

Mind the GAAP: Wage Differentials between Native and Immigrant Cohorts

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Abstract

This paper will examine the wages of immigrant accounting and medical professionals using American Community Surveys from 2010, 2015, and 2020. Immigrants' higher education attainment gives them a wage advantage over natives, an advantage greater for medical professionals. Results suggest that the origin of immigrants plays a pivotal role in their lifetime earnings, as do other personal characteristics. Over time immigrants maintain a wage premium as they continue to assimilate into the United States.

1. Introduction

Beginning with the Immigration Act of 1882, the United States has continuously legislated and regulated immigration to attract ideal candidates to bolster the U.S. workforce and population. The narrative, established by prior work, is that the positive or negative selection of immigrants is a vital determinant of wage differentials compared to natives and the subsequent wage assimilation rate.¹ That narrative is a pre-Immigration Act of 1990 understanding of immigration, which created the H1-B specialty visa, enabling skilled foreign workers in certain occupations to immigrate to the United States. Contributors have since added to that understanding by finding that certain factors, like occupation, can play an outsize role in immigrant labor force performance (LFP) as measured by wage.²

The focus of this paper is the relative LFP of immigrants as measured by wages and log wages, as they assimilate and achieve wage parity with natives. It is well established in the literature that immigrants, especially older individuals, can face difficulty in transferring their human capital overseas; however, accountants with a CPA or CMA credential, along with doctors with a license to practice medicine, can use and practice with their credentials within the United States.³ The reasoning behind studying these occupation groups is that unlike other skilled professions requiring licensure (e.g., lawyers), the processes and mechanisms to transfer one's licensure is standardized and uniform throughout the United States.

This article adds nuance to the discussion of the contribution of skilled immigration and the role individuals play in the macro labor market. The following results shed a more positive light on immigrant wages than others using data before the H1-B visa inception.

2. Data

This paper utilizes the Integrated Public Use Microdata Series (IPUMS) 2010, 2015, and 2020 American Community Surveys.⁴ The years are selected to ensure relevancy and veracity. With the rise of STEM occupations within the United States, a limited workforce amongst firms creates a demand for skilled labor, for which there is an ample supply overseas; however, the quota rationing system ensures that selection is highly selective and gravitates towards the upper echelon of candidates^{5,6}. The respondents included those aged 25-65 who were employed year-round (there has been no distinction made for part-time status), dropping those without any reportable earned income. Immigrants, as traditionally defined within the literature, are any individual born overseas; I further subcategorize this group by creating cohorts with those born in U.S. territories or who inherit birthright citizenship. Two samples are analyzed: workers in accounting professions (both public and private) and those in medical

practitioner occupations (no consideration has been given regarding licensure and field of degree, as ACS data is limited). Medical practitioners as categorized are all medical occupations requiring post graduate education, not necessarily an M.D; however, an occupation code includes outpatient service workers, roles that traditionally do not require an advanced degree. The definition is essential to understand as there is a discrepancy in the descriptive statistics results in Table 1.

3. Method

Presented are descriptive statistics indicating the degree of LFP as measured by wages for immigrant cohorts relative to natives and indicating underlying factors to the differences in wages amongst natives and immigrants. A regression analysis proceeds using log wage regressions to quantify the determining factors in the material difference:

$$\log w_{im} = \alpha + \beta_1 M^F_{im} + \beta_2 M^C_{im} + \beta_3 M^T_{im} + \gamma E_{im} + \delta A_{im} + X_{im}\theta + v \quad (1)$$

Variables considered include origin, educational attainment, self-reported English proficiency, sex, location, age, and years of residence within the United States, gradually increasing the number of covariates to determine the most responsible for the wage gap. The coefficient of interest will be β_1 in the regression analysis. The resulting equation will answer the hourly wage of workers denoted as w_{im} . The binary variable M^F represents skilled foreign-born workers; M^C is a binary variable considering whether the individual is a U.S. citizen inherited through birthright, and M^T is a binary variable measuring if the individual was born in a U.S. territory. E is a categorical dummy variable based on self-reported English proficiency rates. A is a continuous variable reflecting the age of an individual. X is a vector of various other variables: metro status, years of education attainment, years of residency within the United States, and accounting for the year fixed effect. The variable v accounts for the standard error of the regression.

