
Economic History Student Working Papers No: 029

# Returns to skills, skill premium and occupational skill-sectors analysis comparing Italian immigrants to the US and Argentina during the Age of Mass Migration

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*Submitted as partial fulfilment of the BSc in Economics and Economic History 2022-23*

October 2024

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**Returns to skills, skill premium and occupational skill-sectors analysis comparing Italian immigrants in the US and Argentina during the Age of Mass Migration.**

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**Abstract**

The Age of Mass Migration saw unprecedented flows of Italian migrants to the US and Argentina, mostly directed to NYC and Buenos Aires. Droller, Fizsbein and Pérez claim that Italians in Argentina were more skilled than those in America. If so, why did higher-skilled Italians move to Argentina over America when real wages were higher in America than Argentina? I assemble datasets using Argentine and American censuses and wage data to compare literacy rates and occupational compositions of Italian immigrants between these countries and cities. I create a regression model to contrast the returns to skills between Italians in Argentina and America and I determine skill premia for both Italian cohorts using income data.

I find that Italian immigrants in Argentina were more skilled than Italian immigrants in America, due to higher literacy rates and a higher-skilled occupational composition. I argue that the skill scarcity in Argentina, and higher returns to skills and skill premia than America, explains the greater appeal of Argentina for skilled Italian migrants. I stress the importance of considering returns to skills and skill premia when studying migratory flows between destination countries.

## 1. Introduction

Were Italians that migrated to Argentina more skilled than Italians that migrated to America, relative to the general population, during the Age of Mass Migration and, if so, why did these higher-skilled Italians move to Argentina over America?

The Age of Mass Migration is the term used to identify the period between 1850 and 1913, when around 33 million Europeans immigrated to the New World.[1] I

[1] Tim Hatton, and Jeffrey G. Williamson, *The Age of Mass Migration: Causes and Economic Impact*. (New York: Oxford University Press, 1998): 3. The term 'New World' is used to refer to the Americas and Oceania, but usually is used in reference to the Americas.

focus on the largest migration wave from Europe to the New World: the Italian migration.[2] 17 million Italians emigrated between 1880 and 1930. [3] I chose the most popular destination for Italians, America, which received 1.5 million Italians by 1914.[4] Since comparison deepens understanding, I chose the second most popular destination for Italians, Argentina, which boasted under a million Italians by 1914. In 1895, over a quarter of Argentine inhabitants were Italian. By 1920, 10% of all immigrants were Italian in America and impacted majorly America labour force. [5] Thus, Italians have shaped Argentine and American economic history. Studying Italian migration is vital to understand Argentine and American economic history.

My research is pertinent because Argentina and America were comparable in the Age of Mass Migration due to similar conditions and remarkable economic growth.[6] Baily underlines that Argentina and America were big, underpopulated countries with plentiful natural resources and fertile land.[7] Italians mainly migrated to urban, industrialised areas, like NYC and Buenos Aires. One-third of Italians in Argentina were in Buenos Aires and one quarter of all Italians were in NYC when World War I began. [8]

I focus on this mass migration from the Old to the New World, to determine broad factors to explain this phenomenon during the late 19th and early 20th centuries. Alonso underlines that European immigrants arrived in the New World to benefit from the real wage differential due to the labour scarcity in the

[2] This was the largest voluntary migration from the Old to the New World.
[3] Giuseppe Piccoli, "Italian Immigration in the United States," Master's thesis, Duquesne University (2014): 9. The term 'Old World' is used to refer to Europe.
[4] Angelo Scotto, "From Emigration to Asylum Destination, Italy Navigates Shifting Migration Tides," Washington, DC: Migration Policy Institute, (2017): 1. When referring to America, I am referring to the United States of America.
[5] Samuel L Baily, "The Adjustment of Italian Immigrants in Buenos Aires and New York, 1870-1914," *The American Historical Review* 88, no. 2 (1983): 281. The proportion of Italians making up the Argentine population was, in fact, greater than the proportion of Italians making up the American population.
[6] During my paper, I use the term 'America' to refer to America. Similar conditions refer to aspects of the US and Argentina in common, such as the availability of land.
[7] Samuel L Baily, *Immigrants in the Lands of Promise: Italians in Buenos Aires and NYC, 1870-1914*, (Ithaca: Cornell University Press, 2004): 70.
[8]Baily, "The Adjustment of Italian Immigrants in Buenos Aires and New York, 1870-1914," 282.

New World, intending to save these higher wages to return to their origin country.[9]

Droller, Fizsbein and Pérez underline that more skilled Italians arrived in Argentina than America. This is counterintuitive, since real wages were higher in America than Argentina, meaning that higher-skilled individuals moved to a location with lower real wages. [10] This motivated me to investigate skills, returns-to-skills and skill premia to discover a different angle of Italian migration decisions.

Section 2 reviews the literature, 3 displays methodology and 4 evaluates my sources. Section 5 compares literacy rates, skill-sector compositions, regressions and skill premia of Italians in Argentina and America and section 6 concludes.

## 2. Literature review

Droller, Fizsbein, Pérez and Baily hypothesise that more skilled Italian workers migrated to Argentina than those that migrated to America. [11] Baily analyses this by comparing literacy rates. Baily finds that two-thirds of Italians in Buenos Aires of 1887 were literate, whereas 53% of Italians were literate in America between 1899 and 1910. He also investigates occupational structures and finds higher proportions of skilled Italian workers in Buenos Aires than America. [12] I will establish this higher-skilled profile of Italians in Argentina over America, by observing literacy rates and occupational structures. However, Baily's method

[9]Blanca Sánchez-Alonso, "Labor and Immigration," in *Cambridge Economic History of Latin America*, edited by Victor Bulmer-Thomas, John Coatsworth, and Roberto Cortes-Conde, 2 (Cambridge: Cambridge University Press, 2006): 388.
[10] Jeffrey G Williamson, "The Evolution of Global Labor Markets Since 1830: Background Evidence and Hypotheses," *Explorations in Economic History* 32, no. 2 (1995): 143-9. https://doi.org/10.1006/exeh.1995.1006.
[11]Federico Droller, Martin Fiszbein, and Santiago Pérez, "The Age of Mass Migration in Argentina: Social Mobility, Effects on Growth, and Selection Patterns," *NBER Working Paper Series* w31448 (2023), 9. DOI: 10.3386/w31448; Santiago Pérez, "The (South) American Dream: Mobility and Economic Outcomes of First- and Second-Generation Immigrants in Nineteenth-Century Argentina," *The Journal of Economic History* 77, no. 4 (2017): 972.
[12] Baily, *Immigrants in the Lands of Promise,* 65-6.

was limited because he didn't compare these Italian literacy rates with the general American or Argentine labour force.

Thus, Campante and Glaeser overcame this limitation and found that the general labour force in Chicago was more skilled than the labour force in Buenos Aires due to higher education levels in Chicago. [13] They illustrate that general literacy rate was higher in Chicago than Buenos Aires. The literacy rate of the general Chicago population was above 95% in 1870, whereas, in 1869, less than half of the population of Buenos Aires was literate. [14] I combine these approaches by comparing the general population with Italian migrants for NYC and BA (Buenos Aires city). I adopt this method of using literacy rates as a proxy for skills. [15]

However, these literacy rates lack comparison with statistics in Italy, to analyse self-selection, which signifies that Italian immigrants were not a random sample of the Italian population. Droller, Fiszbein and Pérez highlight that the Italians who migrated to Argentina were positively selected in literacy, implying that migrants in Argentina had higher literacy rates than a random sample of Italian 'stayers.'[16] However, this lacks comparison of self-selection of Italian migrants between Argentina and America and thus, led me to question whether Italians migrating to Argentina were more positively selected on skills and literacy than those arriving in America.

Williamson, Campante and Glaeser consider the migration of more skilled Italians to Argentina over America as a puzzle. Campante and Glaeser emphasise that the real wage in America was 70% higher than that in

[13] Filipe Campante and Edward Glaeser, "Yet another tale of two cities: Buenos Aires and Chicago". *Latin American Economic Review* 27, 2 (2018), 10-11. https://doi.org/10.1007/s40503-017-0052-7
[14] They considered this general population as those aged 10 and older.
[15] Campante and Glaeser, "Yet another tale of two cities," 14.
[16] Droller, Fiszbein, and Pérez, "The Age of Mass Migration in Argentina," 16. A stayer is an Italian who remained in Italy.

Argentina. [17] Baily also underlines that America was more developed economically than Argentina. Why would higher-skilled Italians travel to Argentina, a less-developed economy with lower real wages than America? [18] This motivates my research.

Droller, Fiszbein and Pérez claim that literacy accounts for little in the difference in economic outcomes between Italians who migrated to America or Argentina.[19] I challenge this hypothesis for income outcomes. They compared literacy rates of passenger lists to Argentina between 1880 and 1910 with literacy rates among Italian stayers, concluding that Italians migrating to Argentina were positively selected for literacy. This suggests that Italians in Argentina were more skilled than the general Italian population.

This approach lacks Italy-specific data to compare Italians' pre-migration characteristics and outcomes. To overcome this, Spitzer and Zimran examined and controlled for regional origins. Using Italian military conscription data and Ellis Island arrival data on height, they found that Italians migrating to New York were negatively selected, meaning that they were shorter than the average Italian of their age. [20] Since negative selection in height occurred in NY and positive selection in literacy in Argentina, I wanted to compare self-selection between these migrant destinations.

Baily, Klein and Pérez highlight that Italians in Argentina were more likely to originate from northern Italy than Italians in America.[21] They underline that

[17] Campante and Glaeser, "Yet another tale of two cities," 11; Williamson, "The Evolution of Global Labor Markets Since 1830," 182-183.
[18] Baily, "The Adjustment of Italian Immigrants in Buenos Aires and New York, 1870-1914," 298.
[19] Droller, Fiszbein, and Pérez, "The Age of Mass Migration in Argentina," 9.
[20] Y. Spitzer, and A. Zimran, "Migrant self-selection: Anthropometric evidence from the mass migration of Italians to the United States, 1907–1925," *Journal of Development Economics* 134, (2018): 226. https://doi.org/10.1016/j.jdeveco.2018.04.006.
[21] Herbert S. Klein, "The Integration of Italian Immigrants into the United States and Argentina: A Comparative Analysis," *The American Historical Review* 88, no. 2 (1983): 308,https://doi.org/10.2307/1865404; Santiago Pérez, "Southern (American) Hospitality: Italians in Argentina and the United States During the Age of Mass Migration," *The Economic Journal (London)* 131, no. 638 (2021): 2614. https://doi.org/10.1093/ej/ueab016.

these northern Italians were more likely to succeed in owning land in both Argentina and America, based on the 1914 census. Campante and Glaeser underline that two-thirds of Italian migrants between 1884 and 1886, who arrived in Argentina, were from the north of Italy, whereas 85% who arrived in America came from southern Italy.[22] Northerners were more skilled, with only 12% who were illiterate, whereas 54% of southerners were illiterate.

Thus, it is relevant to focus on literacy rates of Italians during the Age of Mass Migration. Though literacy rates in America in 1900 were high, Italian literacy rates were lower and literacy rates were even lower in Argentina, and therefore, I also use an American sample in 1870. In the 1861 Italian census, three-quarters of the Italian population were illiterate.[23] Thus, investigating literacy of Italians in this period provides a proxy of returns to skills, because literacy is an indicator of skills and there is variation in this indicator. Moreover, Basile, Ciccarelli and Groote underline that the process of increasing literacy rate in Italy was slow after 1861, which makes the variable relevant to my study between 1869 and 1900.[24]

Campante and Glaeser illustrate that, based on Italian migrants' provincial origins, Argentina possessed greater appeal for northern Italians, whereas America was more attractive for southerners. They propose that there were higher returns for migrants in Buenos Aires, since it lacked skilled labourers. In comparison, southerners preferred America since it had higher industrial wages. Thus, higher real wages in Chicago than Argentina hide the differences of wage differentials between different skilled individuals.[25] I focus on this distinction.

[22] Campante and Glaeser, "Yet another tale of two cities," 11.
[23] Brian A'Hearn, "Education" in *Measuring Wellbeing: A History of Italian Living Standards,* ed. Giovanni Vecchi (New York, Oxford Academic 2017), 183-184, https://doi.org/10.1093/acprof:oso/9780199944590.003.0006. This refers to the Italian adult population.
[24] Roberto Basile, Carlo Ciccarelli, and Peter Groote, "The Legacy of Literacy: Evidence from Italian Regions," *Regional Studies* 56, no. 5 (2022): 794. doi:10.1080/00343404.2021.1926960.
[25] Campante and Glaeser, "Yet another tale of two cities," 11

Droller, Fiszbein and Pérez deduce that a trade-off existed in the destination choice for Italians: short-term higher wages (US) or long-term, upward economic mobility and assimilation (Argentina). Argentina had higher rates of economic mobility for migrants than America, whereas America promised higher real, mainly unskilled wages and higher savings in the short-term, before many migrants returned to Italy. [26] Klein emphasises that Italians in America focused more on quickly collecting short-term savings from unskilled work, than learning skills to upgrade occupation.[27]

Since Italians were the biggest and first immigrant group in Argentina, composing 14% of the nation, the potential to invest savings in Argentina was higher than America. Due to relative economic opportunities, immigrants invested in the Argentine economy.[28] Arroyo Abad and Sanchez-Alonso measure rates of land/property ownership to find that Italians in Argentina were more likely to succeed in owning land/property than Italians in America. [29]

Klein stresses that more opportunities existed for unskilled labourers in America than Argentina because the US labour market for unskilled occupations was growing so quickly that, despite competition with other immigrant cohorts, savings were accumulated speedily. However, higher-skilled Italian professionals were drawn to Argentina over America due to the Argentine expansion of industry/agriculture and the entrepreneurial job opportunities this opened. [30]

Klein's approach is limited because he observed isolated, cross-sectional statistics. Thus, Pérez advanced the field, by approaching the problem from a dynamic viewpoint. Pérez was the first to use longitudinal data to follow

[26] Droller, Fiszbein, and Pérez, "The Age of Mass Migration in Argentina," 15; Klein, "The Integration of Italian Immigrants into the United States and Argentina," 323. I must point out that many Italian migrants also returned from Argentina to Italy; this return migration took place both from America and from Argentina.
[27] Klein, "The Integration of Italian Immigrants into the United States and Argentina," 328.
[28] Klein, "The Integration of Italian Immigrants into the United States and Argentina," 328.
[29] Leticia Arroyo Abad, and Blanca Sánchez-Alonso, "A City of Trades: Spanish and Italian Immigrants in Late-Nineteenth-Century Buenos Aires, Argentina," *Cliometrica* 12, no. 2 (2018): 346, https://doi.org/10.1007/s11698-017-0164-y.
[30] Klein, "The Integration of Italian Immigrants into the United States and Argentina," 328.

migrants across time and place in the 19th century.[31] Pérez matches fathers and sons from passenger lists to the Argentine and American censuses and created a linked sample over time that analysed intergenerational occupational migrant mobility. This enabled Pérez to compare migrants that had similar traits before migrating. Pérez's approach inspired me to use longitudinal data across time and place for my research to investigate skill premia and returns to skills.

