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Training Activity by Adult Immigrants in Canada

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Abstract

We use the 1998 Adult and Education Survey (AETS), which distinguishes immigrant respondents for the first time, to compare the training experiences of immigrants and comparable Canadians. We estimate models of the duration of training episodes with respect to (1) core economic (human capital life cycle) factors as well as (2) personal and job characteristics (heterogeneity). We find evidence that male immigrants, especially those who come to Canada as adults, train significantly less than their native-born counterparts. Age at migration is a consistent factor explaining the training disadvantages faced by immigrant men. Our estimates suggest that black men receive less training, whether born abroad or in Canada, and that immigrant women appear to train as much as Canadian-born women, regardless of their age at immigration. Immigrant respondents identify financing, language and recognition of previous qualifications as barriers to training more frequently than Canadian-born respondents.

Training Activity by Adult Immigrants in Canada

1. Introduction

Many studies find that immigrants face a disadvantage in the Canadian labour market (Abbott and Beach, 1993; Baker and Benjamin, 1994 and 1997; Bloom, Grenier and Gunderson, 1995; Grant, 1999; Hum and Simpson, 1999; Li, 2000; McDonald and Worswick, 1998; Meng, 1987; Miller, 1992). Using cross-sectional data, these studies generally estimate a significant “entry effect,” or earnings gap, at the time of immigration relative to native born Canadians with comparable characteristics. Many of these studies also find evidence of “integration,” or erosion of this earnings gap, with time spent in Canada. Although integration implies faster earnings growth for immigrants than comparable native born Canadians, we find little evidence of faster growth for immigrants in panel data from the Survey of Labour and Income Dynamics and conclude that economic assimilation may be extremely slow for immigrants in the 1990s (Hum and Simpson, 2000). Although we find little evidence that wages grow faster for immigrants, we find that human capital accumulation (growth in years of schooling and work experience) has a substantial and significant effect on wage growth. This raises the question as to how immigrants and the native born compare in terms of training beyond formal schooling, or what we refer to as postschool training, and whether slow rates of training could account for slow economic integration.

The often-heard comment that immigrants are denied the same opportunities in the labour market as their Canadian counterparts is sometimes countered by the claim that immigrants do not acquire the same human capital credentials through training (participation), or alternatively, do not train as intensely because of family pressures to maintain consumption levels. But few studies exist beyond anecdotal evidence and small case studies to warrant generalization. By conducting a multivariate statistical study of the incidence and duration of training beyond formal schooling, and by comparing immigrants to non-immigrants, we hope to cast light on many important questions. The present study employs detailed data from the master files of the 1998 Adult Education and Training Survey (AETS). Although a series of

AETS have asked questions concerning schooling, postschool training episodes, and barriers to schooling and training, the 1998 AETS distinguished immigrants and the native born for the first time. We are therefore able to examine training incidence and duration, and their determinants, for immigrants and compare their circumstances to Canadians in general. This is the aim of the present paper.

2. Adult Training Among Immigrants: A Short Review

Much literature exists on adult training or on immigrant outcomes, but not the two topics together. However, two studies on adult training include some immigrant-related variables, and a few studies examine investments in formal schooling among immigrants. Unfortunately, none of this literature uses Canadian data.

Miller (1994) employs 1989 Australian data to examine gender discrimination in training incidence over the past 12 months, a coverage period identical to AETS. His regressions, however, include dummy variables for foreign birth in an English-speaking country, foreign birth in a non-English-speaking country, time of arrival, and foreign qualifications. Although mixed, Miller's results indicate that: (1) immigrants from non-English-speaking countries train less than either natives or immigrants from English-speaking countries; and (2) foreign qualifications tend to reduce the incidence of training relative to comparable domestic qualifications. In addition, among males, the adverse effects of foreign qualifications stand out. Finally, immigrants from non-English-speaking countries get far less in-house training, even though in-house training appears to be unrelated to the source of qualifications.

Kennedy et al (1994) use 1989-90 Australian data to examine the extent of training in workplaces where union delegates are and are not active in bargaining. Kennedy et al did not include an explicit variable for immigrant status, but they do include the percentage of the workforce from a non-English-speaking background (*NESB*), thereby presuming most workers from a *NESB* are foreign-born. Unfortunately, *NESB* has a statistically significant coefficient in only one regression: Among non-bargaining workplaces, those with many workers from a non-English-speaking background engage in far less in-house training. Among

bargainers, in-house training actually seems to rise with *NESB*, although this estimate is not statistically significant. Despite the overall lack of significance, Kennedy et al seem to corroborate Miller's result that workers from non-English-speaking countries train less in Australia.

Other studies relevant to human capital accumulation among adult immigrants do not consider training in general. Instead they concentrate on immigrants' post-migration investments in formal education, which is available in far more data sets. Borjas (1982) was among the first to investigate this topic, using data from the 1976 Survey of Income and Education (SIE). Restricting his sample to Hispanic male immigrants 16 to 64 years of age who worked positive hours per week, who worked positive weeks, and who had positive earnings in 1975, Borjas found that Cubans assimilated into the U.S. economy faster than other Hispanics. His explanation is that Cubans invested more in U.S. education soon after arrival. Borjas estimates the determinants of Hispanic immigrants' post-migration education and reports that pre-migration education has a strong and statistically significant effect on post-migration education, which is probably the most interesting result in our context. Borjas also finds that Cubans invested more in education than other Hispanic immigrants.¹

There are at least two limitations to Borjas' study, both of which are inherent to the data set used. First, the SIE does not identify foreign students separately from other migrants. It is probably unreasonable to assume that the determinants of post-migration education are the same for both groups. Secondly, the SIE does not directly measure years of post-migration education. Instead, this variable is imputed from total years of education and years of migration on the assumption that individuals attend school continuously from age six, an approximation which inevitably underestimates post-migration education.

Chiswick and Miller (1994) is partly a response to these two problems. The authors use a 1987 Australian survey which collected information on class of entry and post-migration education, using a subsample of all immigrants arriving after 1960 who were 18 or older upon arrival, and who have permanent residency status. The explanatory variables include age on

¹ Kahn (1997) also confirms Borjas' findings in general, which is not surprising given that Kahn uses the same data source.

arrival, year of arrival, a dummy for some pre-migration qualifications, and dummies for country of origin, pre-migration occupation, and migration category. In the simple logit and linear probability regressions, the dependent variable is a dummy set to one if some formal qualification was obtained after migration. In the multinomial logit analysis, separate dummies for different classes of qualification were used. The results are highly similar in all regressions. Not surprisingly, age at migration has a strong negative effect. More recent cohorts are also much less likely to have obtained qualifications, which Chiswick and Miller interpret as a positive effect related to years since migration. There is some support for this interpretation, since the negative cohort effect is especially strong for the most recent 1986-87 cohort; this negative effect is most plausibly attributed to the fact that these immigrants have simply not had time to obtain Australian qualifications. Among men, refugee status seems to reduce investment in education. Among women, it is 'tied movers' (those sponsored by family and the partners of principal applicants) who invest less, while female immigrants who are sponsored by an employer invest more than the base group of unsponsored immigrants. Finally, Chiswick and Miller find that both pre-migration qualifications and high-status occupation before migration increase the probability of obtaining qualifications in Australia. This suggests that foreign human capital complements domestic human capital, counter to Borjas' finding. This discrepancy may be due to measurement problems in the Borjas study as discussed above, or it may reflect real differences in the U.S. and Australian economies.

In summary, there is a variety of evidence that suggests that immigrants may experience problems acquiring work-related training, which may in turn account for some of the difficulties they experience in achieving parity over time with their native born counterparts. Some of these problems may logically depend on the age at which immigration occurs, in particular whether immigration occurs in childhood, prior to entry into the labour market, or as adults. We investigate these issues below.

3. The Adult Education and Training Survey (AETS)

The AETS gathers information on adult participation in formal education and training

over the previous 12 months.² Proxy responses are not allowed. The surveys cover learning obtained through programs as well as courses, learning which is job-related as well as that taken for personal interest, learning undertaken full-time as well as part-time, and learning that is employer-sponsored as well as non-employer sponsored. The surveys cover training in universities and colleges, private and commercial institutions, and on-site at the workplace as well as distance learning, such as over the Internet. In our study we ignore formal schooling programs by excluding full-time and part-time students to focus on postschool and work-related training. Limited information is also gathered about such matters as situational and institutional barriers to participation, the subject matter of courses taken, and respondents' perceptions about the course. In short, the AETS provides information on the frequency and duration of formal adult learning, the sponsor of the learning event, why the learning was acquired, the training provider and content, and some of the possible barriers to participation.

The AETS first asks respondents whether they received any training or education including courses, private lessons, correspondence courses (written or electronic), workshops, apprenticeship training, arts, crafts, recreation courses, or any other training or education during the reference year. For those with a positive response, the survey records the total duration of all training or education taken during the reference year. Additional questions permit us to classify training as "work related" if it is either employer-sponsored or judged by the respondent to be taken for job or career reasons.

There are limitations to the AETS for some purposes. For example, AETS gathers no information on informal learning. For those interested in the economic efficacy of job-related training, there is little detail on the costs of training, who paid what amounts for the

² Since the AETS is a supplement to the LFS, its design is closely tied to the LFS. The LFS is a household survey whose sample of individuals is representative of the civilian, non-institutionalized population 15 years of age or over in the ten provinces. Excluded are residents of the Yukon and Northwest Territories, persons living on Indian Reserves, full time members of the Armed Forces and inmates of institutions. These groups represent an exclusion of approximately 2% of the population aged 15 or over. The LFS consists of approximately 52,000 occupied dwellings from which information is collected from approximately 102,000 civilians aged 15 or over. For the AETS, the LFS is modified to include all members of the household 17 years of age or older (including those over 70). However, upon completion of the LFS, the AETS is administered to only one randomly selected individual per household. For further details see, Statistics Canada (n.d.) 1998 Adult Education and Training Survey: Microdata User Guide.

training, and the economic consequences of acquired training, e.g., wage gains, productivity improvements, promotions and the like. Information about employers is limited but does include important information on the size of firm, the industrial sector and whether respondents are covered by a collective agreement. Since the 1998 AETS asks, for the first time, questions on immigration status, it can be used to assess whether training experiences differ between native born and foreign born Canadians.

Table 1 indicates the extent of training by immigration status for Canadian men and women who are not full-time or part-time students. Since those who immigrate as adults (18 years of age or older) might have greater integration problems, we have identified this group separately in our empirical work. The results generally indicate that men and women born in Canada participated in postschool training at a higher rate than immigrants and that the gap was greater for those who immigrated as adults. While 26.3% of Canadian born men and 27.3% of Canadian born women were active in education and training in 1997, only 22.9% of immigrant men and 22.1% of immigrant women participated and the figures decline to 17.2% for men and 19% for women when only those immigrating as adults are considered. The pattern for work-related training is similar.

