

Unpacking Earnings of the Foreign-Born Workforce

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HYPOTHESIS

Differential earnings profiles by education level or professional certification or licensing status between native- and foreign-born workers may reflect different returns to those credentials for native- versus foreign-born workers. For example, if foreign-born workers' educational signal in the U.S. is not as easily interpretable as that of native-born workers without additional credentials, then acquiring a degree, certification, or license may confer greater benefits for foreign-born workers. We might expect, therefore, that the gaps in earnings profiles between foreign-born workers with and without professional certification or licensing will be larger than the comparable gaps for native-born workers.

DATA¹

- The Survey of Income and Program Participation (SIPP) 2008 is a panel dataset that was collected in waves from September 2008 to December 2013.²
 - Wave 2 (January – April 2009) contains topical modules on Education History and Migration History.
 - Wave 13 (September – December 2012) contains a module on Educational Certificates and Professional Certifications and Licenses.
- The Internal Revenue Service Detailed Earnings Record (IRS DER) file contains individual annual earnings from W-2 and 1099 forms. We use earnings records from 1980 to 2014.
- The SIPP data and DER records for individuals are linked using a Protected Identification Key (PIK) developed internally within the U.S. Census Bureau.
- The BLS Consumer Price Index (CPI-All Urban Consumers) was used to convert earnings into real terms.

METHODOLOGY

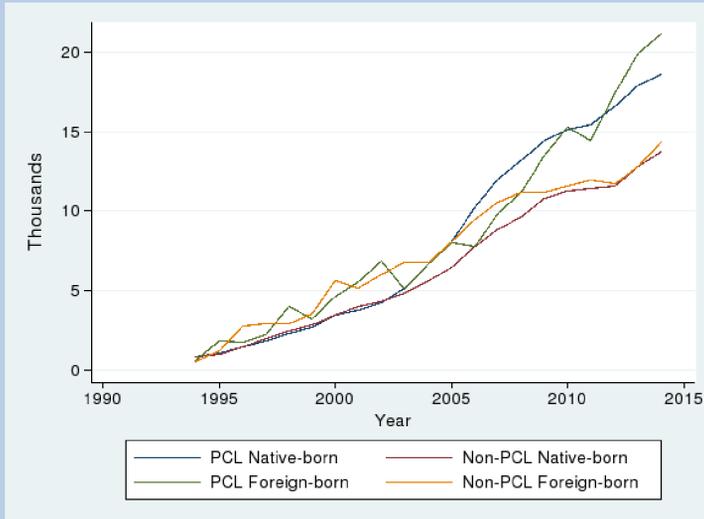
We examine age-cohort earnings profiles for all 16- to 69-year-old native- and foreign-born workers with matched SIPP data and DER earnings in years 1980 to 2014. We leverage topical questions on education history, migration history, and educational certificates and professional certifications and licenses to observe differences in earnings by nativity, education level, and certification or licensing status. Workers were defined as professionally certified or licensed (PCL) (alternatively, not professionally certified or licensed (non-PCL)) if they responded “yes” (alternatively, “no”) to the question “Does _____ have a professional certification or state or industry license?”.

SUMMARY STATISTICS

	Native-born		Foreign-born		Total
	PCL	Non-PCL	PCL	Non-PCL	
Age (average)	45.0	44.4	44.6	44.7	44.6
% HS or less	24.1	48.6	24.4	52.3	41.5
% Voc. or Assoc. degree	26.8	20.0	25.3	15.2	21.5
% Bach. degree or more	49.1	31.4	50.3	32.5	36.9
% White alone	86.6	82.9	51.3	62.4	80.9
% Black alone	8.9	12.4	14.5	10.1	11.3
% Asian alone	1.5	1.2	29.8	24.0	4.5
% Hispanic	6.6	9.3	23.8	43.2	12.5
% Male	48.9	51.7	46.3	56.1	51.2
% Married	67.0	60.5	71.5	71.3	63.7
% U.S. citizen	100.0	100.0	70.4	54.7	94.4
% Employed	93.4	88.3	93.6	87.5	89.8
N	6,100	13,000	600	2,100	22,000