There is no consideration to differentiate between experience and education earned overseas or within the United States. Alternatively, there is a discernment amongst immigrant cohorts based on arrival age: 17 or younger, those aged between 18 and 24, and those 25 and older. The earlier the age of arrival, the immigrants can achieve more education and work experience than other members of their cohort, permitting them to develop their skillsets, learn the English language, and assimilate.⁷ The criteria chosen to determine if an individual is a skilled worker is that they must have at least ten years of educational attainment or an undergraduate degree.

4. Descriptive Statistics

The analysis of the two samples of natives and immigrants' share similarities and is consistent with the prior notion that STEM occupations can offer immigrants a wage premium compared to natives.⁸ The number of workers in the accounting profession is more than double the number of holders of bachelor's degrees within that occupation, while that ratio is close to 1:1 for medical practitioners. This drastic difference is due to more relaxed requirements to work in the accounting field juxtaposed to the stringent standards for medical practitioners. As previously mentioned, a coding issue causes a variance between those within the occupation and those with at least a baccalaureate degree, as you cannot be a licensed medical practitioner without one.

Table 1 displays the immigrant cohorts' share of the samples, grouped by origin, in columns 1 and 3 of table 1: panel A displays those in the accounting profession, and panel B represents those in medicine, respectively. Immigrants make up 13.6% of workers in the accounting profession (col. 1, panel A), but 17.8% of accounting workers meet the criteria of skilled workers (col. 3, panel A). The cohort also represents 19% of medical practitioners (col. 1, panel B), and 19.3% satisfy the standards to be skilled workers (col. 3, panel B). The remaining cohorts make up a marginal proportion of the samples, with birthright citizens making up 1% and those born in U.S. territories expressing .4% of each.

Table 1, columns 2 and 4 depict the average hourly wage for the occupation of each cohort. Workers in the medical field enjoy earnings more than double that of those in the accounting field; those workers possessing a bachelor's degree earn more than those solely based on occupational criteria. Immigrants have a higher earning rate than natives in the accounting profession (col. 2, panel A): \$30.8/hr compared to \$27.8/hr for natives, granting them a 10.8% wage premium. The inverse is true for degree holders among the occupation; immigrants suffer a 2.8% wage penalty compared to natives (col. 4, panel B). That advantage is more prevalent in the earnings of those workers practicing medicine (col. 2, panel B): \$72.7/hr compared to \$63.4/hr, giving immigrants a 14.7% positive differential to natives. Amongst degree holders in the occupation, immigrants experience a 12.9% advantage in earnings rates over natives (col. 4, panel B), unlike workers in the accounting occupation. Therefore, immigrants

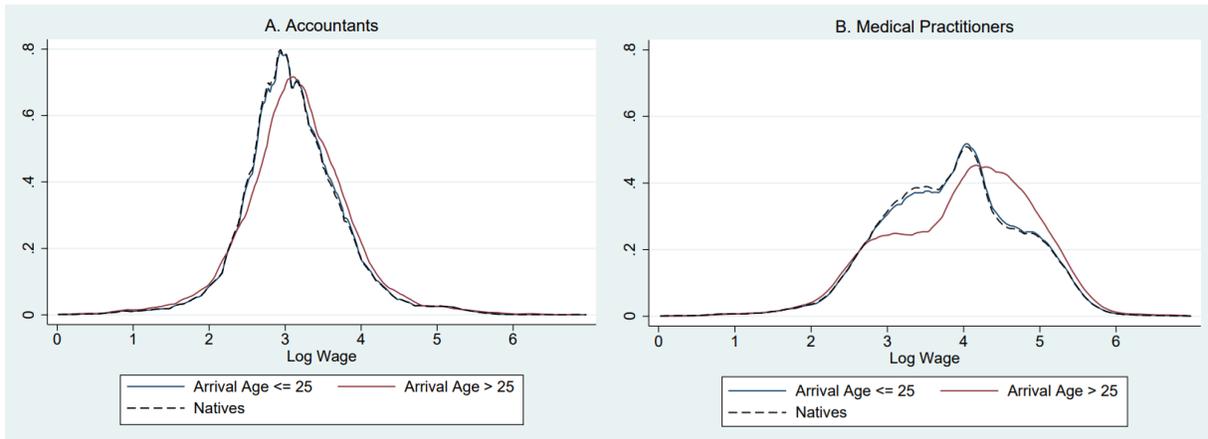
aggregately outearn native workers in both professions but experience contrasting wage effects when analyzing the cohorts' educational attainment within those fields.

