Usage of Sickness Benefits

Final Report

EI Evaluation Strategic Evaluations Evaluation and Data Development Strategic Policy Human Resources Development Canada

April 2003

SP-ML-019-04-03E (également disponible en français)

Paper

ISBN: 0-662-35550-4

Cat. No.: RH63-2/019-04-03E

PDF

ISBN: 0-662-35551-2

Cat. No.: RH63-2/019-04-03E-PDF

HTML

ISBN: 0-662-35552-0

Cat. No.: RH63-2/019-04-03E-HTML

Table of Contents

| Ex | ecuti | ve Summary | i |
|----|-------|--|------|
| 1. | Intr | oduction | 1 |
| 2. | Dev | elopment of the Dataset | 3 |
| | 2.1 | Administrative Data | 3 |
| | 2.2 | Labour Force Survey. | 4 |
| 3. | The | Usage of Sickness Benefits Over the 1987/88 to 2001/02 Period | 5 |
| 4. | Stat | istical Analysis of the Factors Influencing the Use of Sickness Benefits | 7 |
| | 4.1 | Pure Sickness Claims | 7 |
| | 4.2 | Maternity Sickness Claims | 9 |
| | 4.3 | Residual Sickness Claims | . 11 |
| 5. | Con | clusions | . 13 |
| Ap | pend | lix: Impact of Age on Sickness | . 15 |

List of Tables

| Table I | Pure, Maternity and Residual Sickness Claims, 1987/88 to 2001/02 | . 6 |
|----------|---|-----|
| Table 2 | Pure, Maternity, Residual and Total Sickness Claims (as a Percent of Total El Claims) vs. Unemployment Rate, 1987/88 to 2001/02 | . 6 |
| Table 3 | Pure Sickness Claims Measured as a Percent of All EI Claims | . 8 |
| Table 4 | Maternity Sickness Claims Measured as a Percent of All Female EI Claims | 10 |
| Table 5 | Residual Sickness Claims Measured as a Percent of All EI Claims | 12 |
| | List of Figur | 'e |
| Figure 1 | All Sickness Claims vs. Age 55+ (Employed) as a Percentage of Age 15+ 1987/88 – 2001/02 | 15 |

Executive Summary

The current patterns of use of Employment Insurance (EI) have been the focus of extensive research. One issue is the increased number of claims for sickness benefits under EI. Several possible explanations have been suggested for the increase in EI sickness claims including compositional changes in the claimant population (e.g. the ageing of the population), changes in employer/employee relationships that increase reliance on EI sickness benefits, and fluctuations in the level of sickness in the labour force.

This monitoring report takes some initial steps towards a better understanding of this issue by examining the recent growth in EI sickness claims and factors influencing the use of these benefits.

Data and Methodology

This report divides claims for EI sickness benefits into three basic categories: pure sickness claims, maternity sickness claims and residual sickness claims.

EI administrative data from the Status Vector (SV) file are used to obtain the annual number of sickness claims for each province for each of the three categories of sickness claims and all claims. Annual averages are calculated on a fiscal year basis from 1987/88 to 2001/02 (e.g. the percentage of all EI claimants who have at least one dollar of sickness benefits in their claim).

To examine the factors influencing the use of sickness benefits using statistical analysis (generalized least squares), the data developed from the SV file are combined with data on aggregate economic factors taken from the Labour Force Survey.

Main Findings

Pure sickness claims refer to EI claims in which all weeks are designated for sickness. Most of the recent increase in EI sickness claims is accounted for by claims in this category, with pure sickness claims accounting for 48.8 percent of all sickness claims in 1987/88 and 60.6 percent in 2001/02. The statistical analysis presented in this report indicates several key factors behind movements in pure sickness claims as a share of total EI claims:

- Unemployment rate The steady fall in the unemployment rate has led to an increase in the share of claims that are pure sickness. This occurs because a lower unemployment rate generally means fewer claims for regular EI benefits (which tends to raise the shares of other types of claims).
- Level of sickness in the labour force a higher rate of incidence of illness in the labour force (e.g. due to the ageing of the labour force) is associated with a higher share of pure sickness claims.

