# Earnings of Immigrant University Graduates in Canada: Foreign and Domestic Human Capital

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# Immigrant Earnings: The Issue(s)

- How much do they earn?
- Value of foreign and domestic human capital?
- Explanations?
- What can be done?

# Outline of Presentation

- Present "traditional" model
- Present alternative model:
  - emphasis on different sources of human capital
- Present (preliminary) findings
- Discuss…

# Conventional Model

$$\ln(yi) = X\beta + B_0 IMM + B_1 YSM$$

$$+ B_2 YSM2 + \varepsilon$$

# Alternative Model

$$\ln(yi) = X\prime\theta + B_1ED + B_2EX + B_2EX^2 +$$

$$B_3CI + B_4CI*ED + B_5CI*EX + B_6CI*EX^2$$

$$B_3FI + B_4FI*ED + B_5FI*EX_F + B_6FI*EX_F^2 +$$

$$B_7FI*EX_C + B_8FI*EX_C^2$$

- Allows for domestic and foreign human capital
- Compares immigrants' returns to native-born

## Determinants of Log Earnings

| | Male | | | |
|---|---|---|---|---|
| | College | Bachelor | Master | Ph.D |
| Constant | 9.922*** | 10.167*** | 10.353*** | 10.533*** |
| YEAR_EXP_TOT | 0.046*** | 0.073*** | 0.075*** | 0.046*** |
| $YEAR\_EXP\_TOT^2$ | -0.001*** | -0.002*** | -0.002*** | -0.001*** |
| CI | -0.118*** | -0.033 | -0.035 | -0.173 |
| CI*YEAR_EXP_IN | 0.011*** | -0.001 | -0.004 | 0.025** |
| $CI*YEAR\_EXP\_IN^2$ | -0.000* | 0 | 0 | -0.001* |
| FI | -0.537*** | -0.778*** | -0.707*** | -0.508*** |
| FI*YEAR_EXP_OUT | -0.004** | -0.024*** | -0.039*** | -0.029*** |
| $FI*YEAR\_EXP\_OUT^2$ | 0 | 0.000** | 0.001*** | 0 |
| FI*YEAR_EXP_IN | 0.041*** | 0.064*** | 0.074*** | 0.082*** |
| $FI*YEAR\_EXP\_IN^2$ | -0.001*** | -0.001*** | -0.001*** | -0.002*** |
| Number of Observations | 412640 | 163662 | 47335 | 12260 |
| R-squared | 0.02 | 0.083 | 0.095 | 0.071 |

* significant at 10%; ** significant at 5%; *** significant at 1%

# Determinants of Log Earnings

| | Female | | | |
|---|---|---|---|---|
| | College | Bachelor | Master | Ph.D |
| Constant | 9.495*** | 9.975*** | 10.070*** | 10.246*** |
| YEAR_EXP_TOT | 0.036*** | 0.047*** | 0.063*** | 0.058*** |
| YEAR_EXP_TOT$^2$ | -0.001*** | -0.001*** | -0.002*** | -0.001*** |
| CI | -0.016 | 0.002 | -0.179*** | -0.029 |
| CI*YEAR_EXP_IN | 0.012*** | -0.002 | 0.015** | -0.001 |
| CI*YEAR_EXP_IN$^2$ | -0.000*** | 0 | -0.000* | 0 |
| FI | -0.591*** | -0.963*** | -0.873*** | -0.497*** |
| FI*YEAR_EXP_OUT | -0.007*** | -0.017*** | -0.032*** | -0.041*** |
| FI*YEAR_EXP_OUT$^2$ | 0 | 0.000*** | 0.001*** | 0.001 |
| FI*YEAR_EXP_IN | 0.057*** | 0.084*** | 0.082*** | 0.069*** |
| FI*YEAR_EXP_IN$^2$ | -0.001*** | -0.002*** | -0.002*** | -0.002*** |
| Number of Observations | 354060 | 158257 | 35162 | 4527 |
| R-squared | 0.012 | 0.049 | 0.083 | 0.063 |

* significant at 10%; ** significant at 5%; *** significant at 1%

## Determinants of Log Earnings by Region of Origin (Part 1)

| | | Male | | | | |
|---|---|---|---|---|---|---|
| | | US-UK | India - Pak | Mid-East | China | Japan -Kor |
| Constant | 10.161*** | | | | | |
| YEAR_EXP_TOT | 0.074*** | | | | | |
| YEAR_EXP_TOT$^2$ | -0.002*** | | | | | |
| CI | | 0.05 | 0.063 | -0.164 | -0.131* | -0.406 |
| CI*YEAR_EXP_IN | | -0.003 | -0.008 | 0.023 | 0.008 | 0.023 |
| CI*YEAR_EXP_IN$^2$ | | 0 | 0 | -0.001 | 0 | -0.001 |
| FI | | -0.121* | -0.891*** | -0.721*** | -0.730*** | -0.905*** |
| FI*YEAR_EXP_IN | | 0.028*** | 0.061*** | 0.045*** | 0.085*** | 0.061*** |
| FI*YEAR_EXP_IN$^2$ | | -0.001*** | -0.001*** | -0.001* | -0.002*** | -0.001** |
| FI*YEAR_EXP_OUT | | 0 | -0.020*** | -0.039*** | -0.062*** | -0.047*** |
| FI*YEAR_EXP_OUT$^2$ | | 0 | 0 | 0.001** | 0.001*** | 0.001* |

