

Project Title:

Asymmetry in Employment Dynamics between Canadian-born and Immigrant Groups

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Project description, rationale, and objectives:

This study investigates asymmetry in employment and wage rate convergence between Canadian-born and immigrant groups. Our study will investigate factors associated with different rates of convergence in employment and wage levels to the Canadian-born population for diverse immigrant (socio-demographic) backgrounds. Specifically, we will focus on female immigrants from the Middle East and North Africa (MENA) and compare them with other groups. Since females from MENA origins tend to exhibit the slowest employment and wage rate convergence, it is a pertinent group to investigate as policy change may go a long way to improve outcomes. We will investigate convergence rate determinants found in previous studies on immigration and labour dynamics and apply these findings in a novel Canadian context.

For regional determinants to employment and wage rates, we will assess the effect of industry, ethnic, and religious composition with population and GDP controls at the economic region level. To disentangle the difference in employment and wage rates between our group of interest and the Canadian-born population, we will also control for socio-economic and demographic factors. These factors will include but are not limited to, age, gender, ethnicity, religion, and family composition. Lastly, we will investigate the effect on wage due to occupational skill differences between our group of interest and the Canadian-born population. By using principal component analysis as a control for factors such as, educational attainment, knowledge of official language, and job tenure, we will decipher causes of employment and wage differences that are unrelated to occupational skill levels.

Ultimately, the findings from this study will aim to ascertain whether wage differences can be explained with different characteristics of immigrants or whether unexplained characteristics exist, providing insight on skill transferability, cultural integration, and wage discrimination. We will also provide insight about immigrant welfare for varying socio-economic conditions across regions of Canada. Our findings will contribute evidence-based research to immigration policy development with a focus on eliminating disparities in economic integration for different immigrant backgrounds.

Specifically, the study will address the following questions.

1. What are the host Economic Region (ER) factors affecting immigrants' employment/ wages, and how do the same factors affect Canadian-born employment/ wages?

- a. In particular, if any, what effects on employment and wage are associated with ER level factors such as industry, ethnic, or religious composition? We will analyze this question for our differentiated groups across the economic regions of Canada.
2. What effects are associated with personal characteristics in relation to employment/ wages over time for different immigrant backgrounds and the Canadian-born population? Characteristics that tend to have direct relation to occupation such as educational attainment, occupational experience, and language ability, as well as indirect relationships, such as socio-economic and demographic attributes, will be examined to determine effects on employment and wage rates.
 - a. For the case of females from MENA origins, we will differentiate the effect of being a member of this group on employment/ wage rates, by comparing this group with members of other immigrant backgrounds and the Canadian-born population that have identical socio-economic and occupational characteristics.
3. What is the rate of convergence between immigrant and Canadian-born employment and wage levels? Are there cohort specific effects? If so, do cohort's wages converge at an increasing (decreasing) rate over time? Using the variables from questions 1. and 2. within the Blinder-Oaxaca framework, we will specifically investigate the following.
 - a. We will define skill transferability as the ability of an immigrant to deploy their human capital in the Canadian labour market with outcomes equivalent to the Canadian-born population. We will investigate this dynamic by gathering origin country occupation and education history and regress employment and wage rates in Canada compared with the Canadian-born population while controlling for time.
 - b. We will assess the occurrence of wage discrimination within the Blinder-Oaxaca framework and answer, the question of whether there is wage discrimination based on race, national or ethnic origin, colour, religion, sex, age, disability, sexual orientation, or marital status? If discrimination exists, is it more prominent for different ERs? Similarly, does discrimination manifest differently for varying labour market compositions, industries?
 - c. Similarly, we will carry out our analysis of employment and wage rate convergence for women from MENA countries. We will investigate the unique labour market challenges are for this group, and determine if employment and wage rate dynamics improve over time in comparison with other immigrant backgrounds and the Canadian-born population.

This study fills a gap in the literature on disparities in employment and wage rate convergence for varying immigrant backgrounds in Canada, additionally we provide insight on the labour market experience of women from MENA countries. The analysis builds on past employment and wage convergence literature using a unique combination of administrative and survey microdata

sources from Statistics Canada. Additionally, this study provides a novel application of the Blinder-Oaxaca decomposition method to determine wage discrimination in Canada. Finally, it provides an account of Economic Region effects on employment and wage rate convergence and discrimination.

The literature that underpins the concepts studied are Dustmann et al. (2016) and Green & Worswick (2017). Both papers are a meta-analysis of studies on the economics of immigration. From a macroeconomic perspective, Dustmann et al. address the differential outcomes of studies on immigration considering wage convergence due to heterogeneous labour supply elasticities. Green & Worswick address the literature gaps in Canadian research on the economics of immigration and suggest an angle of compassion at which studies on immigration ought to embody. That is, the authors call on researchers to include theories of justice in their scope. Their recommendation is to consider experiences of immigration from the perspective of fair outcomes. The authors call for evidence-based research on the underlying causes of asymmetric labour market performance between immigrant and Canadian-born individuals.

