Tables 3 and 4). One must stress, however, that this relatively small cost of the extension of UI coverage depends entirely upon the absence of fraud — i.e. on the presumption that a workable administrative arrangement can be developed to distinguish between nominal and real weeks of self-employment.



Appendix A: Regression Results

Table A.1
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Single Males
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.372	1.360	0.0131
Dummy=1 if no education or elementary	1.089	0.319	0.0006
Dummy=1 if some high school	0.222	0.216	0.3029
Dummy=1 if some post secondary education	-0.022	0.231	0.9258
Dummy=1 if certificate or diploma	0.246	0.331	0.4573
Dummy=1 if university	0.406	0.397	0.3065
Dummy=1 if trade	-1.299	0.935	0.1646
Weeks unemployed in 1988	0.051	0.009	0.0001
Weeks not in the labour force 1988	0.059	0.006	0.0001
Dummy = 1 if Weeks not in the labour force>0 1988	0.761	0.201	0.0002
Weeks needed to qualify for unemployment 1988	-0.163	0.081	0.0449
Provincial Unemployment Rate 1988	-0.026	0.056	0.6103
Total number of kids	0.089	0.094	0.3422
Dummy=1 if kids 0 - 2	1.277	0.479	0.0076
Dummy=1 if kids 3 - 5	0.226	0.434	0.6014
Dummy=1 if Aged 16	0.827	0.247	0.0008
Dummy=1 if Aged 17 to 19	0.546	0.201	0.0066
Dummy=1 if limited by a disability	1.565	0.274	0.0001
Dummy=1 if disability but not known if limited	0.496	1.037	0.6323
Dummy=1 if disability but not limited	-0.925	0.706	0.1902
Dummy=1 if minority	0.417	0.320	0.1924
Dummy=1 if foreign	0.173	0.294	0.5570
Dummy=1 if Non-English	-0.137	0.166	0.4095

Table A.2
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Single Males
Aged 25 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-6.441	2.373	0.0066
Dummy=1 if no education or elementary	0.564	0.354	0.1112
Dummy=1 if some high school	0.495	0.348	0.1552
Dummy=1 if some post secondary education	0.534	0.393	0.1742
Dummy=1 if certificate or diploma	0.230	0.456	0.6132
Dummy=1 if university	0.391	0.384	0.3092
Dummy=1 if trade	-0.827	0.718	0.2494
Weeks unemployed in 1988	0.090	0.008	0.0001
Weeks not in the labour force 1988	0.091	0.010	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	1.934	0.395	0.0001
Weeks needed to qualify for unemployment 1988	0.056	0.138	0.6860
Provincial Unemployment Rate 1988	-0.063	0.096	0.5162
Total number of kids	0.879	0.317	0.0056
Dummy=1 if kids 0 - 2	-2.153	1.266	0.0889
Dummy=1 if kids 3 - 5	-0.306	0.745	0.6818
Dummy=1 if kids 6 - 15	-1.167	0.693	0.0923
Dummy=1 if Aged 25 to 34	-0.395	0.250	0.1138
Dummy=1 if Aged 45 to 54	0.049	0.304	0.8712
Dummy=1 if limited by a disability	1.650	0.248	0.0001
Dummy=1 if disability but not known if limited	0.862	0.687	0.2092
Dummy=1 if disability but not limited	-0.941	0.605	0.1202
Dummy=1 if minority	-1.416	0.488	0.0037
Dummy=1 if foreign	0.622	0.343	0.0698
Dummy=1 if Non-English	-0.438	0.251	0.0813

Table A.3
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Single Males
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-6.108	4.142	0.1403
Dummy=1 if no education or elementary	-0.167	0.816	0.8376
Dummy=1 if some high school	-0.281	0.906	0.7566
Dummy=1 if some post secondary education	0.641	1.379	0.6420
Dummy=1 if certificate or diploma	1.714	1.055	0.1041
Dummy=1 if university	-0.412	1.043	0.6927
Dummy=1 if trade	-1.399	1.050	0.1828
Weeks unemployed in 1988	0.028	0.168	0.0973
Weeks not in the labour force 1988	0.104	0.019	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	1.187	0.815	0.1453
Weeks needed to qualify for unemployment 1988	0.093	0.239	0.6969
Provincial Unemployment Rate 1988	0.109	0.173	0.5264
Total number of kids	0.458	0.448	0.3067
Dummy=1 if limited by a disability	0.759	0.511	0.1372
Dummy=1 if disability but not known if limited	0.717	1.086	0.5088
Dummy=1 if disability but not limited	1.703	0.643	0.0081
Dummy=1 if minority	-1.344	1.193	0.2600
Dummy=1 if foreign	0.010	0.588	0.9864
Dummy=1 if Non-English	0.317	0.444	0.4756

Table A.4
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable = 1 if not in the Labour Force for the Entire Year, 1989
Married Males
Aged 16 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.555	1.577	0.0241
Dummy=1 if no education or elementary	0.029	0.247	0.9051
Dummy=1 if some high school	-0.307	0.243	0.2066
Dummy=1 if some post secondary education	0.023	0.283	0.9364
Dummy=1 if certificate or diploma	-0.235	0.273	0.3894
Dummy=1 if university	-1.895	0.373	0.0001
Dummy=1 if trade	-0.513	0.352	0.1447
Weeks unemployed in 1988	0.072	0.006	0.0001
Weeks not in the labour force 1988	0.088	0.007	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	1.201	0.314	0.0001
Weeks needed to qualify for unemployment 1988	-0.136	0.094	0.1502
Provincial Unemployment Rate 1988	-0.055	0.061	0.3735
Total number of kids	-0.041	0.146	0.7813
Dummy=1 if kids 0 - 2	0.166	0.282	0.5548
Dummy=1 if kids 3 - 5	0.220	0.259	0.3960
Dummy=1 if kids 6 - 15	-0.313	0.284	0.2698
Dummy=1 if Aged 16 to 19	-0.126	0.733	0.8634
Dummy=1 if Aged 20 to 24	0.594	0.303	0.0502
Dummy=1 if Aged 25 to 34	-0.715	0.235	0.0023
Dummy=1 if Aged 45 to 54	0.255	0.211	0.2271
Dummy=1 if limited by a disability	1.641	0.179	0.0001
Dummy=1 if disability but not known if limited	1.622	0.565	0.0041
Dummy=1 if disability but not limited	-0.096	0.433	0.8248
Dummy=1 if minority	0.319	0.322	0.3224
Dummy=1 if foreign	0.570	0.239	0.0170
Dummy=1 if Non-English	-0.083	0.186	0.6537

Table A.5
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Married Males
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.330	1.790	0.0628
Dummy=1 if no education or elementary	-0.492	0.265	0.0640
Dummy=1 if some high school	-0.011	0.287	0.9684
Dummy=1 if some post secondary education	-0.436	0.421	0.3003
Dummy=1 if certificate or diploma	-0.335	0.391	0.3920
Dummy=1 if university	-0.499	0.340	0.1421
Dummy=1 if trade	-0.596	0.452	0.1875
Weeks unemployed in 1988	0.075	0.007	0.0001
Weeks not in the labour force 1988	0.115	0.007	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	0.497	0.345	0.1494
Weeks needed to qualify for unemployment 1988	-0.005	0.105	0.9638
Provincial Unemployment Rate 1988	-0.052	0.073	0.4776
Total number of kids	-0.031	0.237	0.8947
Dummy=1 if limited by a disability	1.170	0.220	0.0001
Dummy=1 if disability but not known if limited	1.273	0.575	0.0267
Dummy=1 if disability but not limited	-0.384	0.296	0.1955
Dummy=1 if minority	-0.119	0.452	0.7923
Dummy=1 if foreign	0.385	0.228	0.0920
Dummy=1 if Non-English	-0.177	0.204	0.3864

Table A.6
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Single Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.949	1.246	0.0015
Dummy=1 if no education or elementary	0.585	0.416	0.1594
Dummy=1 if some high school	-0.031	0.190	0.8711
Dummy=1 if some post secondary education	-0.421	0.187	0.0241
Dummy=1 if certificate or diploma	-0.602	0.261	0.0213
Dummy=1 if university	-1.451	0.517	0.0050
Dummy=1 if trade	-3.680	1.314	0.0051
Weeks unemployed in 1988	0.051	0.009	0.0001
Weeks not in the labour force 1988	0.076	0.007	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	0.786	0.191	0.0001
Weeks needed to qualify for unemployment 1988	-0.031	0.073	0.6752
Provincial Unemployment Rate 1988	-0.026	0.042	0.5424
Total number of kids	-0.131	0.099	0.1855
Dummy=1 if kids 0 - 2	0.998	0.268	0.0002
Dummy=1 if kids 3 - 5	0.741	0.330	0.0245
Dummy=1 if Aged 16	-0.418	0.211	0.0475
Dummy=1 if Aged 17 to 19	-0.568	0.169	0.0008
Dummy=1 if limited by a disability	0.110	0.277	0.6906
Dummy=1 if disability but not known if limited	-1.209	1.217	0.3205
Dummy=1 if disability but not limited	-0.057	0.469	0.9027
Dummy=1 if minority	-0.440	0.292	0.1323
Dummy=1 if foreign	0.281	0.245	0.2518
Dummy=1 if Non-English	0.302	0.155	0.0515

Table A.7
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Single Females
Aged 25 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-6.462	1.728	0.0002
Dummy=1 if no education or elementary	0.980	0.262	0.0002
Dummy=1 if some high school	0.554	0.252	0.0276
Dummy=1 if some post secondary education	0.342	0.276	0.2148
Dummy=1 if certificate or diploma	-0.088	0.281	0.7553
Dummy=1 if university	-0.920	0.409	0.0245
Dummy=1 if trade	-0.439	0.433	0.3105
Weeks unemployed in 1988	0.065	0.006	0.0001
Weeks not in the labour force 1988	0.079	0.006	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	1.645	0.262	0.0001
Weeks needed to qualify for unemployment 1988	0.069	0.099	0.4876
Provincial Unemployment Rate 1988	0.022	0.066	0.7417
Total number of kids	-0.557	0.169	0.0010
Dummy=1 if kids 0 - 2	1.515	0.333	0.0001
Dummy=1 if kids 3 - 5	0.392	0.302	0.1938
Dummy=1 if kids 6 - 15	1.062	0.291	0.0003
Dummy=1 if Aged 25 to 34	0.119	0.200	0.5540
Dummy=1 if Aged 45 to 54	0.224	0.228	0.3248
Dummy=1 if limited by a disability	0.922	0.202	0.0001
Dummy=1 if disability but not known if limited	0.894	0.840	0.2869
Dummy=1 if disability but not limited	-0.196	0.361	0.5887
Dummy=1 if minority	-0.161	0.355	0.6514
Dummy=1 if foreign	0.104	0.253	0.6804
Dummy=1 if Non-English	0.524	0.189	0.0055

Table A.8
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Single Females
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-5.302	3.696	0.1514
Dummy=1 if no education or elementary	0.286	0.543	0.5981
Dummy=1 if some high school	-0.651	0.528	0.2177
Dummy=1 if some post secondary education	-0.948	0.716	0.1856
Dummy=1 if certificate or diploma	-1.105	0.618	0.0738
Dummy=1 if university	-0.074	0.637	0.9080
Dummy=1 if trade	-3.351	0.892	0.0002
Weeks unemployed in 1988	0.096	0.012	0.0001
Weeks not in the labour force 1988	0.109	0.013	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	2.619	0.594	0.0001
Weeks needed to qualify for unemployment 1988	0.164	0.214	0.4434
Provincial Unemployment Rate 1988	-0.033	0.141	0.8173
Total number of kids	-1.169	0.336	0.0005
Dummy=1 if limited by a disability	2.094	0.455	0.0001
Dummy=1 if disability but not known if limited	-0.283	1.032	0.7841
Dummy=1 if disability but not limited	0.036	0.593	0.9519
Dummy=1 if minority	0.497	0.943	0.5979
Dummy=1 if foreign	-1.300	0.483	0.0071
Dummy=1 if Non-English	0.165	0.390	0.1780

Table A.9
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Married Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-2.319	0.198	0.2413
Dummy=1 if no education or elementary	0.419	0.410	0.3069
Dummy=1 if some high school	0.472	0.265	0.0746
Dummy=1 if some post secondary education	0.241	0.331	0.4661
Dummy=1 if certificate or diploma	-0.552	0.405	0.1733
Dummy=1 if university	-3.611	2.044	0.0773
Dummy=1 if trade	-0.842	0.794	0.2886
Weeks unemployed in 1988	0.071	0.010	0.0001
Weeks not in the labour force 1988	0.074	0.009	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	1.227	0.322	0.0001
Weeks needed to qualify for unemployment 1988	-0.181	0.119	0.1303
Provincial Unemployment Rate 1988	-0.070	0.069	0.3049
Total number of kids	-0.032	0.188	0.8636
Dummy=1 if kids 0 - 2	0.655	0.286	0.0218
Dummy=1 if kids 3 - 5	0.760	0.336	0.0238
Dummy=1 if Aged 16	-1.385	1.166	0.2349
Dummy=1 if Aged 17 to 19	0.302	0.317	0.3409
Dummy=1 if limited by a disability	0.515	0.651	0.4289
Dummy=1 if disability but not known if limited	1.561	1.543	0.3077
Dummy=1 if disability but not limited	0.128	0.627	0.8382
Dummy=1 if minority	-0.971	0.626	0.1207
Dummy=1 if foreign	-0.691	0.408	0.0899
Dummy=1 if Non-English	0.204	0.245	0.4046