[Table 1 about here]

It is more interesting to consider training duration, which encompasses both participation rates and the intensity of training activity among those participating. For men, the pattern is comparable to the one for participation. The average duration of training is 36.3 hours per year for Canadian-born men but only 28 hours for immigrant men and 19.7 hours for men who immigrated as adults. For work-related training, the average duration was 29.8 hours for native-born men compared to 23.4 hours for immigrants and 14.9 hours for men who immigrated as adults. In other words, age at immigration appears to matter a great deal: Men who immigrated as adults received only half as much training, work-related or otherwise, as those born in Canada. If these figures stand up to further scrutiny, the gap may have consequences for productivity and earnings in the Canadian work place.

For women, the gap in training between those born in Canada and those born abroad is less apparent. Canadian-born women trained 31.9 hours on average in 1997 compared to 35.3 hours for immigrant women and 28.9 hours for women who immigrated as adults. For work-related training, Canadian-born women trained 19.3 hours as opposed to 15.4 hours for all immigrant women and 12.8 hours for women who immigrated as adults. Thus, some evidence of a training disadvantage for immigrants exists, at least for women who immigrate as adults, but it is clearly weaker than for men in these simple aggregate comparisons. But do these figures stand up to more careful scrutiny? In the next section, we develop a multivariate model of training incidence and duration from which we can further assess the relative performance of immigrants.

4. Explaining Adult Training Opportunities

The human capital framework to explain earnings over the life cycle provides a starting point for studying training differences between immigrants and native Canadians. In this approach, new earning capacity depends strictly on growth in human capital investment which, in turn, typically depends on a worker's inputs of accumulated human capital (i.e., past education attainment), and hours worked (to acquire on-the-job training or experience), (e.g., Blinder and Weiss, 1976; Weiss, 1986). Wealth maximization then implies a pattern of human capital investment which declines over the worker's lifetime. Thus, the path of training over a worker's career depends on past human capital investment, hours worked, and age. In addition, to account for job mobility as a source of job-specific training, training may also depend on the sequence of jobs. In particular, time elapsed within the current job may be important because the incentives to invest are greater for both the worker and the firm at the beginning of a job (Borjas, 1975, 1981). Hence, training would be expected to decline with the tenure of the current job.

While this constitutes a minimal set of core life cycle determinants of adult training based on the economic principles established by the human capital model, we are surprised to find how few analyses include this set of variables. In particular, we would note that simple correlations may be misleading because the human capital approach, stripped to its bare

essentials, establishes the case for a multivariate analysis of the factors accounting for training. Even among multivariate analyses of training decisions in which age and education are typically included, the treatment of past training, hours worked and job tenure is uneven.³ Moreover, the studies mentioned above include other explanatory variables which may influence the training decision and, if excluded, would bias our estimates and perhaps mislead us concerning the relative training opportunities for Canadian and foreign born workers. To guard against potential specification bias, we include a variety of other factors related to personal or job heterogeneity that have been cited in the literature.

Many studies include gender and family status variables as a determinant of adult training. There is considerable evidence that the determinants of training differ between men and women (Green, 1991 and 1993; Miller, 1994; Wooden and VandenHeuval, 1997, Green and Zanchi, 1997). Greenhalgh and Stewart (1987) also introduce the role of marital status. They find that women in the U.K. receive less training than men early in their careers, and that married women continue to receive less training throughout their careers. Married women at lower occupational positions appear to receive more training, while men and single women receive more training at higher occupational positions, suggesting some interaction between occupational status, marital status, and the incidence of training. Miller (1994) finds a corroborating marital status effect for Australia, but Holtmann and Idson (1991) find no significant marital status effect in the U.S. In our analysis, we estimate separate training models for men and women which include measures of family status.

Another potentially important family status variable is the presence, or expectation, of young children. Greenhalgh and Stewart (1987) find that young children significantly reduce the probability of training for both men and women. Miller (1994) also finds that very young children (0-2 years) reduce training, but only for women. Duncan and Hoffman (1979) find

³ One implication of the life-cycle model is that training and hours worked are determined simultaneously. Hours worked will mimic the inverted-U pattern of human capital investment, although the peak will occur earlier. From an empirical standpoint, this raises the possibility that hours of work may be endogenous, resulting in inconsistent parameter estimates. In other research (Simpson, Sproule and Hum, 1994) we have found no evidence of parameter inconsistency arising from the inclusion of hours worked, however, and we ignore this complication here.

that the expectation of having children reduces the chances of training for women.

Another prominent variable in previous studies is occupational status. Holtmann and Idson (1991) simply include a dummy variable for white collar occupations and find it to be significant. Green (1993) and Miller (1994) include variables to capture the influence of high-status occupations on training. Altonji and Spletzer (1991) examine the relationship between high school curriculum, occupation and adult training, finding that high school curriculum has no significant effect, but that training incidence increases with the verbal, math, and clerical skill requirements of an occupation and decreases with manual skill requirements. Although they find that occupational differences matter, no allowance is made for job tenure, age, or previous education and training.

Several studies include firm size as a determinant of on-the-job training (OJT). Holtmann and Idson (1991) argue that larger firms will provide more training because more workers implies a lower variance of returns to training. Their empirical analysis confirms that workers in larger firms are more likely to participate in training programs. Barron et al (1987) also find that larger employers provide more training to new workers. Other studies that find a positive relationship between training and firm size include Simpson (1984), Booth (1991) for women only, Green (1993) and Miller (1994).

Training may also differ for workers in union and non-union jobs. Mincer (1983, 1984) argues that compressed wage schedules and the dominance of seniority rules for wage progression in unionized firms reduce incentives for general training and limit the supply of trained workers from other firms. This is supported by survey evidence on the incidence of training in the U.S. (e.g., Mincer, 1983), although Simpson (1984) and Betcherman et al (1997) found no significant training effect among unionized workers in Canada. Kennedy et al (1994) find that unionization *per se* does not affect training in Australia, although a unique variable to capture union bargaining activity or “voice” appears to be positively correlated with training.

Industrial characteristics may also affect training. Lillard and Tan (1986) find that workers in industries undergoing rapid technological change receive more OJT, particularly for more educated workers. Booth (1991), however, finds no significant effect of industrial

categories, at least for women. Lynch and Black (1998) found that workers in manufacturing firms with high capital-labour ratios and workers in nonmanufacturing firms with high research and development activity conducted more training.

Lillard and Tan (1986) also found that local employment conditions affect on-the-job training incidence. A number of studies have found regional factors to be significant, including Simpson (1984), Booth (1991) and Betcherman et al (1997).

5. Our Empirical Approach

Drawing any general conclusions from these results is difficult because of the variety of model specifications and data sets used. Our approach is to specify an encompassing model that includes the core (human capital life cycle) elements of training decisions from the previous section and additional factors available from the AETS which capture observable elements of personal and job heterogeneity. Most information on adult training, including that from the AETS, is obtained from household surveys which ask employed respondents whether they have engaged in formal training on the job during a specified period.⁴

Accordingly, if we let y represent the observed amount of on-the-job training with a limiting value of zero (no training during the reference year), then we may interpret our model of the accumulation of adult training as the unobserved “propensity for training” y^* for a particular individual in the AETS sample. We then have a standard latent variable model of training of the form:

$$y = \begin{cases} y^* & \text{if } y^* > 0 \\ 0 & \text{if } y^* \leq 0 \end{cases} \quad (1)$$

where the propensity for training depends on the core economic variables and other factors discussed in the previous section. The model may be estimated directly using the maximum likelihood (tobit) technique. Alternatively, the model may be estimated in two stages; first, as

⁴ An exception is the Panel Study of Income Dynamics, which asked the question: "On a job like yours, how long would it take the average new person to become fully trained and qualified?" (Duncan and Hoffman, 1979). A question of this nature might be useful to capture the largely informal nature of much adult training (Rosen, 1982).

a model of training incidence z and, second, as a model of training duration y for those reporting training:

$$z = \begin{cases} 1 & \text{if } y = y^* > 0 \\ 0 & \text{if } y = 0, \text{ i.e. } y^* \leq 0 \end{cases} \quad (2) \text{ and}$$

$$y = y^* \text{ if } z = 1 \quad (3)$$

This “generalized tobit” model permits the specification of the training incidence and duration equations to differ. In our case, where we have no *a priori* reason to believe that these specifications differ, the tobit model provides more efficient estimates asymptotically than a two-step estimator of equations (2) and (3). We therefore present tobit estimates of the model of training duration (1) using the determinants of training activity discussed above.⁵

6. Do Immigrants Have Comparable Training Opportunities?

The 1998 AETS provides a comprehensive set of questions on factors which might affect training decisions as well as asking, for the first time, whether respondents were immigrants or not. Descriptive statistics of the variables in the 1998 AETS are provided in Table 2 for men and women separately. Since the labour supply behaviour of men and women differs considerably, we analyze their training decisions separately. Although we are primarily interested in work-related training opportunities, we report total training activity as well. In any case, as Table 2 indicates, more than 80% of training for men and women is identified as work related.⁶

[Table 2 here]

Canadian-born men report an average of 8.3 hours, or 30%, more training than foreign-born men. The average gap is 6.4 hours, or 27% for work-related training. For

⁵ The tobit estimates may, in fact, be decomposed into the estimated effect on the probability of receiving training and the estimated change in training duration of those already receiving training. See McDonald and Moffitt (1980).

⁶ That is, average training for men is 34.6 hours from Table 2, of which 82.7% or 28.6 hours is deemed to be work related; the corresponding figures for women are 32.6 hours of which 81.0% or 26.4 hours is work related. Comparable figures are contained in Table 1.

women, however, the pattern is reversed. Immigrant women trained an average of 3.4 hours, or 11%, more than Canadian-born women and an average of 8.3 hours, or 33%, more with respect to work-related training only. Are these differences meaningful? What factors might explain these differences between immigrant and Canadian-born men and women?

