Employment Equity Data Program

Programme statistique sur l'équité en matière d'emploi

The Economic Well Being and Labour Market Activity of Persons with Disabilities in Canada

(5.11)

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The Economic Well Being and Labour Market Activity of Persons with Disabilities in Canada

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A study prepared for the Employment Equity Data Program
Housing, Family and Social Statistics Division
Statistics Canada

May 1993*

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* Work on this study was completed by the authors (D. Hum and W. Simpson) in March 1992. The report was made available by the Employment Equity Data Program in May 1993.

ACKNOWLEDGEMENT

We would like to thank a number of individuals who have assisted us in our efforts. Brenda Cardillo gave us much encouragement and support throughout our research. Karen Roberts and Wally Boxhill of Employment Equity Data Program gave freely of their time and expertise as we wrote this study, and Scott Murray, Richard Veevers, John Ladd, Mike Egan and Anne Marie Lodge of Special Surveys Division helped us immensely with data interpretations, technical support and answers to our various questions. We are extremely grateful for the tremendous courtesy and professionalism of all we encountered at Statistics Canada.

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EXECUTIVE SUMMARY

Canadians with disabilities are an often neglected segment of the population for both research and policy attention. This situation is changing as Canadians confront employment equity programs. One important question concerns the best way to integrate persons with disabilities into the labour market because a significant portion of persons with disabilities can, with accommodation, be incorporated into mainstream labour markets.

The Health and Activity Limitation Survey (HALS) conducted by Statistics Canada in 1986 provides a recent detailed profile of Canadians with disabilities, particularly their numbers, the nature and severity of various functional limitations, and various socioeconomic characteristics. This data source is less detailed with respect to labour market activities such as earnings, hours of work, and the like.

The Labour Market Activity Survey (LMAS) for 1989 is an excellent source on the labour market activity of persons with disabilities. Compared to HALS, these data contain much more detail concerning hours of work, earnings, etc., and they also identify thirteen potential disabilities which may affect labour market activity but not restrict it entirely. There are also five questions on the LMAS which indicate whether, in the respondent's opinion, the disability limits employment opportunities.

It is instructive to compare the population identified as "having a disability" that is captured by these two different surveys. After a comparison of the set of questions employed to determine the nature and severity of disability in HALS and LMAS, we find that the smaller set of disability questions contained in the 1989 LMAS provides an indicator of disability that is similar to that provided by the more comprehensive set available in section A of the HALS. This bodes well for the future inclusion of this reduced set of questions on other survey instruments (e.g. the 1993 Survey of Labour and Income Dynamics).

The estimated proportion of the population with disabilities in both surveys is 14.3%. For working age adults (15-64 years) the figures are 12.9% for LMAS and 10.4% for HALS. The estimated proportion of working age Canadians disabled and limited at work (the concept embodied in the employment equity definition) is **8.0%** from the LMAS and **7.4%** from the HALS. We conclude that, despite the much smaller sample of respondents with disabilities, the LMAS is a good indicator of disability status for working age adults.

The HALS data allow a disability score to be calculated, indicating the degree of severity of functional limitation. We also compute an alternative score based upon the thirteen disabilities identified in the LMAS. We find the two scores to be very highly correlated. We believe that the alternative score can be employed to analyse the relationship between disability, severity of disability, and labour market activity using the LMAS data set.

There are significant differences in labour market activity between persons with disabilities and persons without. Persons with disabilities work, on average, 25.5 weeks per year compared

with 38.6 weeks for persons without disabilities. More revealing, the figures for average hours worked in 1989 are 779.9 for persons with disabilities compared to 1,216.6 for persons without disabilities. In other words, persons without disabilities worked 56% more hours than persons with disabilities.

Annual earnings is perhaps the best single indicator of labour market activity. The mean employment income of persons with disabilities is $10,282 compared to $16,348 for persons without disabilities, a difference of 59%. Thus, some of the difference in earnings would appear to arise from differences in hours worked, although there are many factors (such as education, age and severity of disability) which also determine earnings.

We also report findings employing multivariate regression analysis. Our regression equations are estimated to include disability measures, either using three categories (mild, moderate and severe) based on the disability score or the disability score itself. In each case the disability measures were statistically significant.

We conclude with recommendations for areas of future study arising from our analysis of the data presented here. More in-depth study of the nature and severity of disability is required as pointed out by our regression analysis. There must be a clearer determination between age and disability (as age increases so does the perception, either real or imagined, of disability) and how they effect employment status. Along these lines, examination of the effects of disability on job tenure and full-time/part-time status is warranted.

1.0 INTRODUCTION: SCOPE AND PURPOSE OF STUDY

Persons with disabilities in Canada often receive insufficient attention in terms of serious research. This is especially true of those capable of participating in the labour market. This situation is slowly changing, however, and those who deliver various services to persons with disabilities try to determine the best way to integrate persons with disabilities into the work world. For example, Cohen (1990) and Nessner (1990) have recently provided profiles of persons with disabilities in Canada. The purpose of this study is two-fold:

1) We describe the socio-economic characteristics of persons of working age (15-64) with disabilities by comparing them to the non-disabled population. We compare their numbers with respect to several indicators afforded by the data and a variety of classifications of disability. Nonetheless, the focus will be on economic participation concepts with special reference to labour market activity.

2) We examine the labour market activity of persons with disabilities and compare their behaviour with that of the population without disabilities. Cohen (1989a) has discussed the characteristics of persons with disabilities who are not in the labour force and compared them to the population who do participate. Cohen (1989b) has also provided a comparison of workers with disabilities and workers without disabilities in terms of employment patterns, education, and earnings. He limited his comparisons to a small set of variables and to one special data set, the 1986 Health and Activity Limitation Survey (HALS). We shall extend the comparison of workers with and without disabilities by considering other characteristics as well as analysing data from the 1989 Labour Market Activity Survey (LMAS).

Our findings will be of interest to Canadians for a number of reasons. First, it should fill a void in the meagre amount of research concerning Canadians with disabilities. Second, it should prove an instructive test of the HALS questions, and whether or not these questions measuring disability are of use in examining the work patterns of persons with disabilities in the LMAS survey. Third, there is the undeniable policy interest concerning workers with disabilities, whether this be in the context of designing, implementing and monitoring employment equity programs, or simply understanding the plight of persons with disabilities in Canada. This is especially useful since it has been asserted that it is particularly persons with disabilities who have fared relatively worse when compared with other groups, such as the elderly (Haveman and Wolfe, 1990, for the U.S.). Furthermore, there is increasing interest in the restructuring of labour market institutions and public assistance programs in order to better integrate persons with disabilities into the community and work place. (See, for example, the recent Thompson Report as well as Ontario's proposal for a Disabled Persons' Fair Wages Act.) To that end, we shall estimate rudimentary earnings functions using traditional econometric techniques.

Persons aged 15 to 64 years with disabilities and who are limited at work

Persons between 15 and 64 years of age with disabilities who are limited at work are of particular interest for employment equity purposes. Table 4H presents the same socio-economic characteristics as Table 3H for this group. Not surprisingly, the proportion of this group in employment, 30.2%, is much lower than for the working age population as a whole, 66.8% from Table 3H. Persons with disabilities who are limited at work tend to be older, less well educated and more than twice as likely to be below the low-income cutoff compared with the entire population 15-64 in Table 3H.

Persons aged 15 to 64 with and without disabilities in one of thirteen categories

Tables 5H and 6H report the same socio-economic characteristics for persons with and without disabilities, defined in terms of the 13 categories of disability reported in Table 2H. Persons with disabilities are less educated. Indeed, 29.2% of persons with disabilities have no more than a grade 8 education compared to only 11.2% of persons without disabilities. An examination of the age distributions reveals that one likely reason for this discrepancy is that the population with disabilities is considerably older than the population without disabilities, since older people have lower levels of education on average regardless of disability status. It is important to bear in mind in comparing the populations with and without disabilities that age will always be a potential confounding effect, since the likelihood of disability increases with age.

Persons with disabilities have lower levels of labour market activity: 45.8% reported no work in 1985 as opposed to 21.0% of persons without disabilities and 61.4% of persons with disabilities reported no hours worked in the reference week as opposed to 33.1% of respondents without disabilities. Only 24.7% of persons with disabilities reported full-time full-year work in 1985 compared to 39.6% of persons without disabilities. Clearly, there is a difference in the activity levels of the two groups which we wish to explore further.

Persons with disabilities live in households with lower incomes than persons without disabilities. More than one quarter (27.8%) of persons with disabilities live in households below the low-income cutoff while only 13.9% of persons without disabilities live below the cutoff. Thus concern about the economic welfare of persons with disabilities is not misplaced: persons with disabilities are twice as likely to live below the unofficial Canadian poverty line.

From the income categories presented in Tables 5H and 6H we can estimate employment and total income for each group. For persons with disabilities, mean employment income is approximately $9050 and mean total income is $13,000. The corresponding figures for persons without disabilities are $14,650 and $16,600, respectively. Thus, our calculations indicate a 62% advantage in mean earnings and a 28% advantage in mean total income for persons without disabilities. If we restrict our comparison to workers (positive earnings), then persons with disabilities have mean earnings of $17,150 compared to $18,900 for workers without disabilities, reducing the differential in mean earnings to 10%. These latter figures are similar to those

reported by Cohen (1989), but likely vary because of differing arbitrary assumptions regarding average employment income in each category, particularly the higher, open-ended categories. Indeed, any calculation of mean incomes from such categorical data is only a rough estimate. Nonetheless, the calculations reinforce previous evidence on the discrepancy in labour market activity and prosperity between persons with disabilities and other Canadians. With respect to labour market activity and earnings, that discrepancy clearly includes the extent of labour market participation and, possibly, the returns to equivalent labour market activity between the two groups.

2.1.1 Disability severity

The HALS produces a Severity Index for persons with disabilities based on McDowell (1988). After considering several alternative disability scores and comparing them with criterion scores derived from other parts of the HALS questionnaire, McDowell recommends a disability score which he calls SIGADL: the sum of the severity scores for each question in section A (A1-A23) of the HALS questionnaire, counting one point for each partial loss of function and two points for each total loss of function. For most questions, including those discussed in Appendix A, (HEAR, READ, etc.) this calculation is straightforward: score zero if the person does not experience this disability, score one if the person indicates "trouble" with this function (partial disability) and score two if the person is "completely unable" to perform the function (full disability). For questions A3 ("Trouble Hearing over a Normal Telephone") and A21 and A22 (Learning Disabilities) no "completely unable" score is derived; for A6A ("Have you been Diagnosed as Legally Blind?"), only a "completely unable" score (no partially disabled score) is derived; and for questions A20 and A23 (physical and mental activity limitations), a score of two was assigned when individuals indicated activity limitation in more than one of the three areas (home, school or work, and other). The Severity Index actually produced in the HALS data was then a "condensed scale" based on SIGADL: less than five for "mild disability," 5-10 for "moderate disability," and over 10 for "severe disability."