2.i Returns to skills

There is a lack of discussion regarding returns to skills and skill premia as a factor of Italian migration to Argentina vis-à-vis America.[32] Pérez is the only researcher that has hypothesised concerning these returns to skills between America and Argentina.[33] He hypothesises that returns to skills were greater in Argentina than America. However, a limit to his approach is that he doesn't directly test this hypothesis nor the difference in returns to skills between Italy and these destination countries; he tests the implication of his hypothesis (that more skilled Italians were in Argentina over America) by comparing the literacy rates of immigrants in America and Argentina from American and Argentine censuses. He finds that a small difference existed between Italians in Argentina and America in literacy. He also investigates the pre-migration professions of males between 18 and 60 when Italians arrive. He finds that Italians going to Argentina were overrepresented among the white-collar workers and less likely to state unskilled jobs in comparison with Italians in America. [34] However, Pérez didn't analyse the occupational composition within skill sectors, nor incomes or the skill premia of Italians in Argentina and America. I fill this gap by looking at occupational compositions and directly testing this hypothesis by estimating skill premia and returns to skills of Italians in Argentina and America.

[31] Pérez, "The (South) American Dream," 972.
[32] When referring to 'America' as a term by itself, I refer to the United States (US).
[33] This statement is to the best of my knowledge.
[34] Pérez, "Southern (American) Hospitality," 2613–2628.

2.ii Skill premia

Goldin and Katz have focused on skill premium trends in America and the links between skill premia and immigration. They stressed that immigration flows to America in the 1900s changed skill profiles and skill premia, because, when European immigration to America peaked, Europe was supplying less-educated workers than natives, since America had its high-school movement before Europe. In 1895, they estimate the skill premium for America as 1.69. [35] For Argentina, to calculate skill premia, Astorga used average wages paid to "carpenters and joiners" to represent semi-skilled wages and "farm labourers" to represent unskilled wages. He used official US statistics and wages from Arroyo and Astorga to calculate the skill premium for Argentina as between 2 and 2.3 in 1900.[36] I test and extend these skill premia calculations and conceptualisations, which are lacking for Italian migrants in Argentina and America, and link this with their destination choices as migration factor.

Thus, I establish the destinations of higher and lower-skilled Italians in the Age of Mass Migration and understand why this pattern occurred, using the following hypotheses:

2.iii Hypotheses:

1: A greater proportion of highly skilled and literate individuals went to Argentina/BA than America/NYC.

2: Argentina/BA attracted a greater proportion of skilled Italians than America/NYC because the returns to skills were higher in Argentina/BA than America/NYC.

3: Argentina/BA attracted a greater proportion of Italians than America/NYC because the skill premium was higher in Argentina/BA than America/NYC.

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[35] Claudia Dale Goldin, and Lawrence F. Katz, *The Race between Education and Technology*, (Cambridge, Mass: Belknap Press of Harvard University Press, 2008): 16-18; David Autor, Claudia Goldin, and Lawrence F. Katz, "Extending the Race between Education and Technology," *AEA Papers and Proceedings* 110 (2020): 347–51. https://doi.org/10.1257/pandp.20201061.

[36] L. Arroyo Abad and P. Astorga, "Latin American Earnings Inequality in the Long Run", *Cliometrica* 11, no.3 (2017): 349-374. https://doi.org/10.1007/s11698-016-0150-9.

I test these hypotheses nationally and for Buenos Aires city (BA) and NYC specifically, because these 2 cities were the main destinations for Italians during mass migration, which enables the contrast of the general Italian experience from an urban-specific experience. [37]

## 3. Methodology

I collected data on Italian migrants in Argentina and America during the Age of Mass Migration and observed differences in variables, including literacy, occupations and incomes, for Italian migrants between Argentina and America and BA and NYC to execute a returns to skills, skill premium and occupational skill sectors comparison. I construct a dataset of panel data, using cross-sections from 4 censuses from Argentina and US. During the Age of Mass Migration, between 1850 and 1914, Argentine censuses occurred in 1869, 1895 and 1914. However, the 1914 census is unavailable online. Thus, I used the 1869 and 1895 Argentine censuses for my research. No American census was recorded in these years. Thus, I used the closest years to 1869 and 1895: 1870 and 1900. I used the 1900 census rather than the 1890 census because the 1890 census was not available through IPUMS, which digitises American census data. Moreover, other primary data, like PPP and occupational data, was easier to find for the year 1900. [38]

I looked at 2 censuses for each country to make my samples more representative by not focusing on 1 year of data. I have only observed males because most Italian migrants were male, and women were not as active in the workforce during the Age of Mass Migration. Moreover, my US income scores, based primarily on the 1901 *Cost of Living,* only include male incomes.[39] My tests

[37] This refers to the Age of Mass Migration, used to identify the period between 1850 and 1913 of mass migration from the Old to the New World. By testing between the cities of BA and NYC, I am able to control better for the environment than when testing nation-wide data.
[38] IPUMS stands for Integrated Public Use Microdata Series, which is an online platform that provides census and survey data.
[39] U.S. Bureau of the Census, *1901 Cost of Living United States*, US Commissioner of Labor. Wages. Census 1901. Labor Force, Wages, and Working Conditions (Series D 1-238). Chapter D Labor Force: Series D 1-106. Union scale of wages and wages of labour, 1901. All the sources,

condition that an Italian already decided to emigrate from Italy and chooses between America and Argentina.

3.i Sampling procedure:

I take a 1% random sample of the 1870 and 1900 US American census through IPUMS and I use the 1% random sample of Somoza and Latte from the 1869 and 1895 Argentine censuses because these are large and representative samples of the Argentine and American population.[40] Following Pérez's method to investigate literacy, I concentrate on the general male population and Italian males aged between 18 and 60, as this was the main working age, because youngsters less than 18 have a lower literacy rate and are less likely to work, and elderly people over than 60, who could be retired or infirm, would distort my research.[41]

In October 1967, Argentinian demographers, Jorge Somoza and Alfredo Latte, finished computing their robust samples of 100,000 individuals from original manuscripts and punch cards of each Argentinian census (1869 and 1895), which was the most financially feasible size for the sample.[42] Although they couldn't include names/person numbers, which limits tracking individuals over time, this sample is reliable because it was scientifically drawn and compared with official statistics. Missing variables were discussed and flagged explicitly.[43]

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their descriptions and strengths/weaknesses used for my income scores are described later in the 'Discussion on Primary Sources'.

[40] Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rogers, and Megan Schouweiler. IPUMS USA: Version 15.0 [dataset]. Minneapolis, MN: IPUMS, 2024, https://doi.org/10.18128/D010.V15.0; Jorge L. Somoza, and Alfredo E. Latte, *Muestras de Los Dos Primeros Censos Nacionales de Poblacion, 1869 y 1895*, no.46, Documento de Trabajo, Sociales (Buenos Aires: Instituto Torcuato Di Tella Centro de Investigaciones, 1967). The advantages of using these samples were that they are much larger and more representative than any sample that I could have taken by myself and IPUMS and Somoza's sample have been seen as reliable samples for academic research in past literature, such as in Pérez's "The (South) American Dream."

[41] Pérez, "Southern (American) Hospitality," 2617. The demographic of Italian migration to both countries and cities was mainly male and between 14 and 50 years old. Baily, *Immigrants in the Lands of Promise*, 62. I chose adult males between 18 and 60, following Pérez's method in his "Southern American Hospitality." Henceforth, when referencing my samples, I am referring to working-age males. By 'youngsters' I refer to babies/children/teenagers.

[42] Somoza, and Latte, *Muestras de Los Dos Primeros Censos Nacionales de Poblacion,* 12.

[43] Robert McCaa, Michael R. Haines and Eileen M. Mulhare, "Argentina: First with Public Historical Census Microdata," Minnesota Population Center, 28 Apr 2024: 1-10,

Pérez's digitization of Somoza's sample includes 48 variables, including occupation, province of residence, country of birth, daily wage, literacy and social class.[44] I constructed a dataset of the American sample, including 39 variables, like city, industry, occupation and literacy of the individual. Once I compiled the samples into their datasets, I restricted sex to males and nationality to Italian because I wanted to focus mainly on Italian migrants, who were mostly male.[45] I also added my own variables to these datasets, including *logincome*, ages and dummy variables for different regions.[46] I also added the yearly income variable, using Pérez's assumption of 25 working days in a month and 12 months in a year. [47]

3.ii Occupation estimations

Argentine and US censuses don't detail individual-level income data, preventing me from examining specific occupations. Thus, I calculated the mean income of each occupational group for 1900 and 1895 and matched this with each individual's occupation recorded in the census. The Argentine censuses were taken in 1895 and 1869, and thus I took the mean income in 1895 in Argentina, whilst the American censuses were taken in 1870 and 1900, and thus, I used incomes as set in 1900, following Pérez's Argentine method.[48]

Buchanan created a list of wages for different occupational categories for years between 1886, 1890, 1892, 1894 and 1896. For the Argentine census, I mainly took the average of 1894 and 1896 to obtain occupational incomes for 1895.[49] To

https://users.pop.umn.edu/~rmccaa/argfirst.doc. Somoza and Latte's sample (which I will abbreviate to Somoza's sample in future for brevity) represents every one household out of every 38 households.

[44]Pérez, "The (South) American Dream,"971–1006.

[45] I did not restrict nationality for Italian when observing general population literacy rates.

[46]Dummy variables for the region of Argentina enables me to introduce region fixed effects into my regression to control for different regions of Argentina. Age enables me to proxy experience to consider in the regression this effect on incomes. Generally, the older an individual is, the more experience they have, which often increase their income. Age squared also impacts my regression model, as explained later in the text. I must consider these variables in a *logincome* regression model to control for these effects.

[47]Pérez, Online Appendix of "The (South) American Dream," 5.

[48] Pérez, "The (South) American Dream," 977-983.

[49] William I. Buchanan, "La moneda y la vida en la República Argentina. Salarios: 1886 a 1896," *Cuadernos del CISH* 3, no.4, (1998): 241.

obtain yearly incomes, I used Pérez's assumption of 25 working days per month and 12 months in a year. Pérez's work was invaluable for my method.[50]

I used my own precise, mean incomes, following a similar method to Abramitzky's occupation-based earnings, rather than IPUMS occupational income scores because IPUMS' scores are based on 1950 incomes, which is later than my censuses.[51] I used American wage data and Argentine wage data, rather than NYC- or BA-specific wage data, for my estimates, because, firstly, no source provides all incomes for all occupations only for NYC/BA.[52] Secondly, most sources for America and Argentine wage data were taken from Buenos Aires and New York in the first place. Thirdly, a quarter of the Argentine population in 1900 was living in Buenos Aires. [53] Thus, I assume that the Argentine wage data represents Buenos Aires. NYC was the largest urban area in America at the time, with a population of 3,437,202, and the main source for urban jobs.[54] The American north-east was well-integrated, including Boston and New York, during the Mass Migration. Rosenblum highlights that real wages were not disparate for big American cities, making my estimates valid.[55]

My mean occupational income for America is based on the variable occ1950 of IPUMS. I chose this variable because it uses the 1950 Census Bureau

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[50] Santiago Pérez, "The (South) American Dream: Mobility and Economic Outcomes of First- and Second-Generation Immigrants in 19th-Century Argentina," Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2017-07-31. https://doi.org/10.3886/E100880V; Santiago Pérez, Online Appendix of "The (South) American Dream), 5; Buchanan, "La moneda y la vida en la República Argentina", 241. I also used some other income sources when there were gaps in Buchanan's data, described in the section on "Discussion of Primary Sources."

[51] IPUMS occupational income scores assigns median income scores to each occupation.

[52] The advantage of using US and Argentine wage data over NYC- or BA-specific wage data is that this wage data more applicable to the whole of Argentina and America, to enable me to run nation-wide regressions. However, since they are not specific to NYC or BA, they may be less representative for my intercity regression comparisons. However, I believe that these wage data can still apply to my intercity regressions, as described above.

[53] Angelo Scotto, "From Emigration to Asylum Destination, Italy Navigates Shifting Migration Tides," Washington, DC: Migration Policy Institute, (2017): 4.

[54] U.S. Bureau of the Census, *1900-1930-Fifteenth Census of the United States: 1930, Population*, Volume 6, Families, Table 4 (Washington, D.C.: National Archives and Records Administration, 1930): T626, 2,667 rolls.

[55] Joshua L. Rosenbloom, "Looking for Work, Searching for Workers: U.S. Labor Markets after the Civil War." *Social Science History* 18, no. 3 (1994): 377. https://doi.org/10.2307/1171497.

occupational classification system to categorise different occupations into a code that facilitates comparability between 1870 and 1900. [56]

I could not find all income data for the year 1900 in America, which is problematic since incomes change over time due to inflation.[57] Thus, I used income data from years closest to 1900, such as 1890 and adjusted for inflation.[58] Occupations without specific income data are assigned average incomes for that occupational category or a similar occupation's income.