Table 2 also illustrates a number of other differences between immigrant and native-born men and women. Among the core economic variables we identified, immigrant men and women are less educated (less postsecondary education), older, work fewer hours per week, are less likely to be employed, and have shorter average job tenure. To what extent do these economic factors account for the differences in aggregate training patterns for foreign- and native-born Canadians? Immigrants are also regionally concentrated in Ontario and British Columbia, more likely to live in urban areas, less likely to be French-speaking,⁷ less likely to have a full-time or permanent job or be self-employed, less likely to be covered by a collective agreement, and less likely to work in the public sector, any of which could be factors which account for the observed differences in training. In addition, the AETS records the age at which immigration occurred. This allows us to identify those who immigrated as adults, defined as older than 18 years of age, and to investigate whether differences in training are related to the age of immigration. We use multivariate techniques (tobit regression) to see if the observed aggregate differences in training remain if we account for these other factors. We begin with all training and then report results for training which respondents assessed as work (job or career) related.

6.1 Results for All Training

First, we pool the immigrant and Canadian-born samples and introduce an immigrant dummy variable to estimate a foreign-born/native-born effect for all training. The effect of the immigrant dummy variable alone is estimated to be a statistically significant -28.2 hours for men in the first column of Table 3. This implies that immigrant men who are already training receive 28.2 fewer hours of training, other factors considered. It also implies that immigrant

⁷ based on the respondent's preferred official language for the AETS questionnaire.

men as a group receive 7.0 fewer hours of training than Canadian-born men.⁸

[Table 3 about here]

We then estimate the effect of the age of immigration, observed crudely in Table 1, in the second column of Table 3 by introducing this variable and its square directly. The age at immigration variable is significant but the squared term is not; accordingly, the results we report in the second column drop the squared term but report the coefficient estimate and its t-value at the bottom of the table with other model tests. Our results suggest a steady reduction in training opportunities for older immigrants. Based on these results, those who immigrate as children are estimated to have superior training opportunities to those who are native born, but this advantage turns to a disadvantage by about 14 years of age (52.3/3.9).

In the third column of Table 3, we introduce the dummy variable which indicates whether or not immigration occurred in adulthood, defined as after 17 year of age. Our results indicate that men who immigrate in childhood receive 10.4 more hours of training than their Canadian-born counterparts, but men who immigrate as adults receive 19.4 fewer hours of training.⁹ Both effects are statistically significant. Thus, our results for the pooled sample of men imply that training disadvantage for immigrants is entirely borne by those who immigrate at or near adulthood. Those who immigrate as children experience no disadvantage.

Several other factors affect training duration and are generally consistent with the consensus established in the empirical literature. In particular, we would note that age (older respondents train less) and job tenure (newer workers train more) are important determinants of training, and these aspects of human capital investment over the life cycle should be accounted for in any study of training behaviour. Related to job tenure, men who changed jobs in the previous year (and hence must have low job tenure) report more training. Among

⁸ Since 24.9% of all men in the AETS sample received training, the effect of immigrant status on the expected duration of training in the tobit model is 24.9% of -28.2 or -7.0 hours. See, for example, McDonald and Moffitt (1980).

⁹ The tobit regression coefficient in the second column of Table 3 for the immigrant dummy variable indicates a 41.7 hour advantage for those immigrants receiving training or a 10.4 (24.9% of 41.7) hour advantage for all immigrants. The regression coefficient for immigration after age 18 indicates a 78 hour disadvantage (41.7-119.7) for adult immigrants receiving training or 19.4 hours for all adult immigrants.

personal characteristics, respondents with a disability train less, as do black workers.¹⁰ The training deficit for black men is large and statistically significant, which may explain the general wage disadvantage of black men found in our earlier work (Hum and Simpson, 1999).

Married men train more. Workers with a permanent job, a higher occupational standing (supervisory and professional/managerial workers), or a job in the public sector train more, as do workers in larger firms. Self-employed and unionized workers train less, other factors considered.¹¹

The final three columns of Table 3 give comparable results for women. The effect of the immigrant dummy variable alone in the fourth column is insignificant for women; that is, the apparent training advantage for immigrant women that we observed in Table 2 disappears when we control for other factors. When we introduce age at immigration, however, it is statistically significant and suggests that women who immigrate after approximately age 16 experience a training disadvantage. The age at immigration squared term is again insignificant. When the age at immigration term is replaced by a dummy variable to capture immigration at 18 years of age or older, the coefficient estimate is marginally insignificant (significant at the 10% level but not at the 5% level) and about one-quarter the size of the estimate for men. Thus, although the pattern of training by age at immigration is similar for men and women, it appears to be much weaker for women.

Other factors affecting the training of women are similar to men with some notable exceptions. The effect of age on training is still strong but training declines more slowly with age for women, consistent with the delayed career paths experienced by some married women. Also consistent with this interpretation is the negative impact of preschool children on training for women but not men. The effect of education on training is noticeable for women; training rises with educational attainment, other factors considered. The training disadvantage for black women is not statistically significant, again consistent with our earlier findings that the

¹⁰ The AETS questions on ethnicity and race do not allow us to identify other visible minority groups, as we did in our earlier work using SLID (Hum and Simpson, 1999).

¹¹ One possible explanation for less training among immigrants might be limited access to unionized jobs if unionized jobs generated more training opportunities, but our results imply that unionized jobs involve less training, not more.

wage gap between immigrant and native born women is similar for racial groups (Hum and Simpson, 1999).

We then separated the male and female samples into immigrant and Canadian-born portions in Table 4. For immigrants, we again estimate the effect of age at immigration on training. For men, the effect of age at migration on training remains significant and very similar in size (and shape, since age at migration squared is negative and insignificant) to that estimated for the pooled sample of immigrant and native born men in Table 3; each additional year of age at migration reduces estimated annual training by about 1 hour, or about 4 hours for those who train. For women, the effect of age at migration, while similar in size to the earlier estimate in Table 3, is now insignificant.

[Table 4 about here]

When we replace age at immigration with a dummy variable to capture immigration after age 17, we continue to find that men who immigrated as adults receive significantly less training than those who immigrated as children. As a group, men who immigrated as adults receive an estimated 20.6 fewer hours of training per year than their counterparts who immigrated as children. Since the average amount of training received by immigrant men is only 28 hours (from Table 2), this implies that men who immigrate as adults receive only about half the training of men who immigrate as children.¹² There appears to be no difference in training for women who immigrated as children and adults.

Other factors affecting training are similar to those described above for the pooled sample. We would note, in particular, that the training disadvantage for black men remains large and statistically significant and is virtually identical in size for immigrants and those born in Canada. This result is again consistent with our earlier finding of a general wage disadvantage for black men, regardless of immigration status (Hum and Simpson, 1999).

6.2. Results for Work-Related Training

¹² From Table 2, 68.9% of immigrants immigrated after age 18 and the average duration of training for all immigrants is 28 hours, so a training gap of 20.6 hours between those who immigrated as adults and those who immigrated as children implies an average duration of training is 21.6 hours for immigrants as adults and 42.2 hours for immigrants as children (i.e. 68.9% of 21.6 plus 31.1% of 42.2 equals 28).

Training is classified as work-related if respondents indicate that the training was taken for “job or career reasons.” The extent to which this response provides a meaningful distinction of training that is related to work and leisure is unclear. Nevertheless, it may be useful to exclude training related to leisure in our analysis. We therefore repeated our tobit analysis for work-related training. The results appear in Tables 5 and 6, which are directly comparable to Tables 3 and 4 for all training.

The results for work-related training are quite similar to those for all training, but the disadvantage for male immigrants is somewhat larger. For example, the results in Table 5 imply that immigrant men who are already training receive 41 fewer hours of work-related training, other factors considered, than their Canadian-born counterparts. For immigrant men as a whole, this amounts to 8.2 fewer hours of training than Canadian-born men. When we introduce the dummy variable to indicate whether or not immigration occurred after age 18, the results indicate that adult immigrants receive 25.9 fewer hours of training. Both of these results are statistically significant.

For immigrants only, the estimates in Table 6 imply that men who immigrate as adults have a statistically significant disadvantage of 18.8 hours relative to comparable men who immigrated as children. The linear effect of age at migration is similar, indicating a reduction of about 1 hour for each additional year of age at migration. The results in Tables 5 and 6 imply that there is no statistically significant difference in work-related training between Canadian-born women and women who immigrated as children or adults.

The large training disadvantage of black men remains regardless of immigration status, although the gap is somewhat larger for immigrants in Table 6. The other patterns observed for all training are also evident for work-related training, with the notable exception that education now appears to have little effect on training for immigrant women, although it remains an significant factor in training for native born women. The general similarity in the results for all training and work-related training is not surprising, since we saw in Table 1 that most training is classified by respondents as work-related.

7. What Are the Barriers to Training for Immigrants?

What might account for the apparent training disadvantage experienced by men who migrated to Canada as adults? The AETS asks respondents to identify any perceived barriers to their undertaking training. Specifically, the survey asks: (1) whether there was any training or education needed for job-related or career reasons that was not taken and (2) whether there was any job-related, hobby, recreational, or interest courses that the respondent wanted to take but did not. If the answer to either question was affirmative, then the survey probed for reasons why the training, education or course was not taken. In Table 7, we separate these responses into three groups --- all immigrants, only those who immigrate as adults, and the Canadian born --- to see whether there are identifiable barriers to training for immigrants in comparison with the Canadian-born population.

[Table 7 about here]

A slightly higher percentage of immigrant men (and women) compared to Canadian-born men (and women) indicated that there was training or education needed for job-related or career reasons that was not taken. Among men who immigrated as adults, however, the figure was lower compared to those Canadian born (and the same for women). When we look for differences in the reasons for not taking the training/education, however, three potential explanations stand out. First, immigrants and immigrants as adults are more likely to indicate a financial constraint; i.e., the training or education required was too expensive or they had insufficient funds to finance it. Of immigrant men, 3.4% indicated this reason compared to 2.2% of those Canadian born; for men who immigrated as adults the figure rose to 3.8%. This may be an important consideration in designing future public funding arrangements for training and immigrant integration. Second, a small percentage of male immigrants (0.2%) and male immigrants as adults (0.3%) indicated language as a barrier to further training and education, whereas this was not a consideration among Canadian-born men. Hence, appropriate remedial language programs for immigrant men may remove a small portion of any training barriers. In both these cases, a similar pattern was observed for women, although there is no statistically significant evidence that immigrant women are at a disadvantage in training. Third, men who immigrated as adults are more likely to indicate insufficient qualifications or prerequisites for needed training. While only 0.2% of Canadian-born men

indicated this barrier, the figure was 3.8% for men who immigrated as adults. Of course, the lack of qualifications or prerequisites may reflect training disadvantages associated with insufficient financing or language skills, but other factors, including difficulty in transferring credentials from abroad, may be involved. Further study of these issues is clearly warranted in view of the evidence of training disadvantages for male immigrants, particularly those who immigrated as adults.