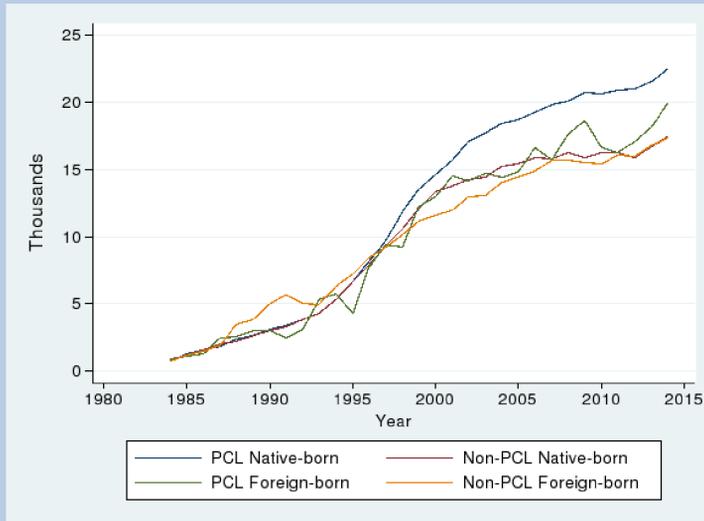
All time-dependent data is taken from wave 13 of the 2008 SIPP, which occurred between September and December 2012. Means are weighted by inverse-probability of PIK-match by demographic characteristics multiplied by SIPP person-weights.

MEDIAN EARNINGS FOR 25-34 YEAR-OLDS IN 2012³



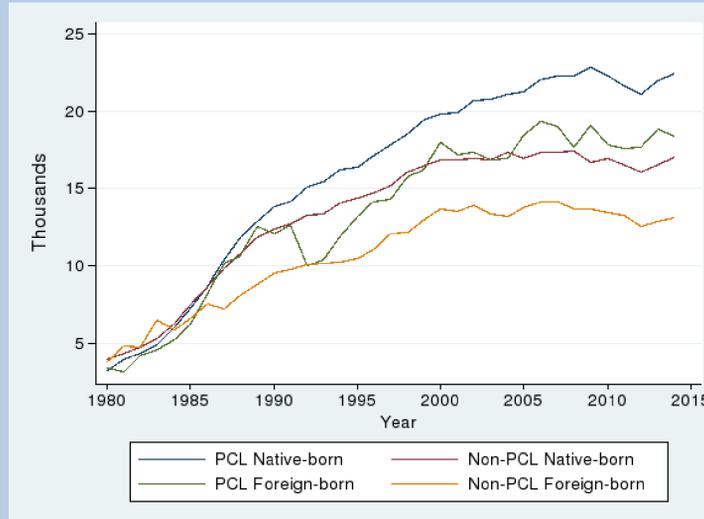
SOURCES: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 Panel. For information on sampling and nonsampling error see <http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html>. Internal Revenue Service Detailed Earnings Record, 1980-2014.

MEDIAN EARNINGS FOR 35-44 YEAR-OLDS IN 2012³



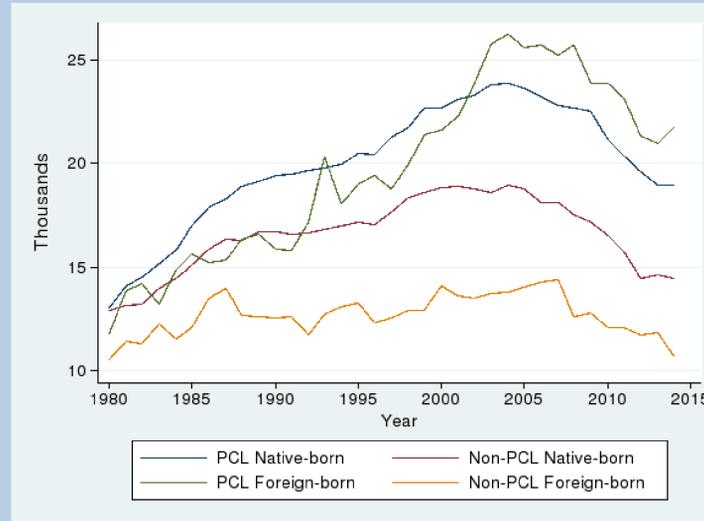
SOURCES: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 Panel. For information on sampling and nonsampling error see <http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html>. Internal Revenue Service Detailed Earnings Record, 1980-2014.

