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Javier Torres
Javier Beverinotti
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Medium and Long Run Economic Assimilation of Venezuelan migrants to Peru*

Javier Torres[†], Javier Beverinotti[‡], and Gustavo Canavire-Bacarreza[§]

January 8, 2024

Abstract

In a span of six years, the proportion of Venezuelans in Perú has surged nearly fourfold, rising from virtually zero to over 4% of the population. This study delves into the dynamics of medium- and long-term labor market integration in Perú, combining data from the Venezuelan Population Residing in Perú Survey and the Peruvian National Household Survey. Our findings reveal that Venezuelan workers experience low returns on foreign postsecondary education and there is minimal relation between foreign work experience and monthly income. Importantly, these outcomes remain consistent irrespective of the time spent in the host country, indicating a gradual economic assimilation process. Lastly, our estimation demonstrates that if Venezuelans' human capital yielded returns equivalent to Peruvian human capital, the average income of Venezuelans would witness a substantial increase of 20%.

Key Words: Immigration, Economic Assimilation, Wage Discount.

JEL Classification: J15, J24, J31, J70.

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[†]Corresponding Author. Universidad del Pacifico, Department of Economics, Lima, Peru. Email: j.torresgomez@up.edu.pe

[‡]Inter-American Development Bank, Washington, DC, USA. Email: javierbe@iadb.org.

[§]World Bank, Washington, DC, USA and Universidad Privada Boliviana, La Paz, Bolivia . Email: gcanavire@worldbank.org.

1 Introduction

Since 2017, the migration of Venezuelans across Latin America has emerged as a prominent and pressing issue. The socioeconomic and political crisis in Venezuela has compelled approximately 6 million individuals to seek refuge in other countries. According to the International Organization for Migration (IOM), around 80% of Venezuelan migrants are distributed across seventeen countries, including Perú. By the end of 2022, the Peruvian Superintendence of Migration reported that nearly 1.6 million Venezuelans had entered Perú. This substantial inflow has significantly altered the country's demographic landscape, with the Venezuelan population growing from virtually zero to over 4% of the total population. Notably, initial estimates highlight the concentration of Venezuelan migrants in the capital, Lima, ranking it as the world's third-largest city in terms of the number of Venezuelans. While large migration flows can distort labor markets, leading to economic stress due to a sudden increase in the labor supply, the appropriate assimilation of immigrants presents an opportunity for economic growth. Effectively harnessing the (foreign) human capital within an economy has the potential to enhance production and improve the overall material well-being for all individuals.

This paper examines economic assimilation by comparing Venezuelans' labor market income profiles in Perú to that of Peruvians. It implicitly defines assimilation as the difference in labor income between these two groups within similar categories of human capital. Additionally, it specifically focuses on medium- and long-run integration using both the 2022 Survey of the Venezuelan Population Residing in Peru (ENPOVE) and the 2022 Peruvian National Household Survey (ENAHO).

Numerous studies have examined the impact of the inflow of Venezuelans on destination countries (host countries). Researchers have scrutinized the effects on overall production and the labor market in Ecuador (Olivieri et al. (2021a), Olivieri et al. (2021b), Caruso et al. (2019), Lebow (2022), and Bahar et al. (2021)), Brazil (Shamsuddin et al. (2021)), and Perú (Asencios and Castellares (2020), Morales-Zurita et al. (2020), and Boruchowicz et al. (2021)).¹ However, only a limited number of studies have attempted to analyze the economic assimilation of Venezuelan migrants into these host countries in the medium to long run or have examined the welfare effects of recognizing

¹For Colombia, Caruso et al. (2019) and Lebow (2022) find a negative effect of the labor supply shock on wages in urban areas, particularly for natives with lower educational levels. In contrast, Bahar et al. (2021) find negative but insignificant effects on the formal employment of natives, concentrated among workers with higher education levels and those from an amnesty program that granted work permits to undocumented Venezuelan immigrants.

that foreign human capital is as valuable as native human capital. Our research aims to address this gap in the literature. Lastly, it estimates the increase in monthly labor earnings under the assumption of full recognition of foreign human capital.

Comparing monthly labor income profiles, we find that Venezuelan workers' returns to their foreign postsecondary education are low, with virtually no correlation between foreign work experience and monthly income. As such, Venezuelan workers with a higher level of education and work experience face the largest income differences (less assimilation) to Peruvian workers. Furthermore, there is evidence that these features may be relatively unaffected by time spent in the host country, suggesting . This suggests a slower economic assimilation process. Lastly, our calculations reveal that Venezuelans' average monthly income would increase by about 20% if their human capital received the same returns as Peruvian human capital.

Among the few studies related to our research, we highlight the work of Graham et al. (2020), who provide a comprehensive descriptive analysis of the medium-term integration of Venezuelans into Colombia; Olivieri et al. (2021b), who use the "Survey of Migrants and Receiving Communities in Ecuador" to study the labor performance of Venezuelans in Ecuador and calculate the income counterfactual;² and Shamsuddin et al. (2021), who use administrative data to analyze Venezuelan migrants' access to social programs, educational services, and the formal labor market in Brazil.³ Additionally, Torres and Galarza (2021) use the 2018 National Survey of the Venezuelan Population Residing in Peru (ENPOVE 2018) to analyze the labor integration of Venezuelan migrants in Perú in the very short run.⁴

The remainder of the paper proceeds as follows: Section 2 describes our data. Section 3 presents the econometric specifications used to identify the immigrant wage premium. Section 4 discusses our results, and Section 5 concludes.

²Specifically, this is the overall income effect if Venezuelans were to obtain employment that matches their skills.

³These authors find that Venezuelan migrants face challenges in integrating into the education system, social protection programs, and the formal labor market.

⁴In regard to the international literature, our work aligns with studies conducted by Friedberg (1992) for the United States, Friedberg (2000) for Israel, Fortin et al. (2016) for Canada, Basilio et al. (2017) for Germany; and Becker and Ferrara (2019) and Brell et al. (2020), who conduct reviews of the literature on the assimilation of forced migrants/refugees in developed countries.

2 Data

We combine datasets from the 2022 National Survey of the Venezuelan Population Residing in Peru (ENPOVE) and the 2022 Peruvian National Household Survey (ENAHO). Both surveys were conducted by the Peruvian Statistics Bureau (Instituto Nacional de Estadística e Informática, INEI) to collect similar socioeconomic information for different population groups. The ENPOVE 2022 represents the second iteration of the survey focusing on the Venezuelan population in Perú and is unique in its ability to capture medium- to long-run economic assimilation of immigrants.⁵

The structure of ENPOVE 2022 mirrors that of ENAHO, replicating its main modules and questions. This alignment enables us to utilize both surveys and employ comparable variables for both Peruvian and Venezuelan workers. As argued by Torres and Galarza (2021), ENAHO and ENPOVE complement each other, with ENAHO using the 2017 National Census as a sampling frame for the overall population (with few foreign-born), while ENPOVE augments its sampling frame with information from the National Migration Superintendence.

Conducted between February and March of 2022, ENPOVE 2022 collected information on Venezuelan migrants residing in the urban areas of nine regions: Lima (the country's capital), Ancash, Ica, and Callao in the central coastal area; Piura, Lambayeque, Tumbes, and La Libertad in the northern coastal area; and Cusco and Arequipa in the south.⁶ ENPOVE 2022 gathered information about demographics from all household members (e.g., age, gender, education), migration status, health, employment (e.g., job held in Venezuela before migrating and current employment status), experiences of discrimination, and social networks.

Conversely, ENAHO stands out as the primary and most reliable source for comprehensive social, demographic, and economic indicators from Peruvian households. However, it has limitations with regard to the collection of information on foreign-born individuals. Specifically, it lacks data on the past labor profiles of foreigners, including details about their previous occupations. This explains why we need to use both surveys in our analysis. The ENAHO is conducted year-round and is representative at the national and regional (all 25 regions) levels.