3.iii Currency conversion

Ensuring comparability between the Argentine peso and the dollar was problematic because Argentina's real GDP dropped by around 11% between 1890 and 1891 due to the Baring crisis and inflation was exceptional. [59]

The financial Baring crisis meant that the Argentine peso was depreciating since 1895. Since the peso was not stable, I have tried to control for this crisis by using the convertibility that was established in Argentina subsequent to this crisis, in 1899. Argentina was more heavily impacted by this crisis than America, and thus I have decided to use exchange rates in 1900 after the crisis to control for this effect. Ford highlights that the period of 10 years after the Baring crisis in 1890 was Argentina's recovery period and so, the year 1900 is my baseline for currency conversion. [60] I chose this year as America and Argentina were under gold convertibility, which ensures that the currency could be converted to gold,

[56] "IPUMS USA: Descr: OCC1950," IPUMS. https://usa.ipums.org/usa-action/variables/OCC1950#description_section (Accessed on March 4, 2024).
[57] Other phenomena will also make this occur like economic depressions etc.
[58] Inflation adjustments are described in the Appendix. I use some alternative sources to find income data, which is detailed in my datasets. For each occupation, I note which alternative source I used to find the income.
[59] Kris James Mitchener and Marc D. Weidenmier, "The Baring Crisis And The Great Latin American Meltdown Of The 1890s," *The Journal of Economic History* 68, no.2 (2008): 462, https://doi.org/10.1017/S0022050708000375.
[60] A. G Ford, "Flexible Exchange Rates and Argentina, 1885-1900," *Oxford Economic Papers* 10, no. 3 (1958): 317. https://doi.org/10.1093/oxfordjournals.oep.a040808.

which would act like a universal currency. Moreover, this choice avoids problems associated with the large impact of the Baring crisis on Argentina.[61]

I converted the Argentine *peso moneda nacional* of 1895 into comparable dollars.[62] I converted from Argentine *moneda nacional* to dollars, using the exchange rate that 1 dollar was equal to 2.35 Argentine pesos.[63]

I found the purchasing power parity for both Argentina and America to make incomes comparable.[64] I couldn't find the PPP for exactly 1900, and so I used the purchasing power parity (PPP) recorded as close to this year as possible. I found that, in America of 1909, PPP was 6.48 to the pound, whilst the PPP was 9.91 to the pound in Argentina of 1914. [65]

Since Williamson highlights that the price of food and rent was higher in America than Argentina, I scaled up the nominal dollar value price of the Argentine incomes to show greater purchasing power in Argentina. I divided all nominal dollar value prices of the Argentine incomes by $\frac{6.48}{9.91}$ to account for PPP.[66]

3.iv Skill-levels

I have classified individuals into different categories based on their occupation, following Long and Ferrie's methodology. White-collar workers are those in managerial positions or professional positions, whilst farmers are farm labourers and owners/managers. Skilled and semi-skilled refer to operatives and

[61] A. G Ford, "Argentina and the Baring Crisis of 1890," *Oxford Economic Papers* 8, no. 2 (1956): 128.
[62] Buchanan, "La moneda y la vida en la República Argentina," 241.
[63] Rogelio Pontón, "El funcionamiento de la Caja de Conversión (1900-1929)," Dirección de Informaciones y Estudios Económicos, no. 1600 (2013): 2.
[64] This PPP (purchasing power parity) is more accurate than Williamson's famous PPP estimates in "The Evolution of Global Labor Markets since 1830: Background Evidence and Hypotheses" because Williamson did not use real PPP estimates, but instead used relative GDP per capita, as pointed out by Bertola and Román. Luis Bertola, Carolina Román, "Purchasing Power Parities in Latin America, ca 1890-1940," *XVII Jornadas Anuales de Economía* (2012): 5.
[65] Bertola and Román, "Purchasing Power Parities in Latin America," 5.
[66] All these final and complete datasets and do-files for Argentina and America are available upon request to the author via e-mail.

craftsmen, whilst unskilled workers are day labourers, factory workers and those working in services. [67]

I compare the literacy rates of Italians in Argentina/BA with those in America/NYC, relative to the general population. I create pie charts to demonstrate the difference in the occupational structures of the Italian populations in America/NYC and Argentina/BA to test my first hypothesis on skill levels.

3.v Multivariable Regression:

I perform multivariable regression to test the impact of literacy on incomes to determine the returns to skills for Italians in Argentina/BA and America/NYC:

*Inter-country regression:*

$$Ln\,(occupational\ income_i) = \beta_0 + \beta_1(Literacy_i) + \beta_2(Urban_i) + \beta_3 Z_i + \beta_4(age_i) + \beta_5({age_i}^2) + \varepsilon_i \quad (1)$$

*Inter-city regression:*

$$Ln\,(occupational\ income_i) = \beta_0 + \beta_1(Literacy_i) + \beta_4(age_i) + \beta_5({age_i}^2) + \varepsilon_i \quad (2)$$

*Inter-city interaction regression:*

$$Ln\,(occupational\ income_i) = \beta_0 + \beta_1(Literacy_i) + \beta_1((Literacy_i) \times (location_i)) + \beta_4(age_i) + \beta_5({age_i}^2) + \beta_6(location_i) + \varepsilon_i \quad (3)$$

I executed the above regressions for $i$ individuals for my Argentine and American samples. I regress the natural log of the occupational income against the literacy

[67] Jason Long, and Joseph Ferrie. "Intergenerational Occupational Mobility in Great Britain and the United States Since 1850." *The American Economic Review* 103, no. 4 (2013): 1114, https://doi.org/10.1257/aer.103.4.1109. Refer to Long and Ferrie's work for a more detailed overview of occupational classifications.

indicator, controlling for other dummy variables.[68] I compare the coefficient of $\beta_1$ between Argentina and America, as $\beta_1$ is a proxy for returns to skills, estimated by returns to literacy.[69]

I created dummy variables for literacy using STATA, considering an individual literate when they can read and write. This value took 1 if the individual was literate and 0 if the individual was illiterate. The American census detailed whether an individual could only read and not write or vice versa, but I considered these options as illiterate to increase comparability with the Argentine census, which only asked respondents whether they were capable of reading and writing.

I control for *age* because we can assume that, as one ages, one gains more experience, increasing one's income and control for $(age_i{}^2)$ and one can assume that this coefficient is negative. This means that a level of cognitive decline linked to aging occurs, which means that incomes peak at a given point as an individual ages due to increased experience, but income falls after this peak. This follows the methodology of Abramitzky et al. in their *log(earnings)* regression of Norwegian migrants in America. [70]

I created dummy variables for urban residency $(Urban_i)$ and $Z_i$, which represents different regions within the countries to control for these variables in the regression because urban areas and different Argentine and American regions have varying literacies and returns to skills.[71]

[68] I use the natural log of income, because it functions better to measure percentage changes than absolute changes in incomes.
[69] This coefficient demonstrates how increases in literacy (which is a proxy for skills) would cause a change in logincome.
[70] Ran Abramitzky, Leah Platt Boustan, and Katherine Eriksson, "Europe's Tired, Poor, Huddled Masses: Self-Selection and Economic Outcomes in the Age of Mass Migration," *The American economic review* 102, no. 5 (2012): 1844. https://doi.org/10.1257/aer.102.5.1832
[71] This term represents regional fixed effects. In future, to improve this model, I would include a fixed-year effect to control for the year, which has been a limit to my approach.

In (3), the *location* variable shows whether the individual is in NYC or BA, taking 0 for BA and 1 for NYC. $(Literacy_i) \times (location_i)$ is an interaction term to determine whether the NYC returns to skills were different to BA.

3.vi Skill premia

I calculated the ratio of the mean incomes of skilled workers against those of unskilled workers in Argentina and America, based on occupations that Italians entered in Argentina and America to find Argentine and American skill premia. [72] Focusing on Italian-specific occupations, I included-semi-skilled Italians as skilled workers because these professions required a certain level of skill to execute.[73] Subsequently, I analysed job structures within skilled and unskilled occupations in NYC and BA to find common Italian skilled and unskilled jobs and compared these incomes to find an intercity occupation-specific skill premium, which demonstrates the Italian skill premia choice between two main destination cities.

## 4. Primary-source discussion

I used the 1869 and 1895 Argentine and the 1870 and 1895 American censuses to compare returns to skills. [74] The 1869/1895 Argentine censuses were the first and second national censuses and detail first and last names, residences, ages by years, sex, civil status, nationality, province of birth in Argentina if applicable,

[72] Shuhei Takahashi, and Ken Yamada, "Understanding International Differences in the Skill Premium: The Role of Capital Taxes and Transfers," *Journal of economic dynamics & control* 143, no. 104511 (2022): 3-15. https://doi.org/10.1016/j.jedc.2022.104511.
[73] For example, the profession of basket and chair manufacture worker did demand a given measure of skill and some operatives had to undergo a certain period of training.
[74] "Argentina, censo nacional, 1869," Database with images, *FamilySearch*. http://FamilySearch.org: (accessed 21 February 2024). Citing Archivo General de la Nación, Buenos Aires (Census Commission Directive. General Archive of the Nation, Buenos Aires)"; Argentina, censo nacional, 1895," Database with images. *FamilySearch*. https://FamilySearch.org: (accessed 27 December 2023). Archivos Nacionales (National Archives), Buenos Aires; "United States Census, 1870," Database with images, *FamilySearch*. http://FamilySearch.org: (accessed 8 March 2024). Citing NARA microfilm publication M593. Washington, D.C.: National Archives and Records Administration, n.d; "United States Census, 1900," Database with images. *FamilySearch*. http://FamilySearch.org: (accessed 8 March 2024). Citing NARA microfilm publication T623. Washington, D.C.: National Archives and Records Administration, n.d.

occupation/main occupation and literacy of the population.[75] In 1895, they added extra information, including property ownership, which helped me determine whether an individual was a farm labourer or owned the farm.[76]

1870/1900 American decennial censuses contain similar information, detailing households, names, age, sex, colour, occupation, real-estate ownership, birthplace, literacy and parentage on IPUMS.[77]

American and Argentine censuses don't inform the reader of the Italian province of origin. Additionally, names in IPUMS have been suppressed for confidentiality, preventing matching US passenger lists to the IPUMS census to discover origins. Thus, I can't include port-of-origin fixed effects, limiting my ability to control for pre-migration characteristics of migrants.[78]

President Sarmiento wanted to create the first record of the Argentine population in 1869. He appointed Diego de la Fuente as superintendent to carry out the census on 15, 16 and 17 September 1869, whose results were published in 1872. The 1895 Argentine census was created on May 10 by the Census Commission, supervised by the Interior Ministry under the presidency of José Uriburu.

1 June 1870 and 1900 were the collection dates for the respective 1870 and 1900 American census. General Francis Walker was the superintendent for the 1870 census, whereas Frederick Wines and Walter Willcox oversaw the 1900 census. Walker was accused of underestimating the population in 1870, especially in

[75] They also included certain special conditions, including whether the individual was illegitimate/insane/blind/orphaned.
[76]A farm labourer had no property ownership whereas, an owner of the farm signalled property ownership. The 1895 Argentine census also added the variables of number of children and length of marriage of women.
[77] Minnesota Population Center, Integrated Public Use Microdata Series, International: Version 7.3 [dataset]. Minneapolis, MN: IPUMS, 2020. https://doi.org/10.18128/D020.V7.3 (accessed 1 Feb 2024). IPUMS stands for the Minnesota Population Center.
[78] This especially limited my ability to control for the pre-migration characteristic of province of origin, to make a distinction between northern and southern Italy and their literacy differences.

New York. Nevertheless, a recount of these states reassured its reliability, revealing only a 2% increase in population. [79]

Argentine and American censuses were published and preserved in the General Archive of the Nation in Buenos Aires or the National Archives and Records Administration in Washington, respectively. However, the American censuses were microfilmed in 1940 and original documents were destroyed. These Argentine and American censuses are reliable for my analysis given their clear, standardised and statistical enumerative methods.

The Argentine and American censuses are split into states/provinces and districts. Thus, census takers oversaw certain districts to enumerate individuals. Enumeration districts were used in the American census, with each federal census taker entrusted with an enumeration district. The Argentine censuses were created by dividing Argentina into provinces. American and Argentine censuses were created to statistically track the development of the nation.

The 1869/1895 Argentine census is, overall, reliable for my project as census takers had to inform the household of a fine if they falsified information.[80] This penalty would deter individuals from lying.

The 1869 Argentine census only contained 14 provinces of Argentina, excluding 5% of the population in La Pampa, Río Negro and Neuguén, unlike the 1895 census.[81] However, since this excluded the indigenous population, my analysis is reliable because, I don't want to include indigenous populations. Moreover, I added a specification to my model that focuses solely on NYC and BA to improve comparability.

[79] This recount was commanded by the President.
[80] Somoza, and Latte, *Muestras de Los Dos Primeros Censos Nacionales de Poblacion,* 4. The fine was between 2 and 20 pesos. Census takers were called *empadronadores*.
[81] The 1869 Argentine census did not include the regions of Chaco, Formosa, Misiones, La Pampa, Río Negro, Neuguén, Chubut, Santa Cruz and Tierra de Fuego.

Argentine censuses contain inaccuracies, as enumerators were ordinary civilians. Some information was given from memory and thus incorrect. Argentine census contains entries where literacy is crossed out or the handwriting for occupation is difficult to read. Similarly, parts of the IPUMS census are blurred and may be inaccurate.[82] This decreases the accuracy of my analysis, as the individuals' occupations or literacy may be incorrect/illegible.

The Argentine censuses only show the literacy of an individual, neither years of schooling nor other proxies of skill. Literacy is a coarse indicator of the human capital because it is bilateral and doesn't give much variation; however, I can justify my use of literacy because literacy rates were low in Italy at the time.[83]

In addition, the Argentine and American censuses don't provide information on which neighbourhoods of NYC/BA the individual lives in. Since these were large cities and varying skill-levels and wages prevailed in different neighbourhoods, I cannot control for this in my regression.

Since the unification of Italy in 1871 and the proclamation of the Kingdom of Italy in 1861, the boundaries of Italy may have changed between my first sample in 1869/1870 and my second sample in 1900/1895. Thus, it was more difficult to identify Italians in the 1869 Argentine census and 1870 American census than in the 1900 American census. However, IPUMS helped me overcome this obstacle.

4.i Incomes

The censuses only collected occupational, and not individual, incomes. This may bias my research because the incomes I use to estimate returns to skills were not specific to Italians, because I use overall occupation incomes. Since Italians were discriminated against, especially in America/NYC, this may have negatively

[82] Since they were blurred, this made them more difficult to read.
[83] This is explained above.

affected Italians' incomes. [84] This could make it appear that the returns to skills were greater for Italians in America/NYC than the reality. Moreover, this prevents me from observing within-occupation variation in incomes. Thus, I used occupational income data.

