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## Analytical Paper

### Analysis in Brief

# Chronic Unemployment: A Statistical Profile

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# Chronic Unemployment: A Statistical Profile

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## **Note of appreciation**

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

# Chronic Unemployment: A Statistical Profile

**Bradley Brooks**  
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**Socio-Economic Analysis and Modeling Division**

## Summary

The challenge of unemployment has dogged policy-makers in Canada during the past three decades.

The financial costs associated with this phenomenon have been substantial, according to previous research, which also has shown that unemployment has serious consequences for development of human resources at both the individual and societal levels. These costs are even more important when unemployment is persistent.

This study found that a small group of people who were, on average, unemployed most of their time in the labour force were responsible for a substantial share of unemployment. Just who are these people who, for whatever reason, had difficulties finding and keeping a job?

This study used data from the Survey of Labour and Income Dynamics (SLID) to examine three groups of the unemployed population: the seldom unemployed, the always unemployed and the chronically unemployed. For the purposes of this study, the seldom unemployed group is defined as the 10% of the unemployed with the least time spent unemployed. The always unemployed, those who couldn't find a job when they searched for one, accounted for another 5%. The chronically unemployed group has been defined as the remaining top 10% of the unemployed with the most time spent in unemployment—between 48% and 99% of their time in the labour force.

The findings are enlightening.

First, the study showed that the always and chronically unemployed accounted for a disproportionately large share of unemployment. This is especially striking since their participation in the labour market was relatively low. During two partially overlapping six-year periods between 1993 and 2001, they represented 15% of all unemployed people, but they accounted for roughly 41% of all unemployment.

Putting it another way, the people who were either always or chronically unemployed represented 15% of all individuals who had been unemployed at some point during the study period. At the same time, the total number of weeks of unemployment accumulated by these unemployed individuals represented 41% of the total time accumulated.

Secondly, the study showed that while the focus of previous studies has been on unemployment among men, it is actually women who were affected by chronic unemployment more than men. Women comprised 55% of the chronically unemployed population, and the problem was especially acute for single mothers.

In addition, people who had not graduated from high-school were over-represented in the population of the chronically unemployed, as were people who live in Quebec and the Atlantic provinces, members of visible minority groups and people with disabilities.

## Definitions

For the purposes of this study, the **population in the labour force** represents respondents aged between 16 and 69 who were in the Survey of Labour and Income Dynamics (SLID) sample for all six years of panel 1 (1993-1998) or panel 2 (1996-2001) and who were either working or looking for work for at least one week during the six-year panel life. The SLID is a longitudinal survey. It has the benefit of following the same set of individuals through the study period.

The **never unemployed population** represents respondents who did not experience unemployment during their time in the labour force.

The **ever unemployed population** represents respondents who were in the labour force population and experienced at least one spell of unemployment during the panel life. To be considered unemployed one must have been looking for work; people who were not working and not looking for work are excluded from the labour force population.

When the ever unemployed population is sorted in ascending order on the percentage of time unemployed (i.e. from those who were unemployed for the fewest weeks of their labour force tenure to those who were unemployed for the most weeks), the **seldom unemployed population** represents the "bottom" decile (from 0% to 10%) of the distribution. These people were unemployed less than 1.3% of their time in the labour force.

The **chronically unemployed population** represents the "top" decile of the same distribution (i.e. from 90.0% to 99.9%), excluding those who were unemployed for their entire time in the labour force. They were unemployed between 48.0% and 99.9% of their time in the labour force.

The 100% mark of the distribution represents those who were unemployed their entire time in the labour force - the **always unemployed population**. This group comprised roughly 5% of the ever unemployed and is examined separately from the chronically unemployed; although both groups were significantly affected by unemployment, people in this group never secured employment over the study period and so are in that sense unique. In fact, they were not eligible to receive Employment Insurance benefits since they had not worked and had not contributed to the program.

The choice of comparison deciles is arbitrary; this study uses the top decile (chronically unemployed) and 100% mark (always unemployed) versus bottom decile (seldom unemployed) comparison to highlight differences within the unemployed population.

As the current study focuses chiefly on comparisons of the groups at the poles of the ever unemployed population, characteristics of the middle deciles population (deciles 2 to 8, lumped) are not elaborated on in the analysis.

The **participation ratio** represents the number of weeks that a respondent was in the labour force expressed as a percentage of the number of weeks comprising the six-year panel life.

The **percentage of time unemployed** represents the number of weeks of unemployment that a respondent experienced expressed as a percentage of the number of weeks s/he was in labour force over six years.

An **economic family** is composed of two or more persons living together who are related by blood, marriage, adoption, or common-law.

## Chronically unemployed: A disproportionate share of unemployment

Individuals who were chronically unemployed accounted for a disproportionately high share of unemployment.

According to SLID data, in the two panels, just over 952,000 people were chronically unemployed. This group is defined arbitrarily as comprising one-tenth of the unemployed population of just under 10 million people.