The main variables used from both surveys include age, gender, education level, occupational

⁵The initial ENPOVE was conducted in 2018 and involved interviews in urban areas/cities in six regions of the country (Arequipa, Callao, Cuzco, La Libertad, Lima, and Tumbes) with a total of 9,487 observations. The ENPOVE 2022 and 2018 do not share a panel data sample; that is, they do not follow a particular cohort of immigrants. Each survey was conducted independently. We selected ENPOVE 2022 to focus on medium-run assimilation.

⁶A region is analogous to a US state; Peru has 25 regions.

category, wage received from current employment, and region of residence. As mentioned, the ENPOVE also asks about the occupation held in Venezuela, date of arrival, and work permit status. For both ENAHO and ENPOVE, the “main occupation” variable is coded according to the INEI’s Classification of National Occupations (INEI, 2015).⁷

Working Sample

We restrict our analysis to the urban areas of the nine regions surveyed in the ENPOVE and to individuals with a positive wage income and exclude workers who are paid only with *in-kind* transfers as well as household workers.⁸ Our dependent variable is the logarithm of the monthly wage, calculated from the primary and secondary economic activities of Peruvian and Venezuelan workers in 2022.

The education module in both surveys gathers information on the highest degree or diploma attained, distinguishing between complete and incomplete degrees. We create dummy variables for each complete education level, with primary education serving as the reference category for all analyses. The dummy variables represent secondary education, postsecondary technical education, some university education, and undergraduate and graduate degrees. This method is employed to account for potential nonlinear relationships in the benefits of education, as suggested by Fortin et al. (2016) in a similar flexible specification.

To construct the “work experience” variable, we follow the standard approach to calculate potential labor market experience as the difference between age and years of education, assuming children start school at age 6 and continue uninterrupted. Given that neither the ENPOVE nor the ENAHO directly records the number of years of schooling, this variable is imputed based on the highest degree attained.⁹

We analyze occupational categories using the International Standard Classification of Occu-

⁷This classification is based on the International Standard Classification of Occupations (ISCO-88) developed by the International Labour Organization (ILO). The occupational groups are coded at 3 digits and represent both the groups and subgroups of occupations.

⁸A similar protocol is followed by Torres and Galarza (2021).

⁹We impute years of education according to the following rule: *Less than incomplete primary education* is given 0, *incomplete primary education* is given 3, *complete primary education* is given 6, *incomplete secondary education* is given 9, *complete secondary education* is given 11, *incomplete postsecondary technical education* is given 13, *complete postsecondary technical education* is given 14, *incomplete university education* is given 15, *complete university education* is given 16, and *postgraduate education* is given 17. The years of education imputation is only used to construct the experience (years of experience) variable. All of our educational estimations employ direct information on the highest degree or diploma attained.

pations (ISCO).¹⁰¹¹ Also, the ENPOVE identifies migrants who have obtained or applied for the Temporary Stay Permit (PTP).¹² We create dummy variables to identify PTP holders and PTP applicants. Lastly, we create three indicator variables for the length of stay in Perú: those with less than 3 years, those with 3 to 4 years, and those with more than 4 years.¹³

2.1 Descriptive Statistics

Table 1 presents descriptive statistics for our sample, offering a comparison between immigrants and native Peruvians. The full sample comprises 17,176 observations, with a comparable gender distribution (41–42% females) across immigrants and natives. On average, the immigrant sample is younger and possesses fewer years of work experience, though it exhibits a relatively similar distribution of education compared to the Peruvian sample.¹⁴ Notably, 80% of immigrants fall within the 21 to 40 years age bracket, whereas only 50% of natives belong to this cohort. Additionally, 54% of immigrants have up to 19 years of (imputed) work experience, contrasting with 30% for natives. Concerning education, our sample indicates that nearly 45% of Venezuelans have achieved technical education or higher, aligning closely with the proportion of Peruvians who have (47%).

In the sample the majority of Venezuelans had stayed in Perú for over a year. Specifically, around 45% of the immigrant sample entered Perú in or before 2018, with only 19% arriving in 2021 or 2022. This pattern mirrors the broader trend of Venezuelan migration, with a substantial influx occurring between early 2018 and mid-2019. Lastly, Venezuelans reported an average monthly income of PEN 1,322, lower than the PEN 1,798 reported by Peruvian natives, and only 27% of immigrants hold a legal work permit.¹⁵ Moreover, 82% of migrants work in the informal sector, compared to 58% of Peruvians. Regarding the place of residence, both immigrants and natives are heavily concentrated in Lima, Callao, and La Libertad—accounting for between 66% and 52%, respectively, of the populations in these cities. The distributions of immigrants and natives in other cities vary, but the overall pattern remains similar. Additionally, the table reveals a relatively

¹⁰The ENAHO and the ENPOVE feature similar questions regarding the occupational category. For the ENAHO, the question is “What is the main occupation you held?” “p505”. For the ENPOVE, the question is “What is the main occupation you perform?” “p605c3”.

¹¹Specifically, we exclude the two-digit categories “Military and police,” “Public and private administration,” and “Agricultural, forestry and fishing.” There are no more than 120 foreign workers in each category.

¹²The ENPOVE asks the following question “What is your migration status?” Among the possible answers are “PTP holder” (p315_5) or “PTP applicant” (p315_4).

¹³The specific question in the survey is “In which month and year did you enter Perú?” (“p303a,”).

¹⁴This marks a departure from the 2018 analysis of Venezuelan immigrants, in which they showcased a higher educational level than Peruvians.

¹⁵The minimum wage changed to PEN 1,025 in May 2022, after the ENPOVE 2022 was conducted.

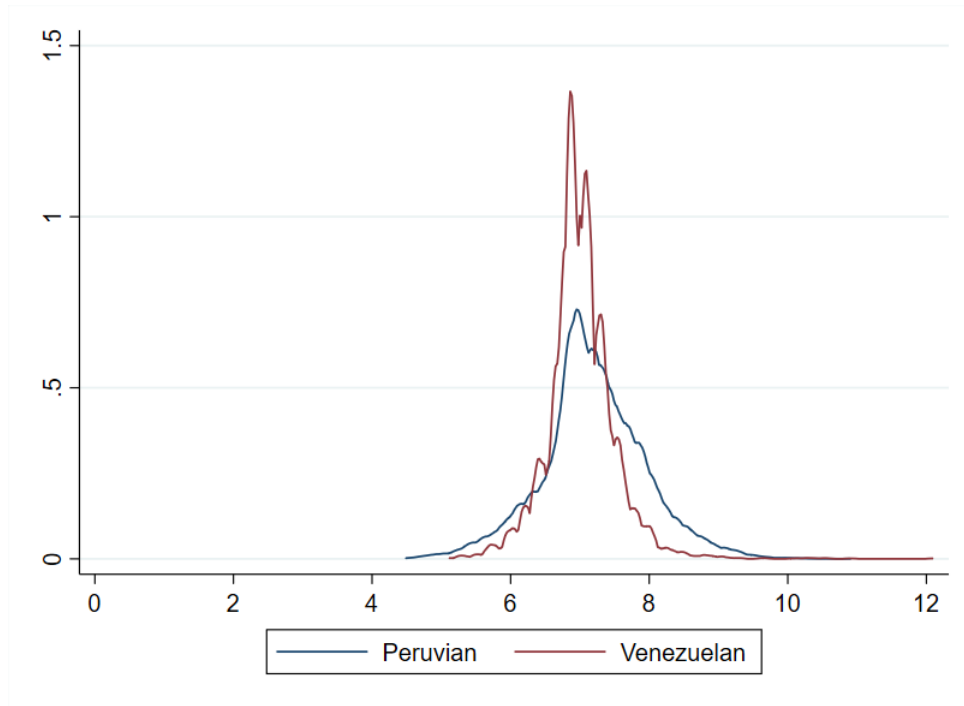
similar distribution in occupational categories for both samples, except for a higher share of *Elementary Occupations* and *Industrial Machinery* in the Peruvian sample (27 and 13%, respectively, for Peruvians, compared to 9 and 6%, respectively, for Venezuelans).

