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# Equal Convergence? Convergence Patterns among Immigrants by Occupations

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# Background

- **14% of the country is composed of immigrants**
  - (American Immigration Council, 2020)
- **Sherman et al., (2019):**
  - Higher labor force participation rate
  - Contributions to Social Security and Medicare
  - High levels of labor mobility

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# Motivation & Literature Reviewed

- Prior research has consistently demonstrated that a wage gap exists (e.g., Borjas, 1994)
- Human capital differences, limited English proficiency, and occupational segregation (e.g., Smith, 2006; Smith & Fernandez, 2017)
- Limited work experience and time since arrival (e.g., Friedberg, 1992; Coulombe, Grenier, & Nadeau, 2014)
- Labor market discrimination (e.g., Smith and Fernandez, 2017; Coulombe, Grenier, & Nadeau, 2014; Hersch, 2011; Garg, 2004)

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# Central Economic Question

- **Research Question:**
  - What factors contribute to the wage gap?
  - Does the wage gap diminish overtime?
  - Is wage convergence consistent among occupational groupings?
  - Is there potential discrimination?

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# Theoretical Model:

- $Wage_i = f$  (education, occupation, gender, race/ethnicity, age, marital status, health status, immigration status & time since arrival)
  - **Education:**
    - Less than HS diploma
    - HS diploma
    - Some college/associate
    - Bachelor's +
  - **Marital Status:**
    - Not married
    - Never married
    - Married
  - **Health Status:**
    - Health issue
    - No health issue
  - **Gender**
    - Male/female
  - **Occupation:**
    - Manual
    - Transportation
    - Service & Sales
    - Office
    - Professional
    - Management
  - **Race/ethnicity**
    - White NH
    - Black NH
    - Hispanic
    - Asian NH
  - **Immigration status:**
    - 3 years or less
    - 4-10 years
    - 11-25 years
    - Over 25 years ago



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# Theoretical Model: Hypotheses

- Human Capital:
  - Occupation ( $H_A: \beta < 0$ )
    - Management (reference group)
    - Professional
    - Office
    - Service and Sales
    - Manual
    - Transportation
  - Education ( $H_A: \beta > 0$ )
    - Less than HS (reference group)
    - HS diploma
    - Some college
    - Bachelor's or higher
- Immigration ( $H_A: \beta < 0$ )
  - Native (reference group)
  - 3 years
  - 4-10 years
  - 11-25 years
  - Over 25 years

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# The Data

- **2019 Annual Social and Economic Supplement from the Current Population Survey**
  - Random sample of civilian, noninstitutionalized population
  - Over 180,000 people surveyed
- **Excluded:**
  - Those not in the labor force
  - Those in the Armed Forces
  - Wage outliers
- **Final number of observations used: 52,892**

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# Weighted Descriptive Statistics

Variable	Mean/Proportions	Std. Dev.
<b>Age</b>	40.4	12.84
<b>Sex:</b>		
1: Female	47.49%	0.5
0: Male	52.51%	
<b>Educational Attainment:</b>		
Less than high school	7.77%	0.27
High School Diploma	26.67%	0.44
Some College	28.44%	0.45
Bachelors or higher	37.12%	0.48
<b>Marital Status:</b>		
Never Married	33.87%	0.47
Married	53.36%	0.5
Not Married	12.77%	0.33
<b>Health Issue:</b>		
1: Yes	2.96%	0.17
0: No	97.04%	
<b>Race/Ethnicity:</b>		
White NH	60.36%	0.49
Black NH	12.17%	0.33
Asian NH	6.18%	0.24
Hispanic	18.65%	0.39
<b>Immigrant Status:</b>		
Native	81.88%	0.39
Foreign	18.12%	
<b>Immigrant Arrival:</b>		
Native	80.43%	0.4
0-3 years	1.47%	0.12
4-10 years	2.86%	0.12
11-25 years	8.85%	0.28
More than 25 years	6.40%	0.24
<b>Wages</b>	46231.32	38813.17
<b>Occupational Groupings:</b>		
Management	16.15%	0.37
Professional	23.29%	0.42
Service & Sales	26.96%	0.44
Office	11.54%	0.32
Manual	15.49%	0.36
Transportation	6.57%	0.25

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# Weighted OLS Results: General Regression