Graph 1 provides additional context on wage differentials of immigrants compared to natives by examining the distribution of log wages and discerning the arrival age of immigrants: those arriving under the age of 25 and those who are after the age of 25. Table 1 indicates in columns 1 and 3 that most immigrants immigrate younger than 25. Graph 1A depicts natives and immigrants who arrived younger than 25 with a distribution skewed to the right compared to those who arrived when older having a normal distribution. Graph 1B paints a different picture, as younger immigrants and natives have a normal distribution that is not uniform compared to older immigrants having a distribution skewed left. Since the distribution amongst younger immigrants is akin to that of natives in observations, it infers that these workers are substitutable, as younger immigrants have had more time to gain educational and work experience in the U.S. and assimilate compared to older members of the cohort.⁹

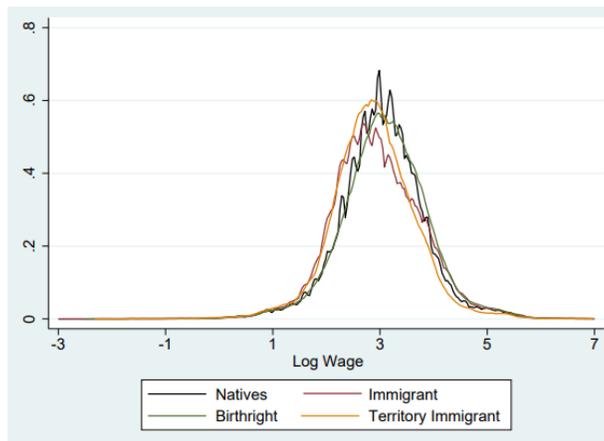
Table 1. Immigrant Shares and Wages by Nativity

	Occupations		Bachelor's Degrees	
	Share (%)	Wage (\$)	Share (%)	Wage (\$)
	(1)	(2)	(3)	(4)
Accountants				
By nativity:				
Natives	85.4%	27.8	81.1%	36.3
Immigrants	13.6%	30.8	17.8%	35.3
US citizens born abroad	1.0%	33.3	1.1%	44.3
Born in US territories	0.4%	24.3	0.4%	30.0
All	100%	29.0	100%	36.5
Observations	109,051		53,486	
By arrival age, immigrants				
17 or younger	37.0%	31.2	32.6%	38.7
18-24	24.5%	30.8	25.3%	35.3
25 or older	38.6%	30.9	42.1%	33.7
All	100%	30.9	100%	35.9
	Occupations		Bachelor's Degrees	
	Share (%)	Wage (\$)	Share (%)	Wage (\$)
	(1)	(2)	(3)	(4)
Medical Practitioners				
By nativity:				
Natives	79.8%	63.4	79.4%	65.8
Immigrants	19.0%	72.7	19.3%	74.3
US citizens born abroad	1.3%	66.5	1.3%	68.0
Born in US territories	0.4%	81.0	0.4%	85.0
All	100%	70.9	100%	73.3
Observations	56,777		53,692	
By arrival age, immigrants				
17 or younger	37.7%	69.7	37.6%	66.2
18-24	17.8%	70.1	17.6%	72.0
25 or older	44.6%	75.3	44.8%	77.1
All	100%	71.7	100%	71.8

Graph 1. Log wage Distributions by Arrival Age



Graph 2. Log Wage Distributions by Nativity



Graph 2 indicates an alternative finding contrary to the hypothesis natives' distribution of wages outearn all other cohorts without considering occupation. Territory immigrants and those inheriting birthright citizenship have a wage rate that resembles more closely that of natives but are still subject to a wage penalty. This graph is consistent with original findings that immigrants as an aggregate, regardless of origin, pay a wage penalty upon migration to the United States; positive and negative selection is critical to the assimilation rate to native wages. This revelation reinforces the argument of the hypothesis; as certain occupations have a greater demand for workers, immigrants receive higher wages than their native counterparts.