Table 1 – Summary Statistics: ENPOVE and ENAHO 2022

	Mean			Mean	
	Venezuelans	Peruvians		Venezuelans	Peruvians
Independent Variables			Education Level		
Female	0.406	0.415	Primary Education	0.125	0.104
Age (years)	32.946	41.494	Secondary Education	0.431	0.429
15-20 years old	0.061	0.045	Some University or Technical Education	0.252	0.271
21-30 years old	0.416	0.217	Graduate	0.193	0.196
31-40 years old	0.317	0.238	Date of Entry in Peru		
41-50 years old	0.138	0.223	2021 and 2022	0.185	0.000
Over 50 years old	0.068	0.277	2019 and 2020	0.348	0.000
Employment			Before 2018	0.445	0.000
Income	1322.517	1798.452	Migration Status		
Informal	0.820	0.581	Obtained the PTP (PTP Holder)	0.272	
Work Experience			Region		
9 years or less	0.083	0.083	Lima	0.447	0.336
10-19 years	0.459	0.223	Callao	0.104	0.112
Over 20 years	0.458	0.694	Arequipa	0.058	0.100
Occupation Categories			Ancash	0.063	0.049
Military and police (MP)	0.021	0.010	La Libertad	0.114	0.084
Public and private administration (PPA)	0.012	0.005	Tumbes	0.048	0.061
Scientific and intellectual (SI)	0.090	0.113	Ica	0.052	0.086
Technical professionals (TP)	0.105	0.109	Lambayeque	0.058	0.100
Managers and administrative (MA)	0.085	0.092	Piura	0.055	0.073
Service and market workers (SMW)	0.187	0.177			
Agricultural, forestry and fishing (AFF)	0.008	0.012			
Construction and electricity (CW)	0.118	0.084			
Industrial machinery (IM)	0.063	0.134			
Elementary occupations (EO)	0.094	0.264			
Observations	5356	11820	Observations	5356	11820

Notes: The informal variable is constructed with the sample that has social health insurance (ESSALUD), comprehensive health insurance (SIS) or private insurance. The date of entry has March 2022 as the reference month.

Figure 1 – Log Monthly Income distribution - Venezuelan and Peruvian population



2.2 Migrants' Profiles by time of arrival

Table 2 further breaks down the sample of immigrants based on their time of arrival with the aim of analyzing potential shifts in their profiles over the years. The descriptive statistics reveal intriguing patterns. Initially, while the average age at arrival appears consistent at around 31 for all waves, there was a decline in the proportion of women, dropping from nearly 42% of those arriving up to 2018 to 37% of individuals arriving in 2021 or 2022. This shift could be attributed to increased challenges in entering the country after mid-2019, potentially influencing the gender distribution of those choosing to leave Venezuela.¹⁶

Secondly, a noticeable decline in the education level of immigrants has been evident over the years. While 25% of individuals who arrived in 2018 or earlier had a university education, this proportion dwindled to 12% of those arriving in 2021 or later. Similarly, the share of immigrants with primary education increased from 9% of those arriving in 2018 or earlier to 18% of those arriving in 2021 and 2022. This trend aligns with the dynamics of mass emigration from Venezuela, where individuals with higher education or better opportunities tended to leave the country earlier, while those with relatively less education or facing difficulties in relocation did so later.

Regarding employment and stay permit status, the table reveals coherent patterns. Only a small fraction (6%) of Venezuelans who had arrived in 2021 or 2022 reported having an official permit and the majority (89%) are engaged in informal work. In contrast, half of those arriving in 2018 or earlier possessed a stay permit, but three-quarters of them still held informal jobs.

Lastly, the geographical distribution of immigrants does not seem to vary significantly with the year of arrival. Irrespective of when they arrived, the majority tend to settle in Lima, Callao, and Ancash. The only notable change across the years is observed in Tumbes in the northern region, a key entry point. While 5% of Venezuelans who arrived in 2018 or earlier resided in Tumbes, the proportion increased to 10% for those arriving in 2021 and 2022. This shift may reflect a prolonged decision-making process about where to establish permanent residence in the country.

¹⁶Alternatively, this result may stem from changing preferences among recent immigrants, with women possibly experiencing a greater decrease in willingness to remain/stay in Perú compared to men.

Table 2 – ENPOVE 2022

	Mean			
	Entry 2018 or earlier	Entry 2019 and 2020	Entry 2021 and 2022	Entry After 2018
Independent Variables				
Female	0.415	0.411	0.366	0.395
Age (years)	34.199	32.679	30.530	31.933
Work Experience	21.609	21.289	19.826	20.781
Education Level				
Primary Education	0.091	0.142	0.179	0.155
Secondary Education	0.361	0.471	0.527	0.490
Some University or Technical Education	0.295	0.232	0.182	0.214
Graduate	0.253	0.155	0.112	0.140
Migration Status				
Obtained the temporary stay permit (PTP)	0.496	0.114	0.061	0.096
Employment				
Income (PEN)	1332.708	1236.452	1485.036	1322.715
Informal	0.741	0.869	0.916	0.886
Region of Residence				
Lima	0.467	0.437	0.424	0.433
Callao	0.124	0.098	0.071	0.089
Arequipa	0.063	0.059	0.052	0.056
Ancash	0.119	0.120	0.099	0.113
Trujillo	0.031	0.061	0.057	0.059
Tumbes	0.047	0.063	0.101	0.076
Ica	0.046	0.046	0.077	0.056
Lambeyque	0.055	0.052	0.073	0.059
Piura	0.048	0.064	0.048	0.059
Observations	2383	1861	989	2850

3 Econometric Specification

To measure economic assimilation, we compare the labor market income profiles of Venezuelans and Peruvians, employing two other distinct approaches. Specifically, we examine occupational mobility and compute partial-equilibrium welfare improvements that would result in foreign human capital receiving the same returns as native human capital.

3.1 Income Assimilation

We analyze Venezuelan workers' earnings in contrast to their Peruvian counterparts. Additionally, we assess the disparity in the returns to their individual human capital. To achieve this, we introduce a flexible specification that identifies various combinations of education and work experience, differentiating between the human capital of natives and migrants. Our estimation closely resembles the approaches taken by Friedberg (2000), Fortin et al. (2016), and Torres and Galarza (2021). The estimation includes

$$y_{ir} = \alpha_0 + \sum_{c=1}^C (PeruEduc * Exp_c) \beta_c + \sum_{c=1}^C (VenEduc * Exp_c) \gamma_c + X_i \rho + \delta_r + \epsilon_{ir} \quad (1)$$

where y_{ir} indicates the logarithm of monthly income for person i residing in city r . We identify all "C" combinations of education and work experience separating native from foreign human capital. Specifically, we interact educational levels (primary, secondary, technical, and university) with work experience categories (Less than 10 years, 10 to 19, and more than 20 years of experience) for each type of individual (Peruvian vs. Venezuelan). The education categories come directly from the information on the highest degree attained, while the categories for work experience are created from the constructed continuous variable. X_i represents a female binary indicator, δ_r a region fixed effect, and ϵ_{ir} the model error. We run equation (1) for our working sample, clustering standard errors at the region level.

From the estimates, we compare monthly earnings for natives and immigrants with the same human capital characteristics. These comparisons aid in determining the overall returns to foreign education and work experience. Additionally, we segment the immigrant sample by the year of arrival to distinguish short- and medium-run earnings in the host country. Specifically, we divide the immigrant sample into those who arrived in 2018 or earlier and those who arrived in 2019 or

later. Large income penalties for migrants in the short run might diminish or significantly decrease in the medium to long run.

3.2 Occupational Mobility

Additionally, we assess whether Venezuelan migrants in Perú hold occupations of comparable quality to those in their home country. As previously mentioned, the ENPOVE gathers information on the occupational category held in Venezuela and classifies it based on the International Standard Classification of Occupations (ISCO-88). The same classification is applied to occupations held in Perú, enabling us to determine whether an immigrant has remained in the same broadly defined occupational category.