MEDIAN EARNINGS FOR 45-54 YEAR-OLDS IN 2012³



SOURCES: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 Panel. For information on sampling and nonsampling error see <http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html>. Internal Revenue Service Detailed Earnings Record, 1980-2014.

MEDIAN EARNINGS FOR 55-64 YEAR-OLDS IN 2012³



SOURCES: U.S. Census Bureau, Survey of Income and Program Participation (SIPP), 2008 Panel. For information on sampling and nonsampling error see <http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html>. Internal Revenue Service Detailed Earnings Record, 1980-2014.

GENERAL FINDINGS

- Descriptively, we observe that earnings profiles appear to be steeper for those with professional certification or licensing, particularly in recent years. This observation holds for both native- and foreign-born workers as well as across age cohorts.
- Moreover, the youngest and oldest cohorts of PCL foreign-born workers out-earn PCL native-born ones in recent years. The earnings difference between these two populations over the past five years is significant at the 10% and .1% level for the youngest and oldest cohorts respectively, as assessed by Kruskal-Wallis nonparametric rank tests.³
- It is not evident whether the earnings-profile gap between PCL and non-PCL workers is greater for the foreign-born subsample than for the native-born one.

PRIMARY LIMITATION

Because we do not know when professional certification or licensing happened for individuals, we cannot see how or even whether earnings profiles for workers changed upon certification or licensing. For this reason, we cannot control for the possibility that individuals who pursue certification or licensing may differ along unobserved characteristics that may correlate systematically with different earnings profiles. If selection into professional certification and licensing occurs along unobservables that correlate with earnings, then the gaps in earnings profiles between PCL and non-PCL workers do not solely reflect returns to certification: rather, they at least in part capture differences in earnings patterns between the types of people who pursue certification or licensing and those who do not. It would therefore be wrong to conclude from our findings that foreign-born workers get a greater return from certification than comparable native-born workers. But certification and licensing do correlate with steeper earnings profiles in our sample.

NEXT STEPS

To address the selection problem discussed above, we can harness the individual-level occupation data in the SIPP to pin down what happens to earnings when a state imposes a licensing requirement where one did not previously exist. In this next stage of this project, we will collect licensing data by state over time and use a difference-in-differences (DD) identification strategy to estimate the impact of requiring a license on individual compensation and employment for both native and non-native employees. A DD strategy bears promise in light of the following:

- The share of occupations requiring state licensing has steadily increased since the 1960s (Treasury et al). Today, roughly a quarter of jobs require a license (BLS).
- There is substantial state-level variation in occupations requiring licensing: 1,100 professions are regulated in at least one state, but only 60 of those are regulated in all 50 states (Treasury et al).
- The upward trend in state occupational licensing requirements is largely driven by occupational associations' lobbying efforts (Kleiner) and as such may be exogenous from other factors influencing worker earnings.

¹ We would like to thank Suzanne Dorinski for her critical work in assembling this dataset.

² Statistics from surveys are subject to sampling and nonsampling error. For further information on the source of the data and accuracy of the estimates, see <http://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements.html>.

³ Inverse probability of being PIK-matched weights were used for all figures and in the Kruskal-Wallis tests.

Bureau of Labor Statistics. (2015). *Data on Certifications and Licensing*. [Data file]. <https://www.bls.gov/cps/certifications-and-licenses.htm>
Kleiner, Morris. (2015). Reforming Occupational Licensing Policies. *The Hamilton Project, Discussion Paper 2015-01*. https://www.brookings.edu/wp-content/uploads/2016/06/THP_KleinerDiscPaper_final.pdf

U.S. Department of the Treasury Office of Economic Policy, the Council of Economic Advisors, and the Department of Labor. (2015). *Occupational Licensing: A Framework for Policymakers*. https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing_report_final_nonembargo.pdf