Do Immigrants Experience Education-Job Mismatch? New Evidence from the U.S. PIAAC

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Motivation

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  1. Immigration policy debates:
     - family-based immigration with emphasis on reunification
     - merit-based immigration focused on the economy demand for skilled labor
  2. Immigrant workers are more likely to be overqualified (Chiswick & Miller, 2009; Friedberg, 2000; Ferrer & Riddell, 2008; Prokic-Breuer & McManus, 2016)
  3. Wage penalty for mismatch is higher for immigrant workers compared to native-born workers (Nielsen, 2007; Wald & Fang, 2008; Chiswick & Miller, 2009; Sharaf, 2013; Joona et al., 2014; Sanroma et al.,2015; Banerjee et al., 2018)

Research Questions

1. What is the extent of education-job mismatch for workers by first, second, and third-plus generation?
2. What factors are associated with education-job mismatch specifically among first and second generation workers?

Definition: Generations

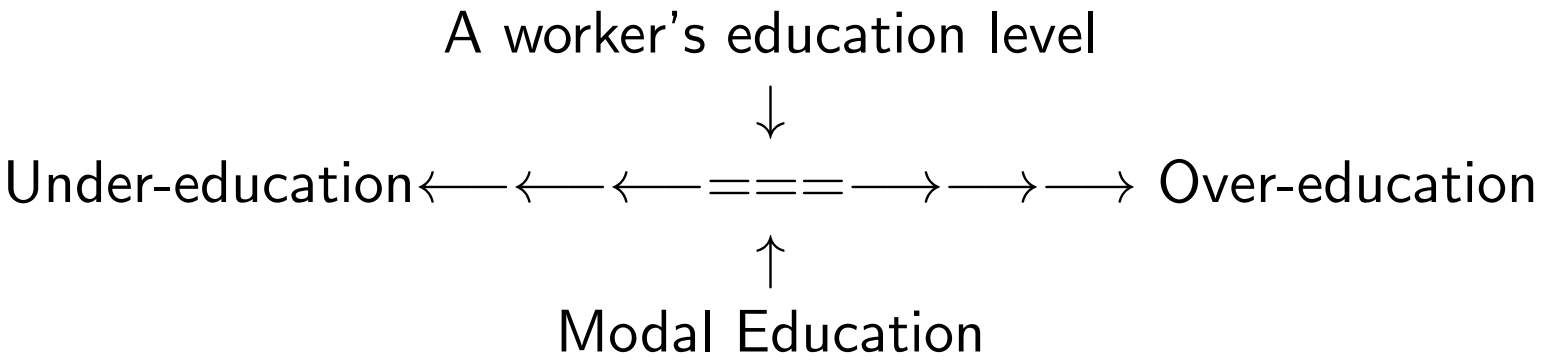
	Self born in the U.S	Self born outside of the U.S.
Parents born in the U.S.	Third plus generation	
At least one parent born outside of the U.S.	Second generation	
Parents born outside of the U.S.	Second generation	First generation

Definition: Generations

- **Immigrant generations**: In this study, we distinguish between three generations
  1. *First generation immigrants*: workers who were born outside of the U.S. to parents who were also born outside of the U.S.
  2. *Second generation*: workers who were born in the U.S. to at least one parent who was born outside of the U.S.
  3. *Third-plus generation*: workers who were born in the U.S. to U.S.-born parents (grandchildren of immigrants).

Definition: Mismatch

- **Education-job mismatch**: a situation when a worker's formal education level is higher or lower than the level expected in the job or occupation.
  1. *Over-education*: a worker's education level is above the modal education level among all workers employed in the same occupation
  2. *Under-education*: a worker's education level is below the modal education level of all workers employed in the same occupational category.



Conceptual Frameworks

- Human capital theory: experience and on-the-job training as substitutes for education (Duncan & Hoffman; 1981; Sicherman, 1991; Alba-Ramrez,1993; Hartog, 2000; Leuven & Oosterbeek, 2011; Verhaest & Van der Velden, 2013)
- Signaling theory: education as a "noisy" signal of unobserved skills and abilities (Spence,1978; Piracha, Tani, & Vadean; 2012; Piracha & Vadean; 2013)
- Search and match theory: imperfect information as a source of mismatch (Dean, 2018; Groot & Maassen van den Brink, 2000; Chiswick & Miller, 2009)

Data

- Survey: The Programme for the International Assessment of Adult Competencies (PIAAC)
- Year: 2012
- Sample: United States
- Restricted to workers 20-65 years of age
- Analytic sample for the study: 4,022 individual records

The assessment focuses on cognitive and workplace skills needed for successful participation in 21st-century society and the global economy.