Turning to courses, a somewhat different pattern emerges. Canadian-born men and women are more likely to cite barriers to taking courses, job-related or otherwise. Moreover, the financial and qualification/prerequisite constraints that were more likely to deter immigrants from new job-related program training are not apparent for courses. This may not be surprising, since programs generally require prior qualifications and a greater investment over a longer period of time. The barriers associated with language, on the other hand, are accentuated. About 1% of immigrants cited language as a barrier to taking courses; the figure is slightly higher for immigrants as adults and slightly lower for women.

8. Conclusions

The 1998 Adult and Education Survey (AETS) asks respondents about their training activities during the past year and, for the first time, distinguishes between immigrants and Canadian-born respondents. We examine the experiences of immigrants compared to like Canadians by estimating tobit models to explain the duration of training episodes with respect to (1) core economic (human capital life cycle) factors as well as (2) personal and job characteristics (heterogeneity). We find evidence that male immigrants, especially those who came to Canada as adults, train significantly less than their native-born counterparts. Age at migration is a consistent factor explaining the training disadvantages faced by immigrant men. Other results include the finding that black men are especially disadvantaged in Canada, whether born abroad or in Canada, and that immigrant women appear to train as much as Canadian-born women, regardless of age at immigration, after controlling for a variety of other factors. Immigrant respondents to the AETS identify financing, language and recognition of previous qualifications as barriers to training more frequently than Canadian-born respondents.

Our data source does not permit us to follow individual respondents over time to assess their further training experiences. However, the finding that male immigrants receive less training than their counterparts recommends a policy direction towards improving accessibility to training for this group. Evidence of greater incidence of problems for immigrants in the areas of financing, language, and the recognition of previous qualifications suggest areas where accessibility might be improved. The additional finding that those who arrive in Canada as adults (over 18 years of age) receive less training, and have more difficulties, corroborates the view that human capital, which is typically accumulated early in the life cycle, holds the key for economic assimilation in the workplace. A strategy to maximize the economic contribution, as well as workplace integration, of immigrants to Canada must, therefore, design programs to enhance training opportunities for adult male immigrants in the shorter term, as well as look to long term policies to enhance opportunities for all.

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Table 1. Training Activity Among Canadian Men and Women by Immigrant Status

	MEN				WOMEN			
	All	Immigrants	Immigrants as Adults ²	Canadian born	All	Immigrants	Immigrants as Adults ²	Canadian born
Sample size	12,423	1,468	920	10,955	15,706	1,767	1,180	13,939
Pop. Est (,000) ¹	9,279	1,809	1,246	7,470	9,645	1,908	1,361	7,737
Trainees (,000)	2,382	415	214.2	1,967	2,537	422.2	258.4	2,114
% Training	25.7	22.9	17.2	26.3	26.3	22.1	19.0	27.3
Work-related trainees (,000)	1,926	313.4	160.2	1,612	1,783	293.3	174.3	1,490
% Training work-related	20.8	17.3	12.9	21.6	18.5	15.4	12.8	19.3
Hrs training (,000)	318,000	50,240	24,350	267,800	311,100	66,980	39,290	244,100
Avg. hours	34.6	28.0	19.7	36.3	32.6	35.3	28.9	31.9
Hrs work-related training (,000)	262,900	42,110	18,430	220,800	252,700	62,820	38,830	189,900
Avg. work-related hours	28.6	23.4	14.9	29.8	26.4	33.1	28.7	24.8

Notes: ¹ Sample results weighted to reflect Canadian adult population excluding full-time and part-time students.

² Defined as immigrants after the age of 18

Source: 1998 Adult Education and Training Survey Master (Internal) File; calculations by the authors

Table 2. Descriptive Statistics for the 1998 AETS by Sex and Immigrant Status

Variable:	All	MEN		WOMEN		Cdn Born
		Immigrant	Cdn Born	All	Immigrant	
Duration of All Training (Hours) ¹	34.6	28.0	36.3	32.6	35.3	31.9
Duration of Work-related Training (Hrs)	28.6	23.4	29.8	26.4	33.1	24.8
Immigrant?	19.5%	100%	0%	19.8%	100%	0%
Immigrant after age 18?	13.4%	68.9%	-	14.1%	71.4%	-
Educ: No High School?	14.6%	25.1%	12.1%	5.3%	15.9%	2.6%
Some High School?	15.2%	9.8%	16.6%	15.0%	9.4%	16.4%
High School Degree?	26.0%	26.1%	26.0%	28.4%	30.4%	27.9%
Postsecondary Diploma?	29.7%	26.0%	30.5%	30.1%	25.5%	31.3%
University?	14.5%	13.0%	14.8%	21.2%	18.8%	21.8%
Bachelor's Degree?	11.9%	10.1%	12.3%	18.6%	16.4%	19.1%
Graduate Degree?	2.6%	2.9%	2.5%	2.6%	2.4%	2.7%
Age: Under 20 years?	1.3%	0.3%	1.6%	1.0%	0.4%	1.1%
20-24 years?	5.4%	2.9%	6.0%	5.0%	2.7%	5.6%
25-34 years?	20.9%	18.3%	21.6%	19.3%	16.9%	19.9%
35-44 years?	24.4%	21.2%	25.1%	23.3%	21.9%	23.6%
45-54 years?	19.8%	22.1%	19.1%	18.8%	21.2%	18.2%
55-64 years?	12.4%	15.5%	11.7%	12.4%	15.0%	11.7%
65 years and over?	15.8%	19.7%	14.9%	20.2%	21.9%	19.9%
Mean age (yrs.)	45.9	49.1	45.2	47.8	49.9	47.3
Hours Worked Per Week	30.7	28.8	31.1	19.5	18.6	19.7
Job Tenure: none (not employed)	25.3%	30.5%	24.2%	41.6%	46.6%	40.4%
under 6 months?	7.5%	7.0%	7.6%	6.6%	6.4%	6.7%
6 months - 1 year?	5.2%	5.2%	5.2%	4.3%	3.4%	4.6%
1-5 years?	23.9%	24.4%	23.6%	19.8%	18.9%	20.1%
5-10 years?	13.0%	12.2%	13.3%	12.6%	11.2%	12.9%
10-20 years?	12.8%	10.8%	13.2%	9.3%	8.1%	9.6%
over 20 years?	12.4%	10.0%	12.9%	6.1%	5.7%	6.2%
Mean job tenure (mos.)	86.6	72.7	89.6	56.5	51.7	57.7
Region: Atlantic?	7.2%	1.7%	8.5%	7.9%	1.3%	9.6%
Quebec?	24.7%	11.2%	27.9%	24.8%	12.1%	27.9%
Ontario?	38.3%	57.4%	33.6%	38.3%	56.7%	33.8%
Prairies?	7.0%	3.3%	7.9%	7.0%	3.3%	7.9%
Alberta?	9.6%	8.1%	10.0%	9.0%	7.8%	9.3%
British Columbia?	13.2%	18.2%	12.0%	12.9%	18.8%	11.4%
Urban?	84.0%	94.6%	81.4%	84.0%	93.6%	81.6%
French? ²	23.8%	7.0%	27.8%	23.8%	8.2%	27.6%
Ethnic Origin: Black?	1.0%	3.7%	0.4%	1.1%	4.7%	0.2%
Aboriginal?	1.1%	0.2%	1.3%	1.6%	0.2%	1.9%
Disabled?	13.3%	13.0%	13.5%	14.9%	12.6%	15.5%
Married or Common Law?	71.9%	78.0%	70.4%	65.8%	68.5%	65.1%
Married Previously?	21.9%	16.9%	23.1%	25.1%	23.4%	25.6%
Preschool Children?	14.5%	15.2%	14.3%	15.7%	16.8%	15.4%
Full-time Job?	69.9%	65.5%	70.7%	43.2%	42.1%	43.4%
Permanent Job?	70.9%	66.8%	71.7%	53.9%	47.8%	55.4%
Changed Jobs During Yr.?	3.1%	3.1%	3.1%	3.3%	2.0%	3.6%
Self-Employed?	14.5%	12.8%	15.0%	6.9%	6.0%	7.1%

Union Coverage?	23.7%	17.8%	25.0%	18.7%	14.9%	19.6%
Firm Size: 500 or more?	26.7%	23.9%	27.4%	22.5%	22.9%	22.3%
200-499 employees?	5.3%	4.4%	5.5%	4.7%	4.1%	4.8%
100-199 employees?	4.6%	6.0%	4.2%	3.4%	3.1%	3.5%
20-99 employees?	11.5%	11.1%	11.6%	8.3%	5.4%	9.0%
Under 20 employees?	26.1%	24.0%	26.6%	61.1%	16.3%	19.6%
Supervisor?	20.2%	19.2%	20.5%	13.3%	12.8%	13.4%
Professional/Managerial?	24.2%	24.6%	23.9%	24.2%	19.0%	25.4%
Blue Collar?	32.9%	29.3%	33.8%	6.6%	11.9%	5.3%
Public Sector?	12.4%	9.5%	12.9%	20.8%	15.4%	22.0%
Goods Sector?	28.3%	25.9%	28.9%	8.9%	12.1%	8.1%
Industry: Primary	4.8%	1.2%	5.6%	1.6%	4.5%	1.9%
Manufacturing	16.9%	20.3%	16.1%	6.2%	10.7%	5.1%
Construction	5.5%	3.9%	5.9%	0.6%	0.6%	0.6%
Transportation	8.0%	5.9%	8.4%	3.0%	1.6%	3.3%
Trade	12.2%	11.3%	12.5%	8.9%	7.1%	9.3%
Services	27.5%	27.0%	27.4%	38.4%	33.2%	39.7%
Sample Size	12,423	1,468	10,955	15,706	1,756	13,939

Notes: (1) Results are weighted to reflect Canadian population estimates
(2) Full-time and part-time students are excluded from the sample
(3) Excludes cases where valid hours worked (zero or positive) is not reported

¹ Duration of those receiving training; sample size is slightly smaller than listed because of a small number of missing values for training duration

² Based on preferred language of response to questionnaire (English or French)

Source: 1998 Adult Education and Training Survey Master (Internal) File; calculations by the authors