My main source for Argentine blue-collar incomes in 1895 was created by the American diplomat, William Buchanan, in 1896 and was initially published in 1898, which preserved these statistics. He had to collect data from workers in BA when he worked in the US embassy for Argentina.[85]

He created tables of 95 occupations based on data of typical daily/monthly wages between 1886 and 1896. He questioned workers and their bosses to compile tables of average wages in different occupations. Buchanan's data are reliable because they have been used in multiple academic studies and are regarded as accurate. He was also commissioned by the American government. He received the distinguished title of the 'Envoy Extraordinary and Minister Plenipotentiary', which proves the trust placed in him as a statistician. [86]

Buchanan struggled with finding data for private jobs. Thus, he used public service statistics.[87] This limited my analysis since it focuses on public service jobs. Moreover, some wages are daily and others monthly. Thus, I used Pérez's assumption of 25 working days in a month.[88] This could underestimate or overestimate yearly incomes because working hours vary monthly/daily.

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[84] Stefano Luconi, "Discrimination and Identity Construction: The Case of Italian Immigrants and their Offspring in AmericaA," *Journal of Intercultural Studies* 32, no.3 (2011) : 293-307, DOI: 10.1080/07256868.2011.565739.
[85] Buchanan, "La moneda y la vida en la República Argentina," 241.
[86] Pérez, Online Appendix of "South American Dream," 5; Adolfo Dorfman, *Evolución Industrial Argentina* (Buenos Aries: Losada, Biblioteca de Estudios Económicos, 1942) ; Roberto Cortés Conde, "El Progreso Argentino: 1880–1914," Editorial Sudamericana, 1979; José Panettieri, "Los Trabajadores En Tiempos de La Inmigración Masiva En Argentina 1870–1910," Ph.D. Thesis, Facultad de Humanidades y Ciencias de la Educación, (La Plata: Universidad Nacional de La Plata, 1966).
1965; José Panettieri, "El Informe Buchanan: Primer Estudio Sobre Salarios Y Precios En La Argentina, 1886/1896." *Sociohistórica* 3, no. 4 (1998).
[87] Buchanan, "La moneda y la vida en la República Argentina," 239.
[88] Pérez, Online Appendix of "The (South) American Dream," 5.

The 1881 census of the Province of Buenos Aires includes 65 occupations.[89] Dardo Rocha, governor of Buenos Aires between 1881 and 1884, performed this census to enumerate Buenos Aires. This census is reliable for my investigation because 2050 citizens, including 1237 census takers, 7 members of the Board of Directors and 36 office employees among others, were involved in its creation. This limits systematic errors that fewer individuals would commit in recording the census. From 1881 the census was recorded in two years and was preserved through publication in 1883. Census-takers oversaw recording of data for every district within the Province of Buenos Aires. 70,000 soles were spent in creating this census. However, there are some incorrect details, incomplete tables and gaps in the data. [90]

Following Pérez's method, I mostly rely on Buchanan's occupations since they are more detailed and collected closer to 1895. I use the 1881 census to fill in gaps in Buchanan's occupations. For a list of monthly wages of public employees, I used the 1893 national census of public employees to find the mean male public employee wage.[91] In 1893, the second national census of 8,186 civil employees occurred, which describes their conditions of service. However, it doesn't include military employees, which limits my analysis. I use the 1895 Argentine national census for capital incomes. [92]

For America, my main primary source was Abramitzky et al's data on US wages in 1900, which was primarily taken from the 1901 US *Cost of Living* survey and Matt Sobek's 1890 income scores. [93] The United States Bureau of Labour

[89] Provincia de Buenos Aires, *Censo General de La Provincia de Buenos Aires, 1881* :239 (*Buenos Aires* : III. 1883).
[90] Provincia de Buenos Aires, *Censo General de La Provincia de Buenos Aires, 1881* :239 (*Buenos Aires*: III. 1883).
[91] Argentina, Dirección General de Estadistica. *Censo de Los Empleados Administrativos, Funcionarios Judiciales Personal Docente de La República Argentina Correspondiente Al 31 de Diciembre de 1894*. Compañia sud-americana de billetes de banco, 1895. I multiplied the monthly wage by 12 to find the yearly wage.
[92] See Appendix.
[93] Ran Abramitzky, Leah Platt Boustan, and Katherine Eriksson, Replication data for: Europe's Tired, Poor, Huddled Masses: Self-Selection and Economic Outcomes in the Age of Mass Migration. Nashville, TN: American Economic Association [publisher], 2012. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2019-10-11.

Statistics, directed by Caroll Wright, created the *Cost of Living* survey in 1901 to represent the average costs to living for an American household. The US *1901 Cost of Living* survey shows incomes for over 300 occupations. [94]

The survey mixes medians and means and gives incomes in intervals. Thus, I found the midpoint of the interval and took this to be the mean income, assuming an even distribution. Since this survey mainly occurred in urban areas, it could exaggerate incomes and returns to skills.[95] Therefore, I chose to focus on the urban area of NYC so that the average incomes for occupations would match better with NYC. Most individuals who responded to the survey were US natives, which could introduce selection bias in the incomes that I use in my samples and decrease their representativeness. Since I focus on Italian migrants to America, I used other income resources to avoid this bias. This urban bias also poses problems for determining rural incomes. However, I used Sobek's estimates for farming occupations, which was the primary rural occupation. The survey also overemphasises manufacturing incomes and incomes of larger firms.

Sobek provided tables detailing occupations, incomes, sample sizes and sources, published in 1996. Sobek's estimates for 1890 American incomes are reliable because he used a wide variety of sources and unambiguous occupational titles. Sobek's estimates were mainly taken from clerks within the manufacturing sector, which is restrictive. Identifying and finding incomes of self-employed workers was limited due to the lack of statistics. This was a limitation because, for example, in 1910, 14% of adult males were self-employed, including

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https://doi.org/10.3886/E112540V1; Matthew Sobek, "Work, Status, and Income: Men in the American Occupational Structure since the Late Nineteenth Century," *Social science history* 20, no. 2 (1996): 173; Samuel H. Preston, and Michael R. Haines, *Fatal Years: Child Mortality in Late Nineteenth Century America* (Princeton, NJ: Princeton University Press, 1991): 195-199.

[94] Preston, and Haines, *Fatal Years*, 195-199; Abramitzky, Boustan, and Eriksson, "Europe's Tired, Poor, Huddled Masses," 1832–1856; U.S. Bureau of the Census, *1901 Cost of Living United States*: US Commissioner of Labor. Wages. Census 1901. Labor Force, Wages, and Working Conditions (Series D 1-238). Chapter D Labor Force: Series D 1-106. Union scale of wages and wages of labour, 1901.

[95] This assumes that urban areas have greater incomes than rural areas, which is demonstrated by my data.

craftsmen and service workers, which were popular occupations among Italians.[96] If we assume that self-employed workers had higher incomes, occupations with higher proportions of self-employed workers would have inaccurately low-income scores, which would impact my income regression. Incomes for professionals and managers were also scarce, and thus high incomes are slightly less reliable than lower incomes, which affect the upper distribution of incomes.

I also used Preston's and Haines' income estimates for 1900, which employ the 1901 *Cost of Living* survey, Lebergott's report on American labour for wages in 1899 and Douglas' real wage study for American wages in 1899 and 1900. [97] Preston and Haines produced a table containing earnings, number of unemployed months, source and frequency.[98] Their data is reliable because they utilise many sources and are explicit with their use of them.[99]

4.ii Farming:

Most sources, like Preston and Haines', don't contain farming incomes. To mitigate this issue, I adjusted my model to focus on urban areas like Buenos Aires and NYC, where farming was less common than in rural areas of Argentina and America.

The 1869 Argentine census doesn't question real-estate ownership. This complicates differentiation between small farm labourers and large farm owners, who had larger incomes than farm labourers.[100] To resolve this, I followed Pérez's method of tracing the individual to the 1895 census to discover if the farmer owned property and distinguished between these incomes by using

[96] Matthew Sobek, "Work, Status, and Income," 194-5. Self-employed excludes farmers.
[97] Samuel H Preston, and Michael R. Haines, *Fatal Years: Child Mortality in Late Nineteenth-Century America*, (Princeton, University Press, 1991): 195-199, https://doi.org/10.1515/9781400861897.; Stanley Lebergott, *Manpower in Economic Growth; the American Record since 1800 (*New York: McGraw-Hill, 1964); Paul H. Douglas, *Real Wages in the United States, 1890-1926* (Boston; Houghton Mifflin, 1930).
[98] Preston and Haines, *Fatal Years,* 195-199.
[99] My dataset includes citations of the occupational categories, for which I used other primary sources.
[100] Santiago Pérez, Online Appendix of "The (South) American Dream," 5.

Correa and Lahitte's Congressional report of farmers.[101] This shows incomes of farmers depending on how much real estate they own, published in 1898. Pérez divided farmers into two types: farm-owners and farm-labourers. [102]

Labourers in IPUMS who had no specified industry in households with a farmer in them, are recorded as farm labourers. Thus, more individuals could be assigned as farmers than the reality, which would assign a false income score. This wasn't very problematic because there weren't many farmers in my American sample.

## 5. Results and Interpretation

The following analysis focuses exclusively on working-age males in my samples.[103]

### 5.1 Literacy analysis

To test my first hypothesis, I summarised the literacy rates of different cohort groups to show their skill levels.

Table 1: Literacy rates of working-age males (between 18 and 60 inclusive)

| | General population (natives and migrants) | Italian migrants |
|---|---|---|
| US | 0.87 | 0.59 |
| Argentina | 0.49 | 0.65 |
| NYC | 0.94 | 0.60 |
| BA | 0.78 | 0.67 |

***Sources***: Somoza sample of Argentine census 1895 and 1869; IPUMS sample of US census 1870 and 1900

[101] Antonio M. Correa, and Emilio Lahitte, "Investigación Parlamentaria Sobre Agricultura, Ganadería, Industrias Derivadas Y Colonización," *Anexo B, Buenos Aires*, 1898.
[102] Santiago Pérez, Online Appendix of "The (South) American Dream," 5. *Hacendados* and *estancieros* are farm holders, whereas *agricultores* were general farm labourers and I made this distinction for my investigation.
[103] A working-age individual is defined above as between 18-60 inclusive years of age.

Table 1 shows that the mean literacy rate for Italian migrants of working-age was 0.59 in America, which was much lower than the literacy rate for all working-age males in America of 0.87. In NYC, this general literacy rate was even greater, 0.94, in comparison with that of NYC Italians (0.60). This reveals that Italians in America were less literate and skilled than the general population, and this difference is amplified in NYC. This relative lack of literacy disadvantaged Italian migrants in the labour market in America compared to the general population, as there would have been a limited, lower-class range of occupations for illiterate individuals. However, the literacy rate for the general population may be exaggerated since I classified as 'literate' anyone who could read and/or write. Thus, some individuals may have been only able to read, but not write, and still be 'literate'. [104]

The general Argentine working population had a literacy rate of 0.49, which contrasts starkly with the literacy rate of Italians in Argentina, which was 0.65. This is an astounding result because it provides us with a novel insight: it shows that the literacy of Italian migrants in Argentina was higher than that of the general population. This clearly displays the advantage that Italians had over the general population in terms of literacy and skills. However, the Argentine census didn't provide Spanish literacy level. Thus, if the Italian migrant was only literate in Italian but not Spanish, this would have reduced this advantage in Argentina within the labour market. This result confirms my first hypothesis that Italian migrants in Argentina were, on average, more skilled than Italian migrants in America because their literacy rate was greater in Argentina (0.65) than in America (0.59).

Comparing the above statistics with the general populations provides us with a unique insight to better understand the Italian emigration decision. It suggests that literacy and thus, skills were relatively scarcer in Argentina than America, as the general population in Argentina were less literate and well-educated than

[104] I could not bring this level of detail to my dummy variable, given the limitations of the data, discussed above.

that of America. Thus, more literate and skilled Italians may have decided to migrate to Argentina than America, since human capital was rarer and therefore more valuable in Argentina than America. Therefore, there may have been greater returns to skills in Argentina than America, due to this scarcity of human capital. This conclusion assumes that Italians in Italy would have been aware of this relative scarcity prior to their decision to migrate. This information may have been accessible through network-links of family, friends or the Italian community, which had already migrated or other forms of communication like telegraphs/newspapers.

A time series analysis would support this conclusion, as well as an analysis of natives. Thus, in BA of 1869, working-age native males had a literacy rate of 0.68. In contrast, working-age native males in NYC had a higher literacy rate of 0.97. Thus, skilled Italian migrants were, towards the beginning of mass Italian migration to the Americas, more attracted to BA than NYC due to the relative scarcity of human capital in BA. However, this analysis would be improved by looking at literacy rates before the Age of Mass Migration, to see a clearer picture of the emigration decisions of Italians prior to mass movement from the Old to New World.

Italian migrants were less literate than the general population both in America and NYC. In contrast, it is intriguing that the general population in BA had a higher literacy rate (0.78) than Italians in BA (0.67), whilst the general population of Argentina (0.49) were less literate than Italians in Argentina (0.65). This suggests that literate individuals were generally more concentrated in BA than in the rest of Argentina. BA may have had better educational systems than Argentina's poorer provinces. [105] Moreover, families in BA may have preferred to ensure that their sons were literate before removing them from

[105] Hobart A Spalding, "Education in Argentina, 1890-1914: The Limits of Oligarchical Reform," *The Journal of Interdisciplinary History* 3, no. 1 (1972): 45. https://doi.org/10.2307/202461.

school.[106] Alternatively, BA was less focused on agriculture than the rest of Argentina. Thus, more literate individuals were found in BA than Argentina, since farming was less prevalent in BA. Moreover, many migrants were attracted to BA. 59% of the population of BA in my sample is foreign. 13% of my sample for BA is Spanish and Spaniards in BA have a high literacy rate of 0.87, which will raise BA's general literacy rate.

5.ii Welch test

I performed a Welch test to test my first hypothesis and see whether the difference in the literacy rates for Italians in NYC and BA was statistically significant. I chose a Welch test rather than a two-sample t-test to avoid the incorrect assumption of equal standard deviations, as the standard deviations for my two samples of NYC and BA are different.