However, they accumulated nearly 130 million weeks of unemployment. This total represented nearly 30% of the 443 million weeks of unemployment accumulated by all individuals who had been unemployed at some time during the study period.

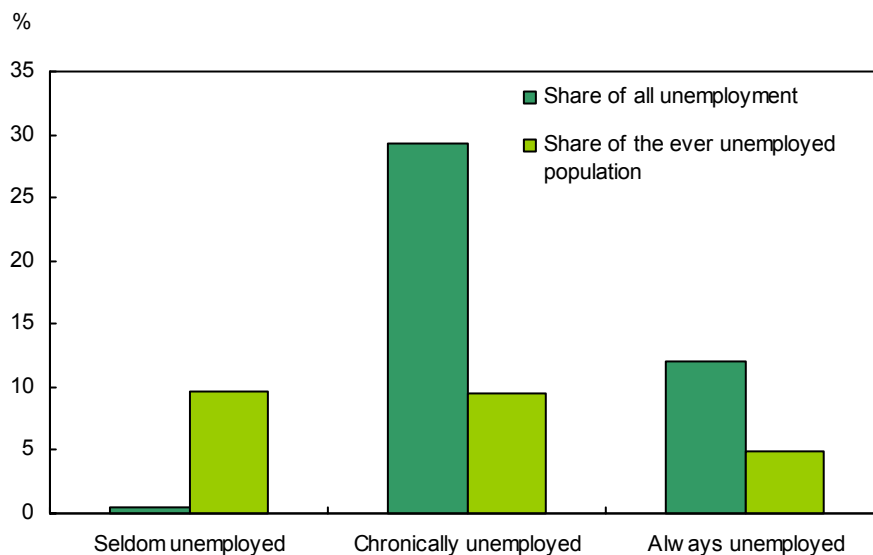
In other words, this 10% of the unemployed represented 30% of unemployment.

Furthermore, if the 492,000 people who had not been able to find a job during the study period (always unemployed) were added to chronically unemployed, the two groups combined would have accounted for almost 15% of the unemployed and just over 41% of all unemployment.

In contrast, there were 10% of people at the opposite end of the scale who were rarely out of work. On average, they experienced fewer, shorter, spells of unemployment, and were unemployed less than 1.3% of their time in the labour force.

This 10% of the ever unemployed population accumulated fewer than 2.1 million weeks of unemployment, representing only 0.5% of the total.

### The chronically unemployed accounted for a disproportionately high share of unemployment



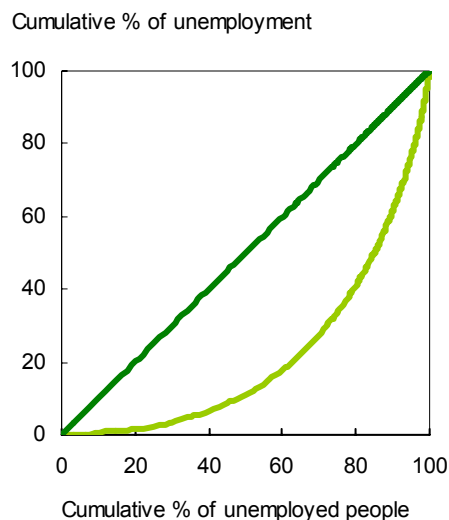
Source: Statistics Canada, Survey of Labour and Income Dynamics.

A Lorenz curve provides another view of the disparity in unemployment. When the ever unemployed are ordered from those who were unemployed for the least amount of time to those who were unemployed the most, the curve shows the cumulative percentage of total unemployment versus the cumulative percentage of the ever unemployed population.

When viewed this way, it is apparent that half of the ever unemployed accounted for only 11% of all unemployment between 1993 and 2001; three quarters of the ever unemployed accounted for 35%, and 90% accounted for about 62% of unemployment during that time.

A Gini coefficient for the curve measures 0.57, which indicates substantial inequality in the distribution of unemployment.<sup>1</sup>

### **A Lorenz curve shows that most of unemployment was due to a small proportion of the unemployed**



**Source:** Statistics Canada, Survey of Labour and Income Dynamics.

### **Chronically unemployed: More and relatively longer spells of unemployment**

Individuals who were chronically unemployed tended to experience more and longer spells of unemployment than other unemployed people. Moreover, their attachment to the labour market was not as strong.

The chronically unemployed experienced, on average, 3.4 periods of unemployment, each lasting an average of at least 54 weeks, or just over a year.

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1. Basically, the Gini coefficient ranges between 0 and 1, with 0 indicating no inequality and 1 indicating total inequality.

More than one-quarter of the chronically unemployed experienced five or more spells of unemployment. Indeed, almost 1 out of 10 in this group experienced 7 or more spells, and some experienced as many as 16.