In the LMAS, only a portion of the questions in section A of the HALS was asked. These questions are described in Appendix A. These questions do comprise a very large proportion of all reported disabilities in the HALS, however. McDowell (p.13) reports that the 13 questions common to the HALS and LMAS capture 99.6% of all persons reporting disabilities in the HALS. Hence, it would appear to be useful to compare, using the HALS data, the SIGADL score with a similarly constituted score (call it SIGADL13) for the 13 questions asked in the LMAS. If the scores provide a similar assessment of the severity of disability in the HALS data, then the SIGADL13 score can be constructed for the LMAS data and used to assess the severity of disability and its effect on labour market activity.

In Table 1S we present a comparison of the SIGADL and SIGADL13 scores from the HALS data. It is clear that the 13 disability categories covered by the LMAS capture almost all those who are disabled according to the 23 questions in section A of the HALS. Thus, of 71,900 respondents in the HALS who indicate some disability, and hence have a positive score for

SIGADL, 71,477 or 99.4% report a positive score for SIGADL13. Naturally, since SIGADL13 contains only a subset of the categories in SIGADL, disability scores in Table 1S are lower for SIGADL13. Yet the two scores are very closely correlated: the Pearson correlation coefficient between SIGADL and SIGADL13 is 0.978.

In Table 2S we present the severity index derived from SIGADL (SI) and from SIGADL13 (SI13). Since the disability scores will be lower for some respondents using SIGADL13, we look at a modified severity index (MODSI13) as follows: mild (1-3 points), moderate (4-8 points), severe (9 points or more). The modified index provides a distribution of disability categories that quite closely corresponds to the original severity index, SI. We also report the Pearson correlation coefficient between SI and the other two severity indices. The correlation coefficients indicate that severity indices based on the 13 questions posed by the LMAS are very good indicators of the severity index provided in the HALS data. The correlation coefficient between SI and SI13 is 0.963, while the correlation coefficient between SI and MODSI13 is 0.969. Since the improvement in correlation provided by MODSI13 is modest, we revert to the SI13 index in the remainder of this paper.

In summary, we conclude that a disability score and severity index based on the methodology in HALS but using only the responses to the 13 disability questions in LMAS provides a very good indication of the degree of disability recorded in the HALS data. Thus, we shall use the disability score (SIGADL13) and severity index (SI13) to investigate the relationship between the severity of disability and labour market activity in the LMAS data.

2.2 Analysis of statistics from the LMAS

In this section we compare the results from the 1989 LMAS with the results from the HALS. We then expand our analysis of labour market activity for persons with and without disabilities using the much richer data available from the LMAS. To facilitate comparison with our discussion in section 2.1, we number the tables as in section 2.1 but use the designation L to denote the LMAS results. Thus Table 1L is to be directly compared to Table 1H for the HALS data and so on.

Persons 15 years and over

An important initial test of the LMAS data is the estimated proportion of Canadians with disabilities. Table 1L shows that the estimates are very similar to those from the HALS data, particularly for the disability indicator based on a positive response to one of the thirteen disability questions that are identical to those asked in the HALS. The LMAS estimates that 14.3% of Canadians were disabled in 1989, as does HALS data for 1986. This result is not surprising, given the evidence in section 2.1.1 that the 13 categories of disability in the LMAS cover virtually all persons with disabilities in the HALS, but it is nonetheless a reassuring start to our investigation of the LMAS data.

While the estimated proportion of Canadians with disabilities is very similar in the two surveys, comparison of Tables 1H and 1L identifies some important differences in the two sets of respondents. The LMAS contains a much smaller proportion of respondents with disabilities, 8,117 out of 63,660 compared with 71,900 out of 132,337 in the HALS. This may limit our ability to draw statistical inference from the sample of respondents with disabilities when it is disaggregated. For example, the comparable estimates of the proportion of the population with disabilities in the two surveys does not extend to the estimates of the proportion of the population with particular disabilities in Tables 1L and 1H. The estimated proportion of the population with a particular disability (eg., hearing) differs by considerably more in percentage terms than the estimated proportion of the population with disabilities. Since the size of the sample of persons with disabilities is much larger in the HALS, one would suspect that the disaggregated estimates of the proportion of the population with particular disabilities are more accurate in the HALS data than in the LMAS data.

Persons 15 to 64 years

Table 2L presents the characteristics of the LMAS data for the working age population (15 to 64 years of age). Here the estimated proportion of persons with disabilities is somewhat higher, 12.9%, than for the HALS (10.4%, Table 2H). The evidence of disability limitations in labour market activity are quite comparable; the LMAS estimates that 3.4% of the population is completely prevented from working compared to 3.6% in the HALS. The LMAS also estimates that 8.0% of the population is limited at work, compared with 7.4% in the HALS. One could hardly expect results that are exactly the same from the two surveys, given different data collection methods, reference periods, different contexts (i.e. health versus non-health survey) etc. Thus, we interpret the absence of wide variations in the estimated populations with disabilities as an encouraging sign that the LMAS disability questions provide useful information that can be used to assess the labour market activity of persons with disabilities.

Persons aged 15 to 64 with and without disabilities and limited or not limited at work

Tables 3L, 4L, 5L and 6L present various socio-economic characteristics of the LMAS data for the entire sample 15 to 64 years of age, for persons disabled and limited at work, and for persons with and without disabilities in one of the 13 categories specified on the LMAS, respectively. Some of the characteristics are directly comparable to those in Tables 3H, 4H, 5H and 6H for the HALS data. In particular, Table 4L indicates that 1,360,940 Canadians, or 8.0% of the population 15-64 were disabled and limited at work compared to 1,255,160 or 7.4% from HALS. In Figure 1, we present a summary of the estimates of the population with disabilities from the HALS and LMAS. The LMAS tends to report a slightly higher estimate for the number of Canadians with disabilities, however defined, although the differences are not large.

Comparison of Tables 5L and 6L shows that 49.2% of persons with disabilities did not work in 1989 compared with 25.0% of persons without disabilities; the figures for the HALS from

Tables 5H and 6H are 45.8% and 21.0%, respectively, for 1985. Other characteristics are similar to, but may not be exactly comparable to those in the HALS results. The categories of educational attainment are less detailed, and not directly comparable with those in the HALS, but the findings are similar: the LMAS data estimates that 24.7% of persons with disabilities (in one of 13 categories) have less than a Grade 9 education compared to 8.8% of persons without disabilities (in one of 13 categories). Again, this likely reflects the older population of persons with disabilities. The average age of persons with disabilities is 44.2 years compared to 36.0 years for persons without disabilities.

Figure 1. Comparison of estimates of persons aged 15 to 64 years of age with disabilities in Canada from the 1986 HALS and 1989 LMAS

	Estimated population	% of total population
HALS	16,999,990	100.0
Persons with disabilities	1,767,640	10.4
Persons with disabilities in one of 13 categories	1,734,430	10.2
Persons with disabilities/ limited at work	1,255,160	7.4
LMAS	17,083,210	100.0
Persons with disabilities in one of 13 categories	2,196,370	12.9
Persons with disabilities/ limited at work	1,360,940	8.0

Finally, the LMAS results in Tables 3L, 4L, 5L, and 6L contain many indicators of labour market activity that are quite different from their counterparts in the HALS data. In particular, it is quite important to realize that, whereas the HALS provided a brief snapshot of labour market activity at the time of the survey, the LMAS provides a very rich, full year portrait of labour market activity. For example, the labour force status of respondents in the HALS refers to status at the time of the survey, but the LMAS records in detail the changes in labour force status of respondents in 1989. Thus labour force status (employed, unemployed, and out of the labour force) is replaced by mean weeks employed and unemployed, mean hours worked in 1989, and several other measures of labour market activity in 1989 that are not available from the HALS.

Comparison of Tables 5L and 6L show significant differences in labour market activity between

persons with disabilities and those without. Mean weeks worked are only 25.5 for persons with disabilities and 38.6 for persons without disabilities; perhaps more revealing, mean hours worked (by those disabled in one of 13 categories) in 1989 are 779.9 and 1216.6 (for those not disabled in one of 13 categories), respectively. Thus, mean hours worked were 56% higher for persons without disabilities (in one of 13 categories). The average spell of unemployment was longer for persons with disabilities (although average weeks unemployed was the same, implying that the incidence of unemployment was lower for persons with disabilities as reported in the HALS). Persons without disabilities were more likely to change jobs and employers, and therefore had less tenure on the job. If job mobility is important for career progress, then this evidence suggests employment limitations for persons with disabilities.

Two final measures of employment limitations are inconclusive: persons with disabilities are less likely to want more hours in their current job but more likely to be unemployed and wanting to work (but not looking for work).

Perhaps the most important single indicator of labour market activity is annual earnings. The LMAS gives precise, non-categorical data on earnings from which mean annual earnings of the two groups may be compared. The mean employment income of persons with disabilities is $10,282 compared to $16,348 for persons without disabilities, a difference of 59%. For workers (positive earnings) the figures are $20,220 and $21,785, or a difference of 8%. Thus, most of the difference in earnings would appear to arise from differences in hours worked rather than differences in compensation for work (hourly wages). Before reaching that conclusion, however, we must recognize that there are a variety of factors that affect earnings and hours worked in addition to disability status, so that a more comprehensive, multivariate analysis of earnings and hours worked may be in order. Since we have non-categorical data on earnings and hours in the LMAS, we may now turn to a simple multivariate analysis of these variables in section 3.

3.0 LABOUR MARKET ACTIVITY OF PERSONS WITH DISABILITIES

Analysis of the labour market activity of Canadians with disabilities is very limited. Breslaw and Stelcner (1987) consider the effect of health status on labour force participation of all elderly males rather than disability *per se*. Maki (1991) considers disability pensions explicitly, employing data from the General Social Survey. He finds that about 30 to 40% of the reduction in labour force participation rates of Canadian males 45 to 64 years of age is due to disability pensions. On the other hand, Harkness (1991) finds no support for the view that disability pensions discourage labour force participation among disabled persons in Canada using the HALS. With the LMAS master file, we are able to examine other aspects of the labour market activity of persons with disabilities.