Table 2: Welch test results to determine differences in mean literacy rates for working-age, male Italians in BA and NYC

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Mean BA | Mean NYC | diff | t value | Pr(T>t) H1:diff>0 | Pr(\|T\|>\|t\|) H1: diff≠0 |
| Literacy rate by location | 0.669 (0.0081) | 0.599 (0.0187) | 0.071 | 3.44 | 0.0003*** | 0.0006*** |

***Note***: Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Column 3 of difference (diff) represents the difference between the mean literacy rate of working-age, male Italians in BA and Italians in NYC. Columns 5 and 6 represent p-values for alternative hypotheses (H1) to challenge the null hypothesis (H0) that the mean literacy rate in BA is equal to that in NYC. Column 6 represents a two-sided test, whilst the column 5 represents a one-sided test, to test whether the mean literacy rate for BA was greater than that in NYC.
***Sources***: Somoza sample of Argentine census 1895 and 1869; IPUMS sample of US census 1870 and 1900

[106] Mark D. Szuchman, "Childhood Education and Politics in Nineteenth-Century Argentina: The Case of Buenos Aires," *Hispanic American Historical Review* 70, no.1 (1990): 133-4. doi: https://doi.org/10.1215/00182168-70.1.109

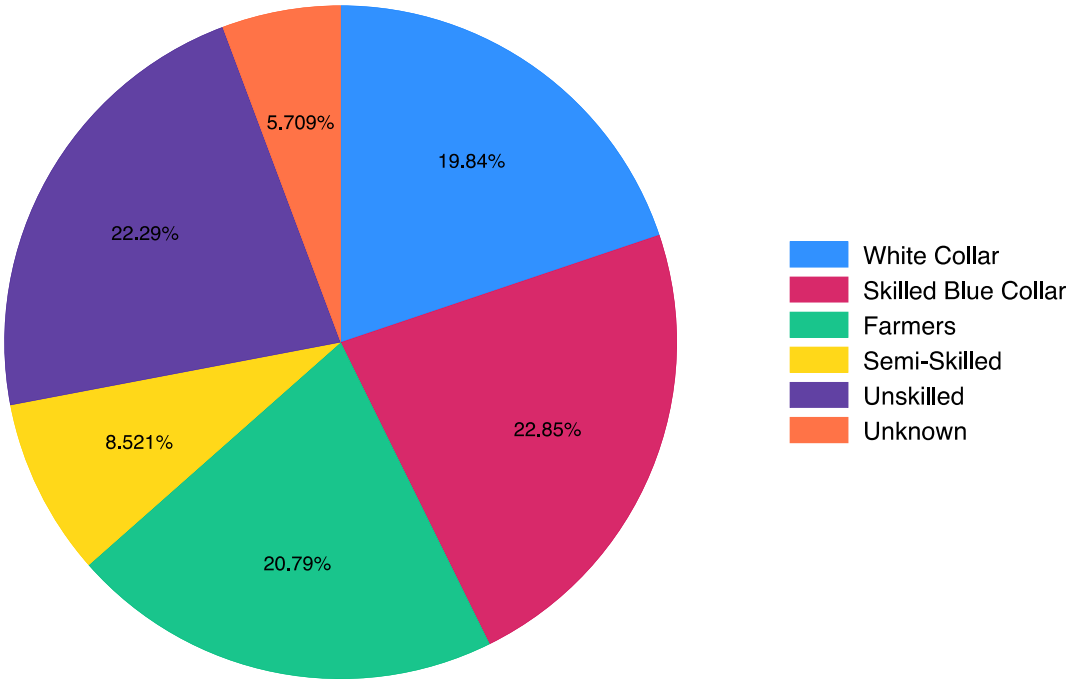
Table 2 shows the test results, which reveals that BA's mean literacy rate is 0.071 greater than that of NYC and proves, by a p-value of 0.0003 in column 5, that this result is statistically significant at the 1% level. This confirms my first hypothesis and the assumption of my research that Italians in BA were more literate and thus, more skilled, than those Italians that migrated to NYC.

5.iii Occupational skill-sectors

*a) US/Argentina*

Figure 1 shows that most working-age male Italians in Argentina were skilled blue-collar workers (22.9%), followed by the unskilled category, with nearly the same frequency of 22.3% of Italians. 20.8%. are farmers in the sample and 19.8% of Italians are in white-collar jobs. The rarest occupation category is the semi-skilled category with only 8.52% of Italians in Argentina in semi-skilled jobs.

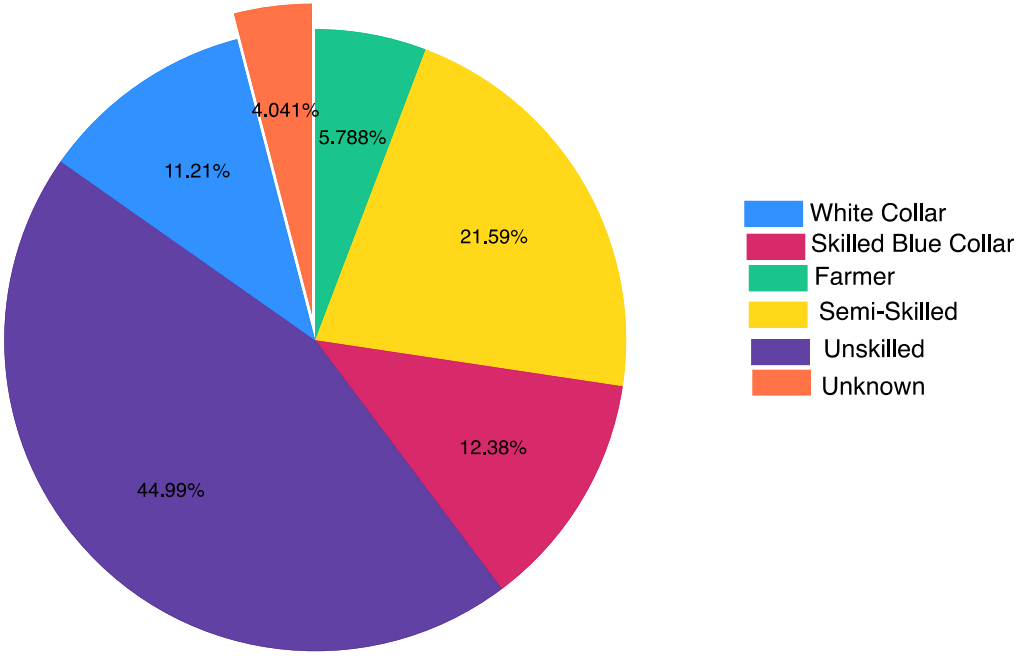
Figure 1: Skill-sector composition of working-age Italian males in Argentina in 1895 and 1869




***Notes***: This represents the whole of Argentina. The sector 'Unknown' represents Italians who are not involved in the work force, such as students, retired individuals, or individuals who stayed at home and did not work.
***Sources***: Somoza sample of Argentine census 1895 and 1869

Figure 2 shows the Italian composition in the US sample. Nearly half were unskilled labourers, which includes service workers and labourers. There are only 11.2% of Italians, who are white-collar workers. Skilled blue-collar workers are also only 12.4% of the sample. Semi-skilled workers constitute the second largest group, accounting for 21.6%.

Figure 2: Skill-sector composition of working-age Italian males in America in 1895 and 1869




***Notes***: The sector 'Unknown' represents Italians who are not involved in the work force, such as students, retired individuals, or individuals who stayed at home and did not work.
***Sources***: IPUMS sample of US census 1870 and 1900.

*Intercountry comparison*

The proportion of unskilled labourers (45%) in the US sample is over double the proportion of unskilled labourers in Argentina (22.3%). This proves my first hypothesis that less skilled Italians went to America than Argentina, since we can see that there are more unskilled Italian workers in the US sample than the Argentine sample.

Moreover, the proportion of skilled blue-collar workers in the Argentine sample (22.9%) is nearly double that in the American sample (12.4%). There is also a greater proportion of white-collar workers in the Argentine sample, which proves my first hypothesis that a higher proportion of skilled workers immigrated to Argentina rather than America. Italians were in more skilled jobs because potentially, northern Italians, who mainly migrated to Argentina, had higher human capital, and thus could obtain higher-skilled jobs than less literate southerners in America.[107]

Alternatively, Italians were among the first and biggest European immigrant group that arrived in Argentina during the Age of Mass Migration, which meant that there was less competition between Italians and other migrants than in America.[108] In contrast, in America, arriving Italians had to compete with other immigrant groups already present for better jobs.[109] Moreover, US natives were already skilled and occupying white-collar jobs when Italians arrived, which may explain why Italians joined the unskilled sector instead. In contrast, there was less of a developed middle-class in Argentina in 1869; thus, Italians were able to join this middle-class.[110]

Additionally, Italian familial/communal networks may have been stronger in Argentina for Italians to help other migrants obtain more skilled jobs, whereas networks may have been weaker in America among Italians. An alternative explanation for this phenomenon may have been the easier cultural, religious and linguistic adjustment to Catholic Argentina and Spanish than the more hostile, discriminatory and anglophone culture and environment of the

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[107] Robert A Margo, "The North-South Wage Gap, Before and After the Civil War," *NBER Working Paper Series* 8778 (2002): 31; Roberto Basile, Carlo Ciccarelli, and Peter Groote, "The Legacy of Literacy: Evidence from Italian Regions," *Regional Studies* 56, no. 5 (2022): 794. doi:10.1080/00343404.2021.1926960.
[108] Baily, *Immigrants in the Lands of Promise,* 45.
[109] Baily, *Immigrants in the Lands of Promise,* 45.
[110] Santiago Pérez, "Southern (American) Hospitality,": 24-27; José Panettieri, "Los Trabajores en Tiempos de la Inmigración masiva en Argentina 1870-1910," in the *Los trabadores en tiempos de la inmigración masiva en Argentina (1870-1910)*, edited by José Panettieri (La Plata: Universidad Nacional de La Plata, 1966): 14; Thomas Kessner, *The Golden Door: Italian and Jewish Immigrant Mobility in NYC 1880-1915*, (New York: Oxford University Press, 1977), 35.

Protestant US.[111] If Italians were able to adjust more easily to the Latin culture of Argentina and learn Spanish more easily than English, this would have enabled Italians to obtain more skilled jobs in Argentina, which required better language skills. Additionally, return migration was higher among Italians in NYC than BA, explaining why Italians were more involved in unskilled work, which could be more temporary and enable high savings quickly in the short-run.[112] Returns to skills and skill premia were a more compelling reason for Italian migration than the above interpretations because I argue that Italians would consider the destination's labour market relative to their skills over their contact networks, acculturation or competition.

Italians in America are more concentrated in the unskilled sector, whereas Italians in Argentina are more spread-out over different sectors and represented across different skill levels. This suggests that Italians had a range of skills in Argentina, which challenges my first hypothesis that Italians in Argentina were more skilled. This range may have occurred because Italian migrants in Argentina came from a wider variety of regions in Italy than Italians in America. Klein underlines that, between 1876-1900, 55% of Italian migrants in Argentina were northern, 35% were southern and 9% from central Italy. In contrast, 87% of Italian migrants in America were from southern Italy (with only 10% northerners and 3% from central Italy), demonstrating that there was a greater range of provincial origins for Italians in Argentina than those in America.[113] Moreover, over half of Italians in Argentina originated in Lombardy, Piedmont, Calabria, and Sicily and 4 other regions, including Campania and Marche, each contributing to 5% of the Italian inflow. 3 southern regions accounted for 58% of the Italian migration to America and only 2 other regions accounted for over 5%

[111] Santiago Pérez, "Southern (American) Hospitality," 31.
[112] Klein, "The Integration of Italian Immigrants into the United States and Argentina," 323.
[113]Associazione per lo Sviluppo dell'Industria nel Mezzogiorno (SVIMEZ), *Statistiche sul Mezzogiorno d'Italia, 1861-195,* (Rome, 1954), 123-124; Klein, H. S. "A integraçao dos imigrantes italianos no Brasil, na Argentina e Estados u idos L'intégration des immigrants italiens au Brésil, en Argentine et aux Etats-Unis." *Novos estudos*, no. 25 (Oct. 1989): 112.For Klein, northern Italy included Piedmont, Liguria, Lombardy and Veneto; Central Italy referred to Emilia, Tuscany, Marche, Umbria and Lazio; whilst Southern Italy referred to the rest of Italy and its islands.

of the total. Italian migrants in America were more concentrated in the South and from fewer regions. [114] This could explain a greater concentration of the unskilled sector in America. Although there was a sizeable unskilled sector of Italians in Argentina, the higher end of the skill distribution was more prominent in Argentina, than in America.