Table 3. Regression Estimates of Training Duration Model for Full Sample

Variable	MEN			WOMEN		
Immigrant?	-28.2 (2.2)	52.3 (2.3)	41.7 (2.3)	-8.4 (0.8)	27.5 (1.5)	10.9 (0.7)
Age at Immigration		-3.9 (4.3)			-1.6 (2.4)	
Immigrant after age 18?			-119.7(5.4)			-29.7 (1.7)
Educ: Some High School?	-164.9 (9.1)	-169.3 (9.3)	-170.0(9.3)	-133.4 (9.2)	-134.8 (9.3)	-134.3 (9.3)
High School Degree?	-81.2 (5.9)	-85.5 (6.2)	-86.7 (6.3)	-61.1 (5.8)	-62.3 (5.9)	-61.9 (5.9)
Postsecondary Diploma?	1.7 (0.1)	-2.8 (0.2)	-4.0 (0.3)	-42.0 (2.9)	-42.8 (3.0)	-41.7 (2.9)
Bachelor's Degree?	19.4 (1.1)	20.5 (1.2)	21.0 (1.2)	50.1 (3.5)	50.5 (3.5)	49.7 (3.5)
Graduate Degree?	33.1 (1.1)	35.1 (1.2)	31.3 (1.1)	116.5 (5.0)	116.0 (5.0)	116.0 (5.0)
Age: 20-24 years?	-372.43 (10.5)	-375.2 (10.5)	-371.8 (10.4)	-13.1 (0.4)	-11.5 (0.3)	-12.5 (0.4)
25-34 years?	-547.3 (15.9)	-549.8 (15.9)	-547.4 (15.9)	-194.9 (6.1)	-193.1 (6.0)	-193.4 (6.0)
35-44 years?	-611.9 (17.3)	-609.3 (17.2)	-607.1 (17.2)	-245.7 (7.6)	-242.5 (7.5)	-243.5 (7.6)
45-54 years?	-648.0 (17.7)	-646.9 (17.7)	-644.6 (17.7)	-284.7 (8.7)	-280.7 (8.5)	-281.9 (8.6)
55-64 years?	-767.7 (19.8)	-761.9 (19.6)	-760.3 (19.6)	-376.1 (11.0)	-370.7 (10.8)	-372.9 (10.9)
65 years and over?	-907.0 (21.6)	-905.8 (21.5)	-901.4 (21.4)	-472.1 (13.7)	-467.0 (13.5)	-469.6 (13.6)
Hours Worked Per Week	-2.3 (1.4)	-1.5 (2.4)	-1.5 (2.4)	-0.1 (0.2)	-0.1 (0.2)	-0.1 (0.2)
Not Employed	-128.4 (2.4)	-132.0 (2.4)	-135.3 (2.5)	-157.6 (3.1)	-157.7 (3.1)	-157.6 (3.1)
Job Tenure: 0.5-1 year?	-65.7 (2.8)	-65.2 (2.8)	-63.0 (2.7)	-52.5 (2.8)	-53.3 (2.8)	-53.1 (2.8)
1-5 years?	-157.6 (8.8)	-159.2 (8.9)	-158.7 (8.9)	-126.7 (8.8)	-128.1 (8.9)	-127.6 (8.9)
5-10 years?	-137.2 (6.8)	-138.9 (6.9)	-137.6 (6.8)	-90.4 (5.7)	-92.4 (5.8)	-91.7 (5.8)
10-20 years?	-116.2 (5.5)	-119.4 (5.7)	-118.9 (5.7)	-87.2 (5.0)	-89.3 (5.1)	-88.0 (5.0)
over 20 years?	-90.4 (4.0)	-94.5 (4.2)	-93.1 (4.2)	-85.0 (4.3)	-88.1 (4.4)	-86.8 (4.4)
Region: Atlantic?	-26.2 (1.3)	-27.6 (1.4)	-27.9 (1.4)	-18.3 (1.2)	-18.4 (1.2)	-18.3 (1.2)
Quebec?	-45.3 (1.7)	-47.6 (1.8)	-45.5 (1.7)	-11.5 (0.6)	-11.4 (0.6)	-11.4 (0.6)
Prairies?	-42.7 (2.2)	-43.5 (2.3)	-44.1 (2.3)	13.3 (0.9)	13.2 (0.9)	13.3 (0.9)
Alberta?	-11.6 (0.7)	-11.6 (0.7)	-12.6 (0.8)	1.8 (0.1)	2.1 (0.2)	2.1 (0.2)
British Columbia?	18.8 (1.3)	18.7 (1.3)	16.6 (1.2)	49.4 (4.4)	50.4 (4.5)	50.3 (4.5)
Urban?	18.8 (1.3)	19.3 (1.4)	19.5 (1.4)	0.8 (0.1)	1.5 (0.1)	1.2 (0.1)
French?1	-62.6 (2.4)	-61.3 (2.3)	-63.2 (2.4)	-45.8 (2.3)	-46.1 (2.3)	-46.1 (2.3)
Ethnic Origin: Black?	-209.5 (3.9)	-211.7 (4.0)	-206.0 (3.9)	-48.6 (1.3)	-43.7 (1.2)	-46.4 (1.2)
Aboriginal?	3.8 (0.1)	3.7 (0.1)	4.1 (0.1)	2.1 (0.1)	2.3 (0.1)	2.5 (0.1)
Disabled?	-99.8 (5.2)	-101.3 (5.3)	-99.8 (5.2)	-56.5 (4.4)	-56.8 (4.4)	-57.0 (4.4)
Married or Common Law?	36.5 (1.7)	38.9 (1.9)	39.2 (1.9)	-9.7 (0.8)	-8.7 (0.7)	-9.1 (0.7)
Married Previously?	60.2 (2.6)	59.1 (2.5)	59.4 (2.5)	28.6 (1.9)	29.2 (2.0)	28.9 (2.0)
Preschool Children?	-12.4 (0.9)	-13.3 (1.0)	-12.2 (0.9)	-45.3 (4.2)	-45.2 (4.2)	-45.0 (4.1)
Full-time Job?	7.2 (0.3)	7.8 (0.3)	8.0 (0.3)	-17.1 (1.0)	-17.0 (1.0)	-17.2 (1.0)
Permanent Job?	64.7 (3.0)	66.6 (3.1)	64.7 (3.0)	-81.5 (5.7)	-80.5 (5.6)	-80.9 (5.6)
Changed Jobs During Yr.?	127.2 (5.5)	124.5 (5.4)	125.7 (5.5)	59.0 (3.4)	57.7 (3.3)	58.2 (3.4)
Self-Employed?	-35.4 (2.0)	-39.7 (2.2)	-38.4 (2.1)	49.5 (3.1)	48.5 (3.0)	49.0 (3.0)
Union Coverage?	-39.7 (3.0)	-41.6 (3.1)	-41.6 (3.1)	-37.1 (3.3)	-36.9 (3.3)	-36.7 (3.2)
Firm Size: 500 or more?	97.6 (6.4)	95.1 (6.3)	95.5 (6.3)	136.4 (11.4)	135.2 (11.2)	135.6 (11.3)
200-499 employees?	77.7 (3.6)	74.2 (3.5)	74.6 (3.5)	116.6 (6.7)	116.6 (6.7)	116.6 (6.7)
100-199 employees?	54.5 (2.3)	53.1 (2.3)	57.2 (2.5)	104.2 (5.3)	104.6 (5.3)	104.8 (5.3)
20-99 employees?	1.1 (0.1)	-1.5 (0.1)	-0.7 (0.0)	67.3 (4.7)	67.3 (4.7)	67.3 (4.7)
Supervisor?	27.2 (2.3)	25.7 (2.2)	26.6 (2.3)	48.7 (4.8)	48.4 (4.8)	48.8 (4.8)

Professional/Managerial?	70.8 (5.0)	69.8 (4.9)	69.0 (4.9)	58.6 (5.7)	58.2 (5.7)	57.1 (5.7)
Blue Collar?	-11.9 (0.8)	-11.6 (0.8)	-10.8 (0.7)	-30.0 (1.6)	-28.9 (1.5)	-30.1 (1.6)
Public Sector?	41.2 (2.4)	41.8 (2.4)	42.6 (2.5)	42.2 (3.4)	41.6 (3.4)	41.7 (3.4)
Goods Sector?	-4.8 (0.1)	-8.4 (0.2)	-11.3 (0.3)	22.7 (0.5)	22.7 (0.5)	22.4 (0.5)
Industry: Primary	6.9 (0.3)	6.7 (0.3)	7.0 (0.3)	65.7 (2.1)	65.4 (2.1)	65.9 (2.1)
Construction	24.9 (1.1)	23.2 (1.0)	24.1 (1.0)	-48.5 (1.0)	-50.9 (1.0)	-49.3 (1.0)
Transportation	58.2 (1.5)	54.2 (1.4)	52.6 (1.3)	62.1 (1.4)	62.4 (1.4)	61.7 (1.3)
Trade	-20.2 (0.4)	-22.3 (0.5)	-24.1 (0.5)	-30.1 (0.6)	-29.7 (0.6)	-30.2 (0.6)
Services	32.8 (0.7)	28.4 (0.6)	27.1 (0.6)	23.7 (0.5)	23.9 (0.5)	23.5 (0.5)
Constant	397.8 (5.9)	407.7 (6.0)	406.6 (6.0)	145.2 (2.3)	142.4 (2.3)	143.1 (2.3)
Sample Size	12,295			15,550		
Age at Imm Sqd. Added		-0.03 (0.5)			-0.02 (0.6)	
Percent obs. above limit	24.9%			25.5%		
Mean Error	17.7	17.7	17.7	14.4	14.4	14.4
Correlation of Observed and Expected	34.9%	34.6%	34.9%	31.7%	31.8%	31.7%

Notes: (1) Method of estimation is weighted Tobit regression, where weights reflect Canadian population; dependent variable is training duration, which is positive or zero.