Furthermore, the ISCO-88 code can be linked to the Occupational Information Network (O*NET) database. The O*NET utilizes various dimensions to describe an occupation. Following the approach of prior research (for example, Guvenen et al. (2020)), we utilize specific variables from the ONET to identify whether immigrants have undergone a decline in their occupational quality. Specifically, we gauge the “quality of an occupation” based on the level of “writing abilities” it requires. This allows us to evaluate the occupational transition experienced by Venezuelans when they migrated to Perú.

3.3 Counterfactual Income Profile

Finally, we explore an alternative income scenario for immigrants. We compute the earnings Venezuelans would receive if their human capital were valued at the same rate as that of natives. In other words, we estimate a counterfactual earnings profile where Venezuelan education and work experience yield identical returns to those of Peruvians.¹⁷ Essentially, we predict the earnings of immigrants (\hat{Y}_{ir}) using the following equation:

$$\hat{Y}_{ir} = \hat{\alpha}_0 + \sum_{c=1}^C (VenEduc * Exp_c) \hat{\beta}_c + X_i \hat{\rho} + \hat{\delta}_r$$

where $\hat{\beta}_c$ represents the vector of coefficients estimated from equation (1) for Peruvian human capital. From this new *counterfactual income profile*, we calculate well-being measures and com-

¹⁷Our calculations align with the simulation exercise conducted by Olivieri et al. (2021b). Taking a similar approach, we also assess the impact of having a work permit; however, our estimations do not indicate a significant alteration in income profiles. Additional results can be provided upon request to the corresponding author.

pare them to those based on the original income data. Like Olivieri et al. (2021b), we argue that this partial-equilibrium simulation estimates the benefits of fully assimilating immigrants into the Peruvian labor market.

4 Results

4.1 Estimated Earnings: Natives vs Immigrants

Table 3 and Figures 2 and 3 depict our analysis of the income profiles of immigrants and natives. Using Equation (1), we estimate the logarithm of monthly earnings for all combinations of human capital (education and work experience) in both groups and compare their performances.

Figure 2 clearly illustrates the disparities between the earnings profiles of Venezuelans and Peruvians. First, there is a noticeable return to education for Peruvians, with a particularly pronounced increase for graduate education. In other words, regardless of the category of work experience, Peruvians with university-level education earn substantially more than those with technical education. For Venezuelans, this trend is significantly less pronounced. Although Venezuelans with university education earn, on average, more than those with technical, secondary, or primary education, the differences in terms of incomes with any of these groups are not substantial.¹⁸

Second, Peruvian workers also exhibit returns to work experience. Within a specific level of education, more work experience is associated with higher monthly earnings, as is common in a labor market that rewards experience (except for primary-educated workers). However, for Venezuelan workers, their foreign work experience has no effect on their monthly earnings. The estimated average income level is not related to their work experience.

This last finding is consistent with what other studies found in developed countries (see Fortin et al. (2016), Friedberg (1992), Friedberg (2000)); and what Torres and Galarza (2021) found for Venezuelan immigrants in 2018. Torres and Galarza (2021), however, focused on the very short-term integration for Venezuelans. It is surprising that after five years of the immigration wave, foreign work experience abroad was still severely undervalued.

Lastly, Figure 3 presents the differences in the coefficients for Venezuelans and Peruvians for the comparable education-work experience combinations shown in Table 3. The earnings gap is small, and in some cases zero, for immigrants with low education levels (primary and secondary). However, for those with technical and university education, the gap is substantial and increases with levels of work experience.

¹⁸The specific return to education can be calculated from Table 3 as the difference between the coefficients of groups with the same level of work experience (and nationality) but different educational levels.

Table 3 – Regression Results on Log Monthly Earnings

	(1)
Native Primary Education - 20 years work exp.	0.237 (0.280)
Native Primary Education - 30 years work exp.	0.247 (0.270)
Native Secondary Education - 10 years work exp.	0.174 (0.244)
Native Secondary Education - 20 years work exp.	0.427 (0.264)
Native Secondary Education - 30 years work exp.	0.477 (0.269)
Native Technical Education - 10 years work exp.	0.378 (0.278)
Native Technical Education - 20 years work exp.	0.652** (0.250)
Native Technical Education - 30 years work exp.	0.788** (0.262)
Native University Education - 10 years work exp.	0.821** (0.262)
Native University Education - 20 years work exp.	1.177*** (0.264)
Native University Education - 30 years work exp.	1.494*** (0.254)
Immigrant Primary Education - 20 years work exp.	0.381 (0.269)
Immigrant Primary Education - 30 years work exp.	0.450 (0.275)
Immigrant Secondary Education - 10 years work exp.	0.363 (0.275)
Immigrant Secondary Education - 20 years work exp.	0.449 (0.266)
Immigrant Secondary Education - 30 years work exp.	0.447 (0.272)
Immigrant Technical Education - 10 years work exp.	0.453 (0.265)
Immigrant Technical Education - 20 years work exp.	0.525* (0.268)
Immigrant Technical Education - 30 years work exp.	0.482 (0.265)
Immigrant University Education - 10 years work exp.	0.553* (0.275)
Immigrant University Education - 20 years work exp.	0.606* (0.268)
Immigrant University Education - 30 years work exp.	0.567* (0.276)
Female	-0.301*** (0.0210)
Constant	6.695*** (0.266)
Observations	17175
R ²	0.279
Region FE	Yes