Only 5.8% of Italians in the American sample are farmers. In contrast, around 21% of Italians in Argentina were involved in farming. This is counterintuitive when we observe the origin of the Italian migrants, because southern Italy was more agricultural than central and northern Italy.[115] Thus, more southern Italians may have originally been farmers than northern Italians. Thus, since a greater proportion of southerners went to America than Argentina between 1876 and 1900, it would have been intuitive for there to be more farmers in America than Argentina.[116]

However, there are multiple interpretations of this. Argentina may have been more environmentally suited to farming or have had more rural, open areas that were conducive to farming, although this is doubtful due to America's availability of fertile land in this period. A more convincing argument is that the Argentine elites in power between 1860-1900 recognised the value of the many acres of fertile land in Argentina and wanted to attract migrants as manpower to actualise this farming potential. Thus, these Argentine governments used incentives to attract European migrant farmers, such as allocating public land, free passages and special employment agencies.[117] This greater emphasis on farming and its incentivisation by the Argentine government may have

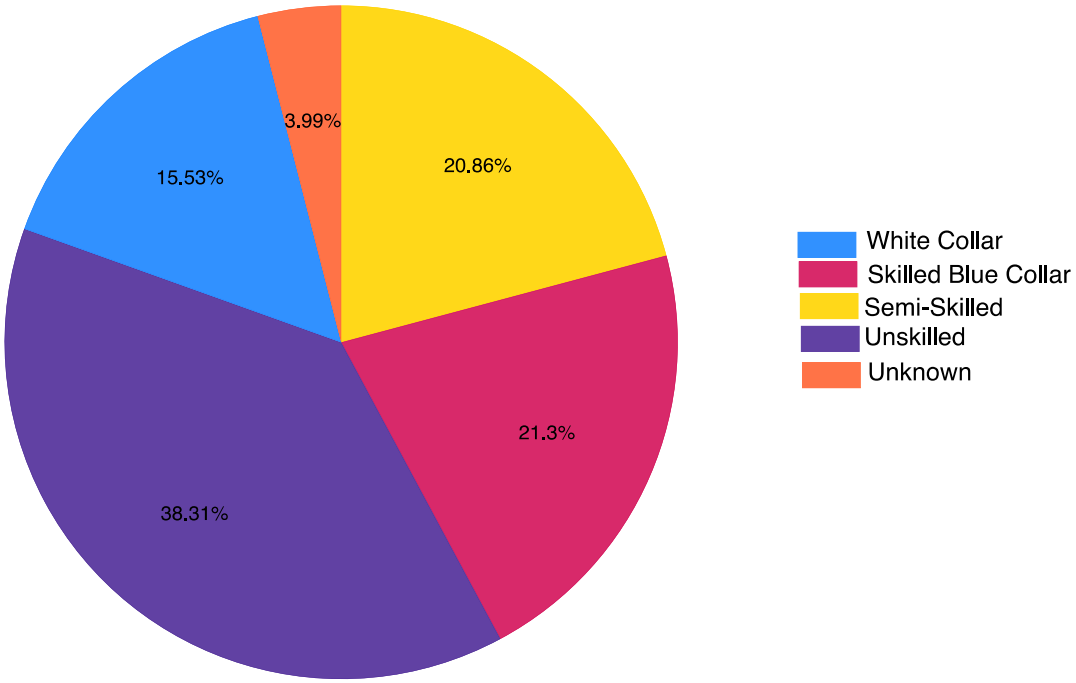
[114] Baily, *Immigrants in the Lands of Promise,* 61.
[115] D. Chilosi, and Ciccarelli, C., ' Evolving gaps: Occupational structure in southern and northern Italy, 1400–1861', *Economic History Review*, 75 (2022), 1359. https://doi.org/10.1111/ehr.13159
[116]Klein, H. S. "A integraçao dos imigrantes italianos no Brasil, na Argentina e Estados u idos L'intégration des immigrants italiens au Brésil, en Argentine et aux Etats-Unis." *Novos estudos*, no. 25 (Oct. 1989): 112.
[117] Eugenia Scarzanella, "'Corn Fever': Italian Tenant Farming Families in Argentina (1895-1912)," *Bulletin of Latin American research* 3, no. 1 (1984): 2.

contributed to this greater percentage of farmers in Argentina. I considered farm labourers as semi-skilled and farm managers as skilled.

44% of white-collar Italian workers in BA were *comerciantes* (merchants).[118] In Argentina, around 12% of working-male Italians were merchants. Between 1898 and 1906, entrepreneurs of Italian businesses in Argentina were mainly from northern Italy, such as Lombardy, Liguria and Piedmont.[119] This demonstrates that northern Italians may have been more entrepreneurial and enterprising than other Italians, which explains the entrepreneurial nature of Italians in Argentina.

*b) BA/NYC*

Figure 3: Skill-sector composition of working-age Italian males in NYC in 1895 and 1869

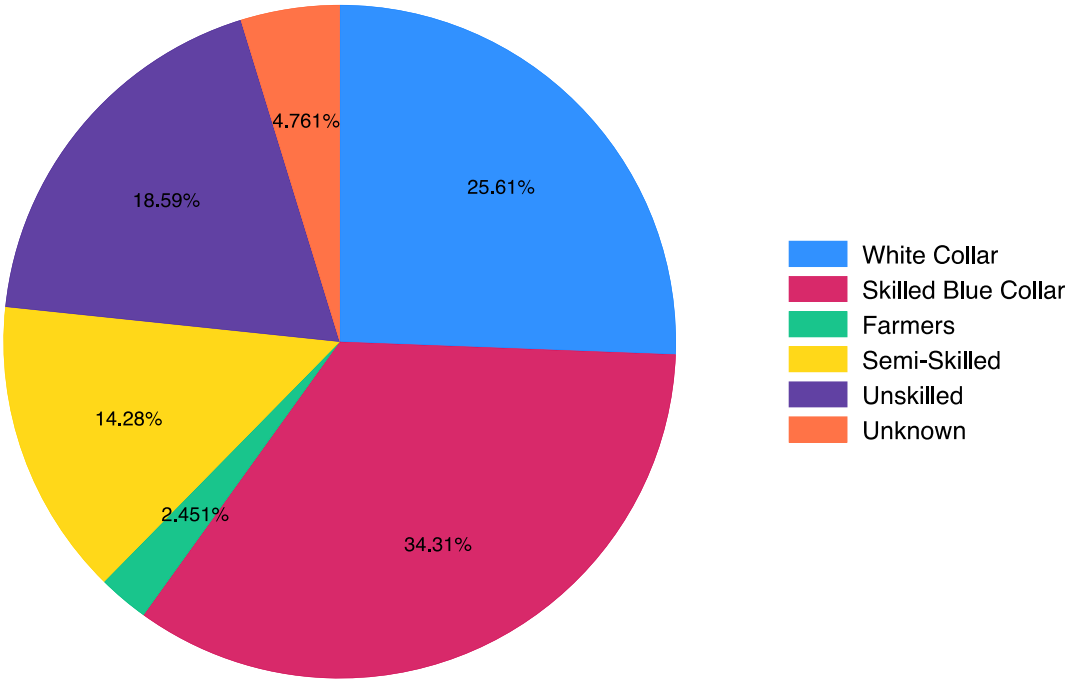



***Notes***: Unknown represents Italians who are not involved in the work force, such as students, retired, or individuals who stayed at home and did not work.
***Sources***: IPUMS sample of US census, exclusively for NYC.

[118]Veronica Ronchi, "The Dawn of Italian Industry in Argentina: Pirelli in Buenos Aires (1898-1910)," *Fondazione Eni Enrico Mattei (FEEM)* no.106, 2016: 1-23: 5. The Spanish word *comerciantes* can be translated as storekeepers, merchants or businessmen
[119] M.C. Giuliani-Balestrino, *L'Argentina degli italiani* vol.1, (Istituto della Enciclopedia italiana, Rome, 1989): 213.

Figure 3 shows different categories of occupations in NYC of Italians. The greatest portion of Italians were involved in unskilled work (38.3%). 21% were involved in semi-skilled work, whilst 21.3% were involved in skilled blue-collar work. White-collar workers are the smallest category of workers.

Figure 4: Skill-sector composition of working-age Italian males in Buenos Aires City in 1895 and 1869




***Notes***: The sector 'Unknown' represents Italians who are not involved in the work force, such as students, retired individuals, or individuals who stayed at home and did not work.
***Sources***: Somoza sample of Argentine census, exclusively for BA.

*Intercity comparison*

Figure 4 shows clearly that nearly 60% of working-age Italians in BA were involved in skilled occupations, including white collar and skilled blue-collar jobs. This starkly contrasts with the NYC sample, where only 37% were involved in these more skilled occupational categories. Only 19% of Italians in BA were involved in unskilled work, whereas nearly 40% of Italians in NYC were occupied in unskilled work. This supports my first hypothesis that there was a greater proportion of skilled Italians that migrated to BA than NYC.

A stark difference between BA and NYC at the time was that, in BA, 2.45% of working-age Italians were involved in farming, whereas no Italian in NYC was involved in farming, most likely since NYC was more industrialised than BA at the time. NYC started rapidly industrialising prior to BA. Between 1865 and 1915, New York State rapidly industrialised, whereas Argentina was on the cusp of industrialisation in 1890 but didn't succeed to develop an efficient manufacturing sector like America at this time.[120] Moreover, a boom in exports of beef and grain took place in Argentina between 1870 and 1913 and since BA was surrounded by the fertile flatlands of the Pampas, which were ideal for farming and cattle, these Italian migrants provided the agricultural manpower needed in the sparsely populated Pampas.[121]

5.iv Returns to skills

*Intercountry comparison*

I perform regression (1) to test my second hypothesis to see whether Argentina or America had higher returns to skills for Italian migrants.

[120] Yovanna Pineda, *Industrial Development in a Frontier Economy: The Industrialization of Argentina, 1890-1930* (Stanford, Calif: Stanford University Press, 2009), 25.
[121] Eduardo Elena, "Commodities and Consumption in "Golden Age" Argentina," *Oxford Research Encyclopedia of Latin American History* (2016): 4; Vicente Pinilla and Agustina Rayes, "Why did Argentina become a super-exporter of agricultural and food products during the Belle Époque (1880-1929)?" *EHES Working Papers in Economic History*, No. 107 (2017): 7-23.

Table 3: Comparison of Multiple regression of *logincome* on literacy for working-age Italian males in US and Argentina

| | (1) Logincome US | | (1) Logincome Argentina |
|---|---|---|---|
| Literacy | 0.174*** | Literacy | 0.207*** |
| | (.015) | | (.011) |
| Region fixed effects | Yes | | Yes |
| Observations | 2636 | Observations | 8320 |
| R-squared | 0.086 | R-squared | 0.196 |

***Notes***: *** p<0.01, ** p<0.05, * p<0.1. Standard errors are in parentheses. Dummy variables for location are sorted under dregion for US. dregion1 is the New England Division, 2 is Middle Atlantic Division, 3 is East North Central Division, 4 is West North Central Division, 5 is South Atlantic Division, 6 is East South Central Division, 7 is the West South Central Division, 8 is the Mountain Division, 9 is the Pacific Division, as shown above. In Argentina, Georegion1 is the dummy variable of eastern Argentina, Georegion2 is northern Argentina, Georegion3 is the southern Argentina, Georegion4 is western Argentina. Region fixed effects are based on the individual's region of residence. Regression controls for age squared and age.
***Sources***: Somoza sample of Argentine census 1895 and 1869; IPUMS sample of US census 1870 and 1900. Occupational-level incomes from multiple sources described in text. Argentine occupational-level incomes: Buchanan (1998), 1881 Censo General de La Provincia de Buenos Aires (1883), Censo de Los Empleados Administrativo (Argentina, Dirección General de Estadistica 1895), Correa and Lahitte (1898) etc. US occupational-level incomes: Sobek (1996), 1901 Cost of Living (Bureau of Census 1901) etc.

The coefficient for literacy is 0.21 for Argentina, whereas it is 0.17 for US, which are both statistically significant at the 1% level. The returns to skills were higher in Argentina than America, which confirms my second hypothesis.[122] My second hypothesis can also be shown from the difference in literacy rates and the occupational structure for Italians between Argentina and America. This may have occurred due to the relative scarcity of human capital in Argentina than in America. I have shown that the general literacy rate in Argentina was 0.49, whereas that of America was 0.87, which may signify that skilled Italians were better recompensed in Argentina than in America because skills were scarcer in Argentina than in America.

[122] When I refer to 'returns to skills' here and onwards during my regression analysis, I am using the returns to literacy as a proxy for returns to skills (as explained in my method).

My returns to skills comparison may not be reliable because I used a greater number of sources for occupations in my Argentinian data set than in my American data set. Buchanan's work included 95 blue-collar occupations.[123] Moreover, I used the 1881 census of the Province of Buenos Aires to fill in any gaps, which includes 65 blue-collar occupations, and I employed the 1893 national census for public employees and the Congressional report of Correa and Lahitte for farming incomes. [124] Thus, I utilised many different sources to obtain the Argentine data set. In contrast, for my American data set, I mainly relied on Sobek's 1890 income scores, which includes around 143 different occupations including white-collar, blue-collar and farmers. [125] I also used the 1901 *Cost of Living* survey.[126] Since I used a greater range of sources for my Argentine data set, there may have been a greater range of incomes included, which would suggest that the returns to skills was greater in Argentina. My data may have made it seem that there was a greater range of occupations and incomes available in Argentina than America.

This is a shortcoming of my data because a greater range of incomes in Argentina could create the false perception that returns to skills were greater in Argentina since we have seemingly more and higher incomes at the top end of the income distribution. In the future, to improve my research, I would use more sources for America.[127]

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[123] Buchanan, "La moneda y la vida en la República Argentina," 240.
[124] Provincia de Buenos Aires, "Censo General de La Provincia de Buenos Aires, 1881," *Buenos Aires*: 239. 1883 ; Argentina, Dirección General de Estadistica. *Censo de Los Empleados Administrativos, Funcionarios Judiciales Personal Docente de La República Argentina Correspondiente Al 31 de Diciembre de 1894*. Compañia sud-americana de billetes de banco, 1895; Antonio M. Correa, and Emilio Lahitte, "Investigación Parlamentaria Sobre Agricultura, Ganadería, Industrias Derivadas Y Colonización," *Anexo B, Buenos Aires*, 1898.
[125] Sobek, "Work, Status, and Income," 169–207.
[126] U.S. Bureau of the Census, *1901 Cost of Living United States*: Wages. Census 1901. Labor Force, Wages, and Working Conditions (Series D 1-238), Chapter D Labor Force: Series D 1-106, Union scale of wages and wages of labour. 1901.
[127] Theodore Papageorgiou, 2. "Occupational Matching and Cities." *American Economic Journal: Macroeconomics* 14, no.3 (2022): 82-132.

*Intercity:*

To improve the reliability of my model, I focus on working-age Italians in NYC and BA. This controls the environment of the Italians to compare more effectively returns to skills.

Table 4: Testing the difference in the Multiple regression of *logincome* on literacy for working-age Italian males in BA against NYC

| | (1)<br>logincome<br>NYC | (2)<br>logincome BA |
|---|---|---|
| Literacy | 0.185*** | 0.264*** |
| | (0.028) | (0.02) |
| Observations | 649 | 3244 |
| R-squared | 0.09 | 0.05 |

***Notes***: Standard errors are in parentheses
*** p<0.01, ** p<0.05, * p<0.1. Regression controls for a quadratic in age.
***Sources***: Somoza sample of Argentine census 1895 and 1869; IPUMS sample of US census 1870 and 1900. See table 4 for incomes sources.

Table 4 displays the results of regression (2). Table 4 supports my second hypothesis that the returns to skills/literacy were greater in BA than NYC, as, after running the logincome regression, the coefficient for literacy was 0.26 in BA, as compared to 0.19 in NYC, which are both significant at the 1% level. This shows that there was a greater income increase for increased literacy and skills in BA than in NYC because there was a greater human capital scarcity in BA than NYC.[128] The returns to skills were greater in the large Argentine and American cities than in Argentina and America in general, explaining why Italians were more attracted to these cities.