* significant at 10%; ** significant at 5%; *** significant at 1%

## Determinants of Log Earnings by Region of Origin (Part 2)

| | | Male | | | | |
|---|---|---|---|---|---|---|
| | | Africa | Mex - SA | West-Eur | East-Eur | SE Asia |
| Constant | 10.161*** | | | | | |
| YEAR_EXP_TOT | 0.074*** | | | | | |
| YEAR_EXP_TOT$^2$ | -0.002*** | | | | | |
| CI | | 0.101 | 0.001 | -0.043 | 0.005 | 0.087 |
| CI*YEAR_EXP_IN | | -0.018 | -0.018 | 0.002 | -0.001 | -0.025* |
| CI*YEAR_EXP_IN$^2$ | | 0.001** | 0.001* | 0 | 0 | 0.001 |
| FI | | -0.616*** | -0.562*** | -0.321*** | -0.796*** | -0.939*** |
| FI*YEAR_EXP_IN | | 0.037*** | 0.013 | 0.015 | 0.081*** | 0.072*** |
| FI*YEAR_EXP_IN$^2$ | | 0 | 0 | 0 | -0.002*** | -0.001*** |
| FI*YEAR_EXP_OUT | | -0.022* | -0.007 | -0.023* | -0.022** | -0.016** |
| FI*YEAR_EXP_OUT$^2$ | | 0 | 0 | 0.001** | 0 | 0 |
| **Number of Observations:** | 163,662 | | | | | |
| **R-squared:** | 0.091 | | | | | |

* significant at 10%; ** significant at 5%; *** significant at 1%

## Determinants of Log Earnings by Region of Origin (Part 1)

| | | Female | | | | |
|---|---|---|---|---|---|---|
| | | US-UK | India - Pak | Mid-East | China | Japan -Kor |
| Constant | 9.971*** | | | | | |
| YEAR_EXP_TOT | 0.047*** | | | | | |
| YEAR_EXP_TOT$^2$ | -0.001*** | | | | | |
| CI | | 0.04 | -0.156* | 0.061 | -0.003 | -0.079 |
| CI*YEAR_EXP_IN | | -0.012 | 0.001 | -0.022 | 0.003 | 0.015 |
| CI*YEAR_EXP_IN$^2$ | | 0.000** | 0 | 0.001 | 0 | -0.001 |
| FI | | -0.363*** | -1.281*** | -1.133*** | -0.955*** | -1.162*** |
| FI*YEAR_EXP_IN | | 0.020** | 0.092*** | 0.094*** | 0.126*** | 0.061*** |
| FI*YEAR_EXP_IN$^2$ | | -0.000* | -0.002*** | -0.002*** | -0.003*** | -0.001 |
| FI*YEAR_EXP_OUT | | -0.007 | -0.012 | -0.026* | -0.046*** | -0.026 |
| FI*YEAR_EXP_OUT$^2$ | | 0 | 0 | 0 | 0.001*** | 0.001 |

* significant at 10%; ** significant at 5%; *** significant at 1%

## Determinants of Log Earnings by Region of Origin (Part 2)

| | | Female | | | | |
|---|---|---|---|---|---|---|
| | | Africa | Mex - SA | West-Eur | East-Eur | SE Asia |
| Constant | 9.971*** | | | | | |
| YEAR_EXP_TOT | 0.047*** | | | | | |
| $YEAR\_EXP\_TOT^2$ | -0.001*** | | | | | |
| CI | | 0.015 | 0.099 | 0.03 | -0.145 | 0.121* |
| CI*YEAR_EXP_IN | | 0 | -0.023** | 0.004 | 0.021 | -0.004 |
| $CI*YEAR\_EXP\_IN^2$ | | 0 | 0.001*** | 0 | 0 | 0 |
| FI | | -1.084*** | -0.844*** | -0.535*** | -0.856*** | -0.869*** |
| FI*YEAR_EXP_IN | | 0.095*** | 0.065*** | 0.035*** | 0.108*** | 0.065*** |
| $FI*YEAR\_EXP\_IN^2$ | | -0.002*** | -0.001*** | 0 | -0.002*** | -0.001*** |
| FI*YEAR_EXP_OUT | | -0.007 | -0.022 | -0.013 | -0.032*** | -0.014** |
| $FI*YEAR\_EXP\_OUT^2$ | | 0 | 0.001 | 0 | 0.001* | 0.000* |
| Number of Observations: | 158,257 | | | | | |
| R-squared: | 0.053 | | | | | |

* significant at 10%; ** significant at 5%; *** significant at 1%

# Potential Explanations and Policy Implications

- (Racial) discrimination
- Quality of human capital
- Lack of information
- "Cultural" factors