• Stability of employment – increases in the average number of years in a given job tend to reduce the percentage of pure sickness claims, because more stable forms of employment tend to include employer-based sickness benefits that are more generous than EI sickness benefits. Conversely, a reduction in stable employment (e.g. an increase in more casual employer/employee relationships) can be expected to increase the reliance on EI sickness benefits and, therefore, put upward pressure on the share of pure sickness claims.

The second category of sickness claims examined in this report is claims by females for sickness benefits that are mixed with EI maternity benefits. A key factor influencing this category is the percentage of the female workforce that left the workforce due to personal or family reasons.

The final category examined in this report is residual sickness claims. These are the claims of individuals who had at least one week of sickness benefits in their claim but were not included in the other two categories. The movement in residual sickness claims was found to be highly random with a slight positive association with the previous year's unemployment rate.

The analysis also indicates that a significant portion of the movement of sickness benefits over time is captured by a time trend. For all three categories, the time trend exhibited a significant upward influence, although there was a drop in the share of claims in the maternity sickness claims category after the introduction of Bill C-32 on December 31, 2000. Bill C-32 extended parental benefits, which reduced the likelihood of mixing sickness and maternity claims.

The analysis presented in this report also shows very significant variations across the provinces for each of the three categories of EI sickness claims.

1. Introduction

The Employment Insurance (EI) program provides temporary benefits to individuals who are unable to work because of illness, or who are already on claim but are unable to continue their job search due to illness.

Recent EI Monitoring and Assessment Reports have noted that the number of new claims for EI sickness benefits has been increasing in recent years. In particular, the 2000 EI Monitoring and Assessment Report noted that, while there was a strong downward trend in the number of regular EI claims during the late 1990s, there was a strong increase in EI claims for sickness benefits.

In fiscal year 2001/02, the number of sickness claimants totalled 256,580, compared with 187,700 in fiscal year 1987/88. This corresponds to an increase of 37 percent from 1987/88 and 2001/02. Although the expenditures on sickness benefits and other special benefits under EI are smaller than on regular EI benefits, they account for 24.4 percent of the total income benefits in 2001/02 compare to 13.6 percent prior the reform (1995/96).

Several attempts have been put forward to try to explain the recent increase in EI claims for sickness benefits, and the purpose of this monitoring report is to contribute towards a better understanding of this issue by examining factors influencing the use of these benefits.

There are a number of possible reasons why the share of EI claims for sickness benefits could change over time:

- There may be compositional changes in the claimant population. For example, an aging population may be more likely to claim sickness benefits.
- Changes in the employer/employee composition could lead to significant changes in the extent to which workers have fully paid sick leave benefits provided through their employers. For example, an increase in employer/employee relationships that are more "casual" in nature could mean an increased reliance on EI sickness benefits.
- There could be fluctuations in the level of sickness in the labour force.
- There could be changes in the way claimants are behaving with respect to their EI claims.

No single database contains sufficient information to study all of these possible reasons in detail. Also, a full evaluation of this issue would require the examination of many lines of evidence. This report only seeks to explain the variation in the sickness benefits possible through examination of labour market characteristics and demographic trends available in the Labour Force Survey.

The first part of this report discusses the development of the data and the methodology. Here it is shown that rather than treat sickness claims as a whole, they are categorised into three subgroups: pure sickness claims, maternity sickness claims, and all other (i.e., residual) sickness claims. The second part examines the usage of EI sickness benefits and employs statistical analysis (generalized least squares) in examining the factors that influence the use of these benefits.

2. Development of the Dataset

For the purposes of the EI Monitoring and Assessment Report, an EI claim is considered to be a sickness claim if the claimant receives at least one dollar of sickness benefits. This is determined by the examination of the reason code that is given for each week that benefits are received. Sickness benefits may be paid for up to 15 weeks to a person who is unable to work because of sickness, injury or quarantine. In general, to qualify for sickness benefits, an individual is required to have worked for at least 600 hours in the last 52 weeks or since the individual's last claim.¹

2.1 Administrative Data

To examine the factors influencing the usage of EI sickness benefits, this report uses EI administrative data from the Status Vector (SV) file. The SV contains information on every week that an individual is on claim. For each week, information is provided on the type and amount of benefit provided.