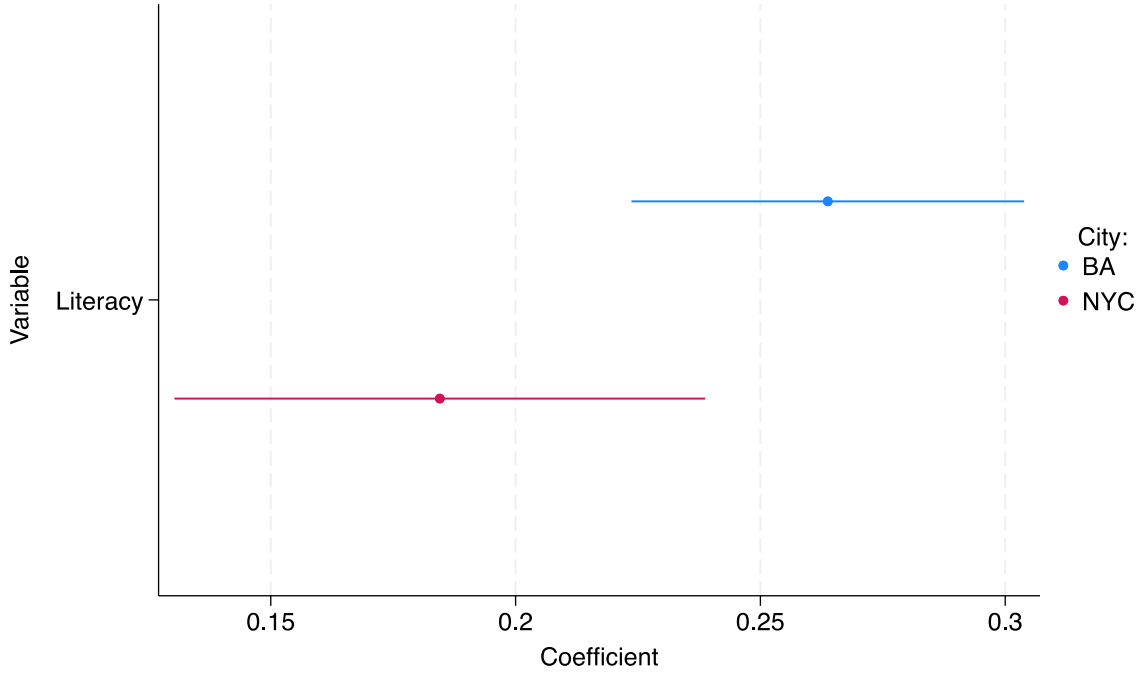
[128] Refer above to the general population literacy rates. BA had a lower general literacy rate than NYC. It is interesting to note that, although Italians had lower literacy rates than both the general population in NYC and BA (which is different to intercountry differences in literacy rates), the gap between the literacy rates of Italians and the general population is greater for NYC than for BA, showing that the human capital scarcity was greater in BA than NYC.

The difference in returns to skills were greater between Argentina and BA than between US and NYC. This suggests that there was a greater urban wage premium in Argentina than America.

5.v Wald test

I tested whether the returns to literacy in Buenos Aires and NYC were statistically different through the Wald test. This showed me that I have sufficient evidence to reject the null hypothesis that the literacy coefficients for BA and NYC are equal, since the p-value of 0.0172 is small. Thus, these coefficients are statistically significant at the 5% level, which supports my hypothesis that the returns to skills are disparate between NYC and BA.

Figure 5: Coefficient plot comparing the *logincome* regression for BA and NYC




***Notes***: The error bars display the 95% confidence interval for the Literacy coefficients for the above 2 samples in NYC and BA.
***Sources***: Somoza sample of Argentine census 1895 and 1869; IPUMS sample of US census. See table 4 for incomes sources.

Figure 5 displays the coefficients in my *logincome* regession (2) for *Literacy* with the 95% confidence interval for NYC and BA. [129] This displays that BA's returns to skills were generally greater than that of NYC. We can thus confirm my second hypothesis that the returns to skills in BA was greater than that in NYC, because the 95% confidence interval only marginally overlaps.

*Intercity Interaction Regression:*

I performed regression (3) to test my second hypothesis to see if returns to skills for Italians were different between NYC and BA by aggregating both data sets together and using interaction effects for location.

Table 5: Interaction regression for NYC and BA

| | (1)<br>logincome |
|---|---|
| Literacy | 0.264*** |
| | (0.019) |
| | (0.00007) |
| Literacy X location | -0.08* |
| | (0.05) |
| location | -0.38*** |
| | (0.04) |
| Observations | 3893 |
| R-squared | 0.138 |

***Notes***: Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Location is a dummy variable. This variable takes on the value of 0 in BA and 1 in NYC. Regression controls for a quadratic in age. My second specification includes interaction variables for Literacyage and literacyagesquared. See table 4 for incomes sources.
***Sources***: Somoza sample of Argentine census 1895 and 1869; IPUMS sample of US census 1870 and 1900. See table 4 for incomes sources.

Table 5 shows the results of the interaction regression, which adds *location* as a dummy variable. My dataset includes my sample of NYC working-age male Italians merged with Italians in BA using my regression (3). My specification includes the interaction of *Literacy X location*, which is -0.08. The coefficient for the interaction between literacy and location shows the effect of literacy on log wage between BA and NY. This demonstrates that the returns to skills were

[129] Figure 9 in Appendix complements this by adding standard errors.

lower in NYC than in BA, and that this is significant at the 10% level, which confirms my second hypothesis.

5.vi Skill premia

*Intercountry general skill premium*

I calculated the skill premium for Argentina between skilled and unskilled workers as 2.12 in 1900, whereas the skill premium for America was 1.42 for America. This shows that the skill premium was larger in 1900 in Argentina than in America. This confirms my third hypothesis, that more skilled Italians moved to Argentina because the skill premium was higher in Argentina than America. This higher skill premium in Argentina could exist because real incomes for unskilled workers were lower in Argentina than in America. [130] I calculated the unskilled income in Argentina, including farm labourers, as 439 in 1900 US PPP-equivalent dollars, whereas this was 488 in 1900 US dollars. This shows that real incomes were 11% higher for unskilled workers in America than Argentina, which supports Williamson's idea that real unskilled wages were lower in the Argentina than America.[131] However, Williamson wrote that real unskilled wages were 25% lower in Argentina than America.

Banerjee, Basu and Keller underline that poorer countries have higher skill premiums. [132] In 1900, Argentina was poorer than America, as its GDP per capita was nearly three-fifths of that of America, which explains why Argentina's skill premium was higher than that of America.[133]

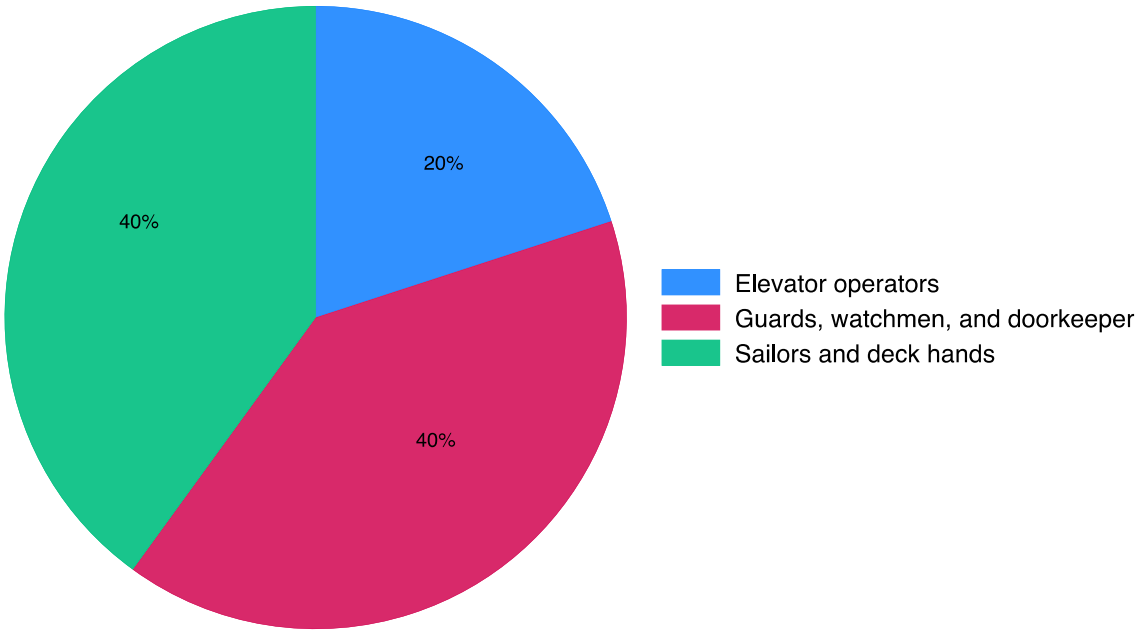
*Examination of skilled vs unskilled occupations: NYC/BA:*

The most common skilled blue-collar worker in BA was a construction worker, with a percentage of 26.4%. 16.4% of skilled blue-collar workers were carpenters.

[130] Williamson, "The Evolution of Global Labor Markets Since 1830," 182-183.
[131] Williamson, "The Evolution of Global Labor Markets Since 1830," 182-183.
[132] Anurag Banerjee, Parantap Basu, and Elisa Keller. "Cross-country Disparities in Skill Premium and Skill Acquisition." *Economic inquiry* 61, no. 1 (2023): 179.
[133] Jutta Bolt, and Jan Luiten van Zanden, "Maddison style estimates of the evolution of the world economy. A new 2020 update," Maddison Project Working Paper WP-15 (2020). https://www.rug.nl/ggdc/historicaldevelopment/maddison/publications/wp15.pdf.

15% were shoemakers, whereas 6.6% were blacksmiths. In contrast, in NYC, the majority (32%) of Italian skilled blue-collar workers were tailors, whilst 31% of Italian, skilled blue-collar workers were blacksmiths.[134]

Figure 6: Unskilled occupations of Italian migrants in NYC

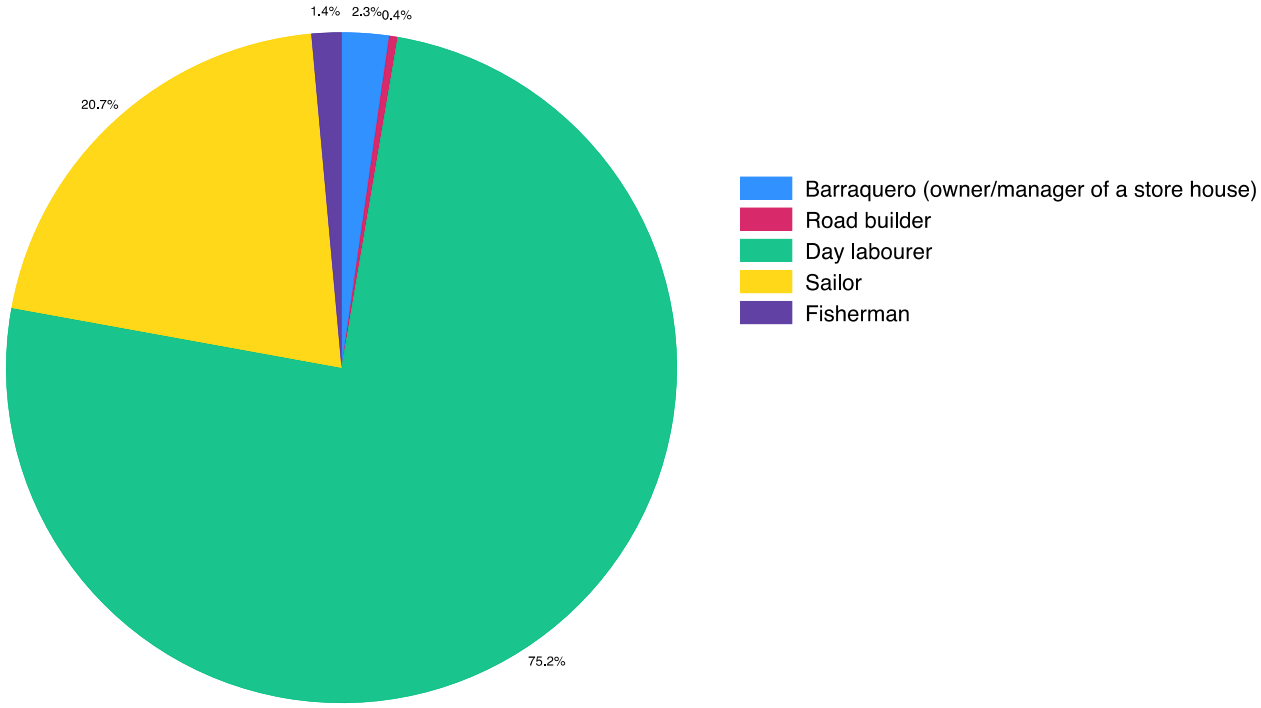



***Sources***: IPUMS sample of US census 1870 and 1900

Figure 6 shows that 40% of unskilled Italian labourers in NYC were sailors or deck hands. Ellis Island, a major port in NYC, may have required many deck hands and sailors. 20% of Italians were elevator operators, whilst 40% were guards, watchmen and doorkeepers.

[134] These compositional pie-charts were too detailed and difficult to read to include.

Figure 7: Unskilled occupations of Italian migrants in BA




***Sources***: Somoza sample of Argentine census 1895 and 1869

Figure 7 shows that 75.2% of unskilled labourers in BA are day labourers, whilst 20.7% are sailors. Figures 7 and 6 illustrate that there was a higher concentration of unskilled workers as day labourers than in NYC, where there exists less of a concentration purely on one occupation. [135]

From Figures 7 and 8, I decided to use sailors as an example of a common unskilled occupation of Italians in NYC and BA.

[135] Due to classification differences in censuses, 'day labourer' is quite vague and refers to any unskilled worker who is paid on a daily basis.

*Skill-premium: intercity occupation-specific*

When investigating specific skill premia for Italians in BA and NYC, I chose the most popular skilled blue-collar worker, which was a blacksmith. 31% of Italian, skilled blue-collar workers in NYC were blacksmiths, whilst around 7% were blacksmiths in BA. I contrasted this skilled occupation with the unskilled occupation of sailors because many unskilled Italians in both BA and NYC were sailors. 40% of unskilled Italian labourers in NYC were sailors or deck hands, whilst 20.7% in BA were sailors. For these skilled-unskilled occupations, I calculated the skill premium as 1.43 in NYC, whereas this was 2.60 in BA, which is slightly larger than my general skill premium for Argentina. The specific skill-premium in BA was thus nearly double that in NYC. This clearly confirms my third hypothesis and reveals a novel reason behind why more skilled Italians arrived in BA than in NYC. A skill premium, specific to occupations that Italians took on, which was nearly double in size in BA, was a big attraction for skilled Italians to migrate to BA instead of NYC.

