

Workers on the move: Quits

René Morissette, Garnett Picot and Wendy Pyper

Note: The first two articles in this issue of *Perspectives* conclude our series on labour turnover. "[Workers on the move: An overview of labour turnover](#)" and "[Hirings](#)" can be found in the Summer 1992 issue.

Canadian workers held 15.3 million jobs in 1988. Over the course of the year, they quit roughly 2.7 million of these jobs, or almost one in five.

While layoffs are initiated by the employer, quits are permanent job separations initiated by employees. The labour turnover these quits cause can be costly to employers, who must hire and train new workers. Firms with well-educated and skilled workforces can face particularly high replacement costs. If quit rates become excessive, the firm's competitiveness may be at risk. On the other hand, leaving one job for another may lead to a better match between the worker and the job and result in greater productivity.

People leave their jobs for a variety of reasons, such as finding new jobs, dissatisfaction with low wages, going to school or personal and family responsibilities (see [A few words about the data](#)). Young workers with low-paying jobs are likely to have high quit rates. Similarly, people in industries or occupations with poor working conditions may resign more often than others. Workers in large firms may quit less frequently than people in small firms because they can change jobs without changing employers. Finally, women may leave their jobs more often for family-related reasons.

What is a high quit rate? To help employers and analysts address this question, this article uses data on quits in Canada from the Labour Market Activity Survey. ⁽¹⁾ It documents the quit rates observed in 1988 and studies some of the factors affecting those rates: age, wage rate, industry, and sex. Quits are divided into two categories: those for economic reasons and those for non-economic reasons. Where appropriate, this article uses multivariate analysis to better understand the factors that may explain the variations observed (see [Appendix: Estimating the probability of quitting](#)). Since quits fall during recessions and rise during periods of economic expansion, the evidence for 1988 is best viewed as representative of the situation common in expansionary years. ⁽²⁾

Workers who quit are young

Although young workers represent less than 20% of all employed workers, they account for half of all quits ([Table 1](#)). One probable explanation is that this group often "job shops" to acquire information about such job characteristics as earnings opportunities and working conditions. These types of quits become less frequent as experience leads to a better match between the worker and the firm. And because young people often leave jobs to return to school, their quit rates for non-economic reasons are higher than those for older workers.



Table 1 Quit rates by age, 1988.

Source: *Labour Market Activity Survey*

Another reason why quit rates for younger workers are high is that they generally receive low wages. Combined with the greater tendency to return to school, these factors may account for much of the difference in quit rates observed among age groups. For instance, the aggregate quit rate of workers aged 16 to 24 are three times greater than that of workers aged 35 to 44. But when the influence of wages, student status and all other factors examined in this study are controlled for, the chances that a young worker will quit drop to about 1.6 times that of the older group for both men and women ([Chart A](#)). (See "[Controlling for ...](#)" and [Appendix: Estimating the probability of quitting](#) for a complete list of the factors, or explanatory variables, controlled for in the logistic regression.)



Chart A In 1988, workers aged 16 to 24 were the most likely to quit their jobs.

Source: *Labour Market Activity Survey*

The effect of education on quit rates is more difficult to determine, since it affects a worker's job opportunities both within the firm and outside it. Simple observation shows no clear relationship between education and quit rates. However, the results of multivariate analysis indicate that women with at least some high school education have higher quit rates than women with elementary school only. They also suggest that men who completed university tend to quit more often than other men.

Dependent children might also be thought to have an impact on quit rates, especially those of workers aged 25 to 44. But a simple examination of quit rates by age of workers and number of children shows no clear relationship between the two. However, multivariate analysis shows that women's rates rise with the number of children under 6 years of age while men's rates are not affected by the presence of those children.

Workers who quit are in low-paying jobs

Recent studies in the United States show that well-paid workers generally have lower quit rates, because better wages and other forms of compensation (pension plans or fringe benefits, for example) make alternative jobs less attractive. [\(3\)](#) Thus, increases in the firm's wage bill should be offset by decreases in its expenditures on labour turnover. It therefore becomes important that the firm knows how much quit rates will fall, on average, given a specified rise in wages.