Table A.10
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Married Females
Aged 25 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.094	0.738	0.0001
Dummy=1 if no education or elementary	-0.032	0.127	0.7999
Dummy=1 if some high school	0.216	0.108	0.0447
Dummy=1 if some post secondary education	-0.363	0.135	0.0073
Dummy=1 if certificate or diploma	-0.221	0.116	0.0558
Dummy=1 if university	-0.533	0.137	0.0001
Dummy=1 if trade	-0.314	0.189	0.0971
Weeks unemployed in 1988	0.068	0.004	0.0001
Weeks not in the labour force 1988	0.088	0.003	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	1.482	0.117	0.0001
Weeks needed to qualify for unemployment 1988	-0.112	0.043	0.0093
Provincial Unemployment Rate 1988	-0.055	0.027	0.0391
Total number of kids	0.095	0.065	0.1432
Dummy=1 if kids 0 - 2	0.383	0.121	0.0015
Dummy=1 if kids 3 - 5	0.044	0.109	0.6900
Dummy=1 if kids 6 - 15	-0.262	0.126	0.0380
Dummy=1 if Aged 25 to 34	-0.053	0.098	0.5899
Dummy=1 if Aged 35 to 44	0.486	0.109	0.0001
Dummy=1 if limited by a disability	0.863	0.142	0.0001
Dummy=1 if disability but not known if limited	0.734	0.512	0.1519
Dummy=1 if disability but not limited	-0.063	0.199	0.7508
Dummy=1 if minority	-0.007	0.189	0.9724
Dummy=1 if foreign	-0.149	0.108	0.1648
Dummy=1 if Non-English	0.287	0.087	0.0010

Table A.11
Logit Model Of The Probability of Not Being in the Labour Force For 52 Weeks
Dependent Variable =1 if not in the Labour Force for the Entire Year, 1989
Married Females
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-4.425	2.087	0.0340
Dummy=1 if no education or elementary	0.011	0.290	0.9693
Dummy=1 if some high school	-0.306	0.286	0.2852
Dummy=1 if some post secondary education	-0.550	0.461	0.2334
Dummy=1 if certificate or diploma	-0.121	0.337	0.7192
Dummy=1 if university	-1.075	0.394	0.0063
Dummy=1 if trade	0.428	0.484	0.3763
Weeks unemployed in 1988	0.079	0.008	0.0001
Weeks not in the labour force 1988	0.094	0.007	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	2.006	0.303	0.0001
Weeks needed to qualify for unemployment 1988	0.083	0.120	0.4924
Provincial Unemployment Rate 1988	0.012	0.079	0.8825
Total number of kids	-0.568	0.282	0.0441
Dummy=1 if limited by a disability	0.158	0.295	0.5913
Dummy=1 if disability but not known if limited	0.489	0.899	0.5868
Dummy=1 if disability but not limited	0.099	0.357	0.7824
Dummy=1 if minority	-0.702	0.474	0.1386
Dummy=1 if foreign	0.270	0.247	0.2743
Dummy=1 if Non-English	0.188	0.228	0.4092

Table A.12
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Single Males
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-64.554	8.420	0.0001
Dummy=1 if managerial or administrative	-8.558	2.365	0.0003
Dummy=1 if professional	4.303	1.374	0.0017
Dummy=1 if clerical	-2.971	1.479	0.0446
Dummy=1 if sales & services	-2.644	1.003	0.0084
Dummy=1 if farm	5.013	1.690	0.0030
Dummy=1 if no education or elementary	2.456	2.869	0.3921
Dummy=1 if Aged 16	13.312	1.553	0.0001
Dummy=1 if Aged 17 to 19	7.535	0.959	0.0001
Dummy=1 if some high school	2.571	1.224	0.0357
Dummy=1 if some post secondary education	9.564	1.103	0.0001
Dummy=1 if certificate or diploma	3.396	1.539	0.0273
Dummy=1 if university	0.989	2.085	0.6352
Dummy=1 if trade	2.924	2.347	0.2130
Weeks unemployed in 1988	0.023	0.050	0.6394
Dummy = 1 if Weeks not in the labour force >0 1988	18.448	0.878	0.0001
Provincial Unemployment Rate 1988	1.590	0.324	0.0001
Weeks needed to qualify for unemployment 1988	2.843	0.494	0.0001
Total Number of kids in 1988	0.494	1.187	0.6773
Dummy=1 if kids Aged 0 - 2	-1.367	3.909	0.7265
Dummy=1 if kids Aged 3 - 6	-7.572	3.983	0.0573
Dummy=1 if kids Aged 6 - 15	-0.637	1.763	0.7178
Dummy=1 if limited by a disability	7.405	2.682	0.0058
Dummy=1 if disability but not known if limited	-4.066	12.858	0.7518
Dummy=1 if disability but not limited	-3.898	2.746	0.1558
Dummy=1 if foreign	2.670	1.453	0.0662
Dummy=1 if Non-English	1.546	0.964	0.1089
Scale	22.764	0.388	

Table A.13
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Single Males
Aged 25 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-52.869	14.853	0.0004
Dummy=1 if managerial or administrative	-7.977	2.424	0.0010
Dummy=1 if professional	-10.352	2.345	0.0001
Dummy=1 if clerical	0.236	2.483	0.9243
Dummy=1 if sales & services	0.311	1.859	0.8669
Dummy=1 if farm	-8.513	3.644	0.0195
Dummy=1 if no education or elementary	9.513	2.468	0.0001
Dummy=1 if Aged 25 to 34	7.083	1.658	0.0001
Dummy=1 if Aged 45 to 54	4.105	2.279	0.0001
Dummy=1 if some high school	4.423	2.199	0.0443
Dummy=1 if some post secondary education	6.211	2.338	0.0079
Dummy=1 if certificate or diploma	-0.182	2.217	0.9344
Dummy=1 if university	3.534	2.272	0.1198
Dummy=1 if trade	1.178	3.141	0.7077
Weeks unemployed in 1988	0.280	0.055	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	19.547	1.495	0.0001
Provincial Unemployment Rate 1988	0.211	0.615	0.7315
Weeks needed to qualify for unemployment 1988	1.289	0.860	0.1341
Total Number of kids in 1988	-5.691	3.221	0.0772
Dummy=1 if kids Aged 0 - 2	20.235	5.699	0.0004
Dummy=1 if kids Aged 3 - 6	-2.567	5.724	0.6537
Dummy=1 if kids Aged 6 - 15	5.851	5.258	0.2658
Dummy=1 if limited by a disability	14.284	2.320	0.0001
Dummy=1 if disability but not known if limited	16.457	10.839	0.1289
Dummy=1 if disability but not limited	6.180	2.880	0.0319
Dummy=1 if foreign	0.378	1.879	0.8406
Dummy=1 if Non-English	2.563	1.494	0.0862
Scale	26.916	0.819	

Table A.14
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Single Males
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-8.958	47.320	0.8499
Dummy=1 if managerial or administrative	-10.998	10.772	0.3072
Dummy=1 if professional	-44.146	15.103	0.0035
Dummy=1 if clerical	-7.166	15.056	0.6341
Dummy=1 if sales & services	3.228	5.880	0.5830
Dummy=1 if farm	3.535	7.372	0.6316
Dummy=1 if no education or elementary	3.162	10.176	0.7560
Dummy=1 if some high school	16.116	10.382	0.1206
Dummy=1 if some post secondary education	31.358	14.805	0.0342
Dummy=1 if certificate or diploma	25.127	12.962	0.0526
Dummy=1 if university	23.459	13.961	0.0929
Dummy=1 if trade	30.665	12.020	0.0107
Weeks unemployed in 1988	-0.161	0.173	0.3514
Dummy = 1 if Weeks not in the labour force >0 1988	-2.641	5.580	0.6360
Provincial Unemployment Rate 1988	-0.096	2.068	0.9630
Weeks needed to qualify for unemployment 1988	-1.989	2.782	0.4746
Total Number of kids in 1988	-2.956	5.621	0.5990
Dummy=1 if limited by a disability	10.500	6.469	0.1046
Dummy=1 if disability but not known if limited	10.682	14.467	0.4603
Dummy=1 if disability but not limited	26.949	7.162	0.0002
Dummy=1 if foreign	-13.785	6.782	0.0421
Dummy=1 if Non-English	8.449	4.989	0.0904
Scale	26.494	2.603	

Table A.15
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Married Males
Aged 16 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-63.389	6.792	0.0001
Dummy=1 if managerial or administrative	-4.804	1.158	0.0001
Dummy=1 if professional	-4.112	1.237	0.0009
Dummy=1 if clerical	-2.351	1.640	0.1517
Dummy=1 if sales & services	-0.090	0.979	0.9266
Dummy=1 if farm	-7.349	1.772	0.0001
Dummy=1 if no education or elementary	3.164	1.299	0.0149
Dummy=1 if Aged 16	-0.089	17.839	0.9960
Dummy=1 if Aged 17 to 19	10.876	4.497	0.0156
Dummy=1 if Aged 25 to 34	4.360	0.893	0.0001
Dummy=1 if Aged 45 to 54	0.896	0.981	0.3614
Dummy=1 if Aged 20 to 24	7.574	1.432	0.0001
Dummy=1 if some high school	0.248	1.064	0.8153
Dummy=1 if some post secondary education	1.303	1.227	0.2881
Dummy=1 if certificate or diploma	-3.089	1.159	0.0077
Dummy=1 if university	1.278	1.210	0.2908
Dummy=1 if trade	-0.230	1.424	0.8720
Weeks unemployed in 1988	0.355	0.040	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	16.310	0.872	0.0001
Provincial Unemployment Rate 1988	1.382	0.268	0.0001
Weeks needed to qualify for unemployment 1988	1.817	0.399	0.0001
Total Number of kids in 1988	-0.995	0.674	0.1397
Dummy=1 if kids Aged 0 - 2	1.606	1.149	0.1622
Dummy=1 if kids Aged 3 - 6	-2.253	1.132	0.0466
Dummy=1 if kids Aged 6 - 15	0.589	1.266	0.6418
Dummy=1 if limited by a disability	15.087	1.355	0.0001
Dummy=1 if disability but not known if limited	-27.565	14.567	0.0584
Dummy=1 if disability but not limited	0.788	1.536	0.6078
Dummy=1 if foreign	2.751	0.967	0.0044
Dummy=1 if Non-English	0.745	0.793	0.3472
Scale	25.933	0.458	

Table A.16
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Married Males
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-87.444	22.116	0.0001
Dummy=1 if managerial or administrative	3.901	3.333	0.2419
Dummy=1 if professional	-10.184	4.600	0.0268
Dummy=1 if clerical	10.875	4.377	0.0130
Dummy=1 if sales & services	-1.254	2.936	0.6694
Dummy=1 if farm	-10.323	4.312	0.0167
Dummy=1 if no education or elementary	6.270	3.509	0.0740
Dummy=1 if some high school	9.170	3.675	0.0126
Dummy=1 if some post secondary education	3.470	5.006	0.4882
Dummy=1 if certificate or diploma	9.224	4.529	0.0417
Dummy=1 if university	4.490	4.351	0.3020
Dummy=1 if trade	5.151	5.033	0.3061
Weeks unemployed in 1988	0.535	0.115	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	16.744	2.822	0.0001
Provincial Unemployment Rate 1988	1.690	0.901	0.0607
Weeks needed to qualify for unemployment 1988	2.886	1.275	0.0236
Total Number of kids in 1988	-3.921	2.642	0.1377
Dummy=1 if limited by a disability	18.434	3.330	0.0001
Dummy=1 if disability but not known if limited	8.620	9.110	0.3441
Dummy=1 if disability but not limited	5.639	3.188	0.0770
Dummy=1 if foreign	-0.633	2.477	0.7983
Dummy=1 if Non-English	4.802	2.356	0.0416
Scale	33.779	1.343	

Table A.17
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Single Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-25.943	9.323	0.0054
Dummy=1 if managerial or administrative	-9.911	3.015	0.0010
Dummy=1 if professional	-8.079	1.911	0.0001
Dummy=1 if clerical	-11.841	1.655	0.0001
Dummy=1 if sales & services	-9.927	1.565	0.0001
Dummy=1 if farm	-1.616	3.577	0.6514
Dummy=1 if no education or elementary	-1.648	4.745	0.7284
Dummy=1 if Aged 16	9.818	1.674	0.0001
Dummy=1 if Aged 17 to 19	4.710	1.065	0.0001
Dummy=1 if some high school	-4.448	1.483	0.0027
Dummy=1 if some post secondary education	4.681	1.196	0.0001
Dummy=1 if certificate or diploma	-0.551	1.586	0.7281
Dummy=1 if university	-3.799	2.140	0.0759
Dummy=1 if trade	4.321	2.873	0.1326
Weeks unemployed in 1988	0.166	0.054	0.0023
Dummy = 1 if Weeks not in the labour force >0 1988	21.882	0.980	0.0001
Provincial Unemployment Rate 1988	0.824	0.326	0.0114
Weeks needed to qualify for unemployment 1988	1.187	0.534	0.0263
Total Number of kids in 1988	1.113	0.666	0.0945
Dummy=1 if kids Aged 0 - 2	2.429	2.992	0.4169
Dummy=1 if kids Aged 3 - 6	-0.634	2.950	0.8299
Dummy=1 if limited by a disability	-0.336	2.382	0.8877
Dummy=1 if disability but not known if limited	17.752	7.882	0.0243
Dummy=1 if disability but not limited	-8.705	3.082	0.0047
Dummy=1 if foreign	-1.208	1.733	0.4859
Dummy=1 if minority	-2.014	2.088	0.3348
Dummy=1 if Non-English	-2.525	1.056	0.0168
Scale	22.355	0.417	

