

Canadian Immigrants and Training Opportunities: Evidence from Canadian Linked Employer-Employee Data

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Statistics Canada: 100 Years and Counting
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- Labour market assimilation of immigrants
- Extensive evidence documenting significant wage disparities experienced by visible minority immigrants in Canada (e.g. **Baker and Benjamin 1997, Pendakur and Pendakur 1998, Hum and Simpson 1999; Aydemir and Skuterud 2008, Pendakur and Woodcock 2010**)
- Decline in occupational mobility upon immigration and the importance of upward mobility (**Green 1999, Chiswick et al. 2005, Abramitzky et al. 2014**)
- Immigrants and disadvantages in job mobility (**Javdani and McGee 2018**)
- Discounting of immigrants' foreign credentials

- Job training, skill formation and human capital accumulation
- post-school investment, including job training, accounts for more than half of lifetime human capital accumulation (**Heckman et al. 1998**).
- Training has significant impacts on
 - Worker productivity (**Bartel, 1994; Dostie, 2013; Holzer, 1993**)
 - Innovation (**Bauernschuster et al., 2009; Dostie, 2017**)
 - Wages and voluntary turnover (**Bartel, 1995; Bishop, 1990; Brown, 1990; Kawaguchi, 2006; Lillard and Tan, 1992; Lynch, 1990**).
- Canadian employers on average spent 800 dollars per employee on training in 2014 (**Learning and Development Outlook, 13th Edition by Conference Board of Canada, 2015**).

- The importance of training in improving immigrants' labour market outcomes
 - Increasing returns to foreign credentials (**Friedberg 2000**)
 - Increasing employment and earnings of immigrants and reduced their dependency on social benefits (**Sarvimaki and Hamalainen 2010**)

Research Questions

- We use a nationally representative sample of workers to examine differences between immigrants and Canadian-borns in two different types of clearly-defined training measures:
 - Formal classroom training (CLT)
 - Informal on-the-job training (OJT)
- We also examine the extent to which any economy-wide differences in training opportunities operate **within** versus **between** workplaces.
- We examine how our results vary by years since immigration and education level.
- Potential Explanations
 - Differences in career path and hierarchical levels
 - Non-profits versus for-profits

- Workplace and Employee Survey (WES).
- A longitudinal annual survey of employers and their employees administered by Statistics Canada between 1999 and 2006.
- The employer sample is longitudinal, with addition of new locations every second year (i.e. in 2001, 2003 and 2005) to maintain a representative cross section.
- A random sample of employees were interviewed from each sampled workplace in each odd year and re-interviewed the following year.
- There is a new sample of employees selected on every odd year (i.e. in 1999, 2001, 2003 and 2005).
- We use pooled 1999, 2001, 2003 and 2005 cross-sections.
- Non-aboriginal Workers between the ages of 24 and 65.

Dependent Variables

① Probability of CLT and OJT:

- **CLT:** In the past twelve months, have you received any classroom training related to your job? Classroom training includes: (1) All training activities which have a pre-determined format, including a pre-defined objective, (2) Specific content, (3) Progress may be monitored and/or evaluated
- **OJT:** In the past twelve months, have you received any informal training related to your job (that is on-the-job training)?

② Duration of Training:

- All employees who reported they received CLT or OJT were also asked about the duration (measured in days) of the last training course completed

③ Intensity of Training:

- All employees who report they received CLT were also asked about the number of different training courses they have taken in the past 12 months

Main Results - Probability of OJT

Differences in probability of receiving OJT

| | (1) | (2) |
|----------------------------------|--------------------|--------------------|
| Males | | |
| Visible Minority Canadian-born | 0.111** (0.046) | 0.137** (0.053) |
| White Immigrant | -0.024 (0.016) | -0.027* (0.016) |
| Visible Minority Immigrant | -0.008 (0.017) | 0.012 (0.022) |
| N | 42470 | |
| Females | | |
| Visible Minority Canadian-born | 0.091 (0.061) | 0.031 (0.040) |
| White Immigrant | -0.001 (0.015) | -0.022 (0.017) |
| Visible Minority Immigrant | -0.030 (0.020) | -0.025 (0.024) |
| N | 32405 | |
| Controls: | | |
| Personal and job characteristics | YES | YES |
| Tenure with Employer | YES | YES |
| Occupation (coarse) | YES | YES |
| Occupation (detailed) | | |
| Industry | YES | |
| Workplace fixed effects | | YES |

Main Results - Length of OJT

Differences in time spent for on-the-job training (measured in days)

Population: All employees who have received on-the-job training

| | | |
|--------------------------------|-------------------|-------------------|
| Visible Minority Canadian-born | 1.192 (2.787) | 2.215 (3.216) |
| White Immigrant | 0.269 (1.055) | 0.294 (1.310) |
| Visible Minority Immigrant | -0.120 (1.353) | -0.976 (1.845) |
| N | 10705 | 9340 |