In this report, the EI claims for reasons of sickness are divided into three categories:

- 1) Pure Sickness Claims any week that an individual is on claim and the reason given is sickness, the claim is described as a pure sickness claim.
- 2) Maternity Sickness Claims if an individual collects at least one dollar of EI for reasons related to maternity, then the claim is described as a maternity sickness claim.
- 3) Residual Sickness Claims if an individual collects at least one dollar of EI for reasons of sickness but does not fit into either of the first two categories, then the claim is described as a residual sickness claim. These individuals typically have complex claim patterns with regular benefits and sickness benefits being intermingled.

The SV data were used to obtain the annual number of sickness claims for each province, for the three categories of sickness claims and for all claims. Annual averages were computed on a fiscal year basis from 1987/88 to 2001/02 (e.g. the percentage of all claimants who have at least one dollar of sickness benefits in their claim). The analysis was done on a fiscal year basis to avoid the complications related to seasonality. A fifteen-year time period (from 1987/88 to 2001/02) was used to examine the impact of the business cycle and time trend effects. Also, data for each province were used to increase the size of the sample by a factor of ten and to allow for the possibility of different behaviours along provincial lines.

¹ Prior to 1996 EI reform, the number of insurable hours and rules were different. Currently, there are some exceptions to the general rule for sickness benefits. For example, someone who is already receiving EI and becomes ill while on claim can qualify for sickness benefits with less than 600 hours.

2.2 Labour Force Survey

While the data on sickness benefits was derived from HRDC's administrative records, the data used to explain the trends in sickness benefits came from the Public Use version of the Labour Force Survey (LFS).² The LFS includes questions that capture the impact of sickness on employment patterns as well as general demographics. Through special tabulations of the LFS, it was possible to develop specialized time-series of the relevant demographic and labour market data that could be used to explain movements in sickness benefits. It should be noted that the territories are not included in the LFS. Therefore, they are excluded from the analysis throughout this paper.

The LFS response may, to some extent, be influenced by the rules of EI and can not be assumed to be fully independent.

3. The Usage of Sickness Benefits Over the 1987/88 to 2001/02 Period

Table 1 shows the total number of sickness claims for each category as a percent of total EI claims from 1987/88 to 2001/02. Although each category shows some fluctuations over the years, both pure and maternity sickness claims generally exhibit a significant upward trend, while residual sickness claims generally display a weaker upward trend. Most of the recent increase in sickness claims is accounted for by claims in the pure sickness claims category, with pure sickness claims accounting for 48.8 percent of all sickness claims in 1987/88 and 60.6 percent in 2001/02.

- For the period from 1987/88 to 2001/02, pure sickness claims accounted for an average of 48.2 percent of all EI sickness claims and an average of 4.9 percent of total EI claims. Although pure sickness claims as a share of total EI claims increased steadily over this period, there were some fluctuations as the share of this category dropped to 3 percent in 1991/92, increased to 8.4 percent in 2000/01 and then dropped back to 7.7 percent in 2001/02.
- Maternity sickness claims accounted for an average of 5.7 percent of all EI sickness claims and an average of 0.6 percent of total EI claims for the period from 1987/88 to 2001/02. Maternity sickness claims as a share of total EI claims generally showed an upward trend from 1987/88 to 1999/00, although the share declined slightly in 1994/95 and 1995/96 (from 0.6 to 0.5 percent). The drop in the share of maternity sickness claims in 2000/01 and 2001/02 followed the changes introduced by Bill C-32 in December 31, 2000, which extended parental benefits and reduced the likelihood of mixing sickness and maternity claims.
- On average, annual residual sickness claims accounted for 46.1 percent of all EI sickness claims and 4.7 percent of total EI claims for fiscal years 1987/88 to 2001/02. Residual claims as a share of total EI claims showed a weak but fairly steady upward trend from 1987/88 to 1999/00, with several fluctuations. In 2000/01 and 2001/02, however, the share of residual sickness claims dropped below the levels seen in the last half of the 1990s.