In 1988, workers earning less than \$5 per hour exhibited quit rates six times higher than those receiving \$20 or more per hour ([Table 2](#)). This is probably because low-paid workers are often young employees with few firm-specific skills. [\(4\)](#) As a result, their current wages may be similar to those offered in alternative jobs, thus making the cost of changing jobs relatively small. The differences in quit rates for non-economic reasons may be partially due to the number of full-time students holding temporary jobs in low-wage occupations. However, when age and other factors are controlled for, quit rates for jobs paying \$5 per hour remain higher than those in jobs paying \$20 per hour - with men 1.8 times and women 2.3 times more likely to leave jobs ([Chart B](#)). Clearly, among workers with similar characteristics, wage rates are an extremely important determinant of quit behaviour.



Table 2 Quit rates by wage rate and firm size, 1988.

Source: *Labour Market Activity Survey*



Chart B Low-wage jobs were associated with high quit rates in 1988.

Source: *Labour Market Activity Survey*

Large firms have low quit rates

Perhaps because they can change jobs without changing employers, or because they are less likely to be laid-off, workers in large firms have lower quit rates than those in small firms ([Table 2](#)). Firms with less than 20 employees exhibit quit rates almost twice as high as those of firms with 500 or more employees. However, when differences in other factors like wages, pension plan coverage and unionization are taken into account, most of this disparity vanishes, which appears to reflect the fact that large firms provide more of these advantages than small ones. [\(5\)](#)

Workers in consumer service industries quit most often

Workers in different industries [\(6\)](#) give up their jobs for different reasons. Some industries rely heavily on part-time workers such as students, while others are seasonal; in these cases, employers undoubtedly expect large numbers of their workers to leave. (The aggregate quit rate in part-time jobs is 27%, compared with 15% in full-time jobs.) On the other hand, some industries face unstable demand for their products or services, and have greater-than-average layoff rates. Some offer more generous compensation packages than others ([Gera and Grenier](#), 1991), and some pay well but have poor working conditions. All of these factors, along with others, will affect an industry's quit rates.

Workers in consumer services are most likely to leave their jobs ([Table 3](#)). However, many of the consumer service industries employ people in temporary and part-time jobs, and tend to offer lower wages and less pension plan coverage. Their workforces also tend to be characterized by higher proportions of young workers and lower levels of unionization, and thus pose a greater likelihood of layoff ([Picot](#), 1992). When the influence of all factors is discounted, the quit rate in consumer services is about 1.2 times higher than that in public services. All these factors suggest that the quit rates observed mainly reflect the differences in the jobs and the types of workers employed by the various industries.



Table 3 Quit rates by industry and occupation, 1988.

Source: *Labour Market Activity Survey*

Quit rates also vary across occupations. Those characterized by unpleasant working conditions, rapid pace of work and stress may exhibit higher quit rates than other types of jobs. Quit rates are highest in sales-related occupations and in services ([Table 3](#)), a fact that remains true even after controlling for the effects of variables such as age, wages, pension plan coverage and unionization. Compared with the quit rates of managers and professionals, chances that employees in sales-related occupations and in services will leave their jobs are 1.4 times greater for women and 1.7 times greater for men.



Table 4 Aggregate quit rates by selected industries, 1988.

Source: *Labour Market Activity Survey*

Men's and women's quit rates are very similar

Women's aggregate quit rate for all jobs is somewhat higher than men's - 20% compared with 16% ([Table 5](#)). When the data are broken down by work status, they show that women's quit rates exceed men's in full-time jobs but not in part-time jobs. However, women account for close to three-quarters of all part-time employment, and part-time quit rates are almost double those for full-time jobs. Women's overrepresentation in part-time work may explain part of the difference between male and female aggregate rates for all jobs.