3.1 A simple framework for studying labour market activity

A wide variety of models are possible to study the labour market activities of persons with disabilities. This section sketches a simple reduced form regression model and shows how it may be interpreted with respect to a wide variety of applications. Its purpose is to highlight the data aspects of these models rather than the underlying economic or econometric aspects. The basic model may be concisely represented as:

$$(1) \qquad Y=\alpha X+\beta D+\xi$$

where Y is a measure of labour market response, X is a vector of individual characteristics, D is an indicator of disability status, α and β are coefficients to be estimated, and ξ is the error term. Depending upon the specifications of Y and D, we have a wide variety of models. For example, if Y is hours worked and D is a binary variable indicating disability status, we have a traditional labour supply model. On the other hand, if Y is a dichotomous variable indicating labour force participation, if D again measures disability status, and if X includes an indicator of the relative rewards of working versus receiving a disability payment, we have the typical model investigating the work disincentive effects of disability insurance transfers.

Given our data sets (HALS and LMAS), we shall focus our attention on interpreting Y as one of two measures of labour market activity: (i) hours of work, and (ii) earnings. Although the HALS data captures earnings, the measure is categorical rather than continuous. Furthermore, the measure of hours worked is captured with respect to a reference week. Both of these variables are captured with more detail in the LMAS, which allows us to examine their relationship to disability status. We restrict ourselves here to those with some work activity in 1989. There is considerable literature on the incorporation of non-workers into the analysis of labour supply. (For a recent review of this literature see Hum and Simpson, 1991.) At this point, software limitations for the LMAS master file preclude satisfactory analysis of this problem.

Hours of work is, of course, simply one component of earnings. If w is the hourly wage, H is hours worked, and E is earnings, then

$$(2) \qquad E = w\ H$$

or, in *log* arithmic form,

$$(3) \qquad \log E = \log w + \log H.$$

Thus, if Y is *log* E in equation (1) above, and if X contains *log* H, then earnings and wage equations are directly related. That is, if we rewrite (1) as

$$(4) \qquad \log E = \alpha X + \delta \log H + \beta D + \xi.$$

Then equation (3) implies that

$$(5) \qquad \log w = \log E - \log H = \alpha X + [\delta - 1] \log H + \beta D + \xi.$$

Hence earnings regression (4) immediately yields wage regression (5), which may be more useful for some policy applications (e.g., pay equity). Moreover, the interpretation of earnings and wage regression results is simplified in the form taken by equations (4) and (5). If D is a simple dummy variable for disability status, for example, then β is the relative or percentage difference (rather than the absolute difference) in wages or earnings due to disability.

For these reasons, we report regression results for *log* earnings in the form of equation (4) throughout. We also report regression results for *log* hours (i.e., Y becomes *log* H in equation (1)).

3.2 Earnings and hours regression results

Our regression results for *log* earnings and *log* hours worked for workers are presented in Tables 1R and 2R, respectively. The earnings regression results in Table 1R provide typical estimates of such factors as gender (23.9% advantage for males) and union status (21.6% advantage for unionized workers) in comparison with other recent studies. The other results are consistent with expectations from economic theory. For example, the effect of age on earnings declines as workers approach retirement; formal education and job training increases earnings; visible minorities earn less than other workers; full-time workers earn more (per hour) than part-time workers; and those who change jobs increase earnings, although those who change employers as well suffer a small decline in earnings because many of them do so involuntarily (layoffs and discharges). Thus, our assessment is that the earnings equation provides quite conventional, and hence credible, estimates for these various factors.

The two earnings equation in Table 1R differ solely in terms of the disability measure included. The first equation uses the three disability categories (mild, moderate, and severe) while the second equation uses the severity index score (SIGADL13). In each case the disability measure seems to work quite well and there is virtually no difference in the explanatory power of either equation, as measured by R^2. As expected, a higher disability score always leads to lower earnings and hourly wages. These disability effects are summarized in Table 1R and are far from insignificant, both in statistical and policy terms. For example, each point increase in the disability score is associated with a 2.9% decrease in earnings. This result may be somewhat misleading, however, because it treats every unit increase in the disability score as equivalent. For example, it would seem inappropriate to regard an increase in the score from 0 to 1 (non-

disabled to partially disabled in one function) as equivalent to any other increase in the score. The results in Figure 2 using the disability severity index seem to confirm this reservation: more severe disability reduces earnings but not in a linear fashion. At some point, as the disability score rises, the effects of increasing disability on earnings rise quite sharply.

Figure 2. Estimated effects on earnings of Disability Severity Index based on regression results in Table 1R

Disability Index category	SIGADL13 score	Earnings reduction compared to Non-disabled (SIGADL13=0)
Mild	1 to 4	2.4%
Moderate	5 to 9	16.7%
Severe	10 and over	61.4%

These results may have important implications for further analysis and policy evaluation. It would seem to be important to distinguish the severity of disability to understand its effects on earnings. Simply identifying the disabled population (SIGADL13 > 0) is insufficient to understand earnings behaviour, since mild disability has only a modest (albeit still significant) effect on earnings while moderate and severe disability levels have a much larger effect. This would seem to reinforce our view that previous studies which use a single dummy variable to identify persons with disabilities may produce quite misleading results. In policy terms, it would seem quite important to distinguish different levels of disability. The evidence in Figure 2 suggests that those who are mildly disabled suffer little disadvantage relative to persons without disabilities, whereas those with more severe disabilities are sufficiently disadvantaged to require some consideration. Since roughly half the disabled population is mildly disabled according to the HALS severity index (Table 1S), the cost of any initiative to assist disabled workers in the labour market could be considerably reduced by concentrating on those who, according to the evidence on earnings, really need assistance. Our initial results suggest that the severity index used in the HALS data is useful in identifying differences in earnings ability arising from disability and hence in thinking about labour market policy for persons with disabilities. However, the design of appropriate policy vehicles is beyond the scope of the present study.

The results for hours worked in Table 2R are also encouraging. The results generally conform to expectations, and the estimate of the effect of *log* hourly wage is low in conformity with recent, more sophisticated estimates using non-experimental and experimental data (Hum and Simpson, 1991). Each one point increase in the disability score reduces hours worked by 3.8%. The effect of the severity index seems more uniform here: the reduction in hours worked is about twice as large for those with moderate disability compared to those who are mildly disabled, and the reduction is about twice as large for those with severe disability compared to those with moderate disability. (See Figure 3). Again the disability score and severity index are significant and imply that levels of disability should be distinguished in analyzing labour supply.

Figure 3. Estimated effects on hours worked of Disability Severity Index based on regression results in Table 2R.

Disability Index category	SIGADL13 score	Hours reduction compared to Non-disabled (SIGADL13=0)
Mild	1 to 4	10.5%
Moderate	5 to 9	21.6%
Severe	10 and over	47.8%

4.0 SUMMARY AND CONCLUSIONS

Too little is known about the economic well-being and labour market activity of persons with disabilities in Canada. This situation is changing, however, as Canadian employment equity programs increase, and those who deliver services to individuals with disabilities examine the best way to integrate them into the labour market. This is because a significant portion of the disabled population can, with accommodation, be incorporated into mainstream labour markets.

The 1986 Health and Activity Limitation Survey (HALS) conducted by Statistics Canada provides a detailed profile of Canadians with disabilities, particularly their numbers, the nature and severity of various functional limitations, and various socio-economic characteristics. This data source, which has been repeated as a post-censal survey in 1991, offers great potential for investigating socio-economic and demographic characteristics of Canadians with disabilities. The data are, however, less detailed than the Labour Market Activity Survey (LMAS) with respect to labour market activities, such as earnings and hours of work.

The LMAS for 1989 is an excellent source for more detail on the labour market activity of persons with disabilities. These data contain much more detail concerning hours of work, earnings, etc., and, more significantly, they also identify thirteen potential disabilities which may affect labour market activity but not restrict it entirely. There are also five questions on the LMAS which indicate whether, in the respondent's opinion, the disability limits employment opportunities.

It is instructive to compare the population identified as having a disability captured by these two different surveys. After a full comparison of the set of questions employed to determine nature and severity of disability in HALS and LMAS, we find that the smaller set of disability questions contained in the 1989 LMAS provide an indicator of disability that is very similar to that provided by the more comprehensive set available in section A of the HALS. The proportion of Canadians with a disability using LMAS and HALS is 14.3%; for working age adults (15-64 years) the figures are 12.9% for LMAS and 10.4% for HALS; and the proportion of working age Canadians disabled and limited at work is 8.0% from the LMAS and 7.4% from

the HALS (Figure 1 in the text). We conclude that, despite the much smaller sample of respondents with disabilities in the LMAS, the disability indicators in the LMAS are a good indicator of disability status in comparison with the HALS.

The HALS data permit a disability "score" (SIGADL) to be calculated, indicating the severity of functional limitation. We also compute an alternative score (SIGADL13) based upon the 13 questions asked in the LMAS which are very similar to those in the HALS. We find the two scores to be highly correlated, and feel confident that SIGADL13 can be employed to analyse the relationship between disability, severity of disability, and labour market activity using the LMAS data set.

There are significant differences in labour market activity between persons with and without disabilities according to the LMAS. Persons with disabilities work, on average, 25.5 weeks per year compared to 38.6 weeks for persons without disabilities. More revealing, the figures for average hours worked in 1989 are 779.9 for persons with disabilities compared to 1216.6 for persons without disabilities. In other words, persons without disabilities worked 56% more hours than persons with disabilities. Moreover, the average spell of unemployment was slightly longer for persons with disabilities.

Annual earnings is perhaps the best single indicator of labour market activity. The mean employment income for persons with disabilities is $10,272 compared to $16,339 for persons without disabilities, a difference of 59%. For workers (that is, positive earnings only) the figures are $20,220 and $21,785, or a difference of 8%. Thus most of this difference would appear to arise from differences in hours worked rather than differences in compensation for work (hourly wage rate). However, there are many factors that affect earnings, and a multivariate analysis of earnings is necessary for more detailed understanding.