## 6. Conclusion

I have found, in accordance with Baily's view, that Italian immigrants in Argentina were more skilled than Italian immigrants in America, relative to the general destination population, during the Age of Mass Migration.[136] These higher skills were evidenced by Italian literacy rates, which were greater in Argentina and BA than in America and NYC, and occupational compositions. The proportion of unskilled Italian labourers (45%) in America sample is over double the proportion of unskilled labourers in Argentina, whereas the proportion of skilled-blue collar Italian workers in Argentina was over double that in America. 60% of working-age Italians in BA were involved in skilled occupations, including white collar and skilled blue-collar jobs, whilst only 37% were involved in these more skilled occupational categories in NYC. Since a greater proportion of Italians were undertaking high-skilled jobs, this implies a higher skill set of Italians in BA/Argentina than NYC/America.

[136] Baily, *Immigrants in the Lands of Promise,* 65-6.

Higher-skilled Italians may have moved to Argentina over America because there was a greater skill scarcity in Argentina than America, relative to the general population. Higher literacy rates of the general population in America/NYC over Argentina/BA provides us with this fascinating insight to the Italian emigration decision. This could explain Williamson's 'puzzle' of why higher-skilled Italians moved to Argentina, which had lower real wages than America.[137]

My regressions show that returns to skills were higher in both Argentina and BA than America and NYC. The coefficient for literacy is 0.21 for Argentina, whereas it is 0.17 for US, which is statistically significant.[138] This shows the returns to literacy/skills were higher in Argentina/BA than America/NYC, which confirms my second hypothesis. Since returns to skills were higher in Argentina than America, more skilled Italians were attracted to Argentina over America.

Moreover, I find that the skill premium in Argentina was higher than that in America. Investigation of the specific-skill premium between blacksmiths and sailors increases this difference in skill premia.[139]

Additionally, I show that real incomes were 11% higher for unskilled workers in America than Argentina, which explains the lower skill premium in America and why lower-skilled workers migrated to America. Although it supports Williamson's idea that real unskilled wages were lower in Argentina than America, it suggests that this real wage differential was overstated.[140] Williamson wrote that real unskilled wages were 25% lower in Argentina than America. This contributes to the debate raised by Campante and Glaeser, that the real wage differential between America and Argentina is exaggerated.[141]

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[137] Williamson, "The Evolution of Global Labor Markets Since 1830," 182-183.
[138] This is statistically significant at the 1% level.
[139] Blacksmith and sailors were the most popular unskilled and skilled blue-collar occupations in NYC and BA.
[140] Williamson, "The Evolution of Global Labor Markets Since 1830," 182-183.
[141] Campante and Glaeser, "Yet another tale of two cities: Buenos Aires and Chicago," 11.

The lack of literature comparing self-selection between Italians immigrating to Argentina and America provides a basis for future research. Access to the state Italian archives to obtain an Italian sample around the Age of Mass Migration, including the Italian census or Italian conscription records, would enable an application of Borjas', Roy's or Abramitzky's model to Italians in America and Argentina to compare returns to skills between Italians moving to these destinations.[142]

[142] George J Borjas, "Self-Selection and the Earnings of Immigrants," *The American economic review* 77, no. 4 (1987): 531–553; A. D. Roy, "Some Thoughts on the Distribution of Earnings," Oxford Economic Papers New Series 3 (2): 1951: 135-46.; Abramitzky, Boustan, and Eriksson, "Europe's Tired, Poor, Huddled Masses," 1832–1856. I was not able to access these data. Future research could use Borjas' model of selection or even use Abramitzky's model to compare the outcomes of brothers from households in Italy, comparing one brother who remained in Italy to another brother who migrated, in order to control for pre-migration characteristics. This would enable dropping my assumption that Italians in the cohort had already made the decision to migrate, as one would be comparing returns to skills between Italy and the destination countries of Argentina and America.

**List of abbreviations**

BA: Buenos Aires City
NEC: not elsewhere classified
NYC: New York City
PPP: Purchasing power parity
US: United States

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**Appendix**

Context:

El *conventillo* was the urban allotment that was offered to the Italian immigrants in Argentina. This working-class housing was an attraction for the Italian immigrants, which was a motivation to migrate to Argentina rather than the US. The *conventillo* offered a place for Italians to adapt to Argentine culture.[143] In contrast, the harsh padroni system was in place in the US, where Italian labour brokers, called padroni, would supervise the search for a job for their fellow Italian. This system involved the exploitation of employees, as padroni were in control of the employee's wages and would find cheap Italian labour for firms in often dangerous fields. [144]

Details of Methodology: Occupational estimates:

I made sure to verify each occupation 1950 category to see the definition of exactly what each label consisted of to determine incomes. I also combine the information from 2 variables in order to look at occupations. I combine the variable of 1950 occupations, and I also used the IPUMS variable occstr to help me determine the exact job.

I have made sure to define each 1950 occupation very clearly using the IPUMS further information on each factor and general research around different occupations included in the IPUMS. Some of the categories I have had to make estimations because the categories didn't fit perfectly. I also used the United States census bureau website census.gov to find certain average incomes for particular income groups.[145]

I took the average of all of the occupations mentioned, assuming an even distribution of each job in the occupation 1950 category. I decided to focus on the 1950 occupation category because it was more feasible to find the wages for the 1950 occupation categories than the occupation factor. I also used the Dictionary Of Occupational Titles and IPUMS website to help me get more information about the occupations.

To calculate the mean income of certain occupation groups in 1900, I was not able to find raw data of every income group for 1900. Thus, a shortcoming is that I actually had to use some data from around 1900, in order to calculate the mean occupation of that income group. For example, in order to calculate the mean occupation of entertainers (not elsewhere classified) using the primary sources

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[143] James R Scobie, "Buenos Aires as a Commercial-Bureaucratic City, 1880-1910: Characteristics of a City's Orientation," *The American Historical Review* 77, no. 4 (1972): 1052. https://doi.org/10.2307/1859507.

[144] Humbert S. Nelli, "The Italian Padrone System in the United States," *Labor History* 5, no. 2 (1964): 153. doi:10.1080/00236566408583942.

[145] US States Census Bureau, US Bureau of the Census. "Chapter D. Labor Force, Wages, and Working Conditions (Series D 1-238)." Bureau of the Census, Sixteenth Census Reports, Comparative Occupation Statistics for the United States, 1870-1940, P. 142, and Release Series P-9, No. 11, 1940. https://www2.census.gov/library/publications/1949/compendia/hist_stats_1789-1945/hist_stats_1789-1945-chD.pdf. https://www.census.gov. Accessed 25 Jan 2024.

available, I used Matt Sobek's mean estimation for entertainers (nec) of 436, and then used inflation rates between 1890 and 1900 in the US and the CPI in order to calculate the equivalent amount in PPP In 1900 that this wage in 1890 would be. [146]

I used this inflation calculator to convert 1929 dollars to 1900 dollars for elevator operators. [147] Thus, for all the highlighted elements of my data sheet on incomes, I have used income data not from exactly 1900, but approximately near this time and accounted for inflation between these years. In addition, for elevator operators, I have used information for weekly wages, and thus, in order to find the yearly wage, I used Huberman's and Minn's paper to estimate the number of holidays taken in order to determine the average number of working weeks in the US in the year 1900. [148] I have also listed no wage for those non-occupational categories, such as students. My spreadsheet and bibliography list all other citations, that have proven useful for my mean occupational estimations. I also used for truck and tractor drivers instead, drivers of general haulage as I could not find the adequate truck and tractor incomes. For the category of watchmen, guards and doormen, I found the category "watchmen and guards" and assumed that doormen fell in the same category.[149]

Multivariable regression:
I used descriptive statistics like means to determine mean yearly incomes of individuals from the incomes of all the occupations. I have chosen to use the natural log, because this will enable me to view percentage changes in occupational incomes more easily.

Farming
Furthermore, I used Goldenweiser's estimates of farming incomes to help me input farming incomes, which is a very difficult category to find incomes for, due to the lack of data for this period for the different categories of farmers in the US.[150]

Occupational estimates
To estimate the income of *comerciantes* or storekeepers in Argentina, I followed Perez's method, which was to sum the returns to labour with an estimation of per capita returns to capital. For this, I follow Perez's, Álvarez and Nicolini's

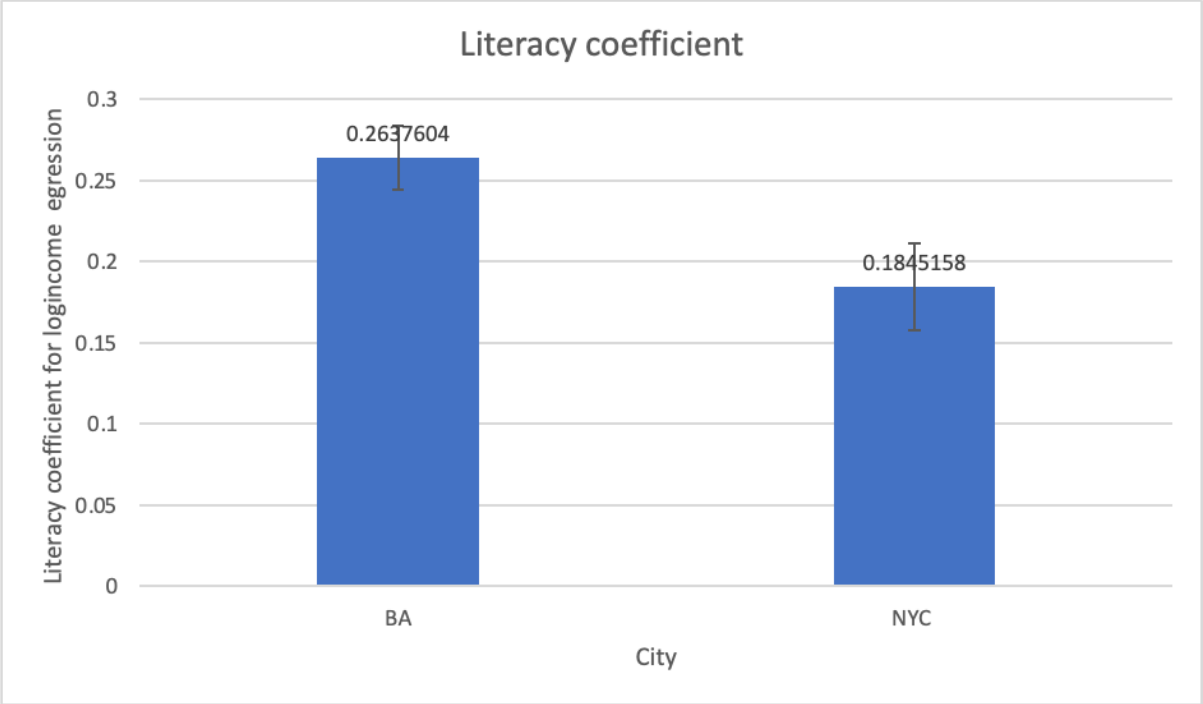
[146] $429 in 1890 → 1900 | Inflation Calculator." Official Inflation Data, Alioth Finance, https://www.officialdata.org/us/inflation/1890?endYear=1900&amount=429 (accessed 3 Mar. 2024).
[147] $20 in 1929 → 1900 | Inflation Calculator." Official Inflation Data, Alioth Finance, https://www.officialdata.org/us/inflation/1929?endYear=1900&amount=20 (accessed 3 Mar. 2024),
[148] Michael Huberman, and Chris Minns, "The Times They Are Not Changin': Days and Hours of Work in Old and New Worlds, 1870–2000," *Explorations in economic history* 44, no. 4 (2007): 540.
[149] "IPUMS USA: Descr: OCC1950," IPUMS. Accessed on March 4, 2024. https://usa.ipums.org/usa-action/variables/OCC1950#description_section.
[150] E. A Goldenweiser, "The Farmer's Income," *The American Economic Review* 6, no. 1 (1916): 42–48. http://www.jstor.org/stable/1827810.

assumption of an 8% return to capital.[151] The total size of the commercial capital stock can be found in the third volume of the 1895 Argentine national census and can then be divided by the total number of store-keepers, assuming an 8% return to capital.[152] Once this number is summed with labour income, one finds the average income of store-keepers/*comerciantes*.

$$Income\ of\ comerciante = Labour\ Income + (\frac{Total\ commercial\ capital\ \text{stock}}{Number\ of\ comerciantes})0.08$$

To find the incomes of factory owners-*fabricantes*- and proprietors of industrial companies-*industriales*-I followed the same method by summing the income of a foreman with the returns to capital in industry.

Figure 9: Literacy coefficient comparison between BA and NYC




***Sources***: Somoza sample of Argentine census 1895 and 1869; IPUMS sample of US census 1870 and 1900. Occupational-level incomes from multiple sources described in text. Argentine occupational-level incomes: Buchanan (1998), 1881 Censo General de La Provincia de Buenos Aires (1883), Censo de Los Empleados Administrativo (Argentina, Dirección General de Estadistica 1895*),* Correa and Lahitte (1898) etc. US occupational-level incomes: Sobek (1996), 1901 Cost of Living (Bureau of Census 1901) etc.

[151] Beatriz Álvarez, and Esteban Alberto Nicolini, "Income Inequality in the North-West of Argentina During the First Globalization. Methodology and Preliminary Results," *Ponencia Presentada En II Encuentro Anual de La Asociación Española de Historia Económica. Madrid* 8, (2010): 2; Perez, Appendix of "(South) American Dream", 2018. This 8% returns to capital is an assumption and thus has its drawbacks in giving a totally accurate representation of the returns to capital.

[152] Diego Gregorio de la Fuente, *Segundo Censo de La República Argentina, Mayo 10 de 1895.*,Vol. 3. Taller tip. de la Penitenciaria nacional, 1898.

Figure 9 complements Figure 5 and shows the coefficients for BA and NYC (as displayed in the text for the multivariate regression (2)). The error bars represent the standard error for the 2 coefficients. This graph clearly displays that the returns to skills in BA exceeded those in NYC for Italians since the error bars do not overlap.