Table 5 Quit rates by sex, 1988.

Source: *Labour Market Activity Survey*

In full-time jobs, women's aggregate quit rate exceeds men's by roughly 3 percentage points. Most of this difference is related to quits for non-economic reasons, which are greater for women mainly because of personal or family responsibilities. ([7](#)) Moreover, women tend to work in lower paying jobs, where quit rates are higher. To assess how men's and women's quit rates compare, one has to consider jobs paying similar wages. Then it can be seen that women's aggregate quit rates are lower for all but the highest wage interval ([Table 6](#)). That is, they are lower in jobs paying less than \$16 per hour, which account for 84% of female employment and 64% of male employment. In the wage interval where women's quit rates surpasses men's, the difference does not exceed 1 percentage point. Thus, when full-time jobs paying comparable wages are considered, there appears to be little difference between men's and women's likelihood of giving up a job. ([8](#))



Table 6 Aggregate quit rates by sex and wage rates for full-time jobs, 1988.

Source: *Labour Market Activity Survey*

Conclusion

The employees most likely to quit are young and work in low-paying jobs. Although quit rates differ across industrial groups, most of the differences seem to reflect the fact that some industries pay better wages. Quit rates are also higher in small firms than in large firms; the explanation seems to be that large firms, on average, offer wages and other benefits that tend to make alternative employment unattractive. Finally, the commonly held view that women leave their jobs more often than men does not appear to be valid. In jobs paying approximately the same wage, men's and women's quit rates are very similar.

A few words about the data

This study is based on the results of the Labour Market Activity Survey conducted by Statistics Canada in 1988 and 1989. (See [Appendix: Data source on hirings and separations](#), p. 26.) The sample includes all jobs held by workers under 65 years of age employed in all industries except agriculture and fishing. The tables and charts are based on a sample of 46,700 jobs.

In this study, quits are divided into two types: quits for economic reasons and those for non-economic reasons. Quits for economic reasons include:

- found a new job
- working conditions
- low pay
- move to new residence
- no opportunity for advancement
- worried about job security/reduction in hours
- other, left job

Quits for non-economic reasons include:

- own illness or disability
- personal or family responsibilities (including pregnancy)

- going to school

The distinction between economic and non-economic reasons is not as straightforward as it first appears. For instance, the economic reason "move to a new residence" could be classified under non-economic reasons, while in certain cases "going to school" could fall under economic reasons. The aggregate quit rate captures all quits, whether the respondent considered them "economic" or "non-economic."

"Controlling for ..."

Economic relationships are often complex. To explain the behaviour of one variable (the dependent variable), several other variables (known as explanatory variables) are used in an analytical model. However, in order to isolate the effect of one explanatory variable, it is necessary to "control for" the remaining variables. "Controlling for" a variable requires holding the value of that variable constant. For example, to assess the impact of the explanatory variable *age* on the dependent variable *quit rate*, the data were statistically adjusted so that the differences in the estimated effects of each variable in the model (except *age*) were nullified. The results show that, all other variables being equal, age did influence the likelihood of a worker giving up a job, but the effect was not as great as it first appeared in the simple point estimates.

Notes

Note 1

Historically, little information on quits has been available, but two new sources of data have recently been created. Using administrative data from the Unemployment Insurance program, [Robertson](#) (1987) presents evidence on quits in Canada for the period 1974 to 1984. [Picot and Baldwin](#) (1990b) use administrative data, as well as data from the 1986 Labour Market Activity Survey (LMAS) to document the volume of quits in the economy. They also study the effect of age, wages and firm size on quits. Work has been done in the United States by a number of researchers, including [Viscusi](#) (1980), [Meitzen](#) (1986) and [Finnie and Voos](#) (1991).

Note 2

[Picot and Baldwin](#) (1990a) show that quits decrease during recessions and increase during expansionary

years (such as 1988). In 1988, the Canadian gross domestic product rose by 5% and employment increased by 3%.