Table A.18
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Single Females
Aged 25 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-82.812	16.370	0.0001
Dummy=1 if managerial or administrative	-14.964	3.167	0.0001
Dummy=1 if professional	-5.224	2.621	0.0463
Dummy=1 if clerical	-0.366	2.376	0.8776
Dummy=1 if sales & services	0.060	2.297	0.9793
Dummy=1 if farm	1.416	9.654	0.8834
Dummy=1 if no education or elementary	8.060	3.342	0.0159
Dummy=1 if Aged 25 to 34	1.867	1.589	0.2400
Dummy=1 if Aged 45 to 54	2.441	2.078	0.2402
Dummy=1 if some high school	1.826	2.371	0.4413
Dummy=1 if some post secondary education	0.287	2.441	0.9063
Dummy=1 if certificate or diploma	5.600	2.092	0.0074
Dummy=1 if university	4.476	2.321	0.0538
Dummy=1 if trade	1.304	3.492	0.7089
Weeks unemployed in 1988	0.456	0.063	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	24.216	1.548	0.0001
Provincial Unemployment Rate 1988	1.325	0.621	0.0330
Weeks needed to qualify for unemployment 1988	3.195	0.919	0.0005
Total Number of kids in 1988	3.905	0.921	0.0001
Dummy=1 if kids Aged 0 - 2	-1.140	3.716	0.7590
Dummy=1 if kids Aged 3 - 6	-1.262	2.840	0.6568
Dummy=1 if limited by a disability	11.100	2.366	0.0001
Dummy=1 if disability but not known if limited	21.641	14.148	0.1261
Dummy=1 if disability but not limited	1.720	2.997	0.5661
Dummy=1 if foreign	2.434	2.120	0.2509
Dummy=1 if minority	-4.153	2.986	0.1642
Dummy=1 if Non-English	-2.575	1.599	0.1073
Scale	27.147	0.821	

Table A.19
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Single Females
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-64.323	45.342	0.1560
Dummy=1 if managerial or administrative	-3.881	8.013	0.6281
Dummy=1 if professional	-14.090	7.363	0.0557
Dummy=1 if clerical	-14.366	6.763	0.0337
Dummy=1 if sales & services	2.062	6.234	0.7409
Dummy=1 if farm	-23.589	19.173	0.2186
Dummy=1 if no education or elementary	16.648	6.994	0.0173
Dummy=1 if some high school	6.948	6.266	0.2675
Dummy=1 if some post secondary education	8.690	8.550	0.3095
Dummy=1 if certificate or diploma	20.516	6.897	0.0029
Dummy=1 if university	6.807	7.258	0.3483
Dummy=1 if trade	5.150	10.333	0.6182
Weeks unemployed in 1988	-0.078	0.245	0.7496
Dummy = 1 if Weeks not in the labour force >0 1988	27.344	4.446	0.0001
Provincial Unemployment Rate 1988	1.354	1.772	0.4448
Weeks needed to qualify for unemployment 1988	2.202	2.486	0.3758
Total Number of kids in 1988	5.860	4.672	0.2098
Dummy=1 if limited by a disability	14.011	5.658	0.0133
Dummy=1 if disability but not known if limited	24.741	13.145	0.0598
Dummy=1 if disability but not limited	-5.088	6.072	0.4020
Dummy=1 if foreign	-0.824	5.009	0.8694
Dummy=1 if minority	-5.817	8.802	0.5087
Dummy=1 if Non-English	-1.066	4.141	0.7968
Scale	27.460	1.981	

Table A.20
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Married Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-19.982	15.927	0.2096
Dummy=1 if managerial or administrative	-4.118	4.223	0.3295
Dummy=1 if professional	-2.668	3.052	0.3820
Dummy=1 if clerical	-1.203	2.481	0.6277
Dummy=1 if sales & services	2.552	2.381	0.2838
Dummy=1 if farm	-3.479	7.731	0.6527
Dummy=1 if no education or elementary	-0.150	5.848	0.9795
Dummy=1 if Aged 16	8.785	9.388	0.3494
Dummy=1 if Aged 17 to 19	5.446	2.523	0.0309
Dummy=1 if some high school	4.686	2.381	0.0491
Dummy=1 if some post secondary education	1.926	2.409	0.4241
Dummy=1 if certificate or diploma	-0.746	2.255	0.7409
Dummy=1 if university	2.148	3.206	0.5029
Dummy=1 if trade	1.649	3.502	0.6376
Weeks unemployed in 1988	0.029	0.084	0.7286
Dummy = 1 if Weeks not in the labour force >0 1988	14.147	1.685	0.0001
Provincial Unemployment Rate 1988	0.845	0.585	0.1482
Weeks needed to qualify for unemployment 1988	0.218	0.924	0.8137
Total Number of kids in 1988	-4.005	1.820	0.0278
Dummy=1 if kids Aged 0 - 2	6.366	2.698	0.0183
Dummy=1 if kids Aged 3 - 6	6.384	3.606	0.0766
Dummy=1 if limited by a disability	0.802	5.182	0.8769
Dummy=1 if disability but not known if limited	-11.516	20.980	0.5831
Dummy=1 if disability but not limited	-2.623	5.183	0.6128
Dummy=1 if foreign	-2.345	2.822	0.4060
Dummy=1 if minority	1.355	5.523	0.8061
Dummy=1 if Non-English	-4.133	1.770	0.0176
Scale	24.107	0.788	

Table A.21
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Married Females
Aged 25 to 54 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-33.255	7.482	0.0001
Dummy=1 if managerial or administrative	-12.251	1.535	0.0001
Dummy=1 if professional	-7.438	1.348	0.0001
Dummy=1 if clerical	-9.559	1.198	0.0001
Dummy=1 if sales & services	-6.917	1.161	0.0001
Dummy=1 if farm	-10.943	2.361	0.0001
Dummy=1 if Aged 25 to 34	2.947	0.861	0.0006
Dummy=1 if Aged 45 to 54	-1.736	1.048	0.0978
Dummy=1 if no education or elementary	5.000	1.495	0.0008
Dummy=1 if some high school	1.587	1.131	0.1606
Dummy=1 if some post secondary education	-3.078	1.131	0.0200
Dummy=1 if certificate or diploma	-1.075	1.062	0.3112
Dummy=1 if university	-1.351	1.218	0.2672
Dummy=1 if trade	-6.220	1.937	0.0013
Weeks unemployed in 1988	0.326	0.039	0.0001
Dummy = 1 if Weeks not in the labour force >0 1988	20.243	0.766	0.0001
Provincial Unemployment Rate 1988	0.737	0.274	0.0071
Weeks needed to qualify for unemployment 1988	0.879	0.430	0.0410
Total Number of kids in 1988	-0.870	0.416	0.0363
Dummy=1 if kids Aged 0 - 2	4.060	1.040	0.0001
Dummy=1 if kids Aged 3 - 6	1.851	1.062	0.0814
Dummy=1 if limited by a disability	9.408	1.633	0.0001
Dummy=1 if disability but not known if limited	17.411	7.923	0.0280
Dummy=1 if disability but not limited	-0.454	1.882	0.8094
Dummy=1 if foreign	0.613	1.050	0.5595
Dummy=1 if minority	-1.400	1.769	0.4287
Dummy=1 if Non-English	-0.506	0.834	0.5544
Scale	27.886	0.415	

Table A.22
Tobit Model Of Out of the Labour Force Weeks
Dependent Variable = not in the Labour Force Weeks in 1989
Married Females
Aged 55 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-10.452	29.108	0.7195
Dummy=1 if managerial or administrative	-12.658	5.087	0.0128
Dummy=1 if professional	-13.929	5.133	0.0067
Dummy=1 if clerical	-16.826	4.279	0.0001
Dummy=1 if sales & services	-11.469	3.959	0.0038
Dummy=1 if farm	-17.397	5.937	0.0034
Dummy=1 if no education or elementary	1.123	3.801	0.7677
Dummy=1 if some high school	3.456	3.545	0.3295
Dummy=1 if some post secondary education	2.126	5.371	0.6922
Dummy=1 if certificate or diploma	0.913	4.236	0.8294
Dummy=1 if university	4.946	4.792	0.3020
Dummy=1 if trade	0.542	5.670	0.9239
Weeks unemployed in 1988	0.022	0.175	0.8980
Dummy = 1 if Weeks not in the labour force >0 1988	22.925	2.828	0.0001
Provincial Unemployment Rate 1988	-0.130	1.128	0.9080
Weeks needed to qualify for unemployment 1988	0.171	1.630	0.9165
Total Number of kids in 1988	-1.948	4.391	0.6573
Dummy=1 if limited by a disability	15.344	3.705	0.0001
Dummy=1 if disability but not known if limited	-14.850	19.144	0.4379
Dummy=1 if disability but not limited	4.636	4.256	0.2760
Dummy=1 if foreign	-3.724	3.147	0.2367
Dummy=1 if minority	-3.435	6.623	0.6041
Dummy=1 if Non-English	4.227	2.814	0.1331
Scale	27.793	1.322	

Table A.23
Logit Model Of The Probability of Having At Least One Week Of Unemployment
Dependent Variable = 1 if at Least One Week of Unemployment in 1989
Single Males & Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-1.602	0.126	0.0001
Dummy=1 if managerial or administrative	-1.367	0.219	0.0001
Dummy=1 if professional	-0.649	0.108	0.0001
Dummy=1 if clerical	-0.716	0.100	0.0001
Dummy=1 if sales & services	-0.289	0.079	0.0003
Dummy=1 if farm	-0.690	0.162	0.0001
Dummy=1 if Aged 16	0.153	0.112	0.1735
Dummy=1 if Aged 17 to 19	0.120	0.068	0.0795
Provincial Unemployment Rate 1988	0.090	0.013	0.0001
Weeks unemployed in 1988	0.059	0.004	0.0001
Maximum duration of benefits	-0.006	0.004	0.1222
Benefit replacement ratio1	0.374	0.284	0.1871
Total number of kids	-0.009	0.045	0.8481
Dummy=1 if kids 0 - 2	-0.173	0.244	0.4786
Dummy=1 if minority	-0.383	0.145	0.0085
Dummy=1 if Female	-0.198	0.069	0.0044

Table A.24
Logit Model Of The Probability of Having At Least One Week of Unemployment
Dependent Variable =1 if at Least One Week of Unemployment in 1989
Single Males & Females
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-1.963	0.207	0.0001
Dummy=1 if managerial or administrative	-0.745	0.142	0.0001
Dummy=1 if professional	-1.103	0.141	0.0001
Dummy=1 if clerical	-0.813	0.126	0.0001
Dummy=1 if sales & services	-0.527	0.111	0.0001
Dummy=1 if farm	-0.267	0.295	0.3651
Dummy=1 if Aged 25 to 34	0.358	0.096	0.0002
Dummy=1 if Aged 45 to 54	-0.032	0.141	0.8237
Dummy=1 if Aged 55 to 64	0.267	0.157	0.0885
Dummy=1 if no education or elementary	-0.057	0.154	0.7098
Dummy=1 if some high school	-0.016	0.125	0.9005
Dummy=1 if some post secondary education	0.031	0.136	0.8214
Dummy=1 if certificate or diploma	0.105	0.119	0.3745
Dummy=1 if university	0.056	0.132	0.6721
Dummy=1 if trade	-0.233	0.186	0.2118
Provincial Unemployment Rate 1988	0.145	0.018	0.0001
Weeks unemployed in 1988	0.080	0.005	0.0001
Maximum duration of benefits	-0.044	0.006	0.0001
Benefit replacement ratio ¹	1.831	0.412	0.0001
Total number of kids	0.211	0.056	0.0002
Dummy=1 if kids 0 - 2	0.173	0.230	0.4512
Dummy=1 if minority	-0.120	0.156	0.4415
Dummy=1 if Female	0.078	0.089	0.3781

Table A.25
Logit Model Of The Probability of Having At Least One Week of Unemployment
Dependent Variable = 1 if at Least One Week of Unemployment in 1989
Married Males & Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-0.754	0.281	0.0072
Dummy=1 if managerial or administrative	-0.724	0.320	0.0238
Dummy=1 if professional	-0.769	0.197	0.0001
Dummy=1 if clerical	-0.542	0.169	0.0013
Dummy=1 if sales & services	-0.494	0.160	0.0020
Dummy=1 if farm	0.626	0.353	0.0760
Dummy=1 if Aged 16	0.288	0.778	0.7117
Dummy=1 if Aged 17 to 19	0.564	0.184	0.0022
Provincial Unemployment Rate 1988	0.057	0.026	0.0297
Weeks unemployed in 1988	0.065	0.007	0.0001
Maximum duration of benefits	-0.027	0.009	0.0035
Benefit replacement ratio1	0.329	0.680	0.6286
Total number of kids	-0.055	0.098	0.5724
Dummy=1 if kids 0 - 2	0.165	0.171	0.3350
Dummy=1 if minority	0.829	0.318	0.0091
Dummy=1 if Female	0.219	0.137	0.1102

