

# Immigrant Nationality and Human Capital Formation in Brazil

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## Abstract

The purpose of the paper is to investigate the impact of the mass migration episode of the late nineteenth and early twentieth century (1888-1914) on human capital creation in Brazil. Our hypothesis is that the presence of immigrants at the turn of the twentieth century has had a positive impact on current measures of human capital and that the effect is heterogeneous. Demand for education depends on an immigrants' experiences with public education, on their religious background, and on their migration objectives and demographics. The supply of education is contingent on local economic conditions and size of immigrant community. We theorize that the effect of this mass migration episode persisted overtime and remained localized due to high mobility costs and network effects. Initial results suggest heterogeneous effects exist and conform to our hypotheses.

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# 1 Introduction

The literature on the long run economic effects of turn of the twentieth century immigration in Brazil has expanded significantly in the past decade. Most of the research has focused on state-level outcomes or within-state local heterogeneity. Little attention has been paid to heterogeneous effects due to nationality traits with no spacial restrictions, though the field is emerging [see, for example, Monastério (2017)]. The purpose of this paper is to explain the channels through which immigrant nationality may have influenced human capital formation in Brazil.<sup>1</sup> To do so, we study the nationality traits likely to affect immigrants' demand and supply for education in the first few decades after their arrival and the mechanisms of persistence.

The motivation of this paper is to understand the long run influence of demographic change by studying its particulars. National cultural traits, here narrowly defined, according to Luigi Guiso, Paola Sapienza and Luigi Zingales (2006), "as those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation" are such particulars. Here we provide evidence of immigrant heterogeneity in the "market" for education.

On the one hand, immigrants' experience with universal education in their home countries, their religious background and demographics help shape the demand for education during the mass migration episode of the late nineteenth and early twentieth century. On the other hand, the supply of education is contingent on social capital and size of immigrant community and strength of its network. Thus, immigrant nationality is likely to affect human capital formation at the local level and these heterogeneous effects would have persisted overtime due to high inter-regional mobility costs in the short and medium run and to immigrant network effects.

Starting in the mid-nineteenth century, immigrants from several European countries began arriving in Brazil. As shown in Figure 1, approximately three and a half million immigrants entered Brazil between 1850 and 1920. The majority of them arrived immediately before or following slavery abolition in 1888. This immigration episode did not occur directly as an outcome of changes to the labor market in Brazil, but instead as a result of a concerted effort by the São Paulo state government to subsidize European immigration and maintain an elastic labor supply for exporting areas. (Leff, 1991, p. 65)