Note 3

Viscusi (1980) finds that wages have a negative and significant effect on both men's and women's quit rates. Meitzen (1986) finds that the top wage of the job slot a worker was hired in has a negative and significant effect on men's quit rates and a negative but not significant effect on women's quit rates.

Note 4

Firm-specific skills are abilities that cannot be transferred from one firm to another. For instance, a manufacturing plant may have machinery specific to its own production process and part of the wage received by some workers may be related to their ability (acquired through on-the-job training) to operate this machinery.

Note 5

Morissette (1991) shows that jobs in large firms generally pay higher wages, are better covered by pension plans and are more likely to be unionized. Large firms may also have lower quit rates because they have fewer part-time jobs. The quit rates could reflect the influence of internal labour markets as well; that is, workers in large firms have more opportunities to change jobs without changing firms. To the extent that unions succeed in implementing more favourable working conditions for their members, union status could also capture the influence of better working conditions on quit rates.

Note 6

The major industrial groups used in this paper (1980 Standard Industrial Classification) include the following divisions:

Forestry and mining: logging and forestry; mining, quarrying and oil wells

Construction

Manufacturing

Distributive services: transportation and storage; communication and other utilities; wholesale trade

Business services: finance and insurance; real estate operators and insurance agents; business services

Consumer services: retail trade; accommodation, food and beverage services; other services

Public services: education, health and welfare; religious organizations; federal, provincial and local administration; other government offices.

Note 7

In full-time jobs, quit rates for personal and family responsibilities (including pregnancy) are 1.5% for female workers and 0.2% for male workers.

Note 8

In part-time jobs, women's aggregate quit rates are found to be somewhat lower than men's aggregate quit rates for all wage intervals considered in Table 6.

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Source

Perspectives on Labour and Income, Autumn 1992, Vol. 4, No. 3 (Statistics Canada, Catalogue 75-001E). This is the first of five articles in the issue.

Appendix

Estimating the probability of quitting

The probability of quitting can be estimated by running a logistic regression ([Maddala](#), 1983). The dependent variable Y_i is a dichotomous variable that takes the following values:

$$Y_i = \begin{cases} 1 & \text{if worker } i \text{ quits} \\ 0 & \text{otherwise} \end{cases}$$

The Y_i variable depends on a set of explanatory variables. In this study, the probability of quitting is estimated using the following set of explanatory variables:

1) Age:

16-24 years
25-34 years
35-44 years
45-54 years
55-64 years

2) Education:

Elementary school only
Some high school
Completed high school only or some postsecondary Certificate or diploma
University degree

3) Number of children aged 0 to 5

4) Number of children aged 6 to 15

5) Number of children aged 16 to 24

6) Marital status:

Married

Not married

7) Hourly wage rate

8) Pension plan coverage:

Job is covered

Job is not covered

9) Union status:

Job is unionized

Job is not unionized

10) Industry:

Forestry and mining

Construction

Manufacturing

Distributive services

Business services

Consumer services

Public services

11) Occupation:

Managerial and professional

Natural and social sciences

Clerical

Sales

Services

Primary and processing

Construction

Other

12) Firm size:

1-19 employees
20-99 employees
100-499 employees
500 employees or more
Size unknown

13) Regions:

Maritimes
Quebec
Ontario
Manitoba and Saskatchewan
Alberta and British Columbia

14) Regional unemployment rates:

One unemployment rate for each of the five regions defined above.

15) Job status:

Part-time
Full-time

16) Student status:

Full-time student in 1988
Not full-time student in 1988

The relative probability of quitting simply measures the likelihood that workers in one category will quit compared with that of workers in the reference category. For example, female workers making \$5 per hour are three times more likely to quit their jobs than those making \$25 ([Chart B](#)).