Although limited in terms of econometric sophistication, our multivariate regression provided some interesting results. The earnings regressions confirm typical estimates of influencing factors such as gender (23.9% advantage for males), union status (21.6% for unionized workers), and the like. Most of the results are consistent with economic theory and past empirical research. The effect of age on earnings declines as workers approach retirement; formal education and job training increase earnings; visible minorities earn less than other workers; full time workers earn more per hour than part time workers; and those who change jobs earn more, although those who change employers as well suffer a small decline in earnings because many do so involuntarily (layoffs and discharges). Our assessment is, therefore, that our earnings equation provides quite conventional, and hence credible, estimates.

Our regression equations are then estimated to include disability measures, either using three categories (mild, moderate, severe) or, alternatively, the severity index, SIGADL13. In each case the disability measure worked well. The results indicate that the population with mild disability based on the SIGADL13 score earned 2.4% less than persons without disabilities; those with moderate disability, 16.7% less; and those with severe disability, 61.4% less. For hours worked, the effect of disability was greater: those with mild disability worked 10.5%

fewer hours annually; those with moderate disability, 21.6% less; and those with severe disability, 47.8% less. The disability measures were always statistically significant.

5.0 RECOMMENDATIONS

The disability measure effects may be significant for policy, although this was not the main concern of this report. There is a non-linear effect of disability on earnings. Although each point on the disability score is associated with a decrease of 2.9% in earnings, this effect is not constant: as the disability score rises, the effect of increasing disability severity on earnings rises sharply. This is an area for possible future research.

Our results have important implications. They point to the need to specify the nature and severity of disability much more carefully in empirical research and policy design. Simply identifying the persons with disabilities is insufficient to investigate its impact on earnings, since mild disability has only a modest effect (2.4%) in reducing earnings while moderate and severe disability have much larger effects (16.7% and 61.4%, respectively). This would seem to indicate that previous studies which use a dummy variable for disability status may give misleading results. Clearly, there is much more research possible on Canadians with disabilities and their labour market activity.

As noted earlier, persons with disabilities have lower levels of labour market activity: 45.8% reported no work in 1985 as opposed to 21.0% of persons without disabilities and 61.4% of persons with disabilities reported no hours worked in the reference week as opposed to 33.1% of respondents without disabilities. Only 24.7% of persons with disabilities reported full-time full-year work in 1985 compared to 39.6% of persons without disabilities. Clearly, there is a difference in the activity levels of the two groups which we wish to explore further.

Most of the differences in earnings would appear to arise from the differences in hours worked rather than differences in compensation for work (hourly wages). Before reaching that conclusion, however, we must recognize that there are a variety of factors that affect earnings and hours worked in addition to disability status, so that a more comprehensive, multivariate analysis of earnings and hours worked may be in order.

APPENDICES AND TABLES

APPENDIX A

A COMPARISON OF THE HALS AND LMAS QUESTIONS ON PERSONS WITH DISABILITIES

Since our concern in this study is the labour market activity of persons with disabilities, we shall examine the Labour Market Activity Survey because of its excellent coverage of labour force behaviour. In the 1989 LMAS there are also a number of questions which identify various types of disability. In this section we document the specific questions on disability contained in the 1989 LMAS and their correspondence with the HALS.

Questions on disability in LMAS and HALS

Each question on disability in LMAS involves two parts: (i) Does the respondent have this functional disability? and (ii) if so, is the respondent completely unable to perform this function? Thus we are able to determine not only the nature of the disability but also, to some extent, its severity. The questions in both the LMAS and HALS specify that the respondent is only to consider problems which have lasted or are expected to last six months or more.

LMAS Q#163 (Hearing)

Does . . . have any trouble hearing what is said in a group conversation with at least three other people (with a hearing aid if normally used)? If so, is . . . completely unable to do this?

This question is identical to questions A2 and A2b in the HALS.

LMAS Q#164 (Reading)

Does . . . have any trouble reading ordinary newsprint (with glasses if normally worn)? If so, is . . . completely unable to do this?

This question is identical to questions A4 and A4b in the HALS.

LMAS Q#165 (Speaking)

Does . . . have any trouble speaking and being understood? If so, is . . . completely unable to do this?

This question is identical to questions A7 and A7b in the HALS.

LMAS Q#166 (Walking)

Does . . . have any trouble walking 400 yards/400 metres without resting (about three city blocks)? If so, is . . . completely unable to do this?

This question is identical to questions A8 and A8b in the HALS.

LMAS Q#167 (Stairs)

Does . . . have any trouble walking up and down a flight of stairs (about 12 steps)? If so, is . . . completely unable to do this?

This question is identical to questions A9 and A9b in the HALS.

LMAS Q#168 (Carrying)

*Does . . . have any trouble carrying an object of 10 pounds for 30 feet/5 kilo*grams for 10 metres (Example:carrying a bag of groceries)? If so, is . . . completely unable to do this?

This question is identical to questions A10 and A10b in the HALS.

LMAS Q#169 (Standing)

Does . . . have any trouble standing for long periods of time, that is, more than 20 minutes? If so, is . . . completely unable to do this?

This question is identical to questions A12 and A12b in the HALS.

LMAS Q#170 (Bending)

Does . . . have any trouble bending down and picking up an object from the floor (for example, a shoe)? If so, is . . . completely unable to do this?

This question is identical to questions A13 and A13b in the HALS.

LMAS Q#171 (Fingers)

Does . . . have any trouble using his/her fingers to grasp or handle? If so, is . . . completely unable to do this?

This question is identical to questions A17 and A17b in the HALS.

LMAS Q#172 (Reaching)

Does . . . have any trouble reaching in any direction (for example: above his/her head)? If so, is . . . completely unable to do this?

This question is identical to questions A18 and A18b in the HALS.

LMAS Q#173 (Learning)

From time to time, everyone has trouble remembering the name of a familiar person or learning something new, or they experience moments of confusion. However, does . . . have any ongoing problems with his/her ability to remember or learn?

This question is identical to question A22 in the HALS.

LMAS Q#174 (Physical limitation)

Because of a long-term physical condition or health problem, that is, one that is expected to last 6 months or more, is . . . limited in the kind or amount of activity he/she can do . . (a) at home? (b) at school? (c) at work? (d) in other activities such as travel, sports, or leisure?

This question is identical to question A20 in the HALS.

LMAS Q#175 (Mental limitation)

Because of a long-term emotional, psychological, nervous, or mental health condition or problem, is . . . limited in the kind or amount of activity he/she can do . . (a) at home? (b) at school? (c) at work? (d) in other activities such as travel, sports, or leisure?

This question is identical to question A23 in the HALS.

LMAS Q#177 (When work limitation began)

When did . . . 's condition begin to limit the kind or amount of work he/she could do at a job or business?

This question has no counterpart in the HALS. There are questions to determine the age at which the disability began, but the disability may affect the kind or amount of work the respondent could do at a later age. There are a number of questions in the Employment Section of the HALS (D17-D23 in particular) to find out whether the condition has developed only since the respondent worked for his/her current employer and whether the condition inhibits job mobility, but these are not directly comparable to Q#177 in the LMAS.

LMAS Q#180, Q#181 (Work limitation complete)

Does . . . 's condition or health problem completely prevent him/her from working at a job or business? If so, when?

Q#180 is identical to question D69 in the HALS. There is no question corresponding to Q#181.

LMAS Q#182, Q#183, Q#189, Q#190 (Limited in work)

Is . . . limited in the kind or amount of work he/she could do at a job or business because of his/her condition? If so, when?

Q#182 is very similar to questions D55 and D73 in the HALS for unemployed and those not in the labour force respectively. The questions are worded a bit differently, however. D55 asks: "*Are you limited in the kind or amount of work you could do at a job or business because of a condition or health problem*?" D73 asks: "*Does your condition or health problem limit the kind or amount of work you could do at a job or business*?" This difference in wording may be inconsequential. There is no question corresponding to Q#183. Q#189 is very similar to question D19 in the HALS for employed respondents. D19 is similar to D55: "*Are you limited in the kind or amount of work you can do at your present job or business because of your condition or health problem*?" There is no question corresponding to Q#190.

LMAS Q#184 (Limited looking for work)

Does . . .'s condition affect his/her ability to look for work?

This question corresponds to question D58 in the HALS for unemployed workers. This question is only asked of persons who were not working at a job or business at the end of 1989 in the LMAS. Hence, the questions should be directly comparable.

LMAS Q#185 (Facilities limitation)

Because of . . .'s condition or health problem, do any of the following make it difficult for him/her to find work . . (a) physical access to buildings? (b) lack of special aids, equipment or assistance? (c) inadequate transportation? (d) lack of suitable employment?

This question corresponds to question D61 in the HALS for unemployed workers and question D72 for those not in the labour force, except that the HALS survey adds two categories, "Other (specify)" and "None of the above." The question is only asked of persons who were not working at a job or business (that is, unemployed or not in the labour force) at the end of 1989 in the LMAS. These questions should be directly comparable, but question D61 is not on the public version of the HALS data tape.

LMAS Q#187, Q#188 (Chances of getting job)

What are . . .'s chances of getting a job in the next six months? Are they . . . (a) excellent? (b) good? (c) fair? (d) poor? Are . . .'s chances of getting a job fair/poor because of his/her condition?

This question is identical to questions D45 and D46 for the unemployed and D61 and D62 for those not in the labour force in the HALS.

LMAS Q#191 (Job mobility)

Does the condition . . . now has make it difficult for him/her to change jobs or get a better job?

This question is identical to question D18 in the HALS for employed respondents. Q#191 is asked for persons who were working at a job or business at the end of 1989. Hence, the questions should be directly comparable.

LMAS Q#192, Q#193 (Job security)

In terms of . . . 's most recent job, would . . . describe his/her job security as . . . (a) excellent? (b) good? (c) fair? (d) poor? Is . . . 's job security fair/poor because of his/her condition?

This question is identical to questions D31 and D32 in the HALS for employed respondents. They are asked for persons who were working at a job or business at the end of 1989 in the LMAS.

The HALS data also contain a Severity Index derived from the questions in section A of the HALS (McDowell, 1988). Some of these questions, as listed above, are contained in the 1989 LMAS. We investigate in this study whether this index is helpful in explaining labour market activity and the extent to which the disabled are disadvantaged in the labour market.

Economic and demographic variables in LMAS and HALS

Comparable variables in the LMAS and HALS include: province, census metropolitan area, sex, age, marital status, education completed, language (English, French, both, or neither), family size, presence of children. However, the LMAS contains a much richer set of questions concerning labour market activity which can be used to calculate a summary of labour market activity for respondents in 1989. On the other hand, the HALS contains some useful information on household income not available in the LMAS.