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Omitted Cuszo

Figure 2 – Comparing Logarithm Monthly Wage - Peruvian vs Immigrants

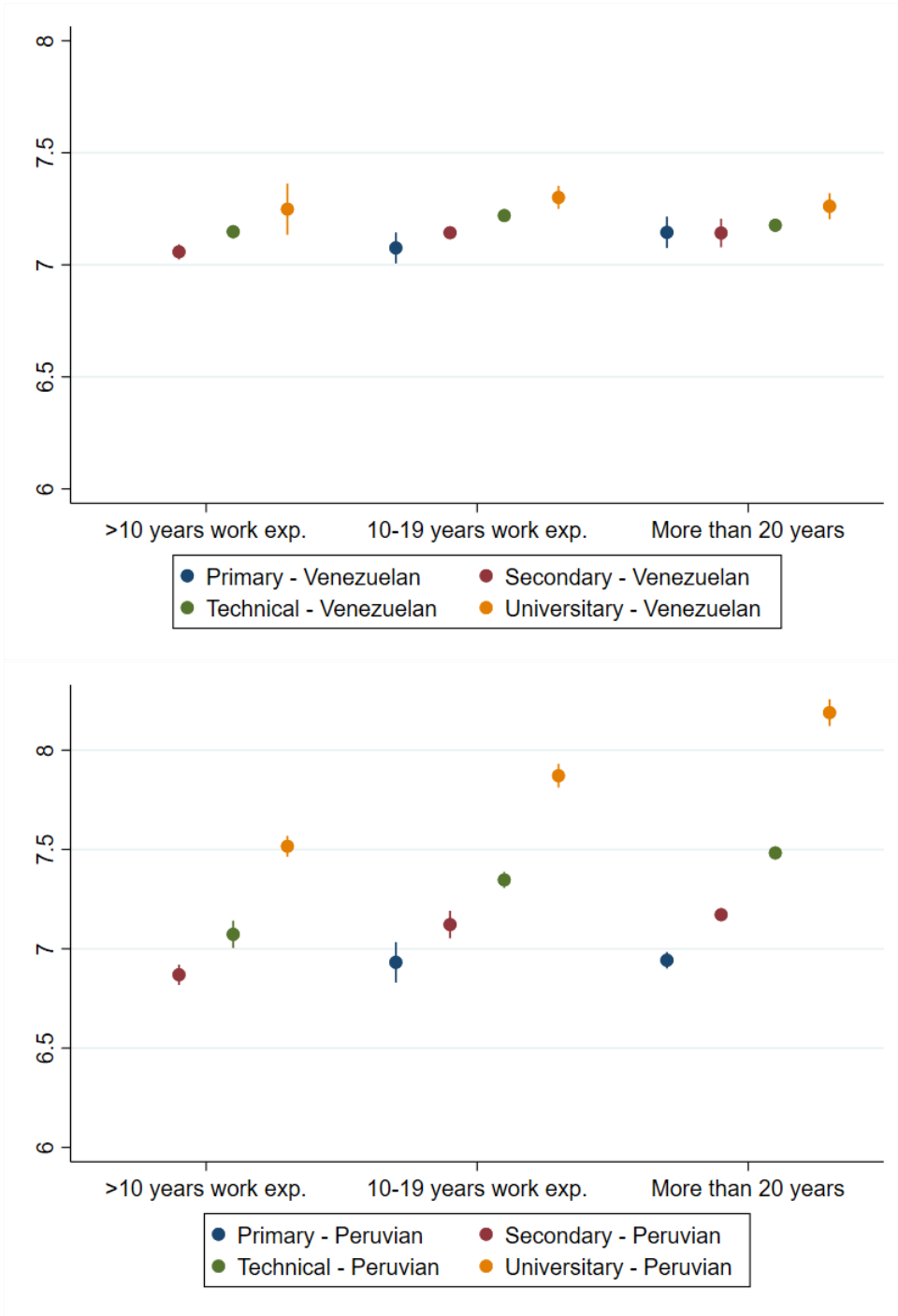
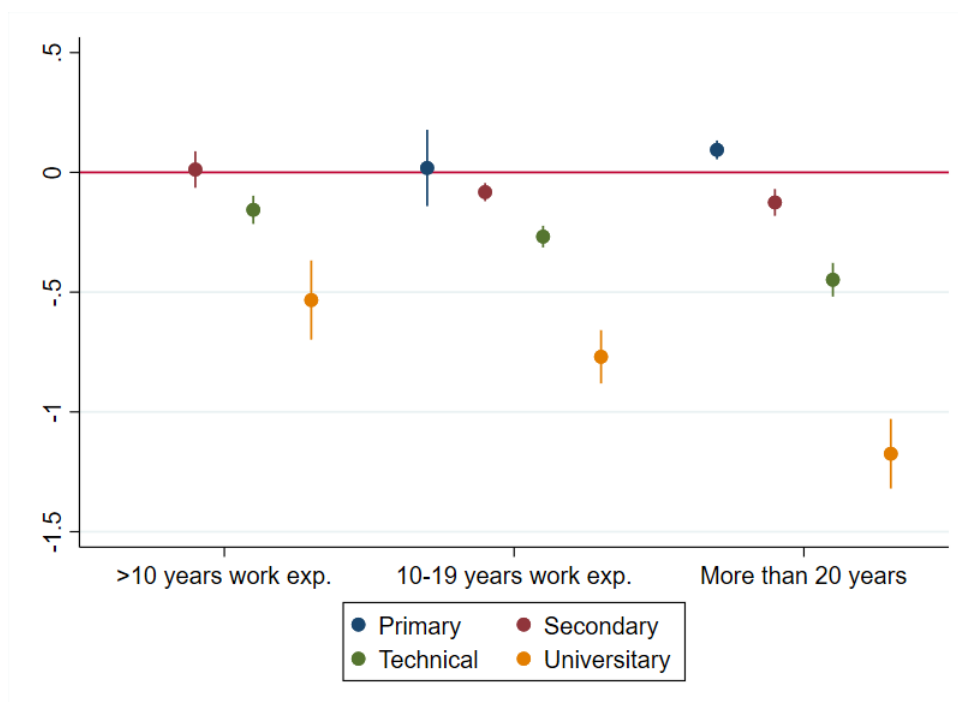


Figure 3 – Differences in Logarithm Monthly Wage by Human Capital - Peruvian vs Immigrants



4.2 Immigrants Performance by the time of Arrival

We further explore whether differences in (monthly) income between migrants and natives are linked to the time since arrival. Venezuelans with several years in Perú might have assimilated better into the Peruvian labor market, potentially showing higher returns to their human capital. Table 4 and Figure 4 investigate this possibility.

Table 4 divides our immigrant sample into two groups. Those who arrived in Peru up through the end of 2018 (i.e., 2016, 2017, and 2018) are on the left and those who arrived after 2018 (i.e., 2019, 2020, 2021, and a few months of 2022) are on the right. Figure 4 summarizes our main findings, presenting our predictions of the logarithm of monthly income by years of work experience and levels of education. For clarity we present the predictions for primary, secondary, and university education levels.¹⁹

The results are both interesting and concerning. Time spent in Perú, at least in the first five years, does not appear significantly correlated with higher income. Regardless of the level of

¹⁹Estimates for technical education are available upon request.

education attained, Venezuelans who arrived up to five years ago seem to have similar income profiles as those who arrived three to one year ago. Table 4 and Figure 4 provide evidence of a lack of significant labor market assimilation.

Even for university-educated immigrants, where natives show large income gains related to work experience, we find that the average level of (monthly) income for a recently arrived, university-graduate Venezuelan is similar to the income of a Venezuelan who has been in the country for years.

This behavior diverges from findings in other papers in the literature (for example, Chiswick (1977), Chiswick (1980), Boudarbat et al. (2010), Friedberg (2000), Bratsberg et al. (2014), and Fortin et al. (2016)), where immigrants generally increase their income profiles over time in the host country. However, those studies typically focus on the assimilation of immigrants from developing countries into developed economies.

This result could be attributed to imperfect skill recognition by the Peruvian market or to returns to country-specific human capital, making it challenging to achieve high incomes with Venezuelan human capital. Lastly, it could also be linked to the complex economic conditions Perú experienced from 2020 to 2022 due to the COVID-19 pandemic.

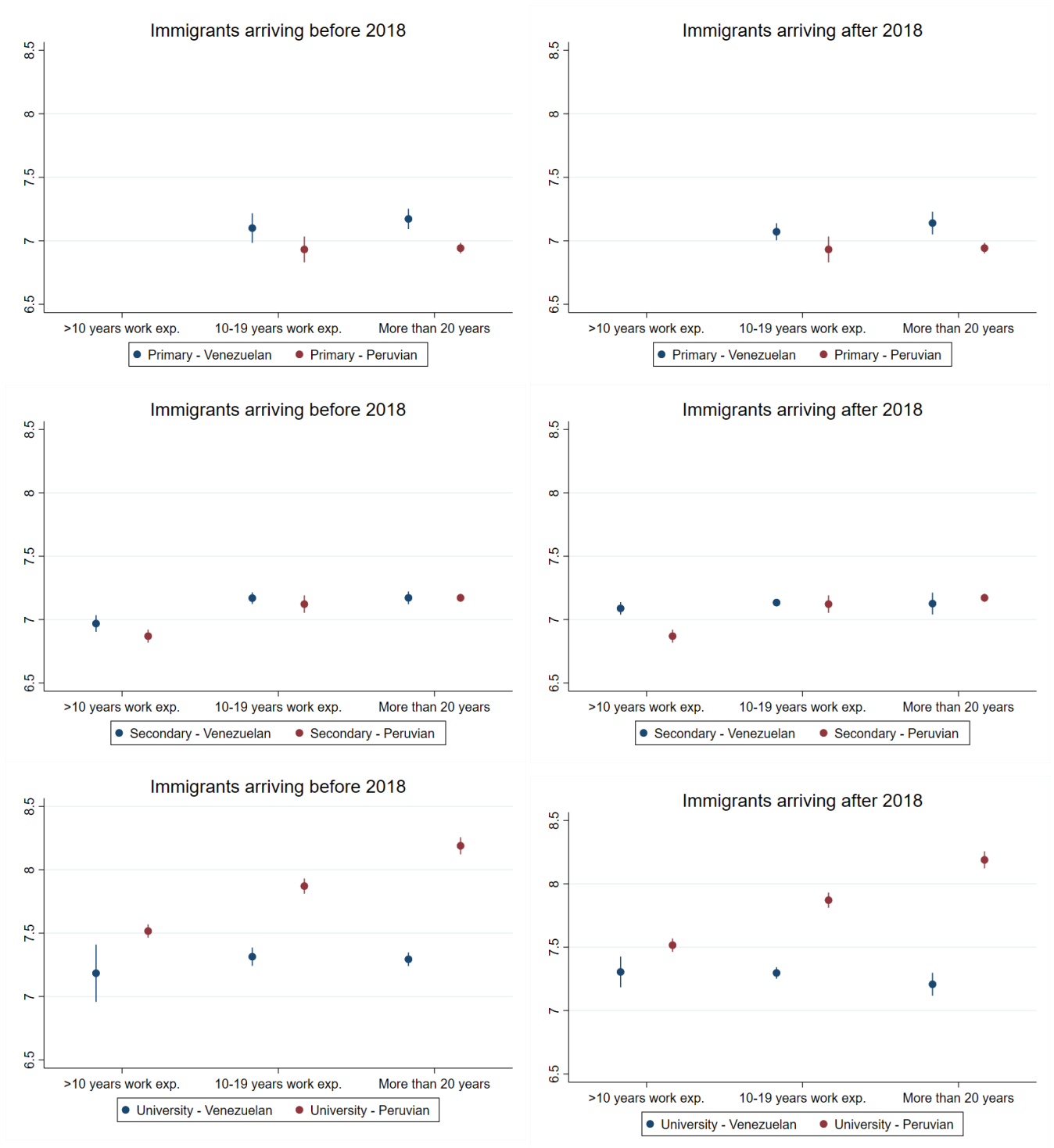
Table 4 – Regression Results on Log Monthly Earnings: by Time of entry