| Table 1 Pure, Maternity and Residual Sickness Claims, 1987/88 to 2001/02 (percent of total claims) | | | | | | | |
|--|------|-----------|----------|-------|--|--|--|
| Fiscal Year | Pure | Maternity | Residual | Total | | | |
| 1987/88 | 4.1 | 0.2 | 4.1 | 8.4 | | | |
| 1988/89 | 4.2 | 0.2 | 4.3 | 8.7 | | | |
| 1989/90 | 4.1 | 0.2 | 4.4 | 8.8 | | | |
| 1990/91 | 3.3 | 0.3 | 4.3 | 7.9 | | | |
| 1991/92 | 3.0 | 0.5 | 4.5 | 8.0 | | | |
| 1992/93 | 3.2 | 0.6 | 4.6 | 8.4 | | | |
| 1993/94 | 3.8 | 0.6 | 4.5 | 8.9 | | | |
| 1994/95 | 4.5 | 0.5 | 4.9 | 9.9 | | | |
| 1995/96 | 4.5 | 0.5 | 4.7 | 9.7 | | | |
| 1996/97 | 5.0 | 0.8 | 4.9 | 10.7 | | | |
| 1997/98 | 5.4 | 0.9 | 5.4 | 11.7 | | | |
| 1998/99 | 6.0 | 1.0 | 5.7 | 12.6 | | | |
| 1999/00 | 6.9 | 1.2 | 6.2 | 14.2 | | | |
| 2000/01 | 8.4 | 0.8 | 3.8 | 13.0 | | | |
| 2001/02 | 7.7 | 0.5 | 4.5 | 12.7 | | | |
| Average | 4.9 | 0.6 | 4.7 | 10.2 | | | |
| Share of Sickness Claims | 48.2 | 5.7 | 46.1 | 100 | | | |
| Source: El Administrative data | | | | | | | |

Table 2 shows the provincial averages for pure, maternity, residual and total sickness claims for the period from 1987/88 to 2001/02. Table 2 also shows the average unemployment rate for each province for this period. These averages indicate substantial variation by province. Also, EI sickness claims (as a share of total EI claims) tend to be higher in regions with lower average unemployment rates. This is generally true for all three types of sickness claims.

| Table 2Pure, Maternity, Residual and Total Sickness Claims (as a Percent of Total El Claims)vs. Unemployment Rate, 1987/88 to 2001/02 | | | | | | | |
|---|----------------------|------|-----------|----------|-------|--|--|
| Provinces | Unemployment Rate | Pure | Maternity | Residual | Total | | |
| NF | 19.1 | 1.4 | 0.3 | 2.7 | 4.4 | | |
| PEI | 14.8 | 2.0 | 0.3 | 3.9 | 6.2 | | |
| NS | 11.7 | 3.9 | 0.5 | 4.4 | 8.9 | | |
| NB | 11.8 | 3.4 | 0.5 | 4.9 | 8.8 | | |
| QC | 10.9 | 3.5 | 0.3 | 4.9 | 8.7 | | |
| ONT | 7.8 | 6.5 | 0.7 | 4.4 | 11.6 | | |
| MAN | 6.7 | 5.4 | 0.7 | 4.6 | 10.6 | | |
| SASK | 6.6 | 4.3 | 0.7 | 4.1 | 9.1 | | |
| ALB | 6.9 | 4.7 | 0.8 | 5.0 | 10.5 | | |
| BC | 9.5 | 5.8 | 0.8 | 5.7 | 12.3 | | |
| Source: El Administrative data and Labour Force Survey | | | | | | | |

Data is the average over the 1987/88-2001/02 period

4. Statistical Analysis of the Factors Influencing the Use of Sickness Benefits

In this section, statistical analysis³ is employed in examining the factors that influence the use of EI sickness benefits for each of the three categories identified in this report. For each year, provincial data was used, which increased the sample size by a factor of ten. This cross-sectional time-series (pooled) approach provided a dataset with 150 observations for the fifteen-year study period.