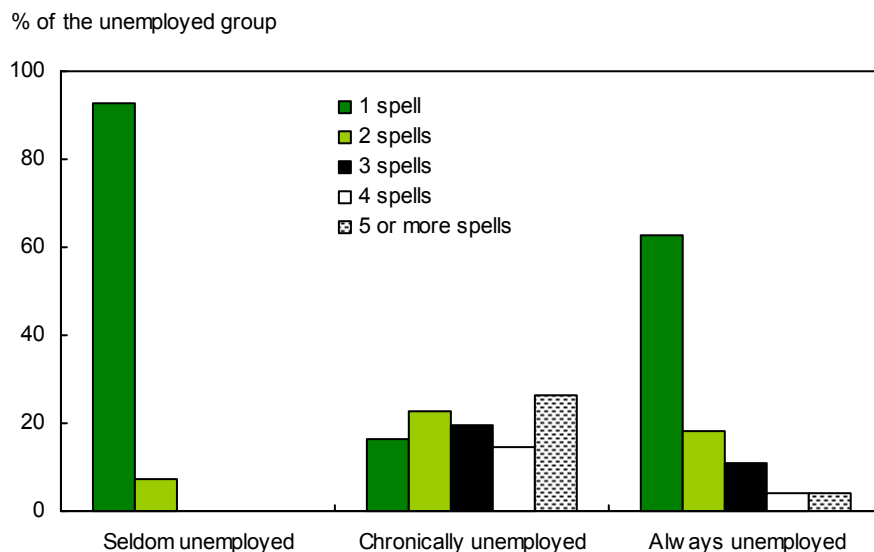
In contrast, people who were always unemployed during their time in the labour force experienced, on average, 1.7 periods of unemployment over six years, each lasting at least 77 weeks. The fact that they had more than one spell of unemployment indicated they quit looking for work and had dropped out of the labour force at some point.

On re-entering the labour force, they were still unable to find jobs. Essentially, they did not get a job when they tried to find one. About 4% of these people who were always unemployed experienced five or more spells of unemployment, and some experienced as many as eight spells over the period.

At the opposite end of the scale, the people who were seldom unemployed experienced, on average, only a single spell of at least two weeks in duration.

Overall, unemployed people as a single group averaged 2.2 spells of unemployment of at least 22 weeks each, over the study period.

### The chronically unemployed tended to experience more spells of unemployment



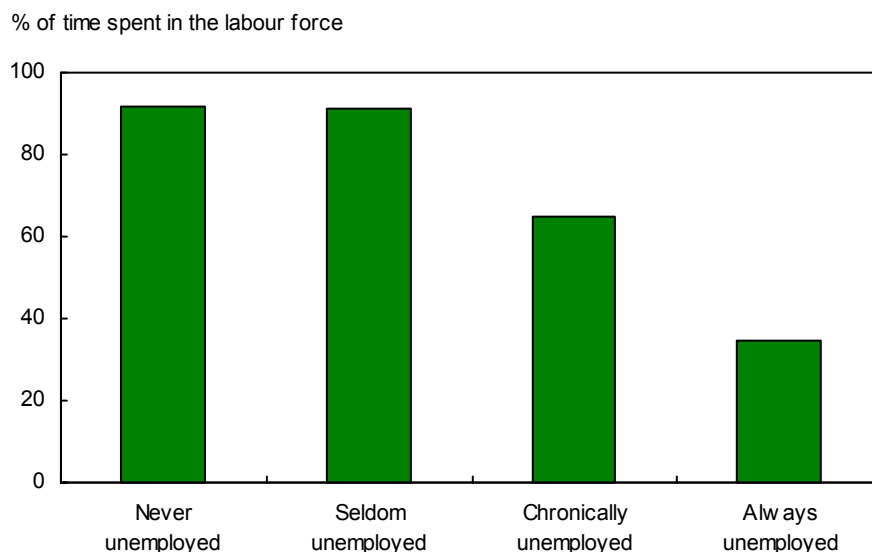
Source: Statistics Canada, Survey of Labour and Income Dynamics.

The chronically unemployed and people who were always unemployed tended to participate much less in the labour force over the long term than other workers.

The chronically unemployed group had a relatively low mean participation ratio of 65%, or 204 weeks, over the study period. However, they had a greater attachment to the labour force than the people who never found a job. This perhaps reflected more optimism about their employment prospects and lighter constraints in terms of human capital or personal/family related employment barriers.

People who were always unemployed posted, on average, the lowest labour force participation ratio, 35%, or about 109 weeks of the study period. This suggests that this group comprises a larger portion of discouraged workers, who drop out of the labour force for various reasons.

### Chronically unemployed people participated in the labour force less



Source: Statistics Canada, Survey of Labour and Income Dynamics.

### Women affected more than men by chronic unemployment

Traditionally, much of the research attention paid to the unemployed has been on men. However, SLID data show that women are in fact affected by chronic unemployment more than men.

Overall, women accounted for 53% of the 10 million or so individuals who had been unemployed at some time in this study period.

However, women made up 55% of the chronically unemployed population, and nearly two-thirds of the population that never found a job during the study period.

At the other end of the scale, men comprised just over one-half (52%) of the population that was seldom out of work.