Table A.26
Logit Model Of The Probability of Having At Least One Week Of Unemployment
Dependent Variable =1 if at Least One Week of Unemployment in 1989
Married Males & Females
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-2.259	0.124	0.0001
Dummy=1 if managerial or administrative	-0.589	0.082	0.0001
Dummy=1 if professional	-0.830	0.085	0.0001
Dummy=1 if clerical	-0.659	0.075	0.0001
Dummy=1 if sales & services	-0.674	0.069	0.0001
Dummy=1 if farm	-0.586	0.154	0.0001
Dummy=1 if Aged 25 to 34	0.271	0.056	0.0001
Dummy=1 if Aged 45 to 54	-0.241	0.071	0.0007
Dummy=1 if Aged 55 to 64	-0.123	0.090	0.1709
Dummy=1 if no education or elementary	0.295	0.085	0.0006
Dummy=1 if some high school	0.383	0.069	0.0001
Dummy=1 if some post secondary education	0.080	0.086	0.3514
Dummy=1 if certificate or diploma	0.148	0.073	0.0418
Dummy=1 if university	-0.045	0.088	0.6111
Dummy=1 if trade	0.346	0.095	0.0003
Provincial Unemployment Rate 1988	0.096	0.009	0.0001
Weeks unemployed in 1988	0.085	0.003	0.0001
Maximum duration of benefits	-0.032	0.003	0.0001
Benefit replacement ratio ¹	1.622	0.235	0.0001
Total number of kids	-0.048	0.025	0.0534
Dummy=1 if kids 0 - 2	0.036	0.067	0.5926
Dummy=1 if minority	-0.410	0.123	0.0008
Dummy=1 if Female	0.245	0.054	0.0001

Table A.27
Tobit Model of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Single Males
16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	3.636	0.175	0.0001
Dummy=1 if managerial or administrative	-0.976	0.531	0.0662
Dummy=1 if professional	-1.022	0.189	0.0001
Dummy=1 if clerical	-0.660	0.189	0.0005
Dummy=1 if sales & services	-0.709	0.141	0.0001
Dummy=1 if farm	0.063	0.288	0.8269
Dummy=1 if Aged 16	0.129	0.228	0.5716
Dummy=1 if Aged 17 to 19	0.016	0.129	0.9041
Dummy=1 if no education or elementary	-0.008	0.333	0.9804
Dummy=1 if some high school	-0.029	0.157	0.8547
Dummy=1 if some post secondary education	0.166	0.154	0.2811
Dummy=1 if certificate or diploma	0.342	0.218	0.1165
Dummy=1 if university	0.149	0.267	0.5771
Dummy=1 if trade	-0.883	0.223	0.0001
Weeks unemployed in 1988	0.017	0.006	0.0031
Maximum duration of benefits	0.015	0.007	0.0260
Benefit replacement ratio1	-0.773	0.504	0.1250
Total number of kids	0.152	0.085	0.0719
Dummy=1 if kids 0 - 2	-1.221	0.472	0.0096
Dummy=1 if minority	-0.403	0.298	0.1757
Scale	1.095	0.043	

Table A.28
Tobit Model Of Out of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Single Males
25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	4.490	0.390	0.0001
Dummy=1 if managerial or administrative	-0.444	0.320	0.1655
Dummy=1 if professional	-0.261	0.315	0.4071
Dummy=1 if clerical	-0.402	0.309	0.1925
Dummy=1 if sales & services	-0.232	0.200	0.2443
Dummy=1 if farm	0.102	0.464	0.8251
Dummy=1 if Aged 25 to 34	-0.822	0.231	0.0004
Dummy=1 if Aged 45 to 54	-0.473	0.384	0.2178
Dummy=1 if Aged 55 to 64	-0.107	0.375	0.7759
Dummy=1 if no education or elementary	-0.335	0.286	0.2412
Dummy=1 if some high school	0.291	0.260	0.2640
Dummy=1 if some post secondary education	0.112	0.286	0.6959
Dummy=1 if certificate or diploma	-0.209	0.270	0.4384
Dummy=1 if university	-0.650	0.281	0.0206
Dummy=1 if trade	-0.215	0.318	0.4989
Weeks unemployed in 1988	0.030	0.007	0.0001
Maximum duration of benefits	0.025	0.009	0.0041
Benefit replacement ratio1	-1.704	0.673	0.0114
Total number of kids	-0.201	0.111	0.0691
Dummy=1 if kids 0 - 2	-0.807	0.380	0.0339
Dummy=1 if minority	0.441	0.338	0.1927
Scale	1.127	0.064	

Table A.29
Tobit Model Of Out of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Married Males
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	3.804	0.882	0.0001
Dummy=1 if managerial or administrative	-0.089	1.081	0.9342
Dummy=1 if professional	0.122	0.710	0.8640
Dummy=1 if clerical	0.167	0.609	0.7842
Dummy=1 if sales & services	-0.163	0.374	0.6631
Dummy=1 if farm	1.157	0.567	0.0412
Dummy=1 if Aged 16	-1.969	1.401	0.1598
Dummy=1 if Aged 17 to 19	-0.134	0.441	0.7607
Dummy=1 if no education or elementary	23.415	75,880.420	0.9998
Dummy=1 if some high school	0.668	0.352	0.0573
Dummy=1 if some post secondary education	1.278	0.534	0.0167
Dummy=1 if certificate or diploma	-0.552	0.400	0.1675
Dummy=1 if university	0.423	0.625	0.4989
Dummy=1 if trade	0.295	0.465	0.5257
Weeks unemployed in 1988	0.024	0.015	0.1055
Maximum duration of benefits	0.014	0.015	0.0331
Benefit replacement ratio1	-2.857	1.629	0.0795
Total number of kids	0.697	0.283	0.0137
Dummy=1 if kids 0 - 2	-0.898	0.363	0.0134
Dummy=1 if minority	1.168	0.550	0.0337
Scale	1.022	0.092	

Table A.30
Tobit Model Of Out of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Married Males
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	4.684	0.274	0.0001
Dummy=1 if managerial or administrative	-0.040	0.187	0.8317
Dummy=1 if professional	-0.183	0.201	0.3632
Dummy=1 if clerical	-0.818	0.205	0.0001
Dummy=1 if sales & services	-0.449	0.137	0.0010
Dummy=1 if farm	0.491	0.392	0.2099
Dummy=1 if Aged 25 to 34	-0.442	0.122	0.0003
Dummy=1 if Aged 45 to 54	-0.114	0.165	0.4883
Dummy=1 if Aged 55 to 64	0.066	0.201	0.7410
Dummy=1 if no education or elementary	0.419	0.183	0.0222
Dummy=1 if some high school	0.035	0.144	0.8086
Dummy=1 if some post secondary education	-0.266	0.166	0.1096
Dummy=1 if certificate or diploma	0.096	0.177	0.5889
Dummy=1 if university	0.052	0.194	0.7900
Dummy=1 if trade	-0.375	0.168	0.0261
Weeks unemployed in 1988	0.005	0.004	0.2028
Maximum duration of benefits	0.008	0.006	0.1758
Benefit replacement ratio1	-1.499	0.450	0.0009
Total number of kids	-0.094	0.049	0.0533
Dummy=1 if kids 0 - 2	0.145	0.131	0.2691
Dummy=1 if minority	0.448	0.313	0.1527
Scale	1.049	0.038	

Table A.31
Tobit Model Of Out of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Single Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	4.352	0.352	0.0001
Dummy=1 if managerial or administrative	-1.118	0.462	0.0156
Dummy=1 if professional	-1.591	0.307	0.0001
Dummy=1 if clerical	-0.773	0.288	0.0072
Dummy=1 if sales & services	-1.011	0.259	0.0001
Dummy=1 if farm	0.308	0.998	0.7559
Dummy=1 if Aged 16	-1.039	0.265	0.0001
Dummy=1 if Aged 17 to 19	0.011	0.183	0.9512
Dummy=1 if no education or elementary	1.206	0.806	0.1346
Dummy=1 if some high school	0.225	0.231	0.3303
Dummy=1 if some post secondary education	-0.419	0.193	0.0302
Dummy=1 if certificate or diploma	-0.728	0.254	0.0041
Dummy=1 if university	0.443	0.347	0.2022
Dummy=1 if trade	-0.559	0.314	0.0747
Weeks unemployed in 1988	0.019	0.008	0.0180
Maximum duration of benefits	0.003	0.009	0.7664
Benefit replacement ratio1	-0.072	0.630	0.9087
Total number of kids	-0.122	0.101	0.2276
Dummy=1 if kids 0 - 2	0.408	0.429	0.3416
Scale	1.035	0.053	

Table A.32
Tobit Model Of Out of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Single Females
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	5.655	0.398	0.0001
Dummy=1 if managerial or administrative	-1.682	0.352	0.0001
Dummy=1 if professional	-1.026	0.343	0.0028
Dummy=1 if clerical	-1.672	0.304	0.0001
Dummy=1 if sales & services	-2.264	0.302	0.0001
Dummy=1 if farm	-2.042	0.698	0.0035
Dummy=1 if Aged 25 to 34	-0.085	0.172	0.6201
Dummy=1 if Aged 45 to 54	-0.101	0.220	0.6467
Dummy=1 if Aged 55 to 64	0.047	0.279	0.8667
Dummy=1 if no education or elementary	-0.029	0.298	0.9220
Dummy=1 if some high school	-0.266	0.224	0.2344
Dummy=1 if some post secondary education	-0.469	0.246	0.0564
Dummy=1 if certificate or diploma	-0.176	0.215	0.4125
Dummy=1 if university	-0.686	0.229	0.0027
Dummy=1 if trade	-0.097	0.329	0.7681
Weeks unemployed in 1988	0.008	0.006	0.1594
Benefit replacement ratio1	-0.486	0.311	0.1183
Total number of kids	-0.063	0.085	0.4576
Dummy=1 if kids 0 - 2	0.481	0.502	0.3380
Scale	0.871	0.052	

Table A.33
Tobit Model Of Out of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Married Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	3.575	0.301	0.0001
Dummy=1 if managerial or administrative	0.148	0.669	0.8250
Dummy=1 if professional	-1.818	0.325	0.0001
Dummy=1 if clerical	-1.062	0.248	0.0001
Dummy=1 if sales & services	-1.043	0.236	0.0001
Dummy=1 if farm	1.508	0.168	0.3683
Dummy=1 if Aged 16	-0.337	0.918	0.0713
Dummy=1 if Aged 17 to 19	-0.128	0.205	0.5315
Dummy=1 if no education or elementary	0.120	0.427	0.7784
Dummy=1 if some high school	0.292	0.219	0.1836
Dummy=1 if some post secondary education	0.469	0.261	0.0724
Dummy=1 if certificate or diploma	0.203	0.226	0.3698
Dummy=1 if university	0.814	0.344	0.0180
Dummy=1 if trade	0.543	0.503	0.2806
Weeks unemployed in 1988	0.018	0.008	0.0195
Maximum duration of benefits	0.041	0.011	0.0001
Benefit replacement ratio1	-2.436	0.781	0.0018
Total number of kids	0.339	0.158	0.0323
Dummy=1 if kids 0 - 2	-0.437	0.245	0.0747
Scale	0.863	0.057	

Table A.34
Tobit Model Of Out of the Duration Of Unemployment
Dependent Variable = Unemployment Weeks in 1989 Where Weekly Wage in 1988 > 0
Married Females
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	4.080	0.242	0.0001
Dummy=1 if managerial or administrative	-1.193	0.211	0.0001
Dummy=1 if professional	-1.120	0.199	0.0001
Dummy=1 if clerical	-1.037	0.170	0.0001
Dummy=1 if sales & services	-0.948	0.169	0.0001
Dummy=1 if farm	0.527	0.530	0.3197
Dummy=1 if Aged 25 to 34	0.274	0.120	0.0229
Dummy=1 if Aged 45 to 54	0.288	0.154	0.0610
Dummy=1 if Aged 55 to 64	1.082	0.292	0.0002
Dummy=1 if no education or elementary	0.287	0.230	0.2114
Dummy=1 if some high school	0.161	0.147	0.2750
Dummy=1 if some post secondary education	0.190	0.177	0.2828
Dummy=1 if certificate or diploma	0.135	0.141	0.3387
Dummy=1 if university	0.339	0.196	0.0836
Dummy=1 if trade	0.406	0.270	0.1328
Weeks unemployed in 1988	0.013	0.004	0.0034
Maximum duration of benefits	0.036	0.006	0.0001
Benefit replacement ratio1	-2.473	0.479	0.0001
Total number of kids	0.109	0.056	0.0533
Dummy=1 if kids 0 - 2	-0.039	0.155	0.8005
Scale	1.054	0.041	

Table A.35
Logit Model Of The Probability of Being Constrained
Dependent Variable = 1 if Underemployed in 1989
Single Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	0.325	0.361	0.3687
Dummy=1 if managerial or administrative	-0.589	0.436	0.1765
Dummy=1 if professional	-0.337	0.280	0.2289
Dummy=1 if sales & services	-0.496	0.164	0.0025
Dummy=1 if clerical	0.101	0.229	0.6595
Dummy=1 if farm	-0.330	0.298	0.2690
Dummy=1 if Aged 16	-1.115	0.340	0.0010
Dummy=1 if Aged 17 to 19	-1.552	0.274	0.0001
Dummy=1 if Aged 20 to 24	-0.930	0.245	0.0001
Dummy=1 if Aged 25 to 34	-0.695	0.245	0.0045
Dummy=1 if Aged 45 to 54	-0.475	0.369	0.1978
Dummy=1 if Aged 55 to 64	-0.738	0.377	0.0500
Dummy=1 if no education or elementary	0.084	0.246	0.7326
Dummy=1 if some high school	0.197	0.176	0.2640
Dummy=1 if some post secondary education	-0.084	0.190	0.6574
Dummy=1 if certificate or diploma	0.053	0.234	0.8212
Dummy=1 if university	-0.120	0.293	0.6820
Dummy=1 if trade	-0.480	0.324	0.1391
Weeks unemployed in 1988	-0.010	0.005	0.0340
Weeks unemployed in 1989	0.045	0.004	0.0001
Benefit replacement ratio1	-2.206	0.253	0.0001
Dummy=1 if received U.S..	0.913	0.149	0.0001
Wage	-0.003	0.000	0.0001
Provincial Unemployment Rate 1988	0.018	0.024	0.4628
Total number of kids	0.029	0.100	0.7728
Total number of kids1	-2.123	0.905	0.0190
Total number of kids2	0.690	0.435	0.1129
Dummy=1 if limited by a disability	-0.093	0.250	0.7100
Dummy=1 if foreign	-0.366	0.243	0.1324
Dummy=1 if minority	0.489	0.291	0.0931
Dummy=1 if Non-English	0.072	0.126	0.5651