4.1 Pure Sickness Claims

In the case of pure sickness claims, three major variables are constructed from the LFS data to help explore the potential influence of levels of illness in the labour force:

- 1) P1: the percentage of employed individuals absent from work due to illness or disability.
- 2) **P2**: the percentage of individuals who are unemployed, worked in the past, and left their jobs due to illness or disability.
- 3) **P3**: the percentage of individuals not in the labour force, who worked in the past year, but left their jobs due to illness or disability.

Two more variables are created to examine the impact of the duration of unemployment (in weeks) and duration of joblessness (in months) on pure sickness claims. Specifically, these two variables are used to examine whether longer periods of unemployment or joblessness mean that a person is less likely to receive some kind of sickness benefits because, for example, their benefits could be exhausted.

- 4) **P4**: the average length of time (in weeks) that the individuals falling under P2 are unemployed.
- 5) **P5**: the average length of time (in months) that the individuals included in P3 are not in labour force.

Some additional variables are included to examine the effects of the unemployment rate, age, tenure, time trend, and province. The effects of EI reform for 1997 and onward are also examined. Each of these additional variables is described below:

- 6) **ur**: unemployment rate.
- 7) **age55**+: the percentage of individuals age 55 and above.

³ Regression analysis was employed on the pooled cross sectional time series data. The STATA option for GLS was used.

- 8) **Tenure**: tenure (in years), currently employed only.
- 9) **Trend**: time trend.
- 10) **Dum97**: EI reform indicators for 1997 and onward.
- 11) **NF-ALB**: indicators for provinces (BC is the control).

Table 3 provides the results of the statistical analysis for EI sickness claims for pure sickness claims. The coefficients in the first column show the change in the use of pure sickness claims (as a share of total EI claims) that is associated with a change in each of the possible influences that are examined in this analysis.

P values are used to test for the statistical significance of the results, and these values are shown in the second column of Table 3. Any P value less than 0.10 is considered to be significant for this analysis and for the other statistical analyses in this report.

| Table 3 Pure Sickness Claims Measured as a Percent of All El Claims | | | | | | |
|--|--------------------|----------------|-------------------|--------------------|--|--|
| ariables Coefficient P> z [95% Conf. Interval | | | | | | |
| Ur (unemployment rate) | -0.2517 | 0.000 | -0.3874 | -0.1160 | | |
| P1 (% employed, sick and absent) | 0.2664 | 0.563 | -0.6357 | 1.1686 | | |
| P2 (% unemployed, worked in past, left | | | | | | |
| due to illness) | 0.4150 | 0.002 | 0.1473 | 0.6828 | | |
| P3 (% not in the Labour Force, worked | 0.0000 | 0.040 | 0.0000 | 0.0744 | | |
| in past, left due to illness) | 0.0023 | 0.949 | -0.0666 | 0.0711 | | |
| P4 (duration of unemployed those under P2) | 0.0180 | 0.837 | -0.1534 | 0.1893 | | |
| P5 (duration of unemployed those | 0.0100 | 0.037 | -0.1554 | 0.1093 | | |
| under P4) | -0.3085 | 0.134 | -0.7123 | 0.0952 | | |
| Age55+ | -0.0137 | 0.933 | -0.3324 | 0.3050 | | |
| Tenure (tenure in years, currently | | | | | | |
| employed only) | -0.7898 | 0.045 | -1.5606 | -0.0190 | | |
| Trend (time trend) | 0.3082 | 0.000 | 0.2240 | 0.3925 | | |
| Dum97 (El reform indicator for 1997) | 0.3681 | 0.193 | -0.1866 | 0.9227 | | |
| NF | -0.7480 | 0.263 | -2.0580 | 0.5619 | | |
| PEI | -1.8109 | 0.000 | -2.7286 | -0.8933 | | |
| NS | -0.5086 | 0.197 | -1.2809 | 0.2637 | | |
| NB | -1.1586 | 0.005 | -1.9710 | -0.3463 | | |
| QUE | -0.7793 | 0.227 | -2.0428 | 0.4842 | | |
| ONT | 1.3640 | 0.002 | 0.4884 | 2.2396 | | |
| MAN | 0.1886 | 0.755 | -0.9936 | 1.3709 | | |
| SASK | -0.5978 | 0.437 0.000 | -2.1051 | 0.9094 -0.7569 | | |
| Constant | -1.5576 11.0862 | 0.000 | -2.3583 5.9477 | -0.7569 16.2247 | | |
| Constant | 11.0002 | 0.000 | 5.5411 | 10.2247 | | |

Notes: Based on pooled GLS regression for years 1987/88 to 2001/02 and 10 provinces giving 150 observations. Dependent variable percent claims that are pure sickness. Independent variables derived from LFS data.