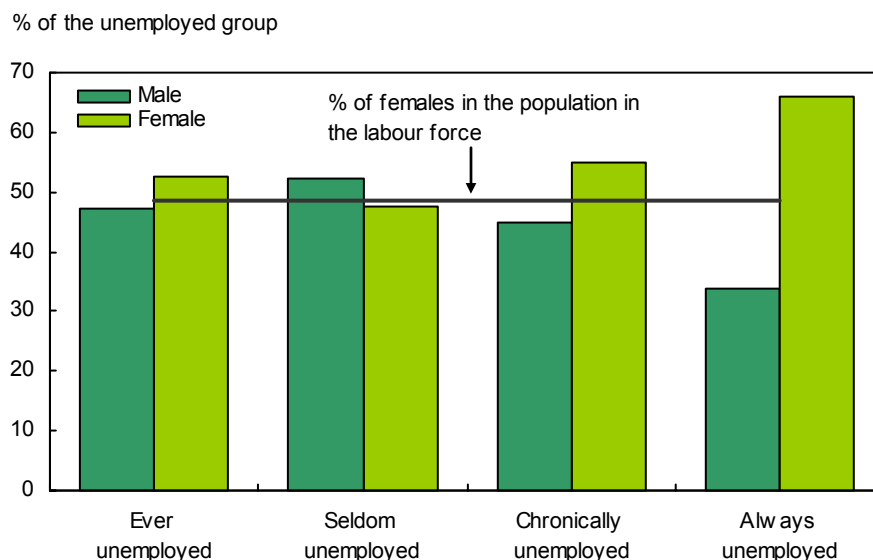
In addition, women were about 1.3 times more likely than men to be in the chronically unemployed population as opposed to the never unemployed population. They were also 1.7 times more likely than men to be in the population that was always unemployed, as opposed to the population that was never unemployed.<sup>2</sup> These results were obtained after controlling for SLID panel, immigration status, age group, visible minority status, region of residence, economic family type, disability status, relation to the major income earner in the economic family, and educational attainment.

2. These results are statistically significant at least at the 95% significance level. Regression results can be obtained from the author at this email address: [analysisinbrief-analyseebref@statcan.ca](mailto:analysisinbrief-analyseebref@statcan.ca).



Unemployed women spent on average 24% of their total time in the labour force unemployed, compared with only 20% for unemployed men. They posted 54% of unemployment spells that exceeded 52 weeks over the study period. In terms of total weeks unemployed, men and women accounted for an equal share. That their shares were equal, although women comprised a majority of the unemployed and spent more time in unemployment, reflects a higher mean participation ratio for men, 84%, than that for women, 74%.

### Women were more affected by chronic unemployment



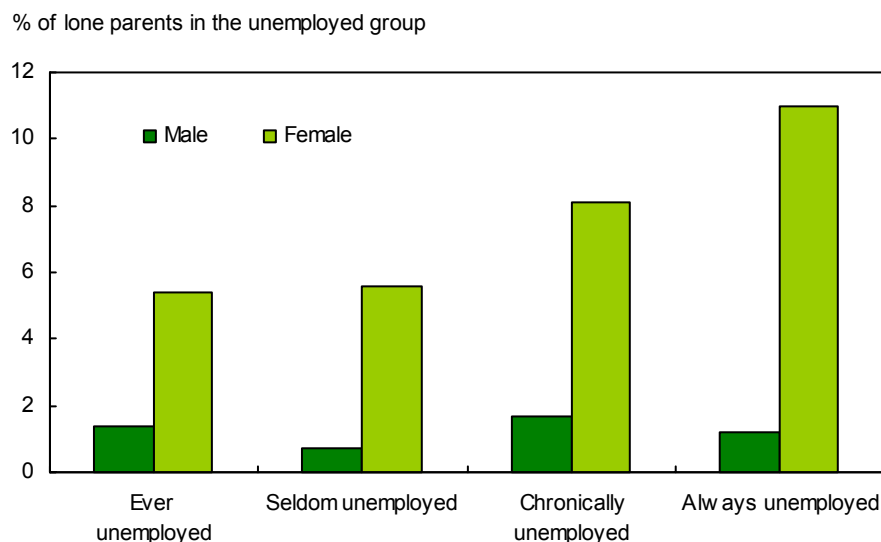
Source: Statistics Canada, Survey of Labour and Income Dynamics.

Lone parents were especially over-represented among the chronically unemployed, as well as among the population that never found a job. And these were mainly women, because women head the vast majority of lone-parent families.

Overall, lone parents accounted for 4.8% of the 24 million people who had been in the labour force at some time in the study period. However, they accounted for 10% of the chronically unemployed and 12% of the people who never found a job during the study period.

The chances of lone parents experiencing unemployment during the study period were 6.6 times higher than those for unattached men. Again, most of these lone parents were women.

## Among lone parents, women were especially affected by chronic unemployment



Source: Statistics Canada, Survey of Labour and Income Dynamics.

## People with less education over-represented in chronic unemployment

People with less than high school graduation were especially over-represented in the chronically unemployed population, as well as in the group that had never found a job. Conversely, they were under-represented among individuals who were seldom unemployed.