Because men and women are believed to exhibit different quit behaviour, it was decided to determine whether it is statistically appropriate to estimate separate models for workers of each sex. A likelihood ratio test was conducted under the null hypothesis that the coefficients of the male and female models were equal to one another. The null hypothesis was rejected at the 5% level. Therefore, two logistic regressions, based on the set of explanatory variables defined above, were run separately for male and female workers. The results presented in the charts are based on these two regressions. Similarly, whenever differences in certain variables have been controlled for, the results presented are derived from these two logistic regressions. The results of these logistic regressions are available from the authors on request.

An alternative approach is to use proportional hazard models to estimate the probability of quitting conditional on job tenure. This will be done in future work.



 HIGHLIGHTS

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Table 1

Quit rates by age, 1988

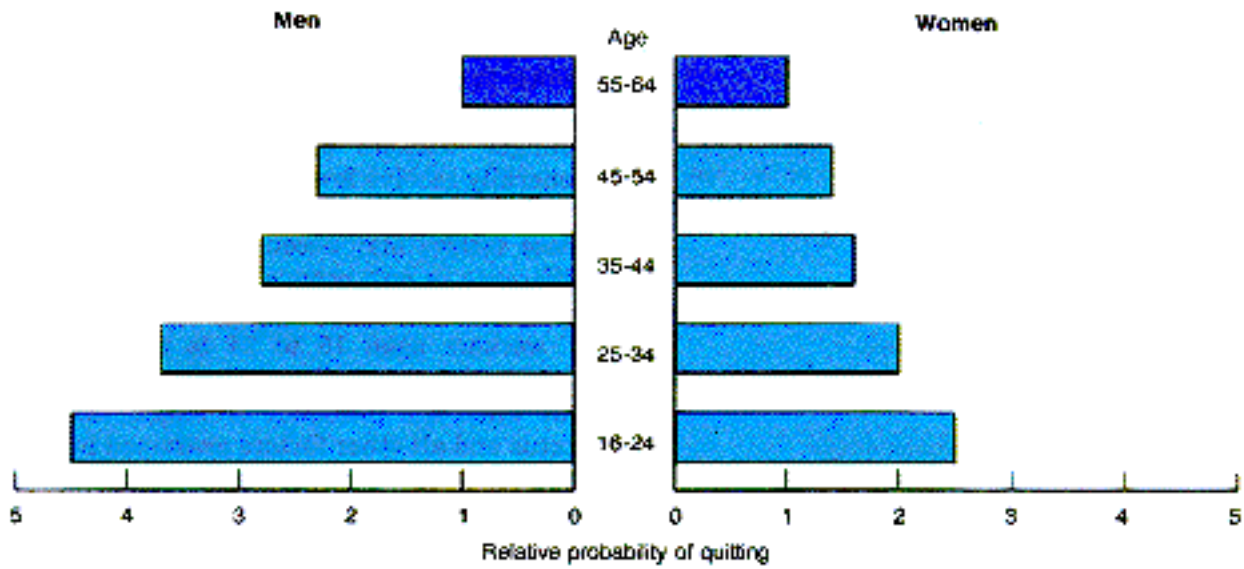
	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate or total	Economic reasons	Non-economic reasons		
	%				
Total	18.0	12.6	5.4	100.0	100.0
16-24 years	32.5	19.5	13.0	51.5	17.3
25-34 years	16.9	13.7	3.2	28.8	32.4
35-44 years	10.1	8.1	2.0	12.2	26.0
45-54 years	8.0	6.9	1.1	5.6	16.2
55-64 years	5.0	3.4	1.6	1.8	8.1

Source: Labour Market Activity Survey

** Employment is measured by the number of hours worked.*

Chart A

In 1988, workers aged 16 to 24 were the most likely to quit their jobs.



Source: Labour Market Activity Survey

Note: This chart represents the probability of workers of different ages quitting relative to that for workers aged 55 to 64. (See Estimating the probability of quitting.)