	Coefficient	Robust Std. Err.
<b>Age</b>	2711.49**	88.58
<b>Age Squared</b>	-27.71**	1.07
<b>Female</b>	-15016.85**	356.28
<b>Educational Attainment</b>		
High School Diploma	8548.84**	476.72
Some college	12316.84**	509.25
Bachelors or higher	29025.46**	616.4
<b>Marital Status</b>		
Never married	-7381.51**	420.85
Not married	-4725.77**	482.45
<b>Health Issue</b>	-12005.33**	876.16
<b>Race/Ethnicity</b>		
Black NH	-3177.08**	501.68
Asian NH	5261.55**	900.65
Hispanic	-3579.79	468.24
<b>Immigrant Arrival:</b>		
0-3 years	-8367.95**	1494.43
4-10 years	-4355.48**	1069.86
11-25 years	-3736.98**	641.86
Over 25 years ago	-1894.57*	823.36
<b>Occupational Groupings:</b>		
Professional	-8835.48**	648.49
Office	-18433.28**	641.89
Service & Sales	-21623.02**	623.42
Manual	-17694.08**	679.24
Transportation	-21569.52**	792.63

\*\*Statistically significant at the 1% level \*Statistically significant at the 5% level



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# Weighted OLS Results: By Occupation

Arrival Times (years)	Management	Professional	Service & Sales	Office	Manual	Transportation
0-3	-5552.85 (9806.61)	-7622.32* (3787.84)	-9029.13** (2056.21)	-10620.41** (4225.34)	- (2253.05)	-296.08 (4210.72)
4-10	2529.7 (4626.97)	-1672.85 (2629.25)	-5582.19** (1322.79)	-6910.65** (2366.15)	-4379.65* (2163.19)	-13878.01** (2744.69)
11-25	1210.79 (2396.26)	505.31 (1716.75)	-5618.97** (853.77)	-3376.06* (1667.96)	-6933.87** (1349.34)	-6309.81** (2267.76)
Over 25	-2136.73 (2725.94)	2275.02 (2101.49)	-722.23 (1356.25)	-1871.48 (1671.26)	-5608.32** (1541.89)	-6205.85** (2172.06)

\*\*Statistically significant at the 1% level \*Statistically significant at the 5% level. Robust Standard errors in parenthesis.

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# Weighted OLS Results: By Skilled vs Unskilled Occupations

	Skilled (Management, Professional, Office, Service & Sales)		Unskilled (Manual and Transportation)	
	Coef.	Robust Std. Errors	Coef.	Robust Std. Errors
Arrival Time (years)				
0-3	-10442.44**	2003.71	-8741.66**	2104.07
4-10	4364.01**	1344.97	-8011.14**	1754.27
11-25	-3543.64**	799.35	-6698.38**	1141.21
Over 25	-720.38	1043.4	-5678.06**	1263.75

\*\*Statistically significant at the 1% level \*Statistically significant at the 5% level.

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# Weighted OLS Results: By Skilled and Unskilled Educational Groups

	Skilled (More than high school)		Unskilled (High School or Less)	
		Robust Std.		Robust Std.
Arrival Times (years)	Coefficient	Errors	Coefficient	Errors
0-3	-13100.07**	2344.82	-6050.46**	1339.44
4-10	-6646.74**	1672.13	-4211.33**	1161.28
11-25	-4094.65**	1039.11	-4751.66**	746.56
Over 25	-697.6212	1268.71	-4017.32**	924.26

\*\*Statistically significant at the 1% level \*Statistically significant at the 5% level.

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# **Blinder-Oaxaca Decomposition:**

- **Common in wage gap literature**
- **Quantifies how much of the wage gap is "explained" and "unexplained"**
- **For this analysis: indicates the impact that unobserved variables have on wages**
  - **Potential discrimination**

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# Blinder-Oaxaca Decomposition Results:

	Coefficient	Robust Standard Error	z	P>z
<b>Immigrant</b>	43658.74	531.083	82.21	0
<b>Native</b>	46800.8	194.9585	240.06	0
<b>Wage Gap</b>	-3142.061	565.7367	-5.55	0
<b>Decomposition</b>				
<b>Explained</b>	-2126.431	1407.968	-1.51	0.131
<b>Unexplained</b>	-1015.63	1482.231	-0.69	0.493

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# Discussion

- Immigrant status has a negative impact on wages
  - This impact diminishes with longer time spent in the country
- Wages do not completely converge
- When accounting for occupational segregation, the wage gap persists
  - Premium for skilled occupations

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# Study Limitations

- **Limitations**
  - Limits of CPS Data
  - Limits of survey data
  - Limits of the model
  - Limits of occupational categories

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# Conclusion

- **Implications**
  - **Supplementary education**
  - **Anti-discrimination action**

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