Main Results - Probability of CLT

Differences in probability of CLT

| | (1) | (2) |
|----------------------------------|-----------|---------|
| Males | | |
| Visible Minority Canadian-born | 0.089** | 0.105** |
| | (0.045) | (0.052) |
| White Immigrant | -0.025 | -0.009 |
| | (0.017) | (0.018) |
| Visible Minority Immigrant | -0.071*** | 0.001 |
| | (0.019) | (0.022) |
| N | 42470 | |
| Females | | |
| Visible Minority Canadian-born | -0.027 | 0.024 |
| | (0.033) | (0.033) |
| White Immigrant | -0.016 | -0.014 |
| | (0.016) | (0.018) |
| Visible Minority Immigrant | -0.086*** | -0.046* |
| | (0.021) | (0.023) |
| N | 32405 | |
| Controls: | | |
| Personal and job characteristics | YES | YES |
| Tenure with Employer | YES | YES |
| Occupation (coarse) | YES | YES |
| Industry | YES | |
| Workplace fixed effects | | YES |

Main Results - Length of CLT

Differences in other training measures

A: Gender differences in the number of classroom training courses taken in the last 12 months

Population: All employees who have received classroom training related to their job

| | Males | Females |
|--------------------------------|----------------------|-------------------|
| | (1) | (2) |
| Visible Minority Canadian-born | 0.170 (0.280) | 0.133 (0.360) |
| White Immigrant | -0.265* (0.142) | -0.162 (0.134) |
| Visible Minority Immigrant | -0.506*** (0.127) | -0.105 (0.215) |
| N | 16175 | 12115 |

B: Differences in the length of the classroom training courses (measured in days)

Population: All employees who have received classroom training related to their job

| | | |
|--------------------------------|--------------------|-------------------|
| Visible Minority Canadian-born | -0.576 (0.855) | -0.703 (1.126) |
| White Immigrant | -0.687* (0.363) | -0.137 (0.567) |
| Visible Minority Immigrant | -0.888 (0.594) | 0.265 (0.851) |
| N | 16175 | 12115 |

Main Results - Career Related Training

Differences in probability of employer paying/helping with taking courses outside paid working hours

Population: All employees (this variable does not exist in the 1999 survey)

| | | |
|--------------------------------|---------------------|----------------------|
| Visible Minority Canadian-born | -0.032** (0.015) | -0.033*** (0.008) |
| White Immigrant | -0.000 (0.008) | -0.007 (0.008) |
| Visible Minority Immigrant | -0.016** (0.007) | -0.016** (0.007) |
| N | 31815 | 24340 |

Main Results - Probability of Rejecting Training

Differences in probability of rejecting job-related training offer

Population: All employees

| | | |
|--------------------------------|----------------------|--------------------|
| Visible Minority Canadian-born | 0.035 (0.030) | -0.001 (0.019) |
| White Immigrant | -0.021** (0.010) | -0.002 (0.011) |
| Visible Minority Immigrant | -0.038*** (0.012) | -0.029* (0.016) |
| | 42470 | 32405 |

Differences by Years Since Immigration

Differences in probability of receiving CLT – By years since immigration

| | Males | | Females | |
|---|----------------------|--------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| Classroom Training | | | | |
| Visible Minority Canadian-born | 0.089** (0.045) | 0.106** (0.052) | -0.027 (0.033) | 0.024 (0.032) |
| White Immigrant (<i>years since immigration</i> ≤ 10) | 0.010 (0.036) | 0.025 (0.033) | -0.061 (0.041) | -0.039 (0.041) |
| White Immigrant (<i>years since immigration</i> > 10) | -0.032* (0.018) | -0.015 (0.020) | -0.008 (0.017) | -0.009 (0.019) |
| Visible Minority Immigrant (<i>years since immigration</i> ≤ 10) | -0.089*** (0.032) | 0.009 (0.028) | -0.071* (0.039) | -0.015 (0.039) |
| Visible Minority Immigrant (<i>years since immigration</i> > 10) | -0.061*** (0.022) | -0.000 (0.026) | -0.094*** (0.019) | -0.061*** (0.023) |
| N | 42470 | | 32405 | |
| Controls: | | | | |
| Personal and job characteristics | YES | YES | YES | YES |
| Tenure with Employer | YES | YES | YES | YES |
| Occupation (coarse) | YES | YES | YES | YES |
| Industry | YES | | YES | |
| Workplace fixed effects | | YES | | YES |