As expected, the coefficient for tenure is negative and significant. This implies that, when employment is more stable, the average time tenure will be higher and there will be a greater tendency to use employer-based sickness benefits when on sick leave. There are two reasons for this to occur. First, employer-based sickness benefits typically accumulate

with the length of time an individual has spent on the job. Secondly, longer periods of employment are generally associated with "standard" employment arrangements that are more likely to include employer-based sickness benefits for those who become sick. These results also imply that a reduction in the years of tenure (e.g. due to an increase in non-standard employment arrangements) would be associated with an increase in the share of pure sickness claims.

The negative sign on the unemployment rate also indicates that as the unemployment rate decreases the share of pure sickness claims would go up. This result is anticipated in light of the provincial analysis presented in Table 2.

Looking at the variables constructed to examine the impact of the levels of illness in the labour force, Table 3 shows that the percentage of unemployed who had left their job due to illness (i.e. P2) has a positive and significant effect on the share of pure sickness claims. It is important to note that this variable also captures the impact of the ageing of the labour force, to the extent to which ageing is associated with sickness (See Figure 1 in the Technical Note for the relationship between age55+ and sickness claims).⁴

As expected from Table 2, the provincial effects are highly significant in many cases.

4.2 Maternity Sickness Claims

Prior to Bill C-32, the *EI Act* provided for 15 weeks of maternity benefits and 10 weeks of parental benefits. If 5 weeks of sickness benefits were combined with the maximum entitlement of maternity and parental benefits, then the combined benefits could reach a maximum entitlement of 30 weeks.

On December 31, 2000, changes were made to the *EI Act* which extended parental benefits from 10 to 35 weeks and increased the entitlement of special benefits from 30 to 50 weeks. Given that the maximum entitlement for special benefits now coincides with the combined number of weeks given for maternity and parental benefits (50), women are less likely to augment their maternity and parental benefits with sickness benefits.

The variables used to analyze this category of claims are:

- 1) **urf**: female unemployment rate.
- 2) M1: the percentage of employed women absent from work due to personal or family reasons. Note that more specific measures are available but only back to 1997.
- 3) **empaf**: percent of employed women in the female labour force.
- 4) **Tenuref**: female tenure (in years), currently employed only.
- 5) **Trend**: time trend.
- 6) **dum97**: EI reform indicator for 1997 and onward.

⁴ As all the effects were captured by the sickness variables, ageing by itself did not appear to have any explanatory power.

- 7) **dum01**: EI reform indicator for Bill C-32.
- 8) **NFL-ALB**: indicator for provinces (BC is the control).

| Table 4 Maternity Sickness Claims Measured as a Percent of All Female El Claims | | | | | | |
|--|-------------|-------|----------------------|---------|--|--|
| Variables | Coefficient | P> z | [95% Conf. Interval] | | | |
| urf (unemployment rate-female)M1 (% employed women, absent from | -0.0039 | 0.992 | -0.7814 | 0.7736 | | |
| work due to personal or family | | | | | | |
| reasons empaf (% employed women of all | 1.6480 | 0.017 | 0.2937 | 3.0023 | | |
| female Labour Force) | 0.0404 | 0.924 | -0.7941 | 0.8750 | | |
| TenureF (tenure-female) | 0.6140 | 0.258 | -0.4510 | 1.6791 | | |
| Trend (time trend) | 0.3056 | 0.003 | 0.1074 | 0.5039 | | |
| dum97 (El reform indicator for 1997) | 2.2330 | 0.000 | 1.1946 | 3.2714 | | |
| dum01 (Bill C-32 2001 indicator) | -5.2207 | 0.000 | -6.3428 | -4.0985 | | |
| NF | -3.1733 | 0.022 | -5.8869 | -0.4597 | | |
| PEI | -3.7067 | 0.000 | -5.3957 | -2.0177 | | |
| NS | -1.7042 | 0.017 | -3.1038 | -0.3046 | | |
| NB | -2.6944 | 0.000 | -4.0069 | -1.3819 | | |
| QUE | -5.9514 | 0.000 | -7.9805 | -3.9223 | | |
| ONT | -2.0815 | 0.008 | -3.6239 | -0.5391 | | |
| MAN | -2.0536 | 0.020 | -3.7867 | -0.3204 | | |
| SASK | -1.3134 | 0.209 | -3.3621 | 0.7353 | | |
| ALB | 0.1430 | 0.823 | -1.1081 | 1.3941 | | |
| Constant | -5.4308 | 0.898 | -88.2269 | 77.3652 | | |