	(1) Up to 2018	(2) After 2018
Native Primary Education - 20 years work exp.	0.230 (0.275)	0.238 (0.276)
Native Primary Education - 30 years work exp.	0.240 (0.266)	0.252 (0.266)
Native Secondary Education - 10 years work exp.	0.168 (0.240)	0.177 (0.239)
Native Secondary Education - 20 years work exp.	0.420 (0.260)	0.429 (0.259)
Native Secondary Education - 30 years work exp.	0.470 (0.265)	0.480 (0.264)
Native Technical Education - 10 years work exp.	0.371 (0.275)	0.382 (0.274)
Native Technical Education - 20 years work exp.	0.645** (0.246)	0.656** (0.245)
Native Technical Education - 30 years work exp.	0.781** (0.258)	0.791** (0.258)
Native University Education - 10 years work exp.	0.815** (0.258)	0.826** (0.258)
Native University Education - 20 years work exp.	1.170*** (0.260)	1.181*** (0.259)
Native University Education - 30 years work exp.	1.487*** (0.249)	1.498*** (0.249)
Immigrant Primary Education - 20 years work exp.	0.395 (0.283)	0.373 (0.257)
Immigrant Primary Education - 30 years work exp.	0.467 (0.273)	0.441 (0.270)
Immigrant Secondary Education - 10 years work exp.	0.264 (0.255)	0.390 (0.275)
Immigrant Secondary Education - 20 years work exp.	0.465 (0.272)	0.436 (0.257)
Immigrant Secondary Education - 30 years work exp.	0.467 (0.269)	0.428 (0.268)
Immigrant Technical Education - 10 years work exp.	0.535* (0.263)	0.391 (0.265)
Immigrant Technical Education - 20 years work exp.	0.518* (0.263)	0.531* (0.261)
Immigrant Technical Education - 30 years work exp.	0.462 (0.259)	0.491* (0.263)
Immigrant University Education - 10 years work exp.	0.479 (0.293)	0.607* (0.276)
Immigrant University Education - 20 years work exp.	0.609** (0.264)	0.599* (0.263)
Immigrant University Education - 30 years work exp.	0.589* (0.269)	0.509 (0.277)
Female	-0.298*** (0.0247)	-0.310*** (0.0197)
Constant	6.705*** (0.260)	6.698*** (0.260)
Observations	14325	14792
R ²	0.287	0.292

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 4 – Monthly Earnings by time of arrival - Peruvian vs Immigrants



4.3 Occupational Mobility

We further explore whether the reduced economic performance of immigrants is linked to the quality of occupations they attain in Perú. Specifically, we impute the level of importance of “writing skills” required by each occupation using information from the O*NET database.²⁰

Figure 5 presents the distribution of the quality of occupations that Peruvian workers currently hold in Perú and the quality of occupations that Venezuelans held back in Venezuela. The Peruvian distribution in the figure shows three agglomerations of the population, allowing us to broadly classify occupations into three groups: those requiring a high level of writing skills, those needing an intermediate level, and those demanding only a low level of proficiency in writing.

Under this classification, the Venezuelan distribution exhibits a small share of workers in high-quality occupations, i.e., those requiring a high level of writing skills. The majority of them worked in occupations that required intermediate- or low-proficiency levels of writing skills.

Figure 6, on the other hand, underscores that Venezuelans underwent an occupational downgrade in the Peruvian labor market. The figure illustrates the distribution of Venezuelans’ quality of occupation (proxied by writing skills) based on their time of arrival. A consistent trend is observed: in comparison to the distribution in Venezuela, there is a noticeable decline in the share of foreign workers in occupations requiring intermediate writing skills. However, these trends vary depending on the duration of stay in Perú. Newly arrived Venezuelan workers exhibited the most significant occupational decline, with the highest proportion of workers in low-skill occupations, followed by the proportion of workers in intermediate-skill occupations. In contrast, a higher proportion of immigrants who arrived earlier had high-skill occupations and a comparatively lower proportion had low-skill occupations. The earlier the arrival, the greater the share of workers in high-skill occupations and the lower the share in low-skill occupations.

Given the cross-sectional nature of our analysis, two primary explanations for these patterns are plausible. They might signify a slow process of occupational assimilation, with immigrants gradually transitioning from low-skill to high-skill occupations (proxied by writing skills) over the years. Alternatively, these patterns could suggest that the first migrants secured better-quality occupations upon their arrival than the more-recent immigrants.²¹

²⁰Calculations using other variables are available upon request to the authors.

²¹Indeed, Table 2 shows that newly arrived immigrants have a higher proportion of people with only primary or secondary education than immigrants who arrived in or before 2018.

Figure 5 – Importance of Writing Skills per Occupation

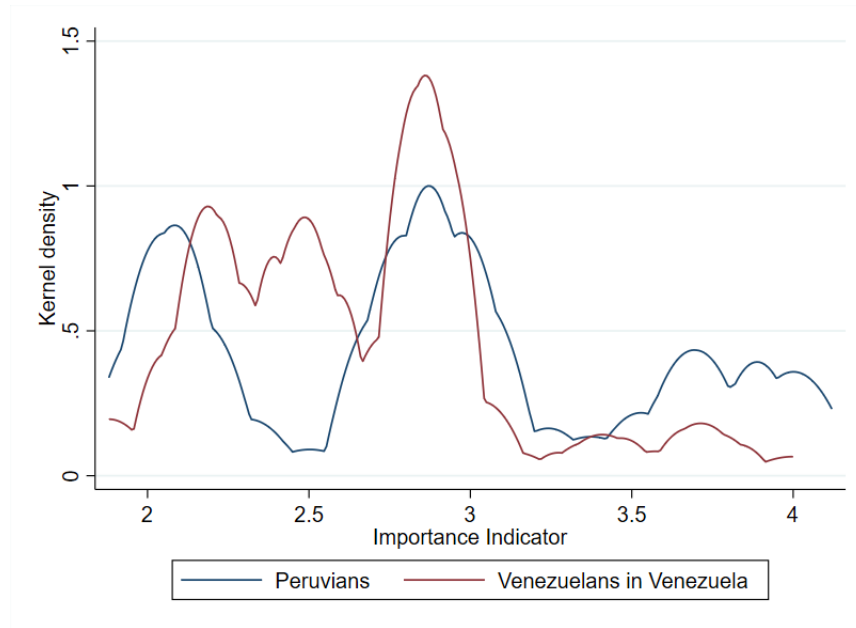
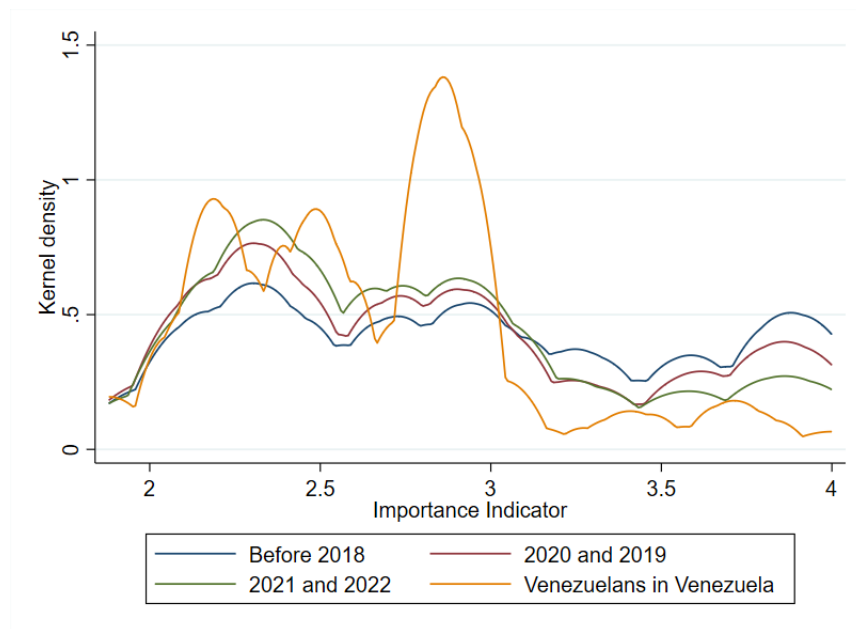