Economic variables of interest from LMAS

EARNINGS:
Total annual and weekly earnings for jobs 1-5 and all jobs in 1989

HOURS:
Hours worked (annual or by month) at jobs 1-5 and all jobs in 1989

WEEKS WORKED/UNEMPLOYED:
Weeks worked and weeks unemployed in 1989

UNEMPLOYMENT SPELL:
Duration of most recent spell of unemployment (if any)

TENURE:
Job tenure for latest full-time and/or part-time job

JOB MOBILITY:
Whether individual changed jobs or employers in 1989

ADDITIONAL HOURS:
Additional hours of work desired by respondent.

These variables allow us to assess the labour market activity of respondents and to compare the activity of persons with and without disabilities.

Aspects of labour market activity will vary among respondents according to age, education and other factors listed above. In addition, the LMAS contains information on union status, on-the-job training, etc., which are useful factors to consider in the determination of differences in labour market activity between persons with and without disabilities.

We also examine the severity index constructed from the HALS data and construct a comparable index from the information available in the LMAS. This index can then provide us with a useful summary statistic of the extent of each individual's disability. We can then introduce this variable to explain differences in labour market activity between persons with and without disabilities.

Economic variables of interest from HALS

Some of the labour market activity variables have counterparts in the HALS:

EMPIN: Employment income in 1985

HOURS: Hours worked in reference week

WORKACT: Work activity in 1985

However, each of these variables is less precise than its counterpart in the LMAS. Employment income is only available as grouped data (0, 1-999, 1000-1999, . . . , 30000-34999, 35000+) which makes comparisons between the population with disabilities and the non-disabled population more difficult and prone to error since some assumption must be made about the distribution of values within each group. Hours worked refer to the reference week only, which may not be typical of hours worked during the month or year. Also, work activity only indicates whether a respondent worked in 1985 and, if so, whether the person worked full-time or part-time and the number of weeks by category (1-13, 14-26, 27-39, 40-48, 49-52). On the other hand, the LMAS provides precise responses of full-time and part-time work by job, and the number of weeks worked during the year.

Nonetheless, these variables in the HALS data set can be used to draw some preliminary comparisons of the labour market activity of persons with disabilities and the non-disabled along the lines suggested above for the LMAS. This exercise will facilitate comparison of the results with the LMAS.

In addition, the HALS contains information on household and family income not available in the LMAS:

CFINC:	Census family total income
EFINC:	Economic family total income
TOTINC:	Total income 1985
LOINC:	Low-income status

Again, these variables are grouped data which are more difficult to evaluate. We attempt, however, to draw comparisons between the family/household income circumstances of families/households with and without disabled persons.

DEFINITIONS

Persons with disabilities

The definition of disability used in the 1986 Health and Activity Limitation Survey (HALS) was taken from the World Health Organization. It is as follows:

> *In the context of health experience, a disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.*[2]

A framework has been developed within which one can measure functional limitations, commonly known as the *"Activities of daily living"*. This framework was operationalized in HALS through the use of a modified version of these activities for persons with physical limitations. Additional questions were asked to identify those with learning disabilities, and/or mental/psychological disabilities. A person is not considered disabled if a special aid completely eliminates the limitation or if the limitation has not lasted (or is not expected to last) six months.

Limited at work

A refinement of the definition of persons with disabilities was necessary to identify persons with a disability who were designated under the Act. The Employment Equity Regulations state:

> *3(b) persons with disabilities are considered to be persons who*
>
> *(i) have any persistent physical, mental, psychiatric, sensory or learning impairment,*
>
> *(ii) consider themselves to be, or believe that an employer or a potential employer would be likely to consider them to be, disadvantaged in employment by reason of an impairment referred to in subparagraph (i)...*

Thus, for employment equity purposes, any person who indicated that they were limited in the kind or amount of work they could do were included in tabulations, i.e. a positive response to one or more of the following questions in the 1986 HALS:

---

[2] International Classifications of Impairments, Disabilities, and Handicaps. World Health Organization. 1980 - page 143.

Question 20(ii)

Because of a long-term physical condition or health problem, that is, one that is expected to last six months or more, are you limited in the kind or amount of activity you can do at school or at work?

Question 23(ii)

Because of a long-term emotional, psychological, nervous, or mental health condition or problem, are you limited in the kind or amount of activity you can do at school or at work?

Question D19 (asked of the employed)

Are you limited in the kind or amount of work you can do at your present job or business because of your condition or health problem?

Question D55 (asked of the unemployed)

Are you limited in the kind or amount of work you could do at a job or business because of a condition or health problem?

Question D69 (asked of persons not in the labour force)

Does your condition or health problem completely prevent you from working at a job or business?

Question D73 (asked of persons not in the labour force)

Does your condition of health problem limit the kind or amount of work you could do at a job or business?

1986 HALS Tables

Tables 1H to 6H
Tables 1S and 2S

Notes:

The source of data for these tables is the 1986 HALS Microdata File.

All figures are rounded to the nearest 0 or 5. As a result, totals may not equal the sum of parts.

Table 1H. Characteristics of persons 15 years of age and over, in households (1986 HALS)

Variable	Weighted count	Percent
Total sample	19,483,865	100.0
Disability		
Disabled	2,794,550	14.3
Not disabled	16,689,310	85.7
Number of disabled persons in household		
1	3,281,000	16.8
2 or more	903,390	4.6
None	15,300,000	78.5
Disabled in one of 13 categories[1]		
Disabled	2,752,270	14.1
Not disabled	16,731,590	85.9
13 Categories of disability		
Hearing in group conversation	814,250	4.2
Completely unable to do this	114,975	0.6
Reading newsprint	407,830	2.1
Completely unable to do this	98,065	0.5
Speaking and being understood	160,940	0.8
Completely unable to do this	94,335	0.5
Walking 400 metres without rest	1,125,355	5.8
Completely unable to do this	327,215	1.7
Walking flight of stairs	1,162,975	6.0
Completely unable to do this	210,005	1.1
Carrying 5 kg. object for 10 metres	955,110	4.9
Completely unable to do this	402,745	2.1
Standing for more than 20 minutes	1,226,750	6.3
Completely unable to do this	405,305	2.1
Bending for object on floor	982,930	5.0
Completely unable to do this	230,965	1.2
Using fingers to grasp/handle	499,980	2.6
Completely unable to do this	56,470	0.3
Reaching in any direction	600,410	3.1
Completely unable to do this	126,570	0.6
Problems remembering/learning	507,530	2.6
Existed at birth	81,055	0.4
Limited by physical condition		
At home	1,565,310	8.0
At school or work	659,035	3.4
Other activities	1,724,830	8.9
Limited by mental condition		
At home	297,210	1.5
At school or work	160,750	0.8
Other activities	312,735	1.6

[1] Has one or more of the following 13 disabilities: hearing, reading, speaking, walking, stairs, carrying, standing, bending, fingers, reaching, learning, physical limitation, or mental limitation. (See Appendix A for a complete statement of these disability categories.)

Table 2H. Characteristics of persons aged 15 to 64 years, in households (1986 HALS)

Variable	Weighted count	Percent
Total sample	16,999,090	100.0
Disability		
Disabled	1,767,640	10.4
Not disabled	15,231,450	89.6
Number of disabled persons in household		
1	2,393,000	14.1
2 or more	625,270	3.7
None	13,980,000	82.2
Disabled in one of 13 categories[1]		
Disabled	1,734,430	10.2
Not disabled	15,264,660	89.8
13 categories of disability		
Hearing in group conversation	392,025	2.3
Completely unable to do this	41,780	0.2
Reading newsprint	182,375	1.1
Completely unable to do this	39,340	0.2
Speaking and being understood	107,210	0.6
Completely unable to do this	62,990	0.4
Walking 400 metres without rest	589,715	3.5
Completely unable to do this	146,750	0.9
Walking flight of stairs	647,735	3.8
Completely unable to do this	83,300	0.5
Carrying 5 kg. object for 10 metres	515,975	3.0
Completely unable to do this	178,660	1.1
Standing for more than 20 minutes	704,405	4.1
Completely unable to do this	194,545	1.1
Bending for object on floor	603,385	3.5
Completely unable to do this	121,045	0.7
Using fingers to grasp/handle	302,815	1.8
Completely unable to do this	33,380	0.2
Reaching in any direction	362,760	2.1
Completely unable to do this	67,780	0.4
Problems remembering/learning	285,780	1.7
Existed at birth	71,510	0.4
Limited by physical condition		
At home	945,505	5.6
At school or work	607,300	3.6
Other activities	1,119,510	6.6
Limited by mental condition		
At home	221,655	1.3
At school or work	151,810	0.9
Other activities	240,015	1.4
Completely prevented from working	615,715	3.6
Limited at work[2]	1,255,160	7.4

[1] Has one or more of the following 13 disabilities: hearing, reading, speaking, walking, stairs, carrying, standing, bending, fingers, reaching, learning, physical limitation, or mental limitation. (See Appendix A for a complete statement of these disability categories.)

[2] See Appendix B for definition of "Limited at work".

Table 3H. Socio-economic characteristics of persons aged 15 to 64 years, in households (1986 HALS)

Variable	Weighted count	Percent
Total sample	16,999,090	100.00
Labour force status		
Employed	11,350,000	66.8
Unemployed	1,355,000	8.0
Not in labour force	4,260,000	25.1
Unknown	31,670	0.2
Work limitation		
Limited at work	1,255,160	7.4
Not limited at work	454,415	2.7
Unknown	58,060	0.3
Not disabled	15,231,450	89.6
Age group		
15-24	4,101,550	24.1
25-34	4,450,690	26.2
35-44	3,627,900	21.3
45-54	2,505,860	14.7
55-64	2,313,090	13.6
Education		
None	111,025	0.7
1-8 years	2,101,830	12.4
Secondary[1]	7,458,705	43.9
Postsecondary	3,258,675	19.2
Certificate/Diploma	2,336,015	13.7
University degree	1,732,800	10.2
Employment income		
$0 or less	4,230,905	24.9
$1 - $ 4,999	2,687,670	15.8
$5,000 - $ 9,999	1,863,875	11.0
$10,000 - $19,999	3,104,640	18.3
$20,000 - $29,999	2,537,905	14.9
$30,000 or more	2,574,095	15.1
Total income 1985		
$0 or less	2,431,675	14.3
$1 - $ 4,999	3,000,680	17.7
$5,000 - $ 9,999	2,312,450	13.6
$10,000 - $19,999	3,574,335	21.0
$20,000 - $29,999	2,717,920	16.0
$30,000 - $39,999	1,656,675	9.7
$40,000 - $49,999	655,895	3.9
$50,000 or more	649,460	3.8
Low income status		
Above line	14,150,000	83.2
Below line	2,607,000	15.3
Not applicable	241,535	1.4

[1] Includes trade certificate or diploma without other non-university education.