Notes: Based on pooled GLS regression for years 1987/88 to 2001/02 and 10 provinces giving 150 observations. Dependent variable percent claims that are pure sickness. Independent variables derived from LFS data.

Table 4 shows the statistical analysis results (using GLS) for maternity sickness claims as a share of total female EI claims. It should be noted that the actual data in Table 1 showed a pronounced rise from 1987/88 to 1992/93 for this claim type. As this movement was not shown in any of the LFS explanatory variables, there was a temptation to insert a dummy variable for that time period. However, as there were no known institutional changes during that time period, it was decided not to do this.

Although one would expect the unemployment rate to be a significant factor in the use of maternity sickness claims, the results in Table 4 indicate that it was not a significant factor during the study period. It is possible that this is due to the movements in the dependent variable described above.

The results shown in Table 4 also indicate that the coefficient for the percentage of employed women absent from work due to personal or family reasons (M1) is positive and very significant. As this percentage increases by one, the percentage of maternity sickness claims increases by about 1.6 percent.

The trend variable is highly significant in the case of maternity sickness claims (with an estimated coefficient of about 0.31), which is similar to the result for pure sickness claims. The EI reform indicator variable (dum97) and the indicator variable for Bill C-32 (dum01) are also highly significant, with coefficient estimates of 2.23 and -5.22

respectively. The negative effect of Bill C-32 on maternity sickness claims is expected due to the extension of parental benefits under Bill C-32, as discussed above. The apparent positive effect associated with EI reform is not understood at this time and requires more thorough study.

Most of the provincial variables are significant with relatively large coefficients.

4.3 Residual Sickness Claims

In an effort to explain the variation in residual sickness claims as a share of total EI claims, a number of explanatory variables are constructed from the LFS data. The general rationale behind these variables is to identify individuals that are temporarily experiencing sickness and are not likely to be in the pure sickness category or on maternity sickness claims. They may simply be unemployed and unable to look for work due to their illness.

The variables used to analyze residual sickness claims are:

- 1) **R1**: the percentage of individuals not in the labour force, who worked in the past year, but are not seeking employment due to illness.
- 2) **R2**: the average duration (in weeks) that those under R1 are jobless.
- 3) **lur**: unemployment rate lagged one period.
- 4) age55+: the percentage of individuals aged 55 and above.
- 5) **Tenure**: tenure (in years), currently employed only.
- 6) **Trend**: time trend.
- 7) **dum97**: EI reform indicator for 1997 and onward.
- 8) **NF-ALB**: indicator for provinces (BC is the control).