These school leavers accounted for 20% of the population in the labour force during the study period. However, they represented 38% of the chronically unemployed and 51% of the group who never found a job. These are higher proportions than those for any other group.

In contrast, people holding university degrees or certificates represented 18% of the population in the labour force, but only 5.6% of the chronically unemployed. They also accounted for 17% of the group that was seldom unemployed.

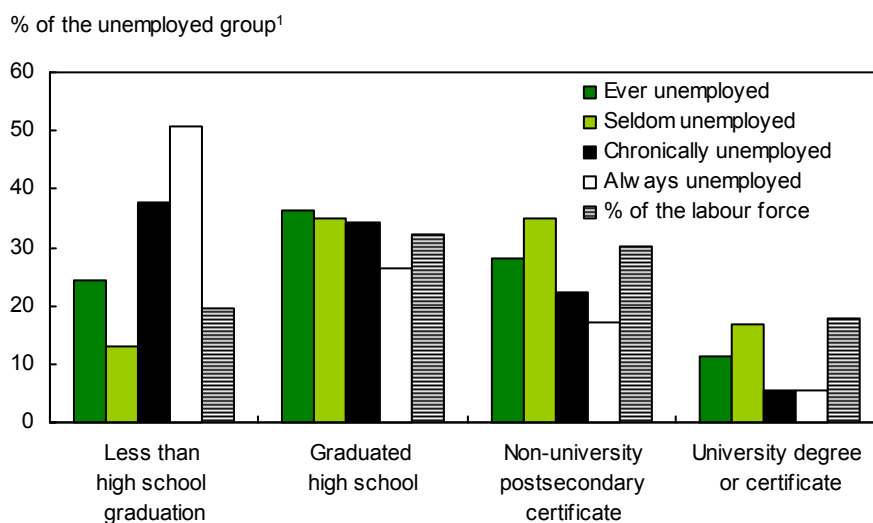
People with non-university postsecondary certificates or higher were distributed, by unemployment group, similarly to those with university qualifications, though with a smaller share of the ever unemployed.

Individuals who had graduated high school were fairly representative in the unemployment sub-populations, apart from in the always unemployed population, where they were noticeably under-represented (relative to their share in the population in the labour force).

Compared with people with higher levels of educational attainment, individuals with less than high school graduation could be expected to spend a greater proportion of their time in unemployment.

People who had not graduated high school were also eight times more likely than individuals with university qualifications to be in the chronically unemployed population as opposed to the group that was seldom unemployed.

## People who had not graduated high school were over-represented in chronic unemployment



1. The last bar of each grouping represents the percentage of that grouping in the population in the labour force.

Source: Statistics Canada, Survey of Labour and Income Dynamics.

## Older workers more affected by chronic unemployment

Older workers—those over the age of 40—also tended to be more affected by chronic unemployment.

This group accounted for 28.3% of the 10 million people who had been ever out of work during the study period. However, they comprised 38.1% of the chronically unemployed population, and 52.1% of the population that had never found a job.

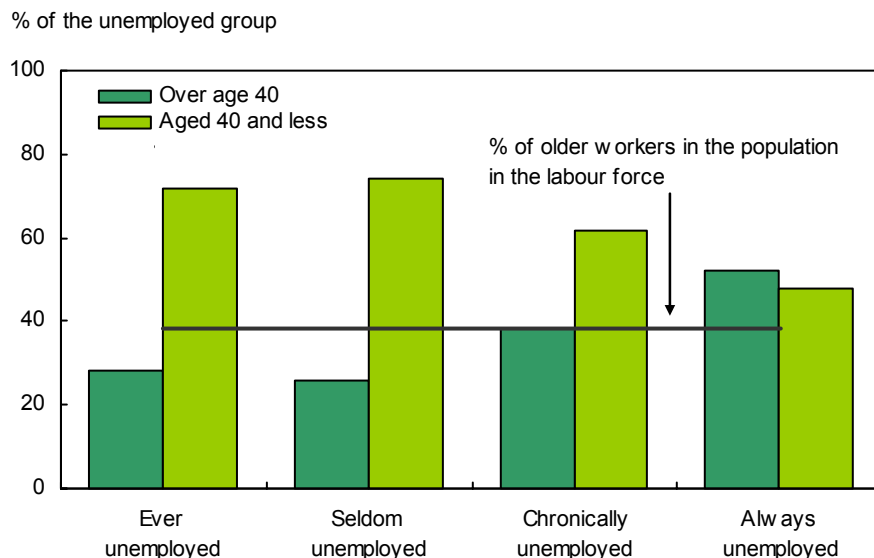
People aged 56 to 63 were the most affected. While they were under-represented among the unemployed (5.0% compared to 6.8% in the population in the labour force), they were actually over-represented in chronic unemployment (8.4%) and always unemployment (16%).

This suggests that obstacles to re-employment become more challenging as one ages. These results hold true even after taking the other variables (i.e. SLID panel; immigration status; visible minority status; region of residence; economic family type; disability status; relation to the major income earner in the economic family; and educational attainment) into account.