(2) Coefficient estimate b represents the effect of a one unit change in the independent variable x on the latent index; the effect on the expected duration of training is $F(xb).b$ where $F(.)$ is the normal distribution function and equals the proportion of the sample above the limit (McDonald and Moffitt, 1980, p.319)

(3) t-values in parentheses; bold indicates statistical significance at the 5% level

Source: Adult Education and Training Survey Master File, 1998

Table 4. Regression Estimates of Training Duration Model for Immigrant and Canadian Born Samples

Variable	MEN			WOMEN		
	Immigrant		Cdn Born	Immigrant		Cdn Born
Age at Immigration		-3.8 (3.5)			-1.3 (1.2)	
Immigrant after age 18?	-92.4 (3.5)			-0.2 (0.0)		
Educ:Some High School?	-173.3 (2.8)	-172.4 (2.8)	-169.4 (8.8)	-62.6 (1.2)	-60.7 (1.2)	-145.0 (9.8)
High School Degree?	-68.6 (2.0)	-67.6 (1.9)	-79.8 (5.3)	-65.0 (2.0)	-71.3 (2.2)	-62.1 (5.6)
Postsecondary Diploma?	-45.7 (1.0)	-46.1 (1.0)	7.8 (0.5)	28.6 (0.6)	24.6 (0.5)	-57.1 (3.9)
Bachelor's Degree?	68.4 (1.4)	65.2 (1.3)	11.6 (0.6)	16.0 (0.3)	-14.8 (0.3)	65.8 (4.5)
Graduate Degree?	189.4 (2.8)	201.2 (2.9)	-17.1 (0.5)	-2.0 (0.0)	-5.2 (0.1)	144.7 (6.2)
Age: 20-24 years?	-1104.3 (6.6)	-1150.0(6.9)	-328.7 (9.1)	270.2 (1.8)	286.3 (1.9)	-44.8 (1.4)
25-34 years?	-1102.4 (6.9)	-1138.8(7.1)	-521.5(14.9)	-108.3 (0.7)	-88.0 (0.6)	-206.9 (6.6)
35-44 years?	-1153.1 (7.1)	-1182.6(7.3)	-581.1(16.1)	-152.4 (1.0)	-126.8 (0.9)	-251.1 (7.9)
45-54 years?	-1220.0 (7.4)	-1251.2(7.6)	-606.0(16.3)	-223.7 (1.5)	-194.4 (1.3)	-282.8 (8.7)
55-64 years?	-1363.3 (8.1)	-1385.2(8.2)	-720.6(18.0)	-326.1 (2.2)	-290.3 (1.9)	-369.7 (10.9)
65 years and over?	-1474.4 (8.3)	-1546.3(9.1)	-816.7(15.8)	-341.6 (2.2)	-359.0 (2.4)	-432.9 (11.2)
Hours Worked Per Week	-1.8 (1.0)	-1.9 (1.1)	-1.3 (2.1)	-1.0 (0.4)	-0.9 (0.4)	0.3 (0.5)
Not Employed	378.8 (2.4)	390.2 (2.4)	-250.6 (4.3)	-334.8 (1.4)	-330.4 (1.4)	-102.6 (2.0)
Job Tenure: 0.5-1 year?	-209.3 (3.2)	-218.4 (3.3)	-36.8 (1.5)	-130.9 (1.9)	-134.1 (1.9)	-33.5 (1.7)
1-5 years?	-219.1 (4.6)	-220.1 (4.6)	-144.9 (7.5)	-155.8 (3.2)	-161.8 (3.4)	-114.6 (7.7)
5-10 years?	-198.6 (3.7)	-205.0 (3.8)	-123.8 (5.7)	-142.8 (2.7)	-150.3 (2.8)	-82.0 (5.0)
10-20 years?	-197.6 (3.4)	-202.5 (3.4)	-102.8 (4.6)	-112.3 (1.9)	-121.7 (2.0)	-80.1 (4.5)
over 20 years?	-70.2 (1.2)	-80.7 (1.4)	-102.4 (4.3)	-87.4 (1.3)	-97.3 (1.4)	-81.6 (4.0)
Region: Atlantic?	-60.2 (0.7)	-58.6 (0.7)	-24.8 (1.3)	56.8 (0.6)	52.2 (0.5)	-15.4 (1.1)
Quebec?	-61.4 (1.1)	-67.4 (1.2)	-40.2 (1.3)	78.6 (1.4)	74.6 (1.3)	-32.0 (1.5)
Prairies?	-94.4 (1.4)	-95.0 (1.4)	-39.9 (2.0)	4.0 (0.1)	-1.5 (0.0)	18.7 (1.3)
Alberta?	-15.5 (0.3)	-10.0 (0.2)	-14.9 (0.9)	-50.3 (1.1)	-48.9 (1.0)	12.2 (0.9)
British Columbia?	7.7 (0.2)	14.9 (0.5)	11.4 (0.7)	10.5 (0.3)	12.9 (0.4)	69.8 (5.8)
Urban?	-66.5 (1.2)	-65.8 (1.1)	25.4 (1.8)	-61.7 (1.2)	-56.2 (1.1)	8.5 (0.8)
French?1	2.9 (0.0)	5.7 (0.1)	-70.8 (2.4)	-81.6 (1.2)	-77.7 (1.1)	-25.1 (1.2)
Ethnic Origin: Black?	-253.9 (3.3)	-261.0 (3.4)	-242.1 (2.6)	-59.8 (1.0)	-51.6 (0.9)	-49.5 (0.5)
Aboriginal?	-1469.9 (0.0)	-1510.4(0.0)	4.5 (0.1)	-210.1 (0.6)	-214.5 (0.6)	10.4 (0.4)
Disabled?	-122.3 (2.4)	-129.8 (2.5)	-87.7 (4.3)	-36.2 (0.8)	-47.0 (1.0)	-57.2 (4.4)
Married or Common Law?	-22.6 (0.4)	-20.8 (0.4)	58.1 (2.6)	-48.9 (1.1)	-43.6 (1.0)	1.7 (0.1)
Married Previously?	66.4 (1.1)	62.7 (1.0)	65.1 (2.6)	100.6 (2.1)	102.6 (2.1)	13.8 (0.9)
Preschool Children?	-63.7 (1.7)	-71.3 (1.9)	-0.6 (0.0)	-88.3 (2.4)	-88.9 (2.4)	-34.1 (3.1)
Full-time Job?	104.7 (1.3)	104.7 (1.3)	0.1 (0.0)	-43.9 (0.7)	-46.3 (0.8)	-14.0 (0.8)
Permanent Job?	185.2 (3.3)	190.8 (3.3)	17.6 (0.8)	-165.1 (3.5)	-163.8 (3.5)	-56.1 (3.7)
Changed Jobs During Yr?	-0.3 (0.0)	-5.9 (0.1)	152.0 (6.1)	-51.0 (0.7)	-56.8 (0.8)	78.9 (4.6)
Self-Employed?	125.2 (2.5)	114.1 (2.3)	-66.6 (3.4)	89.1 (1.5)	90.7 (1.5)	38.7 (2.4)
Union Coverage?	-42.9 (1.2)	-47.6 (1.3)	-47.1 (3.3)	-85.8 (2.1)	-87.4 (2.1)	-21.0 (1.8)
Firm Size: 500 or more?	217.3 (4.8)	212.5 (4.7)	81.9 (5.1)	222.0 (5.1)	220.1 (5.0)	112.4 (9.2)
200-499 employees?	76.9 (1.2)	68.0 (1.0)	81.5 (3.6)	263.5 (4.3)	266.6 (4.3)	81.5 (4.6)
100-199 employees?	157.4 (2.6)	142.1 (2.4)	54.8 (2.2)	186.3 (2.7)	188.8 (2.7)	87.2 (4.4)

20-99 employees?	36.9 (0.7)	32.5 (0.6)	4.6 (0.3)	150.2 (2.5)	151.4 (2.5)	55.0 (3.9)
Supervisor?	6.9 (0.2)	3.8 (0.1)	31.0 (2.5)	19.4 (0.6)	19.4 (0.6)	56.4 (5.5)
Professional/Managerial?	138.6 (3.5)	140.5 (3.5)	51.8 (3.4)	89.2 (2.6)	87.7 (2.5)	48.5 (4.6)
Blue Collar?	49.0 (1.1)	46.5 (1.0)	-18.9 (1.2)	-125.0 (1.9)	-119.7 (1.9)	-27.0 (1.3)
Public Sector?	51.9 (1.1)	48.1 (1.1)	44.5 (2.4)	50.7 (1.1)	47.7 (1.1)	40.8 (3.3)
Goods Sector?	63.8 (0.5)	79.0 (0.6)	-24.4 (0.6)	31.0 (0.1)	33.8 (0.2)	18.1 (0.4)
Industry: Primary	-69.5 (0.6)	-81.1 (0.6)	1.4 (0.1)	50.3 (0.3)	52.9 (0.3)	73.9 (2.4)
Construction	132.8 (2.0)	126.8 (1.9)	-0.6 (0.0)	-94.2 (0.6)	-101.3 (0.6)	-38.3 (0.8)
Transportation	61.3 (0.5)	72.7 (0.5)	44.9 (1.1)	-150.8 (0.7)	-147.0 (0.7)	87.3 (1.9)
Trade	126.8 (0.9)	139.0 (0.9)	-55.0 (1.2)	-75.7 (0.3)	-70.8 (0.3)	-16.0 (0.3)
Services	141.9 (1.0)	151.5 (1.0)	4.1 (0.1)	-45.3 (0.2)	-40.5 (0.2)	38.6 (0.8)
Constant	784.1 (3.3)	841.9 (3.5)	425.4 (6.0)	275.2 (1.0)	269.2 (1.0)	93.5 (1.5)
Sample Size	1,459		10836	1,756		13,794
Age at Imm Sqd. Added		-0.06 (0.9)			-0.05 (0.9)	
Percent obs. above limit	22.3%		25.5%	21.8%		26.5%
Mean Error	12.7	12.7	18.6	17.9	18.1	13.2
Correlation of Observed and	44.7%	44.0%	36.7%	52.9%	52.8%	29.1%

Notes: See Table 3.

Table 5. Regression Estimates of Duration of Work-Related Training for Full Sample