5. Results

Tables 2 and 3 present the results of log wage regressions for the two samples, starting with a dummy for the years: 2010, 2015, and 2020, with each subsequent column introducing a covariate of interest. Without considering other relevant factors, immigrants outearn their native counterparts by a statistically significant amount: 8.2% more in accounting occupations (col. 1, Table 2) and 13.7% more in medical practitioner roles (col. 1, Table 3).

The inclusion of educational attainment reflects a statistically significant determinant of logged wages, reflecting the returns on human capital an immigrant receives by pursuing higher education. An advantage more prevalent for medical practitioners than accounting workers; however, this sizeable difference could be to the criteria grouping the occupations, as certain accounting positions require less advanced education. The ability to speak English has an insignificant positive effect on determining log wages, indicating that immigrants are penalized little for imperfect proficiency. The next covariate of interest is on the basis of sex, as females receive a significant penalty in logged wages, hinting that the professions are male-dominated and discriminate against females.¹⁰ Column 5 controls for

Table 3. Native- Immigrant Wage Differential Regression (Medical Practitioner Occupations)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Immigrants	.1375*** (.0102)	.1131*** (.0099)	.1134*** (.0099)	.0961*** (.0096)	.0885*** (.0097)	.0914*** (.0093)	-.0908*** (.0174)	-.0732*** (.0172)
Birthright	.0602* (.0357)	.0276 (.0345)	.0276 (.0345)	.0325 (.0336)	.0289 (.0336)	.0385 (.0323)	-.2522*** (.0399)	-.2254*** (.0396)
Territory Immigrant	.1375** (.0608)	.1483** (.0587)	.1483** (.0587)	.1349** (.0572)	.1281** (.0572)	.1378** (.0550)	.1374** (.0549)	.1402** (.0544)
Years of Schooling		.2202*** (.0036)	.2199*** (.0036)	.1937*** (.0035)	.1923*** (.0036)	.2042*** (.0034)	.2038*** (.0034)	.2019*** (.0034)
Speaks English			.1388 (.1760)	.1832 (.1715)	.1927 (.1714)	.2663 (.1648)	.1767 (.1647)	.2246 (.1634)
Female				-.4014*** (.0076)	-.4012*** (.0076)	(-.3111)*** (.0075)	-.3140*** (.0075)	-.3255*** (.0074)
City					.0601*** (.0105)	.1034*** (.0101)	.1018*** (.0101)	.0954*** (.0100)
Age						.0216*** (.0003)	.0206*** (.0003)	.0208*** (.0003)
Years in U.S.							.0080*** (.0006)	.0074*** (.0006)
Year Fixed Effect	X	X	X	X	X	X	X	X

6. Conclusion

Immigrants outearn their native counterparts, possessing higher average wages and log wages in the accounting and medical practitioner profession; a result of the cohorts' higher education attainment and a larger share within the occupation possessing at least a bachelor's degree. This advantage extends to all significant immigrant groups except those born in U.S. territories, where notably, accounting workers with that background suffer a penalty, whereas medical workers do not. This advantage also applies to immigrants regardless of arrival age, wherein older immigrants expect to encounter issues assimilating and transferring their skillset compared to younger cohort members.

The regression analysis, controlling for all relevant covariates, indicates that all immigrant groups of both occupations earn statistically significantly fewer wages than natives, except territory immigrants garnering a premium of 14% as medical practitioners. The variables with the largest effect on wage differentials are years of educational attainment and English proficiency; location also plays an outsize role in the differential, as immigrants are more likely to reside in urban metro areas with a significant immigrant population. The age and years of residency are significant and contribute to the positive selection in wage differentials, indicating that the longer an immigrant resides in the U.S., the higher earnings they will receive due to their assimilation. Gender is significant as both occupations penalize female workers, suggesting they are male-dominated fields. Future research should concentrate on other STEM occupations as the demand for high-skilled labor only intensifies.

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