Past research in the CRDCN network has been carried out using the Blinder-Oaxaca decomposition framework developed by Frank et al. (2013). This study addresses the effects of socio-demographic and educational variables on earnings differences between Canadian-born and Canadians. However, this study does not account for industry characteristics and the nuances of labour market experiences for women from MENA countries. Frank et al. instead focus on behavioural and attitudinal opinions of ethnic identity as controls for income.

Proposed data analysis:

Our methodology involves comparing the income of immigrant cohorts with the Canadian-born for the years of the quinquennial Census. Using Principal Component Analysis (PCA), we will identify the factors that explain the asymmetry in wage convergence across different groups. Controlling socio-economic factors, e.g., educational attainment, occupational experience, language ability and other demographic factors, we will observe the presence of disparities in economic integration for different groups under identical labour market conditions. Moreover, we will extend our analysis to examine whether there is an asymmetry in convergence across immigrants based on gender and region. Using the Blinder-Oaxaca wage decomposition framework, our findings will ascertain whether the wage differences can be explained due to different characteristics of immigrants or whether unexplained characteristics exist, providing insight on skill transferability and a measure of wage discrimination.

Data Requirements:

To examine the stated goals, we will conduct quantitative analysis using the data sets and variables outlined in tables 1 and 2 below. Our analysis will begin by developing a profile of each

ER in Canada using aggregated data from the National Accounts (Public), LFS, Census, and LAD. The ER level factors will consist of aggregated data such as GDP per capita, population size and density, industry, ethnic, and skill composition. We can extrapolate and compile aggregate ER factors affecting wages and use them as control variables.

Next, we will gather personal characteristics of immigrants that will provide insight on wage differences. These variables will be compiled using data from the IMDB, LFS, ELMLP, Census, and LAD. Characteristics such as those found in table 1 can be analyzed on aggregate. The precise aggregation methodology will involve finding average wage rates from each panel data set for the variables and merging them using weighted averages. Our dependent variables, employment and wage rates will be from the IMDB (T1FF) data set. In addition, we will use the LFS to control for occupational characteristics pertaining to wage, the ELMLP (PSIS-LAD) to generate a variable that describes a person's occupational skill level, and the Census to determine socio-economic demographic factors.

Next, we will require data to generate identical variables for the Canadian-born comparison sample. In this case, we will use the LAD (PSIS-T1FF) to obtain our dependent variables, employment and wage rates. We will also use the LFS to control for occupational characteristics pertaining to wage, the ELMLP (PSIS-LAD) for characteristics describing occupational skill level, and the Census to determine socio-economic demographic factors.

The findings from this study will clearly indicate some of the challenges that immigrants to Canada face. The data sets will allow for an equivalent comparison of Canadian-born and immigrant labour market experiences. The research also provides insight about differentiated challenges experienced by subgroups of immigrants and regional disparities. The project will improve policy development and enhance academic knowledge regarding economic integration among different groups of immigrants across regions of Canada. The longitudinal nature of this study will lead to further discussion about whether policies designed to attract and retain skilled immigrants in Canada are achieving robust long-term results. By contributing to public discourse on immigrants' experience in the Canadian labour market, this study will also support immigration policy formulation within the scope of fair outcomes.

The years and cycles of the Statistics Canada datasets that are required for this study are outlined in table 2 below.

Table 1: Data Requirements

	Variable(s)	Data Source
Immigrant	Wage	IMDB (T1FF)
	Wage	LFS
	Wage	ELMLP (PSIS-T1FF)
	Wage	Census
	Age	IMDB (PRNF)
	Age	ELMLP (PSIS-IMDB)
	Age	LFS
	Knowledge of Official Language	ELMLP (PSIS-IMDB)
	Knowledge of Official Language	Census
	Gender	IMDB (PRNF)
	Gender	LFS
	Gender	Census
	Educational attainment (origin country)	IMDB (PRNF)
	Educational attainment (In Canada, cumulative)	ELMLP (PSIS-IMDB)
	Educational attainment (In Canada, cumulative)	LFS
	Years of Experience (origin country)	IMDB (PRNF)
	Years of Experience (In Canada, cumulative)	LFS
	Job Tenure [category, duration] (In Canada, cumulative)	LFS
	Occupational Industry	LFS
	Union coverage	LFS
	Origin Country [Citizenship, Country of birth]	IMDB (PRNF)
	Residence economic region	IMDB (T1FF)
	Residence economic region	ELMLP (PSIS-T1FF)
	Residence economic region	LFS
	Residency Status	IMDB (PRNF)
	Years since immigration	IMDB (PRNF)
	Marital Status	Census
	Ethnicity	IMDB (PRNF)
	Number of Children	Census
	Religion	Census
	Absences from work of employed person	LFS
	Family age composition	LFS
	Family age composition	Census
	Presence of children in the household	LFS
	Presence of children in the household	Census
	Class of worker (employed, self-employed)	LFS
	Occupation establishment size	LFS
	Employment status, employed/unemployed, part-time/full-time	LFS
	Reason for not looking for work	LFS
	Reason for part time work of employed person	LFS
	Student employment status	LFS