Table 2

Quit rates by wage rate and firm size, 1988

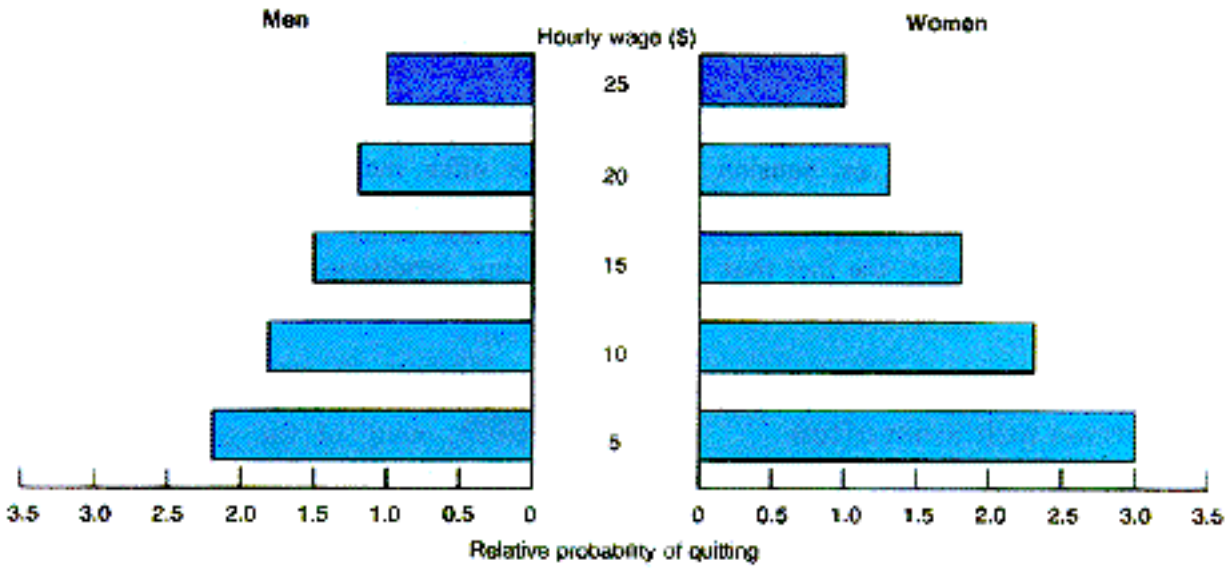
	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate or total	Economic reasons	Non-economic reasons		
	%				
Total	18.0	12.6	18.0	100.0	100.0
Hourly wage rate					
Less than \$5.00	38.1	24.3	38.1	26.1	6.4
\$ 5.00 - \$ 6.99	28.2	19.1	28.2	24.8	10.9
\$ 7.00 - \$ 8.99	20.6	14.3	20.6	16.0	12.5
\$ 9.00 - \$11.99	14.4	10.8	14.4	16.3	22.2
\$12.00 - \$15.99	10.0	7.7	10.0	9.6	21.3
\$16.00 - \$19.99	6.4	5.5	6.4	3.9	14.6
\$20.00 or more	6.3	5.2	6.3	3.3	12.2
Firm size					
1-19 employees	24.0	17.1	7.0	32.8	19.9
20-99 employees	19.9	14.0	5.9	17.6	15.6
100-499 employees	14.8	10.8	4.0	9.9	13.0
500 employees or more	13.0	8.9	4.1	25.1	40.0
Size unknown	20.5	14.1	6.4	14.6	11.6

Source: Labour Market Activity Survey

* *Employment is measured by the number of hours worked.*

Chart B

Low-wage jobs were associated with high quit rates in 1988.



Source: Labour Market Activity Survey

Note: This chart represents the probability of workers with different wage rates quitting relative to that for workers earning \$25 per hour. (See Estimating the probability of quitting.)