Figure 6 – Importance of Writing Skills per Occupation in Venezuela by entry of time



4.4 Estimating Counterfactual Earnings

As a simulation exercise, we predict and calculate the logarithm of monthly income that Venezuelan workers would attain if they received returns to their human capital equivalent to what Peruvian workers experience. In other words, we simulate the income profile that Peruvians with similar human capital characteristics have.²² This prediction enables us to assess the potential welfare benefits of full labor market integration for Venezuelans.

We employ two straightforward measures to evaluate the economic improvement for Venezuelans. First, we compare the average logarithm of monthly income for Venezuelans. The upper panel of Table 5 contrasts the actual logarithmic monthly income of Venezuelan workers with their counterfactual earnings. The results indicate that proper assimilation or skill recognition would lead to a substantial increase in the monthly income for Venezuelans. More precisely, the recognition of their foreign human capital as equivalent to Peruvian human capital would result in an approximately 20% increase in the average income of Venezuelan workers.

The second measure we use is the share of immigrants earning less than the median Peruvian worker. For completeness, we conduct the same calculation for percentiles 40 and 60. The lower panel of Table 5 demonstrates that counterfactual earnings reduce the share of Venezuelan workers earning less than the median Peruvian worker. Specifically, the share decreases from 68% with the actual earnings profile to 43% with simulated earnings.

²²This simulation is akin to the exercise conducted by Olivieri et al. (2021b) for the Ecuadorian labor market.

Table 5 – Counterfactual Earning Simulation

	Average Venezuelan Log Monthly Income	Average Peruvian Log Monthly Income
No simulation: Data	6.98	7.15
Simulation: With Peruvian returns	7.203	7.15

Share of Venezuelans Earning less than Peruvians

	Percentile		
	25	50	75
Venezuelan (base)	29	68	92
With Peruvian returns	0	43	100

5 Conclusion

Over the past six years, the Venezuelan crisis has evolved into one of the most pressing issues in Latin America, compelling approximately 6 million people to leave their home country. The majority of recent migrants have settled within the region, with Perú being one of the most significant receiving countries. In this study, we combine information from the 2022 “Survey of the Venezuelan Population Residing in Perú” (ENPOVE) with the 2022 “Peruvian National Household Survey” (ENAHO) to assess the medium- and long-term labor market integration of Venezuelans, leading to several interesting findings.

Firstly, we observe low returns to foreign postsecondary education and virtually no discernible relationship between foreign work experience and monthly income. Consequently, Peruvian workers with postsecondary education exhibit significantly higher monthly incomes than Venezuelan workers with comparable (foreign) education and work experience.

Furthermore, when immigrants are categorized by their time of arrival, these patterns persist regardless of the duration spent in the host country. Our results do not indicate a pronounced medium- or long-term assimilation process. Even four years after arrival, higher foreign human capital, especially experience, does not appear significantly linked to higher monthly income. This finding suggests a gradual economic assimilation process, contributing to previous research that has predominantly focused on short-term labor integration.

The categorization of immigrants based on their time of arrival also facilitates an evaluation of possible occupational mobility. Using required writing skills as a proxy for the quality of occupations, we document a decline in the quality of occupations attained by migrants in Peru compared to those held in Venezuela. In terms of occupational assimilation, immigrants who arrived years earlier fared relatively better than those who arrived in the last two years, with a higher share of workers in high-skill occupations. However, this finding could also reflect changes in the human capital of recent immigrants, as this group has a higher proportion of individuals with only primary or secondary education. Thus, our analysis of occupational assimilation complements the picture income assimilation.

Lastly, we calculate the changes in the logarithm of monthly income if Venezuelans’ human capital were to receive the same returns as Peruvian human capital. Although the overall average income of the economy would not change noticeably, Venezuelans’ average income would increase

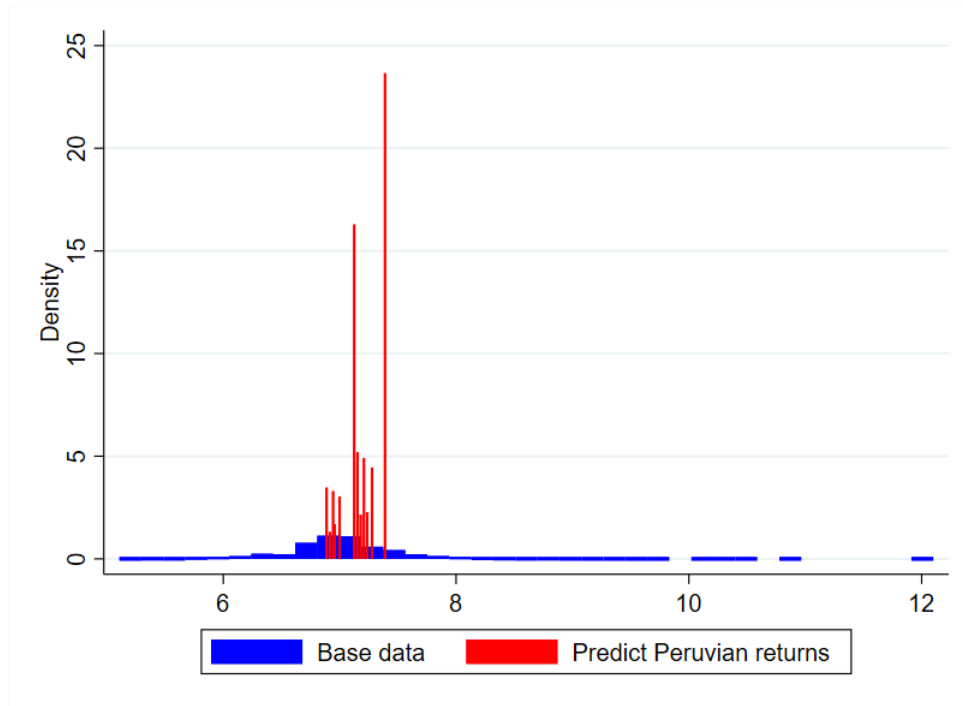
by about 20%. Consequently, the share of Venezuelan workers earning less than the Peruvian median monthly income would be reduced to 43% (from close to 70%). The appropriate labor market integration of Venezuelan workers would generate additional production and wealth for the economy as a whole.