Variable	MEN			WOMEN		
Immigrant?	-41.0 (2.7)	35.6 (1.3)	32.0 (1.5)	6.5 (0.5)	35.9 (1.3)	18.1 (0.8)
Age at Immigration		-3.8 (3.4)			-1.4 (1.3)	
Immigrant after age 18?			-128.9(4.9)			-18.5 (0.7)
Educ:Some High School?	-169.3 (7.6)	-174.0 (7.8)	-175.7 (7.9)	-211.9 (9.2)	-214.2 (9.2)	-212.8 (9.2)
High School Degree?	-73.7 (4.5)	-78.5 (4.8)	-80.4 (4.9)	-105.7 (7.0)	-106.9 (7.0)	-106.3 (7.0)
Postsecondary Diploma?	22.2 (1.2)	17.3 (0.9)	15.2 (0.8)	-55.8 (2.7)	-56.6 (2.8)	-55.7 (2.7)
Bachelor's Degree?	26.4 (1.4)	27.4 (1.4)	28.2 (1.4)	52.1 (2.6)	52.4 (2.6)	51.9 (2.6)
Graduate Degree?	26.8 (0.8)	28.3 (0.8)	25.9 (0.8)	75.5 (2.3)	75.8 (2.3)	75.5 (2.3)
Age: 20-24 years?	-233.1 (5.6)	-235.7 (5.7)	-232.7 (5.6)	59.2 (1.3)	60.9 (1.4)	59.8 (1.3)
25-34 years?	-406.3 (10.1)	-408.7 (10.2)	-406.6 (10.2)	-132.3 (3.0)	-130.3 (3.0)	-131.1 (3.0)
35-44 years?	-461.4 (11.2)	-458.7 (11.2)	-456.6 (11.1)	-173.5 (3.9)	-170.1 (3.8)	-171.9 (3.9)
45-54 years?	-506.9 (11.9)	-505.5 (11.9)	-503.3 (11.9)	-218.0 (4.8)	-213.7 (4.7)	-215.9 (4.8)
55-64 years?	-655.4 (14.4)	-649.2 (14.2)	-647.4 (14.2)	-384.2 (8.0)	-378.8 (7.9)	-381.7 (7.9)
65 years and over?	-1011.2(15.6)	-1010.8(15.6)	-1006.2(15.6)	-698.8 (11.8)	-693.0(11.6)	-697.1(11.7)
Hours Worked Per Week	-1.0 (1.3)	-1.0 (1.4)	-1.0 (1.4)	0.7 (0.8)	0.7 (0.8)	0.8 (0.8)
Not Employed	-196.9 (3.1)	-199.3 (3.2)	-204.5 (3.2)	-222.6 (3.1)	-222.3 (3.1)	-222.4 (3.1)
Job Tenure: 0.5-1 year?	-115.5 (4.3)	-115.0 (4.3)	-112.2 (4.2)	-99.8 (4.0)	-100.5 (4.0)	-100.2 (4.0)
1-5 years?	-157.9 (7.8)	-159.5 (7.8)	-159.0 (7.8)	-161.4 (8.5)	-162.7 (8.6)	-162.1 (8.6)
5-10 years?	-146.8 (6.4)	-148.8 (6.5)	-147.6 (6.4)	-118.9 (5.7)	-120.8 (5.8)	-119.8 (5.7)
10-20 years?	-129.9 (5.5)	-133.5 (5.6)	-132.9 (5.6)	-125.6 (5.4)	-127.7 (5.5)	-126.3 (5.5)
over 20 years?	-106.8 (4.2)	-111.4 (4.3)	-110.5 (4.3)	-114.0 (4.3)	-117.1 (4.4)	-115.3 (4.3)
Region: Atlantic?	-8.6 (0.4)	-10.3 (0.5)	-10.8 (0.5)	-14.2 (0.7)	-14.1 (0.7)	-14.1 (0.7)
Quebec?	-39.9 (1.3)	-42.9 (1.4)	-41.1 (1.3)	-2.8 (0.1)	-2.2 (0.1)	-2.6 (0.1)
Prairies?	-25.0 (1.1)	-25.8 (1.1)	-26.4 (1.2)	15.7 (0.7)	15.8 (0.7)	15.7 (0.7)
Alberta?	-13.6 (0.7)	-14.1 (0.7)	-14.9 (0.8)	21.6 (1.2)	22.1 (1.2)	21.9 (1.2)
British Columbia?	15.7 (0.9)	15.3 (0.9)	13.3 (0.8)	39.5 (2.4)	40.5 (2.5)	40.1 (2.5)
Urban?	3.4 (0.2)	4.0 (0.2)	4.2 (0.3)	-6.1 (0.4)	-5.4 (0.4)	-5.8 (0.4)
French?1	-95.9 (3.1)	-94.2 (3.0)	-95.7 (3.1)	-80.5 (2.8)	-81.3 (2.8)	-80.9 (2.8)
Ethnic Origin: Black?	-193.5 (3.2)	-193.5 (3.2)	-185.4 (3.1)	-57.7 (1.1)	-53.0 (1.0)	-56.2 (1.1)
Aboriginal?	7.8 (0.2)	-8.2 (0.2)	-7.7 (0.2)	-12.8 (0.3)	-12.5 (0.3)	-12.5 (0.3)
Disabled?	-119.9 (4.8)	-121.8 (4.9)	-119.0 (4.8)	-111.8 (5.1)	-112.3 (5.1)	-112.3 (5.1)
Married or Common Law?	23.2 (1.0)	25.9 (1.1)	26.5 (1.1)	-36.6 (2.0)	-35.5 (2.0)	-36.1 (2.0)
Married Previously?	41.8 (1.5)	40.8 (1.5)	40.9 (1.5)	34.8 (1.7)	35.6 (1.7)	35.2 (1.7)
Preschool Children?	-15.4 (1.0)	-16.5 (1.0)	-15.5 (1.0)	-37.6 (2.5)	-37.5 (2.5)	-37.4 (2.5)
Full-time Job?	27.4 (0.9)	27.6 (0.9)	27.8 (0.9)	-11.2 (0.5)	-11.1 (0.5)	-11.2 (0.5)
Permanent Job?	89.5 (3.6)	91.0 (3.7)	88.4 (3.6)	-66.4 (3.4)	-65.6 (3.4)	-65.9 (3.4)
Changed Jobs During Yr?	91.7 (3.5)	88.8 (3.4)	89.7 (3.4)	81.6 (3.6)	80.5 (3.5)	81.0 (3.6)
Self-Employed?	-53.6 (2.6)	-57.5 (2.7)	-56.1 (2.7)	39.0 (1.7)	38.3 (1.7)	38.8 (1.7)
Union Coverage?	-38.8 (2.6)	-40.7 (2.7)	-40.8 (2.7)	-32.1 (2.2)	-31.9 (2.1)	-31.8 (2.1)
Firm Size: 500 or more?	97.6 (5.6)	95.4 (5.5)	95.6 (5.5)	164.8 (10.2)	164.0 (10.2)	164.4 (10.2)
200-499 employees?	88.2 (3.6)	84.6 (3.5)	84.5 (2.5)	157.8 (7.0)	158.0 (7.0)	157.9 (7.0)
100-199 employees?	72.8 (2.8)	71.8 (2.7)	76.2 (2.9)	126.2 (4.9)	126.7 (4.9)	126.6 (4.9)

20-99 employees?	-13.2 (0.7)	-15.6 (0.8)	-14.6 (0.7)	78.6 (4.1)	78.3 (4.1)	78.5 (4.1)
Supervisor?	15.0 (1.1)	14.0 (1.1)	15.1 (1.1)	68.0 (5.1)	67.9 (5.1)	68.1 (5.1)
Professional/Managerial?	90.6 (5.6)	89.4 (5.5)	88.5 (5.5)	63.3 (4.7)	62.8 (4.6)	62.9 (4.6)
Blue Collar?	-21.3 (1.2)	-21.1 (1.2)	-20.0 (1.1)	-32.2 (1.3)	-30.9 (1.2)	-32.3 (1.3)
Public Sector?	50.8 (2.6)	51.6 (2.6)	52.6 (2.7)	50.4 (3.1)	49.8 (3.1)	50.1 (3.1)
Goods Sector?	-43.5 (0.9)	-47.3 (1.0)	-50.8 (1.1)	57.6 (0.9)	57.9 (0.9)	57.4 (0.9)
Industry: Primary	11.6 (0.4)	11.2 (0.4)	11.6 (0.4)	45.5 (1.0)	45.1 (1.0)	45.6 (1.0)
Construction	21.6 (0.8)	20.0 (0.8)	20.7 (0.8)	1.4 (0.0)	-0.8 (0.0)	0.8 (0.0)
Transportation	44.9 (1.0)	40.6 (0.9)	38.6 (0.9)	106.3 (1.7)	106.6 (1.7)	106.1 (1.7)
Trade	-77.9 (1.5)	-80.3 (1.6)	-82.3 (1.6)	-0.0 (0.0)	0.4 (0.0)	-0.2 (0.0)
Services	-12.1 (0.2)	-16.8 (0.3)	18.7 (0.4)	49.2 (0.7)	49.6 (0.7)	49.1 (0.7)
Constant	203.2 (2.6)	213.7 (2.7)	214.7 (2.8)	-65.1 (0.8)	-68.1 (0.8)	-66.6 (0.8)
Sample Size	12,307			15,579		
Age at Imm Sqd. Added		-0.07 (0.9)			-0.1 (1.9)	
Percent obs. above limit	20.1%			17.7%		
Mean Error	15.2	15.2	15.2	12.0	12.0	12.0
Correlation of Observed and Expected	25.6%	25.4%	25.7%	26.0%	26.0%	26.0%

Notes: See Table 3.

Table 6. Regression Estimates of Work-Related Training Duration for Immigrant and Canadian Born Samples