Table 3

Quit rates by industry and occupation, 1988

	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate or total	Economic reasons	Non-economic reasons		
	%				
Total	18.0	12.6	5.4	100.0	100.0
Industry					
Forestry and mining	14.1	9.6	4.5	1.9	2.7
Construction	17.1	13.1	4.0	5.7	5.4
Manufacturing	14.3	10.3	4.0	14.1	21.2
Distributive services	12.7	9.6	3.1	8.0	13.5
Business services	19.0	14.0	4.9	10.9	10.9
Consumer services	28.1	19.4	8.6	43.8	21.0
Public services	11.6	7.4	4.2	15.5	25.3
Occupation					
Managerial and professional	10.2	8.3	1.9	6.3	14.5
Natural and social sciences	11.4	7.5	3.9	9.3	16.1
Clerical	18.4	12.6	5.8	19.5	17.4
Sales	27.4	20.7	6.7	13.8	7.7
Services	27.4	18.1	9.3	22.6	11.1
Primary and processing	14.9	10.2	4.6	12.9	17.8
Construction	16.7	12.5	4.1	5.7	5.8
Other	18.5	13.0	5.5	9.9	9.7

Source: Labour Market Activity Survey

** Employment is measured by the number of hours worked.*

Table 4

Aggregate quit rates by selected industries, 1988

	%
Forestry and mining	
Forestry	19.1
Mining*	8.6
Mining services	20.0
Manufacturing	
Clothing	20.4
Wood	13.9
Furniture and fixtures	22.0
Paper and allied	6.6
Printing and publishing	17.5
Primary metal	7.3
Metal fabricating	16.1
Machinery	12.9
Transportation equipment	11.2
Electrical products	13.6
Miscellaneous manufacturing	20.2
Construction	
General contractors	14.8
Special trades contractors	19.0
Distributive services	
Transportation	13.6
Communication	8.8
Utilities	6.6
Wholesale trade	15.7
Business services	
Finance	12.1
Insurance carriers	15.9
Insurance and real estate	20.6

Services to business	22.9
Consumer services	
Retail trade	24.2
Accommodation and food	36.6
Amusement and recreation	24.7
Personal services	26.9
Miscellaneous services	26.3
Public services	
Education	9.7
Health and welfare	13.9
Federal administration	9.9
Provincial administration	10.7
Local administration	11.9
<i>Source: Labour Market Activity Survey</i>	
<i>* Includes metal mines, non-metal mines, mineral fuels and quarries.</i>	

Table 5

Quit rates by sex, 1988

	Quit rates			Distribution of quits	Distribution of employment*
	Aggregate of total	Economic reasons	Non-economic reasons		
	%				
All jobs	18.0	12.6	5.4	100.0	100.0
Women	19.9	13.2	6.6	51.9	41.1
Men	16.3	12.0	4.3	48.1	58.9
Full-time jobs	15.4	10.8	4.6	100.0	100.0
Women	17.1	11.2	5.9	45.5	38.3
Men	14.2	10.6	3.7	54.5	61.7
Part-time jobs	26.6	18.6	8.0	100.0	100.0
Women	25.6	17.4	8.2	64.3	72.7
Men	28.5	20.7	7.7	35.7	27.3

Source: Labour Market Activity Survey

** Employment is measured by the number of hours worked.*

Table 6

Aggregate quit rates by sex and wage rates for full-time jobs, 1988

	Distribution of employment*			
	Women	Men	Women	Men
	%			
Total	17.1	14.2	100.0	100.0
Hourly wage rate				
Less than \$5.00	34.3	38.7	7.9	3.6
\$ 5.00 - \$ 6.99	27.1	30.5	14.7	6.7
\$ 7.00 - \$ 8.99	19.1	20.0	16.5	9.5
\$ 9.00 - \$11.99	11.1	15.3	28.1	19.2
\$12.00 - \$15.99	8.7	9.1	17.2	25.3
\$16.00 or more	6.4	5.7	15.6	35.8

Source: Labour Market Activity Survey

** Employment is measured by the number of hours worked.*