Table A.36
Logit Model Of The Probability of Being Constrained
Dependent Variable = 1 if Underemployed in 1989
Married Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-0.890	0.313	0.0045
Dummy=1 if managerial or administrative	-0.410	0.246	0.0950
Dummy=1 if professional	-0.672	0.276	0.0147
Dummy=1 if sales & services	-0.625	0.187	0.0008
Dummy=1 if clerical	-0.040	0.278	0.8846
Dummy=1 if farm	-0.244	0.285	0.3919
Dummy=1 if Aged 16 to 19	-0.620	0.687	0.3667
Dummy=1 if Aged 20 to 24	-0.035	0.235	0.8827
Dummy=1 if Aged 25 to 34	0.387	0.159	0.0149
Dummy=1 if Aged 45 to 54	0.110	0.187	0.5586
Dummy=1 if Aged 55 to 64	0.208	0.218	0.3413
Dummy=1 if no education or elementary	0.329	0.198	0.0956
Dummy=1 if some high school	0.033	0.177	0.8528
Dummy=1 if some post secondary education	0.134	0.219	0.5404
Dummy=1 if certificate or diploma	-0.117	0.219	0.5931
Dummy=1 if university	0.599	0.248	0.0156
Dummy=1 if trade	0.179	0.227	0.4312
Weeks unemployed in 1988	-0.005	0.004	0.2106
Weeks unemployed in 1989	0.040	0.004	0.0001
Benefit replacement ratio1	-1.919	0.277	0.0001
Dummy=1 if received U.S..	0.852	0.139	0.0001
Wage	-0.001	0.000	0.0001
Provincial Unemployment Rate 1988	0.003	0.022	0.8998
Total number of kids	-0.121	0.071	0.0906
Total number of kids1	-0.135	0.169	0.4268
Total number of kids2	0.081	0.178	0.6475
Dummy=1 if limited by a disability	0.366	0.222	0.0996
Dummy=1 if foreign	0.087	0.174	0.6181
Dummy=1 if minority	0.232	0.301	0.4405
Dummy=1 if Non-English	0.007	0.116	0.9498

Table A.37
Logit Model Of The Probability of Being Constrained
Dependent Variable = 1 if Underemployed in 1989
Single Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	1.799	0.427	0.0001
Dummy=1 if managerial or administrative	-0.798	0.400	0.0463
Dummy=1 if professional	-1.429	0.272	0.0001
Dummy=1 if sales & services	-2.003	0.199	0.0001
Dummy=1 if clerical	-1.816	0.230	0.0001
Dummy=1 if farm	-2.253	0.886	0.0110
Dummy=1 if Aged 16	-1.207	0.354	0.0006
Dummy=1 if Aged 17 to 19	-1.057	0.279	0.0002
Dummy=1 if Aged 20 to 24	-0.942	0.273	0.0006
Dummy=1 if Aged 25 to 34	-0.697	0.266	0.0088
Dummy=1 if Aged 45 to 54	-0.805	0.357	0.0242
Dummy=1 if Aged 55 to 64	-0.133	0.408	0.7439
Dummy=1 if no education or elementary	1.181	0.414	0.0043
Dummy=1 if some high school	0.167	0.238	0.4830
Dummy=1 if some post secondary education	0.446	0.230	0.0521
Dummy=1 if certificate or diploma	0.439	0.256	0.0867
Dummy=1 if university	0.033	0.335	0.9221
Dummy=1 if trade	0.906	0.374	0.0154
Weeks unemployed in 1988	0.003	0.006	0.5704
Weeks unemployed in 1989	0.030	0.006	0.0001
Benefit replacement ratio1	-1.530	0.312	0.0001
Dummy=1 if received U.S..	0.911	0.198	0.0001
Wage	-0.005	0.000	0.0001
Provincial Unemployment Rate 1988	-0.062	0.028	0.0273
Total number of kids	0.124	0.102	0.2241
Total number of kids1	0.515	0.385	0.1813
Total number of kids2	0.108	0.322	0.7367
Dummy=1 if limited by a disability	1.172	0.280	0.0001
Dummy=1 if foreign	-0.913	0.284	0.0013
Dummy=1 if minority	0.380	0.340	0.2637
Dummy=1 if Non-English	0.425	0.154	0.0058

Table A.38
Logit Model Of The Probability of Being Constrained
Dependent Variable = 1 if Underemployed in 1989
Married Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	0.765	0.299	0.0104
Dummy=1 if managerial or administrative	-2.240	0.278	0.0001
Dummy=1 if professional	-2.006	0.225	0.0001
Dummy=1 if sales & services	-2.328	0.166	0.0001
Dummy=1 if clerical	-2.029	0.173	0.0001
Dummy=1 if farm	-2.275	0.388	0.0001
Dummy=1 if Aged 16	-0.070	1.602	0.9652
Dummy=1 if Aged 17 to 19	-0.673	0.445	0.1305
Dummy=1 if Aged 20 to 24	0.062	0.210	0.7681
Dummy=1 if Aged 25 to 34	0.044	0.162	0.7855
Dummy=1 if Aged 45 to 54	0.367	0.200	0.0670
Dummy=1 if Aged 55 to 64	0.361	0.293	0.2176
Dummy=1 if no education or elementary	-0.643	0.238	0.0069
Dummy=1 if some high school	0.047	0.172	0.0784
Dummy=1 if some post secondary education	-0.026	0.220	0.9066
Dummy=1 if certificate or diploma	0.486	0.182	0.0075
Dummy=1 if university	0.367	0.238	0.1234
Dummy=1 if trade	0.679	0.303	0.2510
Weeks unemployed in 1988	-0.012	0.004	0.0075
Weeks unemployed in 1989	0.040	0.005	0.0001
Benefit replacement ratio1	-1.638	0.244	0.0001
Dummy=1 if received U.S..	1.013	0.144	0.0001
Wage	-0.003	0.000	0.0001
Provincial Unemployment Rate 1988	-0.017	0.020	0.4092
Total number of kids	-0.092	0.757	0.2237
Total number of kids1	-0.235	0.175	0.1800
Total number of kids2	0.363	0.181	0.0448
Dummy=1 if limited by a disability	-0.116	0.281	0.6808
Dummy=1 if foreign	0.486	0.174	0.0051
Dummy=1 if minority	0.673	0.292	0.0213
Dummy=1 if Non-English	0.059	0.122	0.6288

Table A.39
Logit Model Of The Probability of Having Self Employment 1989
Dependent Variable = 1 if at Least One Week of Self Employment in 1989
Single Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.414	0.320	0.0001
Dummy=1 if no education or elementary	-0.500	0.324	0.1231
Dummy=1 if some high school	-0.609	0.235	0.0094
Dummy=1 if some post secondary education	-0.216	0.217	0.3216
Dummy=1 if certificate or diploma	-0.061	0.246	0.8056
Dummy=1 if university	0.165	0.250	0.5075
Dummy=1 if trade	0.536	0.308	0.0822
Weeks unemployed in 1988	0.037	0.006	0.0001
Self Employment in 1988	0.143	0.005	0.0001
Weeks not in the labour force 1988	0.034	0.004	0.0001
Provincial Unemployment Rate 1988	-0.038	0.027	0.1632
Dummy=1 if Aged 16	-0.510	0.344	0.1385
Dummy=1 if Aged 17 to 19	-1.104	0.282	0.0001
Dummy=1 if Aged 20 to 24	-0.764	0.246	0.0019
Dummy=1 if Aged 25 to 34	-0.142	0.226	0.5292
Dummy=1 if Aged 45 to 54	-0.031	0.327	0.9252
Dummy=1 if Aged 55 to 64	0.171	0.366	0.6400
Dummy=1 if minority	-1.121	0.408	0.0060
Dummy=1 if foreign	0.298	0.222	0.1797
Dummy=1 if Non-English	-0.767	0.158	0.0001
Dummy=1 if managerial or administrative	0.411	0.269	0.1276
Dummy=1 if professional	-0.206	0.247	0.4047
Dummy=1 if clerical	-1.260	0.438	0.0040
Dummy=1 if sales & services	0.493	0.176	0.0052
Dummy=1 if farm	1.455	0.237	0.0001

Table A.40
Logit Model Of The Probability of Having Self Employment 1989
Dependent Variable = 1 if at Least One Week of Self Employment in 1989
Married Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.883	0.205	0.0001
Dummy=1 if no education or elementary	-0.147	0.196	0.4531
Dummy=1 if some high school	0.207	0.163	0.2046
Dummy=1 if some post secondary education	0.337	0.183	0.0655
Dummy=1 if certificate or diploma	0.524	0.165	0.0014
Dummy=1 if university	0.416	0.169	0.0136
Dummy=1 if trade	0.495	0.208	0.0173
Weeks unemployed in 1988	0.044	0.004	0.0001
Self Employment in 1988	0.149	0.003	0.0001
Weeks not in the labour force 1988	0.041	0.004	0.0001
Provincial Unemployment Rate 1988	-0.036	0.019	0.0585
Dummy=1 if Aged 16 to 19	-1.110	0.975	0.2603
Dummy=1 if Aged 20 to 24	-0.294	0.223	0.1878
Dummy=1 if Aged 25 to 34	0.099	0.118	0.3994
Dummy=1 if Aged 45 to 54	-0.209	0.141	0.1386
Dummy=1 if Aged 55 to 64	-0.304	0.169	0.0727
Dummy=1 if minority	1.133	0.188	0.0001
Dummy=1 if foreign	-0.164	0.145	0.2580
Dummy=1 if Non-English	-0.341	0.104	0.0010
Dummy=1 if managerial or administrative	0.344	0.152	0.0231
Dummy=1 if professional	0.000	0.170	0.9989
Dummy=1 if clerical	-0.684	0.330	0.0384
Dummy=1 if sales & services	0.464	0.133	0.0005
Dummy=1 if farm	1.570	0.209	0.0001

Table A.41
Logit Model Of The Probability of Having Self Employment 1989
Dependent Variable = 1 if at Least One Week of Self Employment in 1989
Single Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-4.924	0.450	0.0001
Dummy=1 if no education or elementary	0.259	0.422	0.5396
Dummy=1 if some high school	0.662	0.248	0.0076
Dummy=1 if some post secondary education	0.117	0.252	0.6428
Dummy=1 if certificate or diploma	0.519	0.274	0.0586
Dummy=1 if university	0.563	0.303	0.0634
Dummy=1 if trade	0.679	0.408	0.0961
Weeks unemployed in 1988	0.031	0.008	0.0001
Self Employment in 1988	0.140	0.005	0.0001
Weeks not in the labour force 1988	0.049	0.004	0.0001
Provincial Unemployment Rate 1988	-0.064	0.030	0.0300
Dummy=1 if Aged 16	-1.181	0.346	0.0006
Dummy=1 if Aged 17 to 19	-0.400	0.277	0.1490
Dummy=1 if Aged 20 to 24	-0.436	0.278	0.1170
Dummy=1 if Aged 25 to 34	0.086	0.261	0.7411
Dummy=1 if Aged 45 to 54	0.204	0.330	0.5361
Dummy=1 if Aged 55 to 64	0.308	0.355	0.3850
Dummy=1 if minority	-1.358	0.456	0.0029
Dummy=1 if foreign	-0.709	0.305	0.0199
Dummy=1 if Non-English	0.160	0.159	0.3137
Dummy=1 if managerial or administrative	0.469	0.421	0.2645
Dummy=1 if professional	0.527	0.340	0.1206
Dummy=1 if clerical	0.049	0.329	0.8820
Dummy=1 if sales & services	1.046	0.285	0.0002
Dummy=1 if farm	1.931	0.531	0.0003

Table A.42
Logit Model Of The Probability of Having Self Employment 1989
Dependent Variable = 1 if at Least One Week of Self Employment in 1989
Married Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-4.141	0.271	0.0001
Dummy=1 if no education or elementary	0.081	0.230	0.7235
Dummy=1 if some high school	0.161	0.165	0.0329
Dummy=1 if some post secondary education	0.441	0.180	0.0142
Dummy=1 if certificate or diploma	0.199	0.165	0.2263
Dummy=1 if university	0.043	0.198	0.8269
Dummy=1 if trade	0.714	0.240	0.0030
Weeks unemployed in 1988	0.030	0.005	0.0001
Self Employment in 1988	0.151	0.004	0.0001
Weeks not in the labour force 1988	0.037	0.003	0.0001
Provincial Unemployment Rate 1988	-0.067	0.020	0.0010
Dummy=1 if Aged 16 to 19	0.314	0.371	0.3972
Dummy=1 if Aged 20 to 24	-0.041	0.194	0.8309
Dummy=1 if Aged 25 to 34	0.249	0.132	0.0588
Dummy=1 if Aged 45 to 54	0.021	0.166	0.8984
Dummy=1 if Aged 55 to 64	-0.163	0.242	0.4990
Dummy=1 if minority	-0.412	0.301	0.1704
Dummy=1 if foreign	-0.152	0.162	0.3478
Dummy=1 if Non-English	-0.330	0.118	0.0050
Dummy=1 if managerial or administrative	0.428	0.250	0.0872
Dummy=1 if professional	0.170	0.224	0.4474
Dummy=1 if clerical	-0.003	0.204	0.9873
Dummy=1 if sales & services	0.966	0.178	0.0001
Dummy=1 if farm	1.975	0.274	0.0001