| Table 5 Residual Sickness Claims Measured as a Percent of All El Claims | | | | | | |
|---|-------------|-------|----------------------|---------|--|--|
| Variables | Coefficient | P> z | [95% Conf. Interval] | | | |
| Iur (unemployment rate: one period lag) R1 (% not in the Labour Force, worked in the past, and not looking for work | 0.1524 | 0.002 | 0.0572 | 0.2475 | | |
| due to illness) | -0.0058 | 0.985 | -0.5961 | 0.5844 | | |
| R2 (duration that those under R1 are | | | | | | |
| jobless) | -0.0254 | 0.808 | -0.2308 | 0.1799 | | |
| age55+ (% age 55 and above) | -0.1152 | 0.359 | -0.3614 | 0.1309 | | |
| Tenure (tenure) | -0.1965 | 0.524 | -0.8012 | 0.4083 | | |
| Trend (time trend) | 0.0677 | 0.044 | 0.0018 | 0.1337 | | |
| dum97 (El reform indicator 1997) | 0.4749 | 0.096 | -0.0840 | 1.0338 | | |
| NF | -4.6176 | 0.000 | -5.5929 | -3.6422 | | |
| PEI | -2.6625 | 0.000 | -3.3422 | -1.9828 | | |
| NS | -1.6359 | 0.000 | -2.2688 | -1.0029 | | |
| NB | -1.1986 | 0.000 | -1.8239 | -0.5733 | | |
| QUE | -0.8658 | 0.067 | -1.7933 | 0.0618 | | |
| ONT | -0.8624 | 0.030 | -1.6415 | -0.0833 | | |
| MAN | -0.2841 | 0.588 | -1.3126 | 0.7443 | | |
| SASK | -0.4606 | 0.496 | -1.7873 | 0.8661 | | |
| ALB | -0.1640 | 0.535 | -0.6828 | 0.3548 | | |
| Constant | 5.7061 | 0.001 | 2.2201 | 9.1921 | | |

Notes: Based on pooled GLS regression for years 1987/88 to 2001/02 and 10 provinces giving 150 observations. Dependent variable percent claims that are residual sickness. Independent variables derived from LFS data.

Table 5 shows the statistical analysis results (using GLS) for residual sickness claims as a share of total EI claims.

In this case, the coefficient for the unemployment rate (lagged one fiscal year) is positive and significant. The estimated coefficient indicates that as an unemployment rate increases by 1 percentage point, residual sickness claims also increase by 0.15 of a percentage point. This finding is in contrast with the negative and significant coefficient observed in the case of pure sickness claims.

Although the time trend is significant and positively related with residual sickness claims, its impact in determining the variation of the dependent variable is relatively small, with a coefficient of about 0.07.

Most of the provincial variables are highly significant with relatively large coefficients, which is also similar to the results for maternity sickness claims.

5. Conclusions

This analysis of the factors influencing the use of EI sickness benefits has divided these claims into three basic categories: pure sickness claims, maternity sickness claims, and residual sickness claims. The results show that the movements in each of these categories of claims can be explained to some extent, by certain aggregate indicators constructed from the LFS:

- Pure sickness claims as a share of total EI claims have increased steadily over the last fifteen years (increasing from 4.1 percent in 1987/88 to 7.7 percent in 2001/01) with some fluctuations in certain years. Key factors influencing the share of these claims are the unemployment rate, level of sickness in the labour force, and stability of employment.
- Maternity sickness claims as a share of total EI claims showed an upward trend from 1987/88 to 1999/00 (rising from 0.2 percent in 1987/88 to 1.2 percent in 1999/00) with a drop to 0.5 percent by 2001/02 following the extension of parental benefits by Bill C-32 in December 2000. A key factor influencing the share of these claims is the percentage of the female workforce that left the workforce due to personal or family reasons.
- Residual sickness claims as a share of total EI claims showed some fluctuations but generally followed an upward trend until 1999/00 (increasing from 4.1 percent in 1987/88 to 6.2 percent in 1999/00), but dropped to 3.8 percent in 2000/01. In the case of this category, the unemployment rate (lagged one fiscal year) tends to have a slight positive effect. However, it can be said at this point that the residual sickness benefits are the least well understood of the three sickness claim types.

The analysis presented in this report does not provide a complete explanation of all the movements in EI sickness claims, although some of the variation can be explained in terms of labour market and demographic trends captured by the LFS. Still, there is a substantial portion of the variation that is just explained by time.

Appendix: Impact of Age on Sickness

As seen in Figure 1, the link between the ageing population and the secular rise in sickness claims is not overwhelming. The share of the employed labour force over the age of 55 has not varied by more than one percentage point over the sample period. The fluctuations do not appear to be strongly correlated with changes in sickness benefits.