Differences by Education/Skill Level

Differences in probability of receiving CLT/OJT – By education

| | Males | | Females | |
|---|----------------------|--------------------|----------------------|---------------------|
| | (1) | (2) | (1) | (2) |
| Classroom Training | | | | |
| White Canadian-born (with bachelor) | 0.320*** (0.089) | 0.075 (0.065) | 0.061 (0.125) | -0.036 (0.063) |
| Visible Minority Canadian-born (with bachelor) | 0.112 (0.076) | 0.082 (0.092) | -0.014 (0.061) | 0.008 (0.066) |
| Visible Minority Canadian-born (without bachelor) | 0.091* (0.048) | 0.102** (0.050) | -0.025 (0.040) | 0.028 (0.036) |
| White Immigrant (with bachelor) | -0.002 (0.029) | -0.005 (0.028) | -0.019 (0.034) | -0.016 (0.035) |
| White Immigrant (without bachelor) | -0.031 (0.020) | -0.012 (0.023) | -0.020 (0.018) | -0.016 (0.021) |
| Visible Minority Immigrant (with bachelor) | -0.051** (0.026) | 0.012 (0.036) | -0.087** (0.036) | -0.035 (0.037) |
| Visible Minority Immigrant (without bachelor) | -0.079*** (0.023) | -0.013 (0.025) | -0.083*** (0.022) | -0.053** (0.025) |
| N | 42470 | | 32405 | |
| Controls: | | | | |
| Personal and job characteristics | YES | YES | YES | YES |
| tenure | YES | YES | YES | YES |
| Occupation (coarse) | YES | YES | YES | YES |
| Industry | YES | | YES | |
| Workplace fixed effects | | YES | | YES |

Potential Explanations: Differences in Career Path or Hierarchical Level

- **Controlling for promotion measures:** whether the worker has been promoted in the last 12 months, and the number of promotions.
- **Controlling for hierarchical level:** proportion of workers in higher earnings categories
- **Controlling for career path:** whether the worker supervises other employees on a day-to-day basis; number of employees supervised, hiring requirements; indicators for terms of employment (regular employee, seasonal employee, term employee, casual or on-call employee, other); working compressed workweek, working regular fulltime workweek, working flexible hours, working the same number of paid hours per week, ability to carry out job duties at home, having used unpaid leave in the last twelve months; number of paid vacation days , paid sick days, and other paid leaves taken; hours of paid overtime usually worked per week; hours of unpaid overtime usually worked per week; days of unpaid leave taken.

Potential Explanations: Differences in Career Path or Hierarchical Level

Differences in probability of receiving CLT – additional controls

| Males | | | | | | |
|--------------------------------|----------------------|----------------------|----------------------|---------------------|---------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Visible Minority Canadian-born | 0.090** (0.045) | 0.098** (0.044) | 0.092** (0.044) | 0.103** (0.051) | 0.111** (0.052) | 0.114** (0.051) |
| White Immigrant | -0.025 (0.016) | -0.025 (0.017) | -0.026 (0.017) | -0.010 (0.018) | -0.008 (0.018) | -0.010 (0.018) |
| Visible Minority Immigrant | -0.076*** (0.020) | -0.070*** (0.020) | -0.063*** (0.019) | -0.005 (0.022) | 0.000 (0.022) | 0.004 (0.022) |
| N | 42470 | | | | | |
| Females | | | | | | |
| | | | | | | |
| Visible Minority Canadian-born | -0.027 (0.033) | -0.021 (0.034) | -0.013 (0.036) | 0.018 (0.033) | 0.021 (0.033) | 0.035 (0.034) |
| White Immigrant | -0.022 (0.016) | -0.023 (0.016) | -0.027 (0.016) | -0.019 (0.018) | -0.018 (0.018) | -0.015 (0.018) |
| Visible Minority Immigrant | -0.091*** (0.021) | -0.083*** (0.021) | -0.076*** (0.021) | -0.054** (0.024) | -0.050** (0.024) | -0.037 (0.024) |
| N | 32405 | | | | | |
| Controls: | | | | | | |
| Most preferred specification | YES | YES | YES | YES | YES | YES |
| Workplace fixed effects | | | | YES | YES | YES |
| Promotion | | YES | YES | | YES | YES |
| Career | | | YES | | | YES |