Table A.43
OLS Model Of The Duration Of Self Employment Weeks in 1989
Dependent Variable = Self Employment Weeks in 1989
Single Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	38.468	2.146	0.0001
Dummy=1 if no education or elementary	-1.294	1.895	0.4947
Dummy=1 if some high school	0.299	1.389	0.8298
Dummy=1 if some post secondary education	1.742	1.490	0.2427
Dummy=1 if certificate or diploma	-1.678	1.449	0.2472
Dummy=1 if university	0.004	1.475	0.9979
Dummy=1 if trade	1.458	2.068	0.4808
Weeks unemployed in 1988	-0.065	0.070	0.3539
Dummy =1 if Weeks not in the labour force 1988	-0.225	0.051	0.0001
Dummy =1 if self Employment in 1988	0.234	0.031	0.0001
Dummy=1 if managerial or administrative	1.133	1.645	0.4912
Dummy=1 if professional	3.630	1.460	0.0131
Dummy=1 if clerical	-3.742	3.352	0.2646
Dummy=1 if farm	1.340	1.245	0.2820
Dummy=1 if sales & services	-4.237	1.161	0.0003
Dummy=1 if minority	-6.742	2.855	0.0184
Dummy=1 if Non-English	0.916	0.925	0.3223
Dummy=1 if foreign	0.959	1.271	0.4506
Dummy=1 if 16	-4.507	2.293	0.0497
Dummy=1 if 17 to 19	-8.391	1.955	0.0001
Dummy=1 if 20 to 24	-6.514	1.582	0.0001
Dummy=1 if 25 to 34	-1.918	1.232	0.1200
Dummy=1 if 45 to 54	0.325	1.574	0.8365
Dummy=1 if 55 to 64	0.101	1.786	0.9549

Table A.44
OLS Model Of The Duration Of Self Employment Weeks in 1989
Dependent Variable = Self Employment Weeks in 1989
Married Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	36.314	0.768	0.0001
Dummy=1 if no education or elementary	-0.955	0.583	0.1012
Dummy=1 if some high school	-0.278	0.525	0.5962
Dummy=1 if some post secondary education	0.001	0.629	0.9981
Dummy=1 if certificate or diploma	-3.085	0.573	0.0001
Dummy=1 if university	0.026	0.549	0.9629
Dummy=1 if trade	0.306	0.719	0.6702
Weeks unemployed in 1988	0.130	0.032	0.0001
Dummy =1 if Weeks not in the labour force 1988	0.072	0.028	0.0086
Dummy =1 if self Employment in 1988	0.273	0.012	0.0001
Dummy=1 if managerial or administrative	0.197	0.517	0.7033
Dummy=1 if professional	0.059	0.602	0.9215
Dummy=1 if clerical	2.183	1.526	0.1525
Dummy=1 if farm	1.177	0.486	0.0156
Dummy=1 if sales & services	-1.267	0.461	0.0060
Dummy=1 if minority	-0.794	0.831	0.3398
Dummy=1 if Non-English	0.001	0.348	0.9977
Dummy=1 if foreign	0.280	0.471	0.5525
Dummy=1 if 16 to 19	-3.300	5.880	0.5747
Dummy=1 if 20 to 24	0.774	1.086	0.4758
Dummy=1 if 25 to 34	0.175	0.432	0.6845
Dummy=1 if 45 to 54	0.808	0.428	0.0592
Dummy=1 if 55 to 64	-0.096	0.496	0.8471

Table A.45
OLS Model Of The Duration Of Self Employment Weeks in 1989
Dependent Variable = Self Employment Weeks in 1989
Single Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	20.535	4.413	0.0001
Dummy=1 if no education or elementary	8.538	3.233	0.0085
Dummy=1 if some high school	8.913	2.207	0.0001
Dummy=1 if some post secondary education	5.084	2.408	0.0353
Dummy=1 if certificate or diploma	8.314	2.516	0.0010
Dummy=1 if university	6.183	2.833	0.0295
Dummy=1 if trade	9.009	3.935	0.0225
Weeks unemployed in 1988	0.053	0.112	0.6345
Dummy =1 if Weeks not in the labour force 1988	0.005	0.061	0.9359
Dummy =1 if self Employment in 1988	0.366	0.045	0.0001
Dummy=1 if managerial or administrative	9.532	3.917	0.0153
Dummy=1 if professional	5.997	3.585	0.0950
Dummy=1 if clerical	0.234	3.654	0.9490
Dummy=1 if farm	5.924	4.353	0.1741
Dummy=1 if sales & services	3.772	3.094	0.2234
Dummy=1 if minority	2.506	3.781	0.5078
Dummy=1 if Non-English	2.685	1.439	0.0626
Dummy=1 if foreign	-3.034	2.235	0.1752
Dummy=1 if 16	-12.147	2.858	0.0001
Dummy=1 if 17 to 19	-5.441	2.567	0.0345
Dummy=1 if 20 to 24	-5.018	2.694	0.0630
Dummy=1 if 25 to 34	-3.192	2.315	0.1686
Dummy=1 if 45 to 54	-6.540	2.620	0.0129
Dummy=1 if 55 to 64	-2.923	2.726	0.2841

Table A.46
OLS Model Of The Duration Of Self Employment Weeks in 1989
Dependent Variable = Self Employment Weeks in 1989
Married Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	34.152	1.539	0.0001
Dummy=1 if no education or elementary	-3.526	1.114	0.0016
Dummy=1 if some high school	-1.083	0.904	0.2309
Dummy=1 if some post secondary education	0.206	1.000	0.8368
Dummy=1 if certificate or diploma	-1.932	0.864	0.0255
Dummy=1 if university	-0.876	1.009	0.3853
Dummy=1 if trade	-1.109	1.370	0.4179
Weeks unemployed in 1988	-0.000	0.058	0.9988
Dummy =1 if Weeks not in the labour force 1988	-0.019	0.028	0.4933
Dummy =1 if self Employment in 1988	0.287	0.020	0.0001
Dummy=1 if managerial or administrative	0.702	1.420	0.6211
Dummy=1 if professional	0.005	1.306	0.9968
Dummy=1 if clerical	2.166	1.266	0.0872
Dummy=1 if farm	3.007	1.264	0.0174
Dummy=1 if sales & services	0.476	1.096	0.6641
Dummy=1 if minority	-2.275	1.526	0.1362
Dummy=1 if Non-English	0.283	0.608	0.6411
Dummy=1 if foreign	0.440	0.796	0.5803
Dummy=1 if 16	-13.051	14.081	0.3782
Dummy=1 if 17 to 19	-1.659	3.566	0.6418
Dummy=1 if 20 to 24	-2.240	1.389	0.1070
Dummy=1 if 25 to 34	-0.470	0.722	0.5157
Dummy=1 if 45 to 54	1.300	0.761	0.0882
Dummy=1 if 55 to 64	-0.329	1.046	0.7534

Appendix B: Descriptive Statistical Results



Table B.1
Comparison Statistics for Sensitivity Analysis
Self Employment Probability at the Means

		Dec22763		Dec2233		Dec22863		Dec33p8	
		Int	FD	Int	FD	Int	FD	Int	FD
Prob(U)	Old	1	1	1	1	1	1	1	1
	Young	1	1	1	1	1	1	1	1
		Males	Females	Males	Females	Males	Females	Males	Females
Duration		0.7	0.6	0.6	0.6	0.8	0.6	0.8	0.8
% Some UI		16.50	7.20	25.10	14.40	10.70	4.20	7.90	2.90
% Some Self		18.80	11.80	18.70	11.80	19.30	11.70	18.80	11.70
% Some Unemp		40.00	24.10	49.30	37.80	33.00	16.70	26.70	20.30
% Some Paid		3.10	7.50	3.50	7.50	2.80	7.60	3.00	7.50
Duration		16.00	16.90	10.70	14.60	21.40	19.10	21.40	24.30

Table B.2
Comparison Statistics for Sensitivity Analysis
Self Employment Probability at the Mean Plus Standard Deviation

		Dec21NC		Dec2133		Dec2123		Dec2122		Dec21NFD	
		Int	FD	Int	FD	Int	FD	Int	FD	Int	FD
Prob(U)	Old	1	1	1.5	4	1.5	3	1.5	2	1.5	1
	Young	1	1	1	2	1	2	1	2	1	1
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Duration		1	1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
% Some UI		3.50	1.60	20.20	29.30	24.20	23.90	27.90	20.30	30.80	15.30
% Some Self		5.4	1.6	5.9	2.2	6.0	2.1	6.1	2.1	6.3	2
% Some Unemp		19.60	13.60	30.40	48.90	35.70	42.60	40.50	38.10	44.30	3.20
% Some Paid		3.80	7.80	4.10	8.10	4.10	7.90	4.00	8.00	4.00	8.00
Duration		31.29	32.18	12.20	15.37	11.90	16.20	11.40	16.75	11.60	17.90
LMAS		Males		Females							
% Some UI		15.1		18.6							
% Some Self		18.0		10.3							
% Some Unemp		16.2		16.0							
% Some Paid		7.5		14.1							
Duration		18.6		17.4							

Table B.3
Distribution Share of Change in
Unemployment Insurance Benefits by Income Decile
Self Employment Probability at the Means

		Experiment											
		Dec2376			Dec2233			Dec22863		Dec33p8			
		Int	/	FD*	Int	/	FD*	Int	/	FD*	Int	/	FD*
Prob(U)	Old	1		1	1		1	1		1	1		1
	Young	1		1	1		1	1		1	1		1
		M		F	M		F	M		F	M		F
Duration		0.7		0.6	0.6		0.6	0.8		0.6	0.8		0.8
Decile													
	1	0.14			0.46			0.00		0.00			
	2	11.19			14.59			9.82		8.78			
	3	7.10			7.91			7.73		8.09			
	4	7.39			6.44			11.00		14.31			
	5	11.66			7.67			10.32		11.85			
	6	13.02			10.71			16.96		18.14			
	7	14.55			10.14			14.56		12.31			
	8	14.22			14.53			15.55		11.22			
	9	12.62			13.51			9.13		10.54			
	10	8.12			14.05			4.94		4.76			
	100.00	100.00			100.00			100.00		100.00			
Total UI Benefits		2,153,137,686			2,341,440,207			1,740,296,976		1,478,837,596			

Table B.4
Distribution Share of Change in
Unemployment Insurance Benefits by Income Decile
Self Employment Probability at Mean Plus Standard Deviation

		Experiment									
		Dec21nc		Dec2133		Dec2123		Dec2122		Dec21nfd	
		Int	FD*	Int	FD*	Int	FD*	Int	FD*	Int	FD*
Prob(U)	Old	1	1	1.5	1	1.5	1	1.5	1	1.5	1
	Young	1	1	4	2	3	2	2	2	1	1
		M	F	M	F	M	F	M	F	M	F
Duration		1	1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Decile											
	1	0.00		0.66		0.76		0.91		0.81	
	2	8.10		31.84		27.30		25.13		23.64	
	3	16.14		14.40		10.44		9.14		8.39	
	4	22.50		6.67		7.09		7.59		6.58	
	5	12.38		7.03		8.05		8.31		9.28	
	6	16.19		11.32		9.25		7.73		7.05	
	7	16.71		8.82		12.71		9.18		14.96	
	8	2.66		11.77		15.11		22.31		19.90	
	9	3.46		5.05		6.49		6.68		6.00	
	10	1.86		2.44		2.80		3.02		3.40	
		100.00		100.00		100.00		100.00		100.00	
Total UI Benefits		205,919,910		1,282,171,038		826,000,362		872,625,099		900,343,617	

* Int-Intercept on the Probability of Unemployment Equation

FD-Dummy Variable where Female in the Probability of Unemployment Equations

**Table B.5
Those Who Collected Unemployment Insurance in The Base Year
by Income Decile and by Sex
Self Employment Probability at the Means**

		Experiment											
		Dec22763			Dec2233			Dec22863		Dec33p8			
		Int	/	FD*	Int	/	FD*	Int	/	FD*	Int	/	FD*
Prob(U)	Old	1		1	1		1	1		1	1		1
	Young	1		1	1		1	1		1	1		1
		M		F	M		F	M		F	M		F
Duration		0.7		0.6	0.6		0.6	0.8		0.6	0.8		0.8
Decile													
	1	2.89			1.83			3.95		4.49			
	2	1.85			2.31			2.16		3.04			
	3	12.09			13.55			11.69		13.28			
	4	20.03			17.50			21.30		26.37			
	5	15.24			15.85			18.24		17.09			
	6	16.31			15.28			17.33		15.50			
	7	15.18			13.05			12.00		9.88			
	8	7.70			9.25			7.24		5.82			
	9	6.82			7.89			5.02		3.33			
	10	1.89			3.48			1.07		1.21			
		100.00			100.00			100.00		100.00			
Sex													
	Males	75.43			69.16			76.87		78.08			
	Females	24.57			30.84			23.13		21.92			
Total Who Collected in The Base		1,666,179			2,768,091			160,236		775,868			

Table B.6
Those Who Collected Unemployment Insurance in The Base Year
by Income Decile and by Sex
Self Employment Probability at the Mean Plus Standard Deviation

		Experiment									
		Dec21nc		Dec2133		Dec2123		Dec2122		Dec21nfd	
		Int	FD*	Int	FD*	Int	FD*	Int	FD*	Int	FD*
Prob(U)	Old	1	1	1.5	1	1.5	1	1.5	1	1.5	1
	Young	1	1	4	2	3	2	2	2	1	1
		M	F	M	F	M	F	M	F	M	F
Duration		1	1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Decile											
	1	5.53		1.74		1.66		1.52		1.62	
	2	2.16		1.21		1.70		1.44		1.54	
	3	15.07		10.94		12.30		12.07		11.62	
	4	32.22		18.69		16.78		16.93		16.52	
	5	19.81		16.21		15.10		14.62		14.38	
	6	9.63		15.91		15.48		15.99		15.47	
	7	8.57		13.22		14.87		13.51		13.15	
	8	2.98		10.38		10.89		11.74		11.89	
	9	3.11		7.78		7.89		8.39		9.15	
	10	0.92		3.92		3.32		3.80		4.67	
		100.00		100.00		100.00		100.00		100.00	
Sex											
	Males	74.90		46.99		57.37		64.59		72.78	
	Females	25.10		53.01		42.63		35.41		27.22	
Total Who Collected in The Base											
		220,146		3,277,683		2,014,788		2,030,457		1,984,623	

* Int-Intercept on the Probability of Unemployment Equation

FD-Dummy Variable where Female in the Probability of Unemployment Equations



Appendix C: The Impacts of Extended UI Coverage to Non-Standard Employment.