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Figure 7 – Log income histogram, - Counterfactual: Peruvian returns



A Appendix

Figure 8 – Log Income Histogram, - Contrafactual 1: PTP

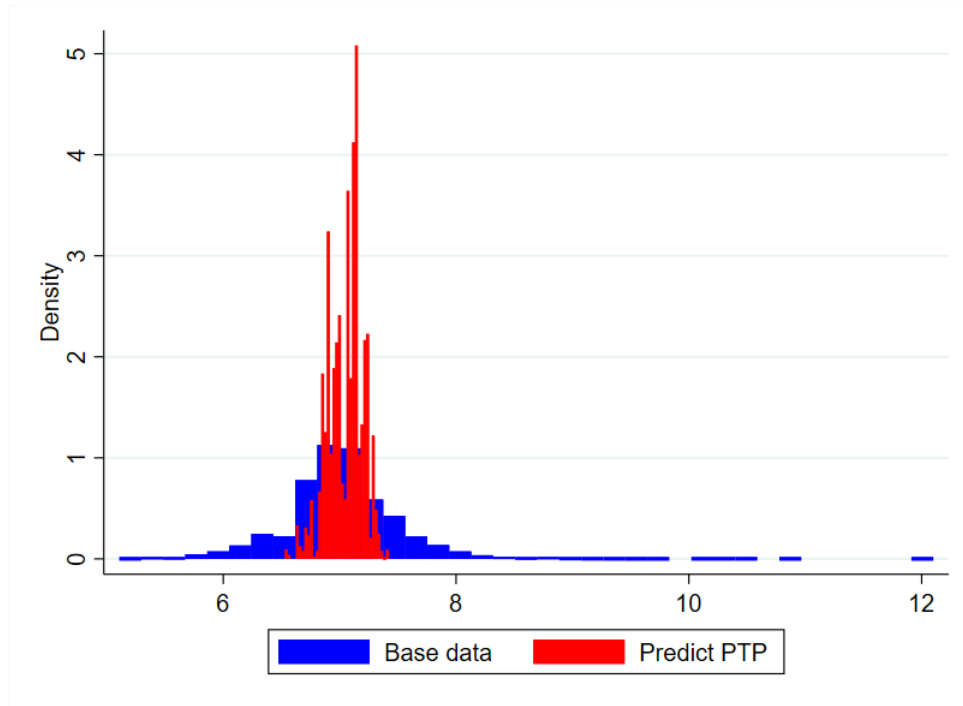


Figure 9 – Log income histogram, - Contrafactual 2: Writing occupational upgrading

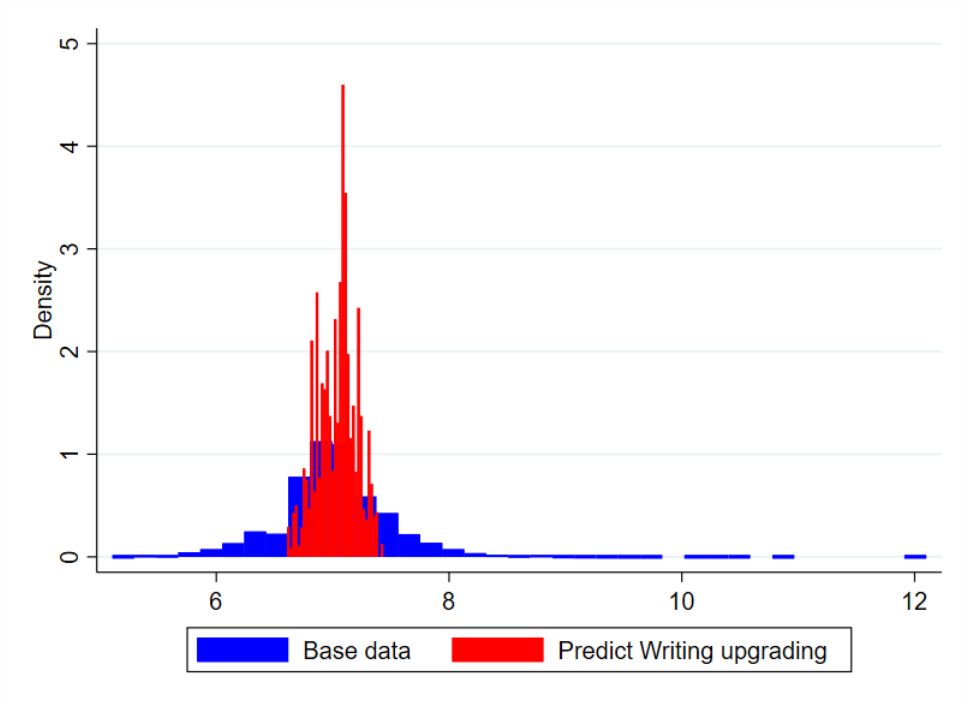


Table 1 – Regression Results on Log Monthly Earnings: by Writing Skills

	(1)	(2)	(3)
	Low	Medium	High
Native Primary Education - 20 years work exp.	0.328 (0.260)	-0.354*** (0.0547)	0 (.)
Native Primary Education - 30 years work exp.	0.216 (0.279)	-0.224*** (0.0547)	0.840** (0.257)
Native Secondary Education - 10 years work exp.	0.108 (0.245)	-0.265*** (0.0769)	0.415*** (0.0670)
Native Secondary Education - 20 years work exp.	0.381 (0.256)	-0.0853 (0.0473)	0.944*** (0.115)
Native Secondary Education - 30 years work exp.	0.425 (0.259)	-0.0366 (0.0407)	1.104*** (0.0407)
Native Technical Education - 10 years work exp.	0.265 (0.276)	-0.125** (0.0398)	0.688*** (0.0378)
Native Technical Education - 20 years work exp.	0.504* (0.233)	0.0950 (0.0592)	1.000*** (0.0335)
Native Technical Education - 30 years work exp.	0.523* (0.255)	0.184** (0.0604)	1.240*** (0.0319)
Native University Education - 10 years work exp.	0.668* (0.325)	0.175 (0.0962)	1.067*** (0.0332)
Native University Education - 20 years work exp.	0.607** (0.259)	0.583*** (0.101)	1.429*** (0.0242)
Native University Education - 30 years work exp.	0.695** (0.272)	0.764*** (0.157)	1.751*** (0.0161)
Immigrant Primary Education - 20 years work exp.	0.353 (0.269)	-0.0779 (0.0653)	0.520*** (0.0727)
Immigrant Primary Education - 30 years work exp.	0.431 (0.267)	-0.0179 (0.0441)	0.618*** (0.0725)
Immigrant Secondary Education - 10 years work exp.	0.417 (0.267)	0.192 (0.144)	0.346 (0.203)
Immigrant Secondary Education - 20 years work exp.	0.419 (0.249)	-0.0514 (0.0403)	0.795*** (0.0722)
Immigrant Secondary Education - 30 years work exp.	0.448 (0.266)	-0.0683 (0.0429)	0.566*** (0.0421)
Immigrant Technical Education - 10 years work exp.	0.404 (0.250)	-0.0552 (0.0691)	0.719*** (0.0757)
Immigrant Technical Education - 20 years work exp.	0.518* (0.264)	0.0254 (0.0557)	0.708*** (0.0160)
Immigrant Technical Education - 30 years work exp.	0.427 (0.261)	0.0110 (0.0493)	0.680*** (0.0217)
Immigrant University Education - 10 years work exp.	0.479 (0.293)	0 (.)	0.779*** (0.119)
Immigrant University Education - 20 years work exp.	0.486 (0.287)	0.193** (0.0644)	0.743*** (0.0283)
Immigrant University Education - 30 years work exp.	0.474 (0.266)	0.212*** (0.0504)	0.679*** (0.0391)
Female	-0.346*** (0.0340)	-0.322*** (0.0181)	-0.239*** (0.0238)
Constant	6.702*** (0.263)	7.202*** (0.0510)	6.507*** (0.00465)
Observations	5380	6260	4310
R ²	0.136	0.182	0.375

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$