Potential Explanations: Non-Profits Versus For-Profits

Differences in probability of receiving CLT By for-profit/non-profit sector

| Males | For-profit | | Non-profit | |
|--------------------------------|------------------------------------|-----------------------------------|---------------------|----------------------|
| | (1) | (2) | (1) | (2) |
| Visible Minority Canadian-born | 0.067 (0.046) | 0.070 (0.044) | 0.181 (0.113) | 0.256* (0.147) |
| White Immigrant | -0.019 (0.018) | 0.007 (0.020) | -0.081** (0.037) | -0.097*** (0.036) |
| Visible Minority Immigrant | -0.082*** (0.020) | 0.005 (0.023) | 0.035 (0.054) | -0.030 (0.048) |
| N | 42455 | | 4510 | |
| Females | For-profit | | Non-profit | |
| | (1) | (2) | (1) | (2) |
| Visible Minority Canadian-born | -0.047 (0.037) | 0.005 (0.036) | 0.082 (0.062) | 0.090 (0.066) |
| White Immigrant | -0.014 (0.019) | -0.023 (0.022) | -0.022 (0.030) | 0.007 (0.033) |
| Visible Minority Immigrant | -0.095*** (0.023) | -0.062** (0.027) | -0.034 (0.047) | -0.005 (0.042) |
| N | 23850 | | 8530 | |
| Controls: | | | | |
| Most preferred specification | YES | YES | YES | YES |
| Industry | YES | | YES | |
| Workplace fixed effects | | YES | | YES |

Impact on Wage Disparities

Decomposition of the wage gap and the role of training

| | Males | | Females | |
|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | (1) | (2) | (3) | (4) |
| Overall | | | | |
| White Canadian-borns | 3.037*** (0.010) | 3.037*** (0.010) | 2.809*** (0.011) | 2.809*** (0.011) |
| Visible Minority Immigrant | 2.878*** (0.029) | 2.878*** (0.030) | 2.737*** (0.026) | 2.737*** (0.026) |
| Difference | 0.159*** (0.030) | 0.159*** (0.030) | 0.072*** (0.026) | 0.072*** (0.026) |
| Explained | -0.002 (0.022) | 0.006 (0.024) | 0.021 (0.020) | 0.010 (0.022) |
| Unexplained | 0.161*** (0.022) | 0.153*** (0.022) | 0.050** (0.020) | 0.061*** (0.019) |
| Explained | | | | |
| Education | -0.061*** (0.008) | -0.052*** (0.007) | -0.039*** (0.006) | -0.036*** (0.006) |
| Marital Status | -0.010*** (0.002) | -0.009*** (0.002) | -0.006*** (0.001) | -0.005*** (0.001) |
| Children | -0.008*** (0.002) | -0.008*** (0.002) | 0.001 (0.001) | 0.000 (0.001) |
| Age | -0.002 (0.001) | -0.001* (0.001) | -0.001* (0.001) | -0.001 (0.000) |
| Experience | 0.033*** (0.005) | 0.027*** (0.005) | 0.015*** (0.003) | 0.013*** (0.002) |
| Job characteristics | 0.030*** (0.004) | 0.018*** (0.003) | 0.032*** (0.005) | 0.027*** (0.004) |
| Year | -0.004* (0.002) | -0.004* (0.002) | -0.001 (0.002) | -0.001 (0.002) |
| Occupation | 0.004 (0.009) | 0.006 (0.009) | 0.004 (0.008) | 0.002 (0.007) |
| Industry | 0.008 (0.012) | 0.016** (0.008) | 0.005 (0.010) | 0.016* (0.008) |
| Training | 0.008*** (0.002) | 0.004*** (0.001) | 0.010*** (0.003) | 0.007*** (0.002) |

Impact on Promotion Opportunities

The effect of CLT on probability of promotion

| | Males | Females |
|--|------------------------------------|------------------------------------|
| Panel A: | (1) | (2) |
| Classroom Training | 0.034*** (0.011) | 0.033*** (0.011) |
| N | 25045 | 19230 |
| Panel B: | | |
| White Canadian-born (with CLT) | 0.024** (0.012) | 0.025** (0.012) |
| Visible Minority Canadian-born (with CLT) | -0.046 (0.061) | -0.094* (0.052) |
| Visible Minority Canadian-born (without CLT) | -0.120*** (0.044) | -0.146*** (0.051) |
| White Immigrant (with CLT) | 0.034 (0.033) | 0.005 (0.026) |
| White Immigrant (without CLT) | 0.010 (0.027) | 0.014 (0.023) |
| Visible Minority Immigrant (with CLT) | -0.006 (0.034) | 0.000 (0.040) |
| Visible Minority Immigrant (without CLT) | -0.069*** (0.023) | -0.079*** (0.021) |
| N | 25045 | 19230 |
| Controls: | | |
| Personal and job characteristics | YES | YES |
| Tenure with employer | YES | YES |
| Occupation (coarse) | YES | YES |
| Industry | YES | YES |

Conclusion

- Significant disadvantages in training opportunities experienced by visible minority immigrants
 - For men, this entirely operates between workplaces
 - For women, it operates both between and within workplaces
- Years spent in Canada do not improve these outcomes
- Similar differences for skilled and unskilled visible minority immigrants
- No evidence supporting the role of differences in hierarchical levels or career paths
- Most of these differences are driven by the for-profit sector
- Importance of training in explaining wage differentials and promotion opportunities

Thank you!