Table C.1
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Single Males
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-81.185	7.898	0.0001
Dummy=1 if no education or elementary	10.986	7.970	0.1681
Dummy=1 if some high school	19.449	2.886	0.0001
Dummy=1 if some post secondary education	15.688	2.885	0.0001
Dummy=1 if certificate or diploma	9.537	3.824	0.0126
Dummy=1 if university	13.844	5.216	0.0079
Dummy=1 if trade	-14.928	7.546	0.0479
Weeks unemployed in 1988	-0.707	0.155	0.0001
Dummy=1 if managerial or administrative	-9.952	6.205	0.1088
Dummy=1 if professional	15.709	3.755	0.0001
Dummy=1 if clerical	14.129	3.765	0.0002
Dummy=1 if farm	11.650	5.050	0.0211
Dummy=1 if sales & services	16.443	2.891	0.0001
Dummy=1 if foreign	9.392	3.472	0.0068
Weeks to Needed qualify	1.915	0.560	0.0006
Dummy=1 if primary	-11.175	3.999	0.0052
Dummy=1 if utility	2.235	5.345	0.6759
Dummy=1 retail trade & wholesales	13.068	3.065	0.0001
Dummy=1 finance	-14.626	5.403	0.0068
Dummy=1 other service	11.769	3.445	0.0006
Dummy=1 government	-16.602	6.727	0.0136

Table C.2
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Single Males
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-258.175	52.875	0.0001
Provincial Unemployment Rate 1988	3.731	2.180	0.0870
Dummy=1 if managerial or administrative	3.578	8.916	0.6882
Dummy=1 if professional	27.267	7.229	0.0002
Dummy=1 if clerical	37.854	9.275	0.0001
Dummy=1 if farm	17.746	11.502	0.1229
Dummy=1 if sales & services	23.549	7.244	0.0012
Dummy=1 if minority	-31.644	14.997	0.0349
Dummy=1 if foreign	-17.631	8.113	0.0298
Weeks to Needed qualify	8.046	2.982	0.0070
Dummy=1 If employed 19 or Less	25.512	6.227	0.0001

Table C.3
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Married Males
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-132.561	21.097	0.0001
Provincial Unemployment Rate 1988	5.156	1.694	0.0023
Dummy=1 if managerial or administrative	-2.310	22.613	0.9186
Dummy=1 if professional	32.180	12.009	0.0070
Dummy=1 if clerical	56.884	13.050	0.0001
Dummy=1 if farm	23.627	16.321	0.1477
Dummy=1 if sales & services	36.396	10.482	0.0005
Dummy=1 if foreign	36.030	12.886	0.0052
Total number of kids	-37.411	13.085	0.0043
Total Number of Kids Squared	14.146	4.593	0.0021

Table C.4
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Married Males
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-188.562	12.778	0.0001
Dummy=1 if Weeks not in the labour force 1988	0.402	0.173	0.0200
Dummy=1 if managerial or administrative	-12.631	5.220	0.0155
Dummy=1 if professional	18.073	4.470	0.0001
Dummy=1 if clerical	7.928	7.406	0.2844
Dummy=1 if farm	5.406	7.318	0.4601
Dummy=1 if sales & services	23.063	4.284	0.0001
Dummy=1 if foreign	-11.752	4.234	0.0055
Weeks to Needed qualify	3.176	0.859	0.0002
Dummy=1 If employed 19 or Less	21.308	4.304	0.0001
Union89	-21.075	9.300	0.0234
Total number of kids	-4.732	1.481	0.0014

Table C.5
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Single Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-33.445	5.566	0.0001
Dummy=1 if no education or elementary	24.021	10.235	0.0189
Dummy=1 if some high school	14.420	2.923	0.0001
Dummy=1 if some post secondary education	14.776	2.616	0.0001
Dummy=1 if certificate or diploma	3.452	3.382	0.3074
Dummy=1 if university	4.614	4.528	0.3082
Dummy=1 if trade	1.905	6.666	0.7751
Weeks unemployed in 1988	-0.492	0.140	0.0004
Provincial Unemployment Rate 1988	-2.593	0.365	0.0001
Dummy=1 if managerial or administrative	-6.187	7.530	0.4112
Dummy=1 if professional	19.330	4.792	0.0001
Dummy=1 if clerical	19.537	4.441	0.0001
Dummy=1 if farm	-6.818	10.412	0.5126
Dummy=1 if sales & services	15.520	4.471	0.0005
Dummy=1 if minority	18.176	4.213	0.0001
Dummy=1 if foreign	-8.240	3.649	0.0240
Dummy=1 if kids 0 - 2	-31.243	8.538	0.0003
Dummy=1 if kids3 - 5	3.380	6.548	0.6057
Dummy=1 if kids 6 - 15	8.333	2.564	0.0012
Total Number of Kids Squared	1.292	0.668	0.0533
Dummy=1 if primary	9.836	6.705	0.1424
Dummy=1 if utility	-17.187	6.489	0.0081
Dummy=1 retail trade & wholesales	13.814	3.129	0.0001
Dummy=1 finance	-12.172	4.078	0.0028
Dummy=1 other service	8.591	3.192	0.0071
Dummy=1 government	3.350	4.599	0.4664
Dummy=1 If employed 19 or Less	8.679	2.047	0.0001
Dummy=1 if Not In The Labour Force for 53 Weeks - Dummy=1 if 16 -24	-12.332	4.143	0.0029

Table C.6
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Single Females
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-100.033	10.671	0.0001
Weeks not in the labour force 1988	0.584	0.136	0.0001
Provincial Unemployment Rate 1988	-2.119	0.758	0.0052
Dummy=1 if managerial or administrative	2.912	9.797	0.7663
Dummy=1 if professional	36.286	8.306	0.0001
Dummy=1 if clerical	20.838	8.249	0.0115
Dummy=1 if farm	22.305	26.701	0.4035
Dummy=1 if sales & services	45.310	8.213	0.0001
Dummy=1 if limited by a disability	13.867	6.621	0.0362
Dummy=1 if minority	-18.469	8.800	0.0358
Dummy=1 if Non-English	-10.164	3.976	0.1060
Dummy=1 If employed 19 or Less	21.114	4.392	0.0001

Table C.7
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Married Females
Aged 16 to 24 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-79.632	7.176	0.0001
Dummy=1 if Non-English	19.340	4.719	0.0001
Dummy=1 If employed 19 or Less	17.032	5.570	0.0022
Dummy=1 If employed 500 or More	11.908	5.615	0.0339

Table C.8
Tobit Model Of Non-Standard Employment Weeks in 1989
Dependent Variable = Employment Weeks in 1989 Where Hours Worked < 15/Week
Married Females
Aged 25 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-170.564	9.013	0.0001
Dummy=1 if no education or elementary	11.185	4.338	0.0099
Dummy=1 if some high school	4.472	3.371	0.1846
Dummy=1 if some post secondary education	7.894	3.820	0.0388
Dummy=1 if certificate or diploma	7.171	3.094	0.0205
Dummy=1 if university	13.313	3.389	0.0001
Dummy=1 if trade	9.187	5.141	0.0740
Weeks unemployed in 1988	0.436	0.125	0.0005
Weeks not in the labour force-1988	0.492	0.064	0.0001
Dummy=1 if managerial or administrative	11.076	5.384	0.0397
Dummy=1 if professional	37.652	4.601	0.0001
Dummy=1 if clerical	33.587	4.450	0.0001
Dummy=1 if farm	21.888	8.683	0.0117
Dummy=1 if sales & services	36.821	4.512	0.0001
Dummy=1 if minority	-11.458	5.597	0.0406
Dummy=1 if foreign	-6.804	2.920	0.0198
Weeks to Needed qualify	4.363	0.567	0.0001
Dummy=1 if primary	-5.295	5.757	0.3577
Dummy=1 if utility	-10.351	5.451	0.0576
Dummy=1 retail trade & wholesales	-11.806	3.272	0.0003
Dummy=1 finance	-15.282	3.534	0.0001
Dummy=1 other service	-18.179	3.714	0.0001
Dummy=1 government	-17.239	4.832	0.0004
Dummy=1 If employed 19 or Less	30.413	2.584	0.0001
Dummy=1 If employed 500 or More	8.414	2.455	0.0006

Table C.9
Logit Model Of The Probability Marriage
Dependent Variable =1 if Married in 1990
Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.843	0.189	0.0001
Dummy=1 if no education or elementary	-0.000	0.191	0.9979
Dummy=1 if some post secondary education	0.236	0.092	0.0104
Dummy=1 if certificate or diploma	0.083	0.100	0.4078
Dummy=1 if university	0.109	0.111	0.3267
Dummy=1 if trade	0.454	0.155	0.0034
Weeks unemployed in 1988	0.008	0.004	0.0281
Weeks unemployed in 1989	0.005	0.004	0.2694
Weeks of employment in 1989	0.005	0.002	0.0310
Average Weekly Wage - 1989	0.000	0.0002	0.0001
Difference in Earnings From 1988 to 1989	0.000002	0.000004	0.5577
Dummy=1 if total kids >0	-0.011	0.187	0.9535
Total number of kids	0.059	0.113	0.6047
Dummy=1 if Aged 16	-0.427	0.259	0.0999
Dummy=1 if Aged 17 to 19	0.182	0.163	0.2652
Dummy=1 if Aged 20 to 24	1.120	0.139	0.0001
Dummy=1 if Aged 25 to 34	0.871	0.137	0.0001
Dummy=1 if Aged 45 to 54	-0.652	0.263	0.0131
Dummy=1 if Aged 55 to 64	-1.484	0.371	0.0001
Dummy=1 if disabled	-0.050	0.022	0.0207
Dummy=1 if minority	-0.311	0.169	0.0661
Dummy=1 if foreign	-0.241	0.137	0.0791
Dummy=1 if Non-English	0.228	0.070	0.0012

Table C.10
Logit Model Of The Probability Marriage
Dependent Variable = 1 if Married in 1990
Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.757	0.194	0.0001
Dummy=1 if no education or elementary	-0.224	0.206	0.2775
Dummy=1 if some post secondary education	0.279	0.093	0.0028
Dummy=1 if certificate or diploma	0.030	0.104	0.7747
Dummy=1 if university	0.245	0.107	0.0223
Dummy=1 if trade	0.333	0.162	0.0396
Weeks unemployed in 1988	0.012	0.004	0.0036
Weeks unemployed in 1989	0.003	0.004	0.5056
Weeks of employment in 1989	0.008	0.002	0.0008
Average Weekly Wage - 1989	0.000	0.0001	0.0001
Difference in Earnings From 1988 to 1989	-0.000003	0.000004	0.3762
Dummy=1 if total kids >0	0.271	0.219	0.2158
Total number of kids	-0.115	0.147	0.4347
Dummy=1 if Aged 16	-0.629	0.261	0.0158
Dummy=1 if Aged 17 to 19	-0.063	0.162	0.6994
Dummy=1 if Aged 20 to 24	0.842	0.134	0.0001
Dummy=1 if Aged 25 to 34	0.471	0.132	0.0003
Dummy=1 if Aged 45 to 54	-0.316	0.229	0.1685
Dummy=1 if Aged 55 to 64	-1.015	0.347	0.0034
Dummy=1 if disabled	-0.038	0.022	0.0814
Dummy=1 if minority	-0.216	0.165	0.1896
Dummy=1 if foreign	-0.175	0.132	0.1863
Dummy=1 if Non-English	0.134	0.072	0.0624