Canada - Born	Wage	LAD (PSIS-T1FF)
	Wage	LFS
	Wage	Census
	Age	LAD
	Age	LFS
	Knowledge of Official Language	ELMLP (LAD-PSIS)
	Gender	LAD
	Gender	LFS
	Educational attainment (Canada, annual cumulative)	ELMLP (LAD-PSIS)
	Educational attainment	LFS
	Years of Experience (Canada, annual cumulative)	ELMLP (LAD-PSIS)
	Job tenure, category, duration (In Canada, annual cumulative)	LFS
	Occupational Industry	LFS
	Union coverage	LFS
	Residence economic region	LAD
	Residence economic region	LFS
	Marital Status	Census
	Marital Status	LAD
	Number of Children	Census
	Number of Children	LAD
	Ethnicity	Census
	Religion	Census
	Aboriginal Identity	LFS
	Absences from work of employed person	LFS
	Family age composition	LFS
	Family age composition	Census
	Presence of children in the household	LFS
	Presence of children in the household	Census
	Class of worker (employed, self-employed)	LFS
	Occupation establishment size	LFS
	Employment status, employed/unemployed, part-time/full-time	LFS
	Reason for not looking for work	LFS
	Reason for part time work of employed person	LFS
	Student employment status	LFS
Economic Region	Population	Public (National Accounts)
	GDP per capita	Public (National Accounts)
	Ethnic composition	LAD
	Ethnic composition	Census
	Religious composition	Census
	Industry composition	LFS
	Unemployment rate	LFS

*Green indicates equivalent variables, “-” indicates a data linkage, [IMDB (Longitudinal Immigration Database), T1FF (T1 Family File), PRNF (IMDB Landing File), ELMLP (Education and Labour Market Longitudinal Platform), LAD

(Longitudinal Administrative Databank), LFS (Labour Force Survey), PSIS (Postsecondary Student Information System)]

Table 2: Data Requirements (condensed)

Immigrant		Canada Born		Economic Regions	
Source	Years	Source	Years	Source	Years
IMDB (PRNF, T1FF)	1982-2020	LAD (T1FF)	1982-2019	LFS	1996-2025
ELMLP (PSIS-IMDB, T1FF)	1999-2020	ELMLP (PSIS-LAD, T1FF)	1999-2020	Public (National accounts)	-
Census	1996, 2001, 2006, 2011, 2016, 2021	Census	1996, 2001, 2006, 2011, 2016, 2021		

Resource Requirements:

Data sorting and merging will be done using SAS software as the updated datasets are in SAS format only. Once we merge the dataset, we will import it to Stata to continue further data analysis (regression analysis). We may also use R for data visualization of the results.

Funding:

Some funding support is likely to be available through the New Brunswick Innovation Foundation-Research Assistantship Initiative (RAI) program.

Expected Products:

We plan to disseminate the outputs of this project in several ways, including scholarly presentations and conference presentations. Ultimately the project is for the purpose of M.A. thesis requirements. We will mobilize the flow of information to academic peers (researchers and educators), policymakers, students, and the public.

Specific products:

1. MA report: This study is part of the MA report at the Department of Economics at the University of New Brunswick (UNB). Therefore, findings from this study will be available through the UNB library and students at UNB will have access to it.
2. Presentations: We plan to present findings at an academic conference and discuss results with academic scholars and policymakers throughout the project's duration.
3. Academic Publishing: At the end of the project, we intend to publish the findings for academic and policy-making audiences in a peer-reviewed journal, e.g., Canadian Public Policy.

Expected Start and End Date:

Start date is as soon as data access is granted. Complete by end of summer 2022.

References:

1. **Dustmann, Christian, Uta Schonberg, and Jan Stuhler.** 2016. "The Impact of Immigration: Why Do Studies Reach Such Different Results?." *Journal of Economic Perspectives* 30 (4): 31–56.
2. **Green, David A., and Christopher Worswick.** 2017. "Canadian Economics Research on Immigration through the Lens of Theories of Justice." *Canadian Journal of Economics* 50 (5): 1262–1303.
3. **Frank, Kristyn, Kelli Phythian, David Walters, and Paul Anisef.** 2013. "Understanding the Economic Integration of Immigrants: A Wage Decomposition of the Earnings Disparities between Native-Born Canadians and Recent Immigrant Cohorts." *Social Sciences* 2 (2): 40–61.