Possible barriers to re-employment for older workers include higher wage expectations, choosiness in selecting a new job (afforded by accumulated savings), skills mismatches that hinder career change and, also, demand side constraints associated with ageing.

At the other end of the age scale, SLID results show that the youngest workers, those aged 16 to 20, face a high unemployment rate. But more of them fall into the category of people who were seldom unemployed. In other words, these young workers are more likely to experience unemployment but for a relatively smaller portion of their time in the labour force.

### Older workers were more affected by chronic unemployment



Source: Statistics Canada, Survey of Labour and Income Dynamics.

### Percentage distribution of population groups by age group at the start of the six-year panel

Population groups	16 to 20	21 to 25	26 to 30	31 to 35	36 to 40	41 to 45	46 to 50	51 to 55	56 to 63
	% of population groups								
Labour force	8.7	10.3	12.7	15.2	14.9	13.0	10.9	7.6	6.8
Never unemployed	3.5	6.6	11.9	15.8	17.1	15.2	12.8	9.1	8.1
Ever unemployed	16.1	15.5	14.0	14.4	11.8	9.9	8.1	5.3	5.0
Seldom unemployed	13.2	19.1	14.8	14.5	12.6	11.2	7.1	5.5	2.1
Middle deciles	17.6	16.0	14.5	14.2	11.8	9.2	7.9	4.6	4.2
Chronically unemployed	12.8	12.0	11.4	14.2	11.6	12.4	9.1	8.2	8.4
Always unemployed	4.9	6.9	8.7	17.3	10.1	13.2	11.8	11.3	15.8

Source: Statistics Canada, Survey of Labour and Income Dynamics.

### Chronic unemployment: A reality in Eastern Canada

Unemployed people living east of Ontario were over-represented among the chronically unemployed and also among the people who never found a job.

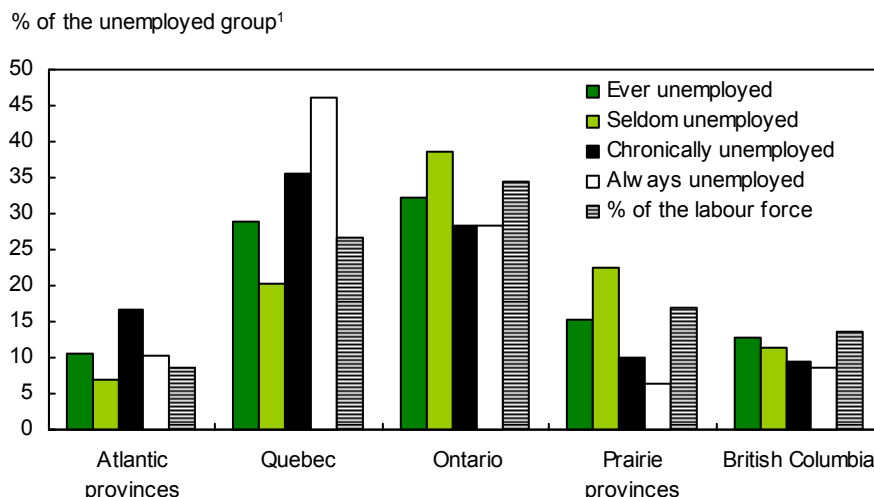
Residents of the Atlantic provinces represented 8.5% of the labour force in this study. Yet they represented 17% of the chronically unemployed. Similarly, people in Quebec accounted for 27% of the labour force, and 36% of the chronically unemployed.

Generally, as one moves westward from Atlantic Canada, the chances are less that people will spend time in unemployment. Their chances of being either chronically unemployed or in constant

unemployment were also less. These conclusions are true after controlling for SLID panel, immigration status, age group, visible minority status, sex, economic family type, disability status, relation to the major income earner in the economic family, and educational attainment.

This general trend strengthened from Quebec to the Prairies, although it weakened slightly in British Columbia.

### Atlantic Canadians and Quebecers were more likely to be chronically unemployed



1. The last bar of each grouping represents the percentage of that grouping in the population in the labour force.

Source: Statistics Canada, Survey of Labour and Income Dynamics.