Variable	MEN			WOMEN		
	Immigrant		Cdn Born	Immigrant		Cdn Born
Age at Immigration		-4.7 (3.2)			-0.3 (0.2)	
Immigrant after age 18?	-110.3 (3.3)			41.0 (0.9)		
Educ: Some High School?	-216.3 (2.6)	-214.2 (2.5)	-168.8 (7.3)	-149.5 (1.5)	-159.9 (1.6)	-215.0 (9.4)
High School Degree?	-66.2 (1.5)	-67.0 (1.5)	-71.0 (4.0)	-75.2 (1.4)	-82.8 (1.6)	-111.3 (7.1)
Postsecondary Diploma?	-13.8 (0.3)	-12.9 (0.2)	26.8 (1.4)	76.8 (1.0)	78.8 (1.0)	-84.9 (4.1)
Bachelor's Degree?	5.7 (0.1)	-1.0 (0.0)	36.0 (1.8)	-79.1 (1.0)	-82.6 (1.0)	86.2 (4.3)
Graduate Degree?	94.1 (1.1)	105.1 (1.2)	7.9 (0.2)	-190.9 (1.3)	-195.2 (1.3)	129.0 (4.0)
Age: 20-24 years?	-1031.8 (5.3)	-1087.2 (5.6)	-193.5 (4.7)	279.4 (1.3)	284.1 (1.3)	34.8 (0.8)
25-34 years?	-1054.5 (5.6)	-1095.9 (5.8)	-380.6 (9.4)	-196.6 (1.0)	-176.5 (0.9)	-125.4 (2.9)
35-44 years?	-1065.9 (5.6)	-1096.9 (5.8)	-436.7 (10.5)	-212.4 (1.0)	-186.7 (0.9)	-162.7 (3.8)
45-54 years?	-1179.0 (6.1)	-1212.1 (6.2)	-461.6 (10.7)	-340.7 (1.6)	-307.9 (1.5)	-192.8 (4.4)
55-64 years?	-1316.9 (6.6)	-1337.7 (6.7)	-606.0 (12.9)	-540.7 (2.5)	-503.6 (2.3)	-342.0 (7.3)
65 years and over?	-1814.6 (7.4)	-1867.4 (7.5)	-921.2 (13.6)	-753.6 (3.4)	-721.6 (3.2)	-751.4 (10.3)
Hours Worked Per Week	-1.3 (0.6)	-1.5 (0.6)	-0.7 (1.0)	-2.3 (0.7)	-2.3 (0.7)	1.5 (1.7)
Not Employed	486.6 (2.6)	503.7 (2.7)	-359.0 (5.3)	-439.7 (1.3)	-438.5 (1.3)	-144.3 (2.1)
Job Tenure: 0.5-1 year?	-296.4 (3.7)	-309.3 (3.8)	-75.6 (2.7)	-198.4 (1.9)	-204.0 (2.0)	-72.1 (2.9)
1-5 years?	-285.3 (5.1)	-288.3 (5.1)	-131.8 (6.1)	-215.8 (3.1)	-222.4 (3.2)	-145.8 (7.6)
5-10 years?	-262.9 (4.2)	-271.8 (4.3)	-121.0 (5.0)	-167.5 (2.2)	-177.2 (2.3)	-115.3 (5.5)
10-20 years?	-263.3 (3.8)	-272.8 (3.9)	-101.4 (4.0)	-155.2 (1.8)	-161.5 (1.8)	-120.5 (5.2)
over 20 years?	-200.3 (2.8)	-213.6 (2.9)	-91.8 (3.4)	-11.8 (0.1)	-28.7 (0.3)	-132.3 (5.0)
Region: Atlantic?	-106.2 (0.9)	-100.5 (0.9)	-1.4 (0.1)	57.9 (0.4)	55.6 (0.4)	-6.3 (0.3)
Quebec?	-65.6 (1.0)	-75.9 (1.1)	-36.7 (1.1)	91.3 (1.0)	94.1 (1.0)	-20.1 (0.7)
Prairies?	-64.0 (0.8)	-63.4 (0.8)	-21.2 (0.9)	-45.2 (0.4)	-49.8 (0.4)	27.2 (1.4)
Alberta?	-68.9 (1.2)	-62.9 (1.0)	-7.2 (0.4)	-76.3 (1.0)	-72.5 (0.9)	38.7 (2.2)
British Columbia?	-5.6 (0.1)	1.4 (0.0)	14.3 (0.8)	1.5 (0.0)	6.4 (0.1)	61.6 (3.7)
Urban?	-66.8 (0.9)	-66.5 (0.9)	5.9 (0.4)	-137.8 (1.7)	-129.0 (1.6)	5.6 (0.4)
French?1	16.4 (0.2)	20.2 (0.2)	-99.0 (2.9)	-17.1 (0.2)	-25.2 (0.2)	-66.6 (2.3)
Ethnic Origin: Black?	-255.5 (2.9)	-264.0 (3.0)	-207.9 (2.0)	-58.1 (0.7)	-51.9 (0.6)	-129.8 (0.9)
Aboriginal?	-1458.5 (0.0)	-1513.2 (0.0)	-3.0 (0.1)	-243.8 (0.5)	-237.9 (0.5)	2.4 (0.1)
Disabled?	-81.7 (1.2)	-98.5 (1.5)	-116.2 (4.3)	-123.4 (1.2)	-134.2 (1.3)	-106.7 (5.0)
Married or Common Law?	-20.3 (0.3)	-19.0 (0.3)	35.2 (1.4)	-8.7 (0.1)	-5.1 (0.1)	-33.4 (1.9)
Married Previously?	70.3 (0.9)	67.1 (0.8)	35.9 (1.2)	220.9 (2.7)	225.1 (2.8)	0.1 (0.0)
Preschool Children?	-91.8 (2.0)	-100.9 (2.2)	0.8 (0.1)	-54.1 (1.0)	-51.8 (0.9)	-32.1 (2.2)
Full-time Job?	183.9 (1.8)	181.4 (1.8)	9.7 (0.3)	-4.6 (0.0)	-5.9 (0.1)	-12.9 (0.6)
Permanent Job?	262.5 (3.7)	272.9 (3.8)	24.8 (1.0)	-170.1 (2.5)	-167.9 (2.4)	-25.6 (1.3)
Changed Jobs During Yr.?	51.3 (0.7)	46.5 (0.7)	99.8 (3.5)	-107.7 (0.9)	-120.3 (1.0)	111.9 (5.1)
Self-Employed?	142.7 (2.2)	129.5 (2.0)	-82.9 (3.8)	100.8 (1.1)	99.7 (1.1)	27.3 (1.2)
Union Coverage?	-17.5 (0.4)	-23.0 (0.5)	-54.8 (3.5)	-149.0 (2.5)	-146.6 (2.4)	-3.1 (0.2)
Firm Size: 500 or more?	295.4 (5.2)	292.2 (5.1)	74.0 (4.1)	275.9 (4.2)	273.1 (4.2)	136.9 (8.6)
200-499 employees?	70.9 (0.8)	63.4 (0.8)	97.4 (3.9)	320.7 (3.6)	325.5 (3.6)	118.2 (5.2)
100-199 employees?	239.1 (3.3)	222.2 (3.1)	67.8 (2.4)	223.7 (2.2)	230.6 (2.3)	107.8 (4.2)
20-99 employees?	18.6 (0.3)	13.5 (0.2)	-4.8 (0.2)	207.9 (2.4)	211.5 (2.4)	57.2 (3.1)

Supervisor?	-8.4 (0.2)	-12.9 (0.3)	19.7 (1.4)	47.0 (0.9)	47.9 (0.9)	76.2 (5.8)
Professional/Managerial?	126.1 (2.6)	126.8 (2.6)	74.1 (4.4)	128.8 (2.5)	124.7 (2.4)	46.0 (3.4)
Blue Collar?	-11.9 (0.2)	-16.5 (0.3)	-18.5 (1.0)	-102.8 (1.1)	-102.8 (1.1)	-46.1 (1.7)
Public Sector?	94.0 (1.7)	89.5 (1.7)	47.1 (2.2)	75.0 (1.2)	68.2 (1.0)	45.3 (2.8)
Goods Sector?	77.6 (0.5)	93.0 (0.6)	-59.1 (1.2)	71.4 (0.2)	71.9 (0.2)	57.0 (0.9)
Industry: Primary	-78.6 (0.5)	-98.4 (0.6)	-0.9 (0.0)	-77.1 (0.3)	-71.6 (0.2)	70.3 (1.7)
Construction	130.7 (1.5)	120.8 (1.4)	6.9 (0.3)	38.0 (0.2)	25.8 (0.1)	17.2 (0.3)
Transportation	119.2 (0.8)	130.1 (0.8)	35.7 (0.8)	-103.8 (0.3)	-108.2 (0.4)	141.2 (2.3)
Trade	132.8 (0.8)	143.1 (0.9)	-110.4 (2.1)	11.6 (0.0)	9.0 (0.0)	16.0 (0.2)
Services	115.5 (0.7)	123.4 (0.7)	-26.5 (0.5)	5.9 (0.0)	6.8 (0.0)	71.4 (1.1)
Constant	539.1 (1.9)	608.0 (2.1)	242.4 (3.0)	147.0 (0.4)	150.7 (0.4)	-138.6 (1.6)
Sample Size	1,460		10847	1,754		13,825
Age at Imm Sqd. Added		-0.1 (1.3)			-0.1 (1.2)	
Percent obs. above limit	17.0%		20.9%	14.8%		18.5%
Mean Error	12.1	12.1	15.7	14.4	14.6	10.9
Correlation of Observed and Expected	45.6%	44.7%	26.5%	47.3%	47.4%	24.2%

Notes: See Table 3.

Table 7. Barriers to Training for Men and Women by Immigrant Status

	MEN			WOMEN		
	Immigrant	Imm as Adult	Cdn Born	Immigrant	Imm as Adult	Cdn Born
Sample	1,468	920	10,955	1,767	1,180	13,939
Population (,000)	1,809	1,246	7,470	1,908	1,361	7,737
Needed training ? ¹	7.5%	6.7%	7.2%	6.8%	6.4%	6.4%
Not offered?	1.5	1.1	1.7	1.3	1.2	1.8
Inconvenient?	2.1	1.4	2.8	2.0	2.1	2.2
Prerequisite?	0.2	3.5	0.2	1.0	0.9	0.3
Employer support?	1.0	0.9	1.9	0.7	0.5	1.6
Too busy?	3.4	2.7	3.8	2.4	1.8	2.7
Too expensive?	3.4	3.8	2.2	4.4	4.3	2.6
No child care?	0.1	0.2	0.2	0.5	0.6	0.8
Other family?	0.3	0.2	0.6	1.6	1.5	1.1
Language?	0.2	0.3	0.0	0.4	0.4	0.1
Health?	0.0	0.0	0.1	0.2	0.1	0.4
Other?	1.7	1.3	0.7	0.3	0.3	0.7
Wanted courses ? ²	12.4%	10.0%	15.3%	15.9%	14.4%	18.6%
Not offered?	1.4	1.1	1.5	1.0	0.9	1.8
Inconvenient?	4.3	3.5	6.6	6.7	6.7	7.9
Prerequisite?	0.6	0.5	0.4	0.2	0.2	0.6
Employer support?	0.6	0.2	1.1	0.8	0.7	1.0
Too busy?	7.3	6.1	8.8	7.0	5.9	8.0
Too expensive?	4.8	4.0	4.4	7.2	5.7	7.5
No child care?	0.7	0.4	0.5	4.0	3.8	3.0
Other family?	2.1	1.4	2.3	4.6	4.5	5.1

Language?	0.8	1.1	0.0	0.7	0.9	0.1
Health?	0.2	0.1	0.7	1.4	1.8	1.5
Other?	0.7	0.2	1.5	1.5	1.2	1.6

Notes: ¹ “At any time during 1997, was there any training or education that you needed to take for job-related or career reasons but did not?” If yes, then “What were the reasons you did not take this training or education?” Course or program not offered? Course or program offered at inconvenient time or location? Lack of sufficient qualifications or prerequisite? Lack of employer support? Too busy at work or job? Too expensive/have no money? Lack of child care? Other family responsibilities? Because of language? Because of health reasons? Because of other reasons? (More than one response allowed)

² “At any time during 1997, were there any job-related, hobby, recreational, or interest courses you wanted to take but did not?” If yes, then “What were the reasons you did not take these courses?” Course not offered? Course offered at inconvenient time or location? Lack of sufficient qualifications or prerequisite? Lack of employer support? Too busy at work or job? Too expensive/have no money? Lack of child care? Other family responsibilities? Because of language? Because of health reasons? Because of other reasons? (More than one response allowed)

Sample results weighted to reflect Canadian adult population excluding full-time and part-time students; imm.. as adult defined as immigrants after the age of 18

Source: 1998 Adult Education and Training Survey Master (Internal) File; calculations by the authors