Approaches to Measuring Mismatch

- Vertical or horizontal mismatch
  - Vertical mismatch is when education $>$ or $<$ the required qualification for the job
  - Horizontal mismatch is when a worker is employed at a job which is not related to their field of study
- Education or skills mismatch
  - Educational level of the worker is compared to the average educational level for all workers in that occupational category
  - Discrepancy between the skills that are sought by employers and the skills that are possessed by individuals

This Study: Measure of Mismatch

- We use vertical mismatch based on education level
- Measure of mismatch: modal education level of all workers in that category $>$ or $=$ or $<$ education level of the respondent, or the realized match procedure (Chiswick & Miller, 2009; Clogg & Schloskey, 1984; Kiker et al., 1997; Madamba & De Jong, 1997; Quinn & Rubb, 2006; Tsai, 2010; Verdugo & Verdugo, 1989)
- Occupational classification of the respondent's job at the 3-digit level and highest level of formal education obtained

Other Variables

- Demographic variables: gender, race/ethnicity
- Work experience in years
- Numeracy score
- Presence of children (binary variable: yes or no)
- Location (region: Northeast, Midwest, South, West, city indicator)
- First generation specific variables:
  - years in a country
  - self-reported English ability

Methods

- Patterns of mismatch among the U.S. workers using descriptive statistics
- Binary logistic regression to understand what factors predict the probability of over-education
  - Binary dependent variable: over-education
- The fully saturated model includes interactions of first and second generation with independent variables
- Separate analysis for first and second generation workers

Sample Description - All Workers

- Almost half of all workers 20-65 years old were correctly matched
- 30 percent were overmatched, and 20 percent were under-educated
- Hispanic workers were more likely to be under-educated
- Asian American workers were more likely to be over-educated
- Average work experience among all workers - 22 years

Sample Description - By Generation

- 15% were first-generation workers and 8% were second-generation workers
- Third-plus generation - on average, more educated and had more experience
- Second-generation workers were more likely to be overeducated than correctly matched or under-educated
- First-generation workers were more likely to be under-educated than correctly matched or over-educated
- Demographics: racial/ethnic composition of first- and second generation workers was different from the third-plus generation

Findings: Over-Education

- Factors that we found to be statistically associated with over-education:
  - Generational status: first and second generation workers were more likely to be over-educated
  - Gender: female workers from all generations were more likely to be over-educated
  - Race: Black and Asian American workers were more likely to be over-educated
  - Location: living in a city did increase the odds of being over-educated

Findings: Under-Education

- Generational status: first generation workers were more likely to be under-educated
- Gender: female workers were more likely to be under-educated
- Race: Hispanic workers were less likely to be under-educated
- Presence of children: workers with children had higher chances of being under-educated

Findings: First and Second Generations

- Similar patterns among first and second generations compared to the entire sample:
  - Female workers from first and second generations were more likely to be over-educated
  - Asian American and Black workers were more likely to be over-educated, and Hispanic workers - under-educated
  - Those who had children were more likely to be under-educated
  - More years in a country increase the chances of being correctly matched

Summary of Results

	Over-education (Education > Modal Level)	Under-education (Education < Modal Level)
	All Workers	
Generation	First and second generation	First generation
Gender	Female workers	Female workers
Race	Black, Asian American workers	Hispanic workers
Children	No children	Presence of children
Location	City	Ø
	First and Second Generation Workers	
Generation	First generation	Second generation
Gender	Female workers	Male workers
Race	Black, Asian American workers	Hispanic workers
Children	No children	Presence of children
Location	Not city	Ø
Years in the U.S.	Fewer years in a country	More years in a country
Ability to speak English	Ø	Poor command of English

Findings

- Potential of first and second generation workers could be better utilized in the economy
- Immigrant disadvantages in the labor market persist beyond the first generation
- Good command of English and length of stay in the country mitigate immigrants' disadvantages in the labor market

Implications for Immigration Policies

- US: family-based immigration
- Canada: skill-based immigration
- The difference in overmatch between third-plus and first and second generation workers in the US is significantly smaller than in Canada (Banerjee et al., 2019; Lu & Hou, 2020)
- This implies that despite family-based immigration, the U.S. labor market is better able to absorb newcomers and match them to respective jobs
- Skill-based immigration policies are not more advantageous in selecting immigrants compared to merit-based in terms of labor market outcomes

QUESTIONS?

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