### Visible minorities, disabled over-represented in chronic unemployment

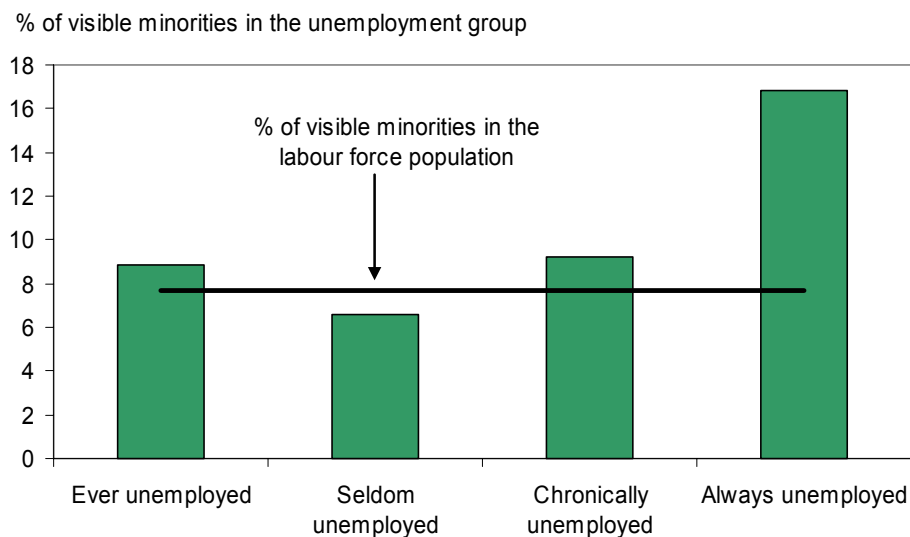
Members of visible minority groups generally remained a small subgroup in unemployment. However, among the unemployed they were over-represented in the chronically unemployed population and especially in the group that never found a job.

Visible minorities accounted for just 7.6% of the population in the labour force. But they represented 9% of the population that was unemployed at some time during the study period and 17% of the always unemployed.

Members of visible minority groups spent 4.5% more of their time in the labour force in unemployment than others, after controlling for SLID panel, immigration status, age group, sex, region of residence, economic family type, disability status, relation to the major income earner in the economic family, and educational attainment.

They were 2.6 times more likely to be in the chronically unemployed population, as opposed to the population that was rarely unemployed. In addition, they were 1.7 times more likely to be in the chronically unemployed population and 3.6 times to be in the always unemployed, as opposed to the group that was never unemployed.

### Visible minorities were over-represented in chronic unemployment

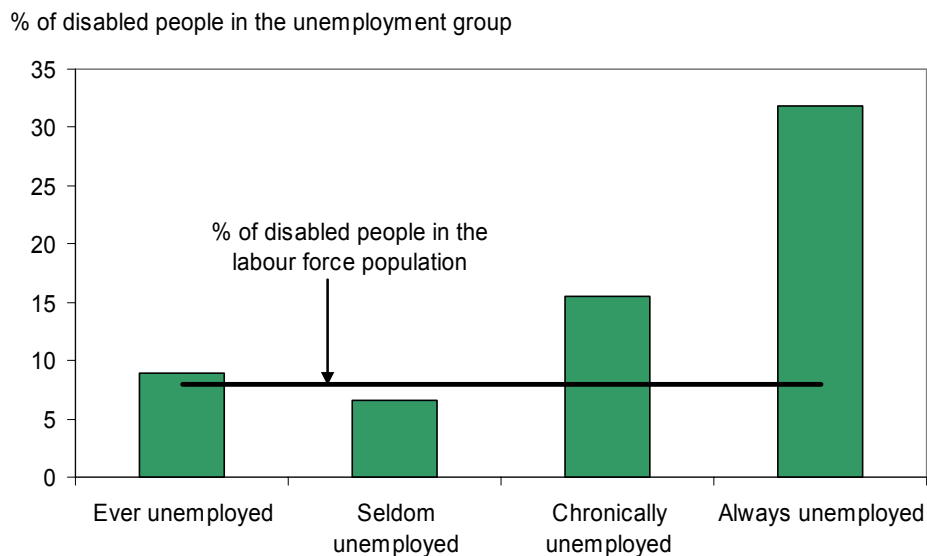


Source: Statistics Canada, Survey of Labour and Income Dynamics.

People with disabilities composed a minority group in unemployment and in the labour market as well. Among the unemployed, they were substantially over-represented in the chronically unemployed population and in the group that was always unemployed.

People with disabilities accounted for 7.4% of the labour force during the study period. However they represented 8.9% of the population that was unemployed at some time, 16% of the chronically unemployed and 32% of the always unemployed.

### People with disabilities were more likely to experience chronic unemployment



Source: Statistics Canada, Survey of Labour and Income Dynamics.

## Sample and methods

Data used in this study came from the Survey of Labour and Income Dynamics (SLID). This is a longitudinal survey conducted each year since 1992, following roughly 30,000 adults over a six-year period. Each six-year cohort is referred to as a panel. A new panel is introduced every three years, so panels overlap. This study uses data from the first two panels of the survey. For more information regarding the SLID, visit [www.statcan.ca](http://www.statcan.ca), or contact Client services (613) 951-7355 (email: [income@statcan.ca](mailto:income@statcan.ca)).

The sample was restricted to people who were in the SLID for all six years of panel 1 or panel 2, and who were aged 16 to 63 in the first year of the panel. The sample was further restricted to include only people who were in the labour force for at least one week during the six-year panel life. The final sample included 11,655 ever unemployed respondents.