Variable	Weighted count	Percent
Hours worked in reference week		
0	6,116,000	36.0
1-20	1,288,000	7.6
21-40	6,613,390	38.9
More than 40	2,981,760	17.5
When last worked		
Before 1985	2,168,000	12.8
In 1985	1,157,000	6.8
In 1986	12,374,780	72.8
Never worked	1,299,000	7.6
Work activity		
No work in 1985	3,995,000	23.5
1-13 weeks full time	728,210	4.3
1-13 weeks part time	608,455	3.6
14-26 weeks full time	1,037,000	6.1
14-26 weeks part time	609,485	3.6
27-39 weeks full time	770,460	4.5
27-39 weeks part time	330,665	1.9
40-48 weeks full time	1,214,000	7.1
40-48 weeks part time	363,250	2.1
49-52 weeks full time	6,480,300	38.1
49-52 weeks part time	861,805	5.1

Table 3H - Concluded

Table 4H. Socio-economic characteristics of persons aged 15 to 64 years, with disabilities who are limited at work, in households (1986 HALS)

Variable	Weighted count	Percent
Total sample	1,255,160	100.0
Labour force status		
Employed	378,875	30.2
Unemployed	94,785	7.6
Not in labour force	772,230	61.5
Unknown	9,270	0.7
Age group		
15-24	107,410	8.6
25-34	185,075	14.8
35-44	220,390	17.6
45-54	265,650	21.2
55-64	476,635	38.0
Education		
None	44,620	3.6
1-8 years	373,430	29.8
Secondary[1]	481,855	38.4
Postsecondary	191,310	15.2
Certificate/Diploma	108,280	8.6
University degree	55,650	4.4
Employment income		
$0 or less	688,360	54.8
$1 - $4,999	151,860	12.1
$5,000 - $9,999	79,725	6.4
$10,000 - $19,999	139,440	11.1
$20,000 - $29,999	100,755	8.0
$30,000 or more	95,010	7.6
Total income 1985		
$0 or less	209,060	16.7
$1 - $4,999	291,485	23.2
$5,000 - $9,999	252,650	20.1
$10,000 - $19,999	236,985	18.9
$20,000 - $29,999	140,015	11.2
$30,000 - $39,999	79,440	6.3
$40,000 - $49,999	22,625	1.8
$50,000 or more	22,890	1.8
Low-income status		
Above line	843,635	67.2
Below line	383,565	30.6
Not applicable	27,960	2.2
Hours worked in reference week		
0	875,520	69.8
1-20	59,695	4.8
21-40	227,730	18.1
More than 40	92,205	7.3

[1] Includes trade certificate or diploma without other non-university education.

Variable	Weighted count	Percent
When last worked		
Before 1985	479,800	38.2
In 1985	119,100	9.5
In 1986	514,255	41.0
Never worked	142,010	11.3
Work activity		
No work in 1985	668,825	53.3
1-13 weeks full time	51,015	4.1
1-13 weeks part time	34,010	2.7
14-26 weeks full time	55,635	4.4
14-26 weeks part time	25,980	2.1
27-39 weeks full time	42,260	3.4
27-39 weeks part time	17,325	1.4
40-48 weeks full time	55,900	4.5
40-48 weeks part time	16,725	1.3
49-52 weeks full time	243,215	19.4
49-52 weeks part time	44,260	3.5

Table 4H - Concluded

Table 5H. Socio-economic characteristics of persons aged 15 to 64 years, with disabilities in one of 13 categories, in households (1986 HALS)

Variable	Weighted Count	Percent
Total sample	1,734,430	100.0
Labour force status		
Employed	694,615	40.0
Unemployed	125,810	7.3
Not in labour force	884,030	51.0
Unknown	29,975	1.7
Age group		
15-24	167,040	9.6
25-34	281,225	16.2
35-44	332,685	19.2
45-54	368,540	21.2
55-64	584,935	33.7
Education		
None	47,475	2.7
1-8 years	460,090	26.5
Secondary[1]	687,040	39.6
Postsecondary	279,570	16.1
Certificate/Diploma	174,010	10.0
University degree	86,230	5.0
Employment income		
$0 or less	821,360	47.4
$1 - $4,999	230,435	13.3
$5,000 - $9,999	125,725	7.2
$10,000 - $19,999	209,455	12.1
$20,000 - $29,999	175,990	10.1
$30,000 or more	171,465	9.9
Total income 1985		
$0 or less	277,210	16.0
$1 - $4,999	372,975	21.5
$5,000 - $9,999	317,025	18.3
$10,000 - $19,999	330,590	19.1
$20,000 - $29,999	222,800	12.8
$30,000 - $39,999	136,410	7.9
$40,000 - $49,999	43,430	2.5
$50,000 or more	33,990	2.0
Low-income status		
Above line	1,214,375	70.0
Below line	482,465	27.8
Not applicable	37,585	2.2
Hours worked in reference week		
0	1,065,695	61.4
1-20	88,250	5.1
21-40	405,495	23.4
More than 40	174,990	10.1

[1] Includes trade certificate or diploma without other non-university education.

Variable	Weighted Count	Percent
When last worked		
Before 1985	561,355	32.4
In 1985	150,075	8.7
In 1986	848,340	48.9
Never worked	174,660	10.1
Work activity		
No work in 1985	794,080	45.8
1-13 weeks full time	67,130	3.9
1-13 weeks part time	46,390	2.7
14-26 weeks full time	85,255	4.9
14-26 weeks part time	42,720	2.5
27-39 weeks full time	60,455	3.5
27-39 weeks part time	25,955	1.5
40-48 weeks full time	87,535	5.0
40-48 weeks part time	28,200	1.8
49-52 weeks full time	429,050	24.7
49-52 weeks part time	67,655	3.9

Table 5H - Concluded

Table 6H. Socio-economic characteristics of persons aged 15 to 64 years, without disabilities in one of 13 categories, in households (1986 HALS)

Variable	Weighted Count	Percent
Total sample	15,264,660	100.0
Labour force status		
Employed	10,664,745	69.9
Unemployed	1,228,855	8.1
Not in labour force	3,371,060	22.1
Age group		
15-24	3,934,510	25.8
25-34	4,169,460	27.3
35-44	3,295,215	21.6
45-54	2,137,320	14.0
55-64	1,728,155	11.3
Education		
None	63,550	0.4
1-8 years	1,641,740	10.8
Secondary[1]	6,771,670	44.4
Postsecondary	2,979,105	19.5
Certificate/Diploma	2,162,010	14.2
University degree	1,646,570	10.8
Employment income		
$0 or less	3,409,545	22.3
$1 - $4,999	2,457,235	16.1
$5,000 - $9,999	1,738,150	11.4
$10,000 - $19,999	2,895,185	19.0
$20,000 - $29,999	2,361,915	15.5
$30,000 or more	2,402,630	15.7
Total income 1985		
$0 or less	2,154,465	14.1
$1 - $4,999	2,627,705	17.2
$5,000 - $9,999	1,995,425	13.1
$10,000 - $19,999	3,243,745	21.3
$20,000 - $29,999	2,495,120	16.3
$30,000 - $39,999	1,520,265	10.0
$40,000 - $49,999	612,465	4.0
$50,000 or more	615,470	4.0
Low-income status		
Above line	12,936,290	84.7
Below line	2,124,420	13.9
Not applicable	203,950	1.3
Hours worked in reference week		
0	5,050,795	33.1
1-20	1,199,590	7.8
21-40	6,207,905	40.7
More than 40	2,806,770	18.4
When last worked		
Before 1985	1,606,450	10.5

[1] Includes trade certificate or diploma without other non-university education.

Variable	Weighted Count	Percent
In 1985	1,007,210	6.6
In 1986	11,526,465	75.5
Never worked	1,124,540	7.4
Work activity		
No work in 1985	3,201,270	21.0
1-13 weeks full time	661,080	4.3
1-13 weeks part time	562,065	3.7
14-26 weeks full time	951,575	6.2
14-26 weeks part time	566,765	3.7
27-39 weeks full time	710,005	4.7
27-39 weeks part time	304,715	2.0
40-48 weeks full time	1,126,710	7.4
40-48 weeks part time	335,015	2.2
49-52 weeks full time	6,051,260	39.6
49-52 weeks part time	794,200	5.2

Table 6H - Concluded

Table 1S. A comparison of two disability scores for persons aged 15 years and over, using the 1986 HALS data

Score	SIGADL[1]			SIGADL13[2]		
	Unweighted count	Weighted count	Percent	Unweighted count	Weighted count	Percent
0	60,437	16,690,000	85.7	60,861	16,730,000	85.9
1	3,777	253,598	1.3	5,770	471,950	2.4
2	6,542	384,242	2.0	7,661	395,773	2.0
3	6,197	341,950	1.8	7,263	286,763	1.5
4	6,288	267,887	1.4	7,339	270,772	1.4
5	6,021	223,388	1.1	6,935	228,510	1.2
6	5,824	197,238	1.0	6,423	205,727	1.1
7	5,080	162,076	0.8	5,777	189,587	1.0
8	4,630	149,113	0.8	5,082	154,016	0.8
9	4,136	126,179	0.6	4,188	116,866	0.6
10	3,617	127,158	0.7	3,439	102,693	0.5
11	3,248	88,088	0.5	2,754	84,408	0.4
12	2,702	81,864	0.4	2,409	68,016	0.3
13	2,415	68,935	0.4	1,746	48,699	0.2
14	1,998	55,446	0.3	1,442	43,413	0.2
15	1,568	45,660	0.2	995	27,305	0.1
16	1,426	46,727	0.2	822	19,497	0.1
17	1,102	29,672	0.2	507	13,605	0.1
18	960	31,505	0.2	355	11,300	0.1
19	806	21,250	0.1	217	5,487	0.0
20	630	17,538	0.1	146	3,436	0.0
21	510	13,135	0.1	93	1,882	0.0
22	415	10,337	0.1	54	1,614	0.0
23	356	9,732	0.0	32	670	0.0
24	296	7,636	0.0	25	246	0.0
25	279	7,496	0.0	2	35	0.0
26	258	5,910	0.0			
27	179	4,961	0.0			
28	165	4,779	0.0			
29	112	2,866	0.0			
30	92	2,123	0.0			
31	73	1,413	0.0			
32	51	1,451	0.0			
33	32	665	0.0			
34	31	434	0.0			
35	30	826	0.0			
36	23	655	0.0			
37	11	371	0.0			
38	11	135	0.0			
39 or more	9	113	0.0			

[1] SIGADL scores one point for each reported partial disability and two points for each complete disability reported in section A of the HALS. See McDowell (1988) for further details.