Table C.11
Logit Model Of The Probability Divorce
Dependent Variable=1 if Divorced in 1990
Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-4.418	0.770	0.0001
Dummy=1 if no education or elementary	0.247	0.235	0.2924
Dummy=1 if some post secondary education	-0.527	0.283	0.0624
Dummy=1 if certificate or diploma	-0.171	0.193	0.3756
Dummy=1 if university	-0.367	0.243	0.1319
Dummy=1 if trade	0.381	0.281	0.1751
Weeks unemployed in 1988	0.006	0.008	0.4729
Weeks unemployed in 1989	0.023	0.013	0.0756
Dummy=1 if Unemployed in 1989	-0.039	0.411	0.9237
Weeks of employment in 1989	0.004	0.038	0.3191
Average Weekly Wage - 1989	0.000	0.0003	0.0011
Difference in Earnings From 1988 to 1989	0.00000	0.00000	0.3779
Dummy=1 if total kids >0	0.400	0.257	0.1197
Total number of kids	-0.038	0.117	0.7440
Dummy=1 if Aged 16 to 19	0.589	0.584	0.3130
Dummy=1 if Aged 20 to 24	0.563	0.245	0.0216
Dummy=1 if Aged 25 to 34	0.347	0.178	0.0517
Dummy=1 if Aged 45 to 54	-0.291	0.263	0.2689
Dummy=1 if Aged 55 to 64	0.090	0.284	0.7514
Dummy=1 if disabled	0.464	0.196	0.0179
Dummy=1 if minority	-0.887	0.500	0.0760
Dummy=1 if foreign	-0.026	0.217	0.9051
Dummy=1 if Non-English	-0.302	0.147	0.0395
Dummy=1 if Family Received Social Assistance in 1989	-0.400	0.313	0.2014
Total Family Earnings	-0.000	0.000	0.0431
Dummy=1 if Family Earnings > 65,000 in 1989	-0.065	0.349	0.8532
Dummy=1 if a Family Member is Unemployed in 1989	0.740	0.468	0.1138
Dummy=1 if No Family Member Unemploy. in 1989	0.671	0.426	0.1152
Dummy=1 if No Family Member Received UI	-0.071	0.219	0.7475
Dummy=1 Family member received;Respondent did not	-0.090	0.291	0.7567

Table C.12
Logit Model Of The Probability Divorce
Dependent Variable = 1 if Divorced in 1990
Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.180	0.801	0.0001
Dummy=1 if no education or elementary	-0.035	0.272	0.8990
Dummy=1 if some post secondary education	0.259	0.228	0.2562
Dummy=1 if certificate or diploma	-0.093	0.229	0.6885
Dummy=1 if university	0.060	0.220	0.7848
Dummy=1 if trade	0.598	0.236	0.0113
Weeks unemployed in 1988	-0.016	0.011	0.1390
Weeks unemployed in 1989	0.022	0.011	0.0554
Dummy=1 if Unemployed in 1989	0.289	0.346	0.4039
Weeks of employment in 1989	-0.003	0.006	0.5832
Average Weekly Wage - 1989	0.000	0.0003	0.0375
Difference in Earnings From 1988 to 1989	-0.00000	0.00000	0.3106
Dummy=1 if total kids >0	-0.210	0.271	0.4389
Total number of kids	0.018	0.122	0.8843
Dummy=1 if Aged 16 to 19	0.375	0.938	0.6894
Dummy=1 if Aged 20 to 24	0.775	0.258	0.0026
Dummy=1 if Aged 25 to 34	0.141	0.176	0.4240
Dummy=1 if Aged 45 to 54	-0.704	0.261	0.0070
Dummy=1 if Aged 55 to 64	-0.594	0.294	0.0434
Dummy=1 if disabled	0.177	0.218	0.4175
Dummy=1 if minority	-1.725	0.842	0.0406
Dummy=1 if foreign	-0.403	0.261	0.1226
Dummy=1 if Non-English	-0.062	0.149	0.6777
Dummy=1 if Family Received Social Assistance in 1989	-0.589	0.346	0.0890
Total Family Earnings	0.000	0.000	0.9522
Dummy=1 if Family Earnings > 65,000 in 1989	-0.430	0.352	0.2218
Dummy=1 if a Family Member is Unemployed in 1989	-0.087	0.420	0.8362
Dummy=1 if No Family Member is Unemploy. in 1989	0.097	0.360	0.7873
Dummy=1 if No Family Member Received UI	-0.104	0.244	0.6701
Dummy=1 Family member received;Respondent did not	-0.060	0.294	0.8386

Table C.13
Logit Model Of The Probability Having a Baby
Depend. Var. =1 if had a Baby in 1990
Females
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-4.234	0.443	0.0001
Dummy=1 if no education or elementary	0.024	0.177	0.8899
Dummy=1 if some post secondary education	-0.052	0.103	0.6143
Dummy=1 if certificate or diploma	0.266	0.085	0.0017
Dummy=1 if university	-0.014	0.106	0.8917
Dummy=1 if trade	-0.274	0.187	0.1413
Weeks unemployed in 1988	0.005	0.004	0.1977
Weeks of employment in 1989	-0.009	0.002	0.0001
Average Weekly Wage - 1989	-0.00014	0.00018	0.4357
Difference in Earnings From 1988 to 1989	-0.00001	0.00000	0.0003
Dummy=1 if total kids >0	0.894	0.121	0.0001
Total number of kids	-0.809	0.067	0.0001
Dummy=1 if Aged 16	1.894	0.400	0.0001
Dummy=1 if Aged 17 to 19	2.350	0.202	0.0001
Dummy=1 if Aged 20 to 24	2.694	0.141	0.0001
Dummy=1 if Aged 25 to 34	2.473	0.131	0.0001
Dummy=1 if disabled	-0.627	0.158	0.0001
Dummy=1 if minority	0.784	0.142	0.0001
Dummy=1 if foreign	0.142	0.115	0.2166
Dummy=1 if Family Received Social Assistance in 1989	0.242	0.212	0.2536
Dummy=1 if a Family Member Received UI	-0.049	0.073	0.5030
Total Family Earnings	-0.000001	0.000002	0.4724
Dummy=1 if Single	0.560	0.530	0.2910
Dummy=1 if Family Earnings > 65,000 in 1989	0.168	0.161	0.2961
Dummy=1 if Single and Received Social Assistance in 1989	-1.494	0.284	0.0001
Dummy=1 if Non-English	-0.154	0.068	0.0225

Table C.14
Logit Model Of The Probability Having a Baby
Dependent Variable = 1 if had a Baby in 1990
Males
Aged 16 to 64 Years

Variable Name	Estimated Coefficient	Standard Error	Pr > Chi - Squared
Constant	-3.554	0.464	0.0001
Dummy=1 if no education or elementary	-0.028	0.167	0.8662
Dummy=1 if some post secondary education	0.063	0.107	0.5521
Dummy=1 if certificate or diploma	0.150	0.093	0.1074
Dummy=1 if university	0.210	0.949	0.0273
Dummy=1 if trade	-0.160	0.147	0.2788
Weeks unemployed in 1988	0.005	0.005	0.3212
Weeks of employment in 1989	0.002	0.003	0.5031
Average Weekly Wage - 1989	0.0004	0.0001	0.0055
Difference in Earnings From 1988 to 1989	0.00000	0.00000	0.0068
Dummy=1 if total kids >0	1.088	0.128	0.0001
Total number of kids	-0.902	0.072	0.0001
Dummy=1 if Aged 16	1.619	0.492	0.0010
Dummy=1 if Aged 17 to 19	1.727	0.260	0.0001
Dummy=1 if Aged 20 to 24	1.984	0.133	0.0001
Dummy=1 if Aged 25 to 34	2.095	0.104	0.0001
Dummy=1 if Aged 45 to 54	-1.929	0.266	0.0001
Dummy=1 if Aged 55 to 64	-4.750	1.098	0.0001
Dummy=1 if disabled	0.183	0.123	0.1385
Dummy=1 if minority	0.558	0.142	0.0001
Dummy=1 if foreign	0.407	0.109	0.0002
Dummy=1 if Family Received Social Assistance in 1989	-0.092	0.225	0.6839
Dummy=1 if a Family Member Received UI	-0.041	0.074	0.5829
Total Family Earnings	-0.00000	0.00000	0.0384
Dummy=1 if Single	-2.902	0.936	0.0019
Dummy=1 if Family Earnings > 65,000 in 1989	0.066	0.161	0.6828
Dummy=1 if Single and Received Social Assistance in 1989	0.037	0.479	0.9384
Dummy=1 if Non-English	-0.065	0.070	0.3488



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Jones. (1994) Presented at the CERF conference on Unemployment Insurance presented in October, 1994

List of UI Evaluation Technical Reports



Unemployment Insurance Evaluation

In the spring of 1993, a major evaluation of UI Regular Benefits was initiated. This evaluation consists of a number of separate studies, conducted by academics, departmental evaluators, and outside agencies such as Statistics Canada. Many of these studies are now completed and the department is in the process of preparing a comprehensive evaluation report.

Listed below are the full technical reports. Briefs of the full reports are also available separately. Copies can be obtained from:

Human Resources Development Canada
Enquiries Centre
140 Promenade du Portage
Phase IV, Level 0
Hull, Quebec
K1A 0J9
Fax: (819) 953-7260

UI Impacts on Employer Behaviour

- **Unemployment Insurance, Temporary Layoffs and Recall Expectations**
M. Corak, Business and Labour Market Analysis Division, Statistics Canada, 1995. (*Evaluation Brief #8*)
- **Firms, Industries, and Cross-Subsidies: Patterns in the Distribution of UI Benefits and Taxes**
M. Corak and W. Pyper, Business and Labour Market Analysis Division, Statistics Canada, 1995. (*Evaluation Brief #16*)
- **Employer Responses to UI Experience Rating: Evidence from Canadian and American Establishments**
G. Betcherman and N. Leckie, Ekos Research Associates, 1995. (*Evaluation Brief #21*)

UI Impacts on Worker Behaviour

- **Qualifying for Unemployment Insurance: An Empirical Analysis of Canada**
D. Green and C. Riddell, Economics Department, University of British Columbia, 1995. (*Evaluation Brief #1*)
- **Unemployment Insurance and Employment Durations: Seasonal and Non-Seasonal Jobs**
D. Green and T. Sargent, Economics Department, University of British Columbia, 1995. (*Evaluation Brief #19*)
- **Employment Patterns and Unemployment Insurance**
L. Christofides and C. McKenna, Economics Department, University of Guelph, 1995. (*Evaluation Brief #7*)

- **State Dependence and Unemployment Insurance**
T. Lemieux and B. MacLeod, Centre de recherche et développement en économique, Université de Montréal, 1995. (*Evaluation Brief #4*)
- **Unemployment Insurance Regional Extended Benefits and Employment Duration**
C. Riddell and D. Green, Economics Department, University of British Columbia, 1995. (*To be released when available*)
- **Seasonal Employment and the Repeat Use of Unemployment Insurance**
L. Wesa, Insurance Programs Directorate, HRDC, 1995. (*Evaluation Brief #24*)

UI Macroeconomic Stabilization

- **The UI System as an Automatic Stabilizer in Canada**
P. Dungan and S. Murphy, Policy and Economic Analysis Program, University of Toronto, 1995. (*Evaluation Brief #5*)
- **Canada's Unemployment Insurance Program as an Economic Stabilizer**
E. Stokes, WEFA Canada, 1995. (*Evaluation Brief #6*)

UI and the Labour Market

- **Unemployment Insurance and Labour Market Transitions**
S. Jones, Economics Department, McMaster University, 1995. (*Evaluation Brief #22*)
- **Unemployment Insurance and Job Search Productivity**
P.-Y. Crémieux, P. Fortin, P. Storer and M. Van Audenrode, Département des Sciences économiques, Université du Québec à Montréal, 1995. (*Evaluation Brief #3*)
- **Effects of Benefit Rate Reduction and Changes in Entitlement (Bill C-113) on Unemployment, Job Search Behaviour and New Job Quality**
S. Jones, Economics Department, McMaster University, 1995. (*Evaluation Brief #20*)
- **Jobs Excluded from the Unemployment Insurance System in Canada: An Empirical Investigation**
Z. Lin, Insurance Programs Directorate, HRDC, 1995. (*Evaluation Brief #15*)
- **Effects of Bill C-113 on UI Take-up Rates**
P. Kuhn, Economics Department, McMaster University, 1995. (*Evaluation Brief #17*)
- **Implication of Extending Unemployment Insurance Coverage to Self-Employment and Short Hours Work Week: A Microsimulation Approach**
L. Osberg, S. Phipps and S. Erksoy, Economics Department, Dalhousie University, 1995. (*Evaluation Brief #25*)

- **The Impact of Unemployment Insurance on Wages, Search Intensity and the Probability of Re-employment**

P.-Y. Crémieux, P. Fortin, P. Storer and M. Van Audenrode, Département des Sciences économiques, Université du Québec à Montréal, 1995. (*Evaluation Brief #27*)

UI and Social Assistance

- **The Interaction of Unemployment Insurance and Social Assistance**

G. Barrett, D. Doiron, D. Green and C. Riddell, Economics Department, University of British Columbia, 1995. (*Evaluation Brief #18*)

- **Job Separations and the Passage to Unemployment and Welfare Benefits**

G. Wong, Insurance Programs Directorate, HRDC, 1995. (*Evaluation Brief #9*)

- **Interprovincial Labour Mobility in Canada: The Role of Unemployment Insurance, Social Assistance and Training**

Z. Lin, Insurance Programs Directorate, HRDC, 1995. (*Evaluation Brief #26*)

UI, Income Distribution and Living Standards

- **The Distributional Implications of Unemployment Insurance: A Microsimulation Analysis**

S. Erksoy, L. Osberg and S. Phipps, Economics Department, Dalhousie University, 1995. (*Evaluation Brief #2*)

- **Income and Living Standards During Unemployment**

M. Browning, Economics Department, McMaster University, 1995. (*Evaluation Brief #14*)

- **Income Distributional Implications of Unemployment Insurance and Social Assistance in the 1990s: A Microsimulation Approach**

L. Osberg and S. Phipps, Economics Department, Dalhousie University, 1995. (*Evaluation Brief #28*)

- **Studies of the Interaction of UI and Welfare using the COEP Dataset**

M. Browning, P. Kuhn and S. Jones, Economics Department, McMaster University, 1995.

Final Report

- **Evaluation of Canada's Unemployment Insurance System: Final Report**

G. Wong, Insurance Programs Directorate, HRDC, 1995.