Partial weeks on the cusp of any two panel years were combined into a single week. The labour force status for these weeks was set to the “highest” labour force status, with ‘employed’ given precedence over ‘unemployed’ and ‘unemployed’ given precedence over ‘not in the labour force’ where different statuses were reported for any respondent. For panel 1 the total number of weeks is 314, while for panel 2 the total number of weeks is 313.

The panels were combined. Summary statistics on the sample, population and key indicators are provided below. A small panel effect was observed reflecting aspects of a decreasing unemployment rate over panel 2. The distributional changes among the unemployed populations between the two panels in part reflect labour force participants’ reactions to an economy that was improving in the late 1990s and to substantial reforms that the Unemployment Insurance program (now Employment Insurance) underwent from 1996 onward.

In choosing variables to highlight in the descriptive analysis, three regression analyses were modeled, using SUDAAN software and employing 1,000 bootstrap weights designed for use with the SLID longitudinal data. Each model measured the effects of the following variables on the dependent variable: panel; sex; immigration status; age group; visible minority status; region of residence; economic family type; disability status; relation to the major income earner in the economic family; educational attainment. Where applicable, the value of the variable at the start of the six-year panel was used; for example educational attainment reflects the respondent’s highest level of education in the first year. In effect, the regressions measure the sole influence of each variable while controlling for the effects of the others.

The models were as follows: a multiple regression analysis measuring the effects of the variables listed on the percentage of time in the labour force spent unemployed ( $R^2 = 0.11$ ); a multinomial logistic regression measuring the relative risks of being in any one of the unemployment sub-populations given one’s status (as defined by the listed variables); a logistic regression measuring the relative odds of being in the seldom unemployed population, as opposed to the chronically unemployed population, given one’s status ( $R^2 = 0.24$ ).

All results presented in the text are statistically significant at least at the 95% level of significance. It should be noted that this analysis was completed prior to the historical revisions released in 2005 (see “Survey of Labour and Income Dynamics: 2003 Historical Revision”, *Income Research Paper Series*, Statistics Canada Catalogue no. 75F0002MIE, vol. 9. While these revisions suggest that levels of unemployment may be slightly underestimated in this study the trends reported should be unaffected.

To obtain the regression results, please contact the author at this email address: [analysisinbrief-analyseenbref@statcan.ca](mailto:analysisinbrief-analyseenbref@statcan.ca).

## Tables

**Basic results by population group, Canada, combined sample from Panel 1 (1993 to 1998) and Panel 2 (1996 to 2001)**

Population groups	Sample	Popu- lation	Total unem- plov- ment	Time in labour force per person	Time in unem- plov- ment per person	Average mean unem- plov- ment spell length per person <sup>1</sup>	Unem- plov- ment spells per person
	number	thou- sands	millions of weeks	weeks			number
<b>Labour force</b>	<b>27,836</b>	<b>24,147</b>	<b>443</b>	<b>270.9</b>	<b>18.4</b>	<b>9.2</b>	<b>0.9</b>
<b>Never unemployed</b>	<b>16,181</b>	<b>14,154</b>	<b>0</b>	<b>287.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Ever unemployed</b>	<b>11,655</b>	<b>9,993</b>	<b>443</b>	<b>246.9</b>	<b>44.4</b>	<b>22.2</b>	<b>2.2</b>
Seldom unemployed	1,065	958	2	285.7	2.2	2.0	1.1
Middle deciles	8,792	7,591	258	256.4	34.0	17.3	2.2
Chronically unemployed	1,275	952	130	203.6	136.3	53.6	3.4
Always unemployed	523	492	53	108.5	108.5	77.4	1.7

1. Each respondent's total weeks in unemployment were divided by his/her total number of spells over the panel period, yielding the mean unemployment spell length per person. The "Average mean unemployment spell length per person" column gives the average value of this statistic for the groups indicated. The formula used is unbiased but not "consistent" in the sense that this "average of means" is not equal to the average number of unemployed weeks divided by the average number of spells. A "consistent" estimator would generate a downward bias in this particular case. Mean unemployment spell length is underestimated for any respondents who were unemployed just prior to or after the study period (known as left and right censoring).  
**Source:** Statistics Canada, Survey of Labour and Income Dynamics.

**Key indicators by population group, Canada, combined sample from Panel 1 (1993 to 1998) and Panel 2 (1996 to 2001)**

Population groups	Proportion of the ever unemployed population	Share of total unemployment	Mean participation ratio per person	Mean time in labour force spent in unemployment
	%			
<b>Labour force</b>	...	<b>100.0</b>	<b>86.4</b>	<b>9.1</b>
<b>Never unemployed</b>	...	<b>0.0</b>	<b>91.8</b>	<b>0.0</b>
<b>Ever unemployed</b>	<b>100.0</b>	<b>100.0</b>	<b>78.7</b>	<b>22.0</b>
Seldom unemployed	9.6	0.5	91.1	0.8
Middle deciles	76.0	58.2	81.8	13.8
Chronically unemployed	9.5	29.3	64.9	67.9
Always unemployed	4.9	12.0	34.6	100.0

... not applicable

**Source:** Statistics Canada, Survey of Labour and Income Dynamics.