[2] SIGADL13 is scored the same as SIGADL but only for the 13 disability questions common to the HALS and LMAS data.

Table 2S. Severity indices derived from two disability scores for persons aged 15 years and over, using the 1986 HALS data (Unweighted counts)

Category	SI		SI13		MODSI13	
Mild	22,804	17.2	28,033	21.2	20,694	15.6
Moderate	29,308	22.1	31,844	24.1	31,556	23.8
Severe	19,788	15.0	11,599	8.8	19,226	14.5
Correlation with SI	1.000		0.963		0.969	

Notes: SI is a severity index derived from SIGADL point scores: 1-4 (mild), 5-10 (moderate), 11 or more (severe); SI13 is a severity index derived from SIGADL13 point scores: 1-4 (mild), 5-10 (moderate), 11 or more (severe); MODSI13 is also derived from SIGADL13: 1-3 (mild), 4-8 (moderate), 9 or more (severe).

1989 LMAS Tables

Tables 1L to 6L
Tables 1R and 2R

Notes:

The source of data for these tables is the 1989 LMAS Person Master File.

All figures are rounded to the nearest 0 or 5. As a result, totals may not equal the sum of parts.

Table 1L. Characteristics of persons aged 15 years and over, in households (1989 LMAS)

Variable	Weighted Count	Percent
Total sample	18,181,455	100.0
Disabled in one of the 13 categories[1]		
Disabled	2,596,180	14.3
Not disabled	15,077,760	82.9
Unknown	507,515	2.8
13 categories of disability		
Hearing in group conversation	600,405	3.3
Completely unable to do this	39,015	0.2
Reading newsprint	237,730	1.3
Completely unable to do this	54,045	0.3
Speaking and being understood	169,025	0.9
Completely unable to do this	21,820	0.1
Walking 400 metres without rest	776,815	4.3
Completely unable to do this	169,535	0.9
Walking flight of stairs	851,465	4.7
Completely unable to do this	118,410	0.7
Carrying 5 kg. object for 10 metres	701,990	3.9
Completely unable to do this	211,550	1.2
Standing for more than 20 minutes	906,090	5.0
Completely unable to do this	202,170	1.1
Bending for object on floor	795,200	4.4
Completely unable to do this	130,090	0.7
Using fingers to grasp/handle	430,690	2.4
Completely unable to do this	28,795	0.2
Reaching in any direction	488,080	2.7
Completely unable to do this	66,085	0.4
Problems remembering/learning	311,675	1.7
Limited by physical condition		
At home	1,177,945	6.5
At school or work	640,865	3.5
Other activities	1,351,750	7.4
Limited by mental condition		
At home	282,865	1.6
At school or work	172,550	0.9
Other activities	304,530	1.7

[1] Has one or more of the following 13 disabilities: hearing, reading, speaking, walking, stairs, carrying, standing, bending, fingers, reaching, learning, physical limitation, or mental limitation. (See Appendix A for a complete statement of these disability categories.)

Table 2L. Characteristics of persons aged 15 to 64 years, in households (1989 LMAS)

Variable	Weighted Count	Percent
Total sample	17,083,210	100.0
Disabled in one of the 13 categories[1]		
Disabled	2,196,370	12.9
Not disabled	14,405,430	84.3
Unknown	481,415	2.8
13 Categories of disability		
Hearing in group conversation	473,155	2.8
Completely unable to do this	31,960	0.2
Reading newsprint	193,445	1.1
Completely unable to do this	47,215	0.3
Speaking and being understood	149,790	0.9
Completely unable to do this	20,225	0.1
Walking 400 metres without rest	614,135	3.6
Completely unable to do this	135,130	0.8
Walking flight of stairs	683,425	4.0
Completely unable to do this	92,650	0.5
Carrying 5 kg. object for 10 metres	564,835	3.3
Completely unable to do this	167,310	1.0
Standing for more than 20 minutes	745,810	4.4
Completely unable to do this	167,115	1.0
Bending for object on floor	662,100	3.9
Completely unable to do this	111,775	0.7
Using fingers to grasp/handle	351,900	2.1
Completely unable to do this	24,635	0.1
Reaching in any direction	405,675	2.4
Completely unable to do this	57,045	0.3
Problems remembering/learning	257,095	1.5
Limited by physical condition		
At home	978,620	5.7
At school or work	614,300	3.6
Other activities	1,152,040	6.7
Limited by mental condition		
At home	251,285	1.5
At school or work	167,175	1.0
Other activities	274,835	1.6
Completely prevented from working	589,170	3.4
Limited at work[2]	1,360,940	8.0

[1] Has one or more of the following 13 disabilities: hearing, reading, speaking, walking, stairs, carrying, standing, bending, fingers, reaching, learning, physical limitation, or mental limitation. (See Appendix A for a complete statement of these disability categories.)

[2] See Appendix B for definition of "Limited at work".

Table 3L. Socio-economic characteristics of persons aged 15 to 64 years, in households (1989 LMAS)

Variable	Weighted Count	Percent
Total sample	17,083,210	100.0
Work limitation		
Limited at work	1,360,940	8.0
Not limited at work	760,805	4.5
Unknown if limited at work	74,625	0.4
Not disabled	14,405,430	84.3
Unknown if disabled	481,415	2.8
Age group		
15-24	3,414,665	20.0
25-34	4,632,530	27.1
35-44	4,042,675	23.7
45-54	2,749,895	16.1
55-64	2,243,445	13.1
Mean age	37.1	
Education		
Grade 8 or less	1,855,610	10.9
Secondary[1]	8,361,345	48.9
Postsecondary	3,467,595	25.6
Certificate/Diploma	164,800	1.0
University degree	2,333,870	13.7
Employment income		
$0 or less	4,805,510	28.1
$1 - $4,999	1,995,195	11.7
$5,000 - $9,999	1,557,920	9.1
$10,000 - $19,999	2,873,745	16.8
$20,000 - $29,999	2,644,405	15.5
$30,000 and over	3,206,435	18.8
Mean employment income ($)	15,815	
Labour force status, 1989		
Mean weeks employed	36.9	
Avg. weeks unemployed (looking for work)	2.2	
Avg. weeks unemployed (wants to work)	0.3	
Length of most recent unemployment (weeks)	16.5	
Mean hours worked	1159.4	
Wanted additional hours	1,253,045	7.3
Changed jobs	2,983,080	17.5
Changed employers	2,706,140	15.8
Job tenure of latest full-time job (weeks)	312.8	
Job tenure of latest part-time job (weeks)	139.1	
Work activity		
No work in 1985	4,805,510	28.1
1-13 weeks full time	516,510	3.0
1-13 weeks part time	184,890	1.1
14-26 weeks full time	831,475	4.9
14-26 weeks part time	271,930	1.6

[1] Includes trade certificate or diploma without other non-university education.

Variable	Weighted Count	Percent
27-39 weeks full time	882,885	5.2
27-39 weeks part time	301,690	1.8
40-48 weeks full time	739,450	4.3
40-48 weeks part time	205,545	1.2
49-52 weeks full time	7,074,485	41.4
49-52 weeks part time	1,268,840	7.4

Table 3L - Concluded

Table 4L. Socio-economic characteristics of persons aged 15 to 64 yea[illegible]isabilities and who are limited at work, in households, (1989 LMAS)

Variable	Weighted count	Percent
Total sample	1,360,940	100.0
Age group		
15-24	122,075	9.0
25-34	222,485	16.3
35-44	294,095	21.6
45-54	308,165	22.6
55-64	414,115	30.4
Mean age	44.8	
Education		
Grade 8 or less	398,430	29.3
Secondary school[1]	644,170	47.3
Postsecondary	236,515	17.4
Certificate/Diploma	8,855	0.7
University degree	72,975	5.4
Employment income		
$0 or less	810,044	59.5
$1 - $4,999	138,710	10.2
$5,000 - $9,999	95,670	7.0
$10,000 - $19,999	128,810	9.5
$20,000 - $29,999	98,605	7.2
$30,000 or more	89,100	6.5
Mean employment income ($)	6,725	
Labour force status, 1989		
Mean weeks employed	19.2	
Average weeks unemployed (looking for work)	2.1	
Average weeks unemployed (wants to work)	1.6	
Length of most recent unemployment (weeks)	29.1	
Mean hours worked	563.1	
Wanted additional hours	66,790	4.9
Changed jobs	133,755	9.8
Changed employers	124,170	9.1
Job tenure of last full-time job (weeks)	298.9	
Job tenure of last part-time job (weeks)	148.2	
Work activity		
No work in 1985	810,045	59.5
1-13 weeks full time	49,060	3.6
1-13 weeks part time	15,835	1.2
14-26 weeks full time	66,030	4.9
14-26 weeks part time	18,575	1.4
27-39 weeks full time	70,845	5.2
27-39 weeks part time	11,195	0.8
40-48 weeks full time	45,830	3.4
40-48 weeks part time	10,195	0.7
49-52 weeks full time	217,455	16.0
49-52 weeks part time	45,875	3.4

[1] Includes trade certificate or diploma without other non-university education.

Table 5L. Socio-economic characteristics of persons aged 15 to 64 years, with disabilities in one of thirteen categories, in households (1989 LMAS)

Variable	Weighted count	Percent
Total sample	2,196,370	100.0
Age group		
15-24	203,660	9.3
25-34	380,725	17.3
35-44	490,450	22.3
45-54	483,655	22.0
55-64	637,875	29.0
Mean age	44.2	
Education		
Grade 8 or less	543,505	24.7
Secondary[1]	1,046,610	47.7
Some postsecondary	435,910	19.8
Certificate/Diploma	14,330	0.7
University Degree	156,010	7.1
Employment income		
$0 or less	1,080,820	49.2
$1 - $4,999	203,995	9.3
$5,000 - $9,999	173,360	7.9
$10,000 - $19,999	252,470	11.5
$20,000 - $29,999	214,115	9.7
$30,000 or more	271,605	12.4
Mean employment income ($)	10,282	
Labour force status, 1989		
Mean weeks employed	25.5	
Average weeks unemployed (looking for work)	2.1	
Average weeks unemployed (wants to work)	1.1	
Length of most recent unemployment (weeks)	22.9	
Mean hours worked	779.9	
Wanted additional hours	140,875	6.4
Changed jobs	284,125	12.9
Changed employers	255,565	11.6
Job tenure of latest full-time job (weeks)	342.6	
Job tenure of latest part-time job (weeks)	179.4	
Work activity		
No work in 1985	1,080,820	49.2
1-13 weeks full time	68,025	3.1
1-13 weeks part time	21,765	1.0
14-26 weeks full time	102,015	4.6
14-26 weeks part time	24,630	1.1
27-39 weeks full time	107,640	4.9
27-39 weeks part time	21,895	1.0
40-48 weeks full time	83,700	3.8
40-48 weeks part time	19,400	0.9
49-52 weeks full time	562,730	25.6
49-52 weeks part time	103,750	4.7

[1] Include trade certificate or diploma without other non-university education.

Table 6L. Socio-economic characteristics of persons aged 15 to 64 years, without disabilities in one of thirteen categories, in households (1989 LMAS)

Variable	Weighted count	Percent
Total sample	14,405,430[1]	100.0
Age group		
15-24	3,068,400	21.3
25-34	4,121,630	28.6
35-44	3,471,665	24.1
45-54	2,200,280	15.3
55-64	1,543,455	10.7
Mean age	36.0	
Education		
Grade 8 or less	1,261,505	8.8
Secondary[2]	7,059,045	49.0
Some postsecondary	3,813,470	26.5
Certificate/Diploma	149,915	1.0
University Degree	2,121,495	14.7
Employment income		
$0 or less	3,605,310	25.0
$1 - $4,999	1,719,265	11.9
$5,000 - $9,999	1,336,245	9.3
$10,000 - $19,999	2,534,260	17.6
$20,000 - $29,999	2,350,124	16.3
$30,000 or more	2,860,225	19.9
Mean employment income ($)	16,348	
Labour force status, 1989		
Mean weeks employed	38.6	
Average weeks unemployed (looking for work)	2.2	
Average weeks unemployed (wants to work)	0.2	
Length of most recent unemployment (weeks)	15.7	
Mean hours worked	1216.6	
Wanted additional hours	1,067,745	7.4
Changed jobs	2,593,685	18.0
Changed employers	2,355,040	16.3
Job tenure of latest full-time job (weeks)	312.0	
Job tenure of latest part-time job (weeks)	136.5	
Work activity		
No work in 1985	3,605,310	25.0
1-13 weeks full time	432,720	3.0
1-13 weeks part time	158,450	1.1
14-26 weeks full time	697,630	4.8
14-26 weeks part time	240,750	1.7
27-39 weeks full time	742,915	5.2
27-39 weeks part time	268,965	1.9
40-48 weeks full time	631,025	4.4
40-48 weeks part time	176,665	1.2
49-52 weeks full time	6,314,445	43.8
49-52 weeks part time	1,136,550	7.9

[1] Excludes 481,415 persons whose disability status is unknown.

[2] Includes trade certificate or diploma without other non-university education.

Table 1R. Ordinary least squares regression results for earnings, for respondents aged 15 to 64 years of age, (Dependent variable is *log* earnings; observations with 0 or negative earnings excluded; t-values in parentheses) (1989 LMAS)

Variables	Regression estimates	
Intercept	0.471 (15.9)	0.471 (15.9)
Sex (Male=1)	0.239 (58.7)	0.240 (58.9)
Age	0.054 (47.8)	0.054 (47.8)
Age^2	-0.00056 (38.8)	-0.00056 (38.7)
Student	-0.064 (11.0)	-0.065 (11.1)
EIC Program	-0.069 (3.3)	-0.066 (3.1)
Training on job	0.069 (8.9)	0.069 (8.9)
Disability score		-0.029 (17.9)
Disability: Mild	-0.024 (3.1)	
Moderate	-0.167 (11.0)	
Severe	-0.614 (15.5)	
Visible minority	-0.096 (11.1)	-0.096 (11.1)
English-speaking	0.059 (5.3)	0.061 (5.5)
French	0.013 (1.1)	0.014 (1.2)
Born in Canada	0.0051 (0.3)	0.0047 (0.3)
Some high school	0.120 (13.4)	0.121 (13.5)
High school	0.206 (23.6)	0.206 (23.7)
Some postsecondary	0.273 (28.5)	0.274 (28.5)
Postsecondary certificate	0.363 (41.3)	0.363 (41.4)
University degree	0.553 (59.7)	0.553 (59.7)
Newfoundland	-0.251 (17.9)	-0.251 (17.9)
Prince Edward Island	-0.261 (9.2)	-0.257 (9.0)
Nova Scotia	-0.207 (18.1)	-0.206 (18.0)
New-Brunswick	-0.193 (15.4)	-0.193 (15.4)
Quebec	-0.055 (8.8)	-0.056 (8.9)
Manitoba	-0.113 (10.8)	-0.113 (10.7)
Saskatchewan	-0.141 (12.4)	-0.141 (12.4)
Alberta	-0.032 (4.5)	-0.032 (4.5)
British Columbia/Northwest Territories	-0.018 (2.7)	-0.018 (2.8)
Full-time	0.053 (8.4)	0.052 (8.3)
log hours	1.041 (340.3)	1.041 (339.9)
Union job	0.216 (50.7)	0.216 (50.8)
Changed jobs	0.052 (3.8)	0.053 (3.9)
Changed employers	-0.087 (6.2)	-0.088 (6.2)
R^2	0.868	0.867
F	8,617.8	9,182.8
No. observations (weighted)	12,277,702	12,277,702

Table 2R. Ordinary least squares regression results for hours worked, for respondents aged 15 to 64 years of age (Dependent variable is *log* earnings; observations with 0 or negative earnings excluded; t-values in parentheses) (1989 LMAS)

Variables	Regression estimates	
Intercept	5.749 (118.8)	5.751 (118.9)
Sex (Male=1)	0.210 (27.7)	0.209 (27.6)
Age	0.053 (23.6)	0.053 (23.7)
Age^2	-0.00064 (23.1)	-0.00065 (23.2)
Student	-0.389 (36.8)	-0.389 (36.8)
EIC Program	-0.134 (3.5)	-0.134 (3.5)
Training on job	0.113 (8.0)	0.112 (8.0)
Disability score		-0.038 (13.1)
Disability: Mild	-0.105 (7.5)	
Moderate	-0.216 (7.9)	
Severe	-0.478 (6.6)	
Visible minority	0.0081 (0.5)	0.0085 (0.5)
English-speaking	0.014 (0.7)	0.012 (0.6)
French	0.033 (1.6)	0.032 (1.5)
Born in Canada	0.017 (0.6)	0.017 (0.5)
Some high school	-0.063 (3.8)	-0.065 (4.0)
High school	0.082 (5.2)	0.080 (5.0)
Some postsecondary	0.044 (2.5)	0.041 (2.3)
Postsecondary certificate	0.107 (6.6)	0.105 (6.5)
University degree	0.093 (5.3)	0.092 (5.2)
Newfoundland	-0.282 (11.1)	-0.282 (11.1)
Prince Edward Island	-0.092 (1.8)	-0.285 (1.6)
Nova Scotia	-0.034 (1.6)	-0.034 (1.6)
New-Brunswick	-0.172 (7.6)	-0.172 (7.6)
Quebec	-0.071 (6.2)	-0.070 (6.2)
Manitoba	-0.032 (1.7)	-0.033 (1.7)
Saskatchewan	-0.069 (3.3)	-0.069 (3.3)
Alberta	-0.031 (2.4)	-0.032 (2.5)
British Columbia/Northwest Territories	-0.094 (7.8)	-0.094 (7.8)
log hourly wage	0.203 (23.7)	0.202 (23.6)
Married	-0.0050 (0.5)	-0.0051 (0.5)
Family size	-0.023 (5.7)	-0.023 (5.7)
Pre-schoolers present	-0.024 (0.6)	-0.027 (0.7)
Multiple household workers	-0.013 (1.3)	-0.014 (1.3)
R^2	0.192	0.192
F	312.6	334.3
No. observations (weighted)	12,277,702	12,277,702

REFERENCES

Breslaw, Jon, and Morton Stelcner. "The Effect of Health on the Labour Force Behavior of Elderly Men in Canada," *Journal of Human Resources XXII*, 490-517, 1987.

Cohen, Gary. "An Analysis of Disabled Persons Not in the Labour Force", Statistics Canada, May 1989.

Cohen, Gary. "Disabled Workers," *Perspectives on Labour and Income*, Catalogue 75-001, Winter, 1989, 31-38.

Cohen, Gary. *A Profile of Three Disabled Populations*, Labour and Household Surveys Analysis Division, Statistics Canada, June 1990.

Harkness, Jon. "Labour Force Participation by Canada's Disabled," discussion paper, Queen's University, 1991.

Haveman, R., and B. Wolfe. "The Economic Well-Being of the Disabled, 1962-84," *Journal of Human Resources 25*, 32-54, 1990.

Hum, Derek, and Wayne Simpson. *Income Maintenance, Work Effort, and the Canadian Mincome Experiment*, Economic Council of Canada, 1991.

Maki, Dennis. "The Productivity Implications for Disability Insurance in Canada," unpublished manuscript, Simon Fraser University, 1991.

McDowell, Ian. "A Disability Score for the Health and Activity Limitation Survey," working paper, Statistics Canada, 1988.

Nessner, K. "Profile of Canadians with Disabilities," *Canadian Social Trends N° 16*, Autumn 1990.

Ontario Ministry of Community and Social Services. "The Disabled Persons Minimum Wage Protection Act, 1989". Unpublished draft.

Ontario Ministry of Community and Social Services. Transitions: Report of the Social Assistance Review Committee. Prepared for the Ontario Ministry of Community And Social Services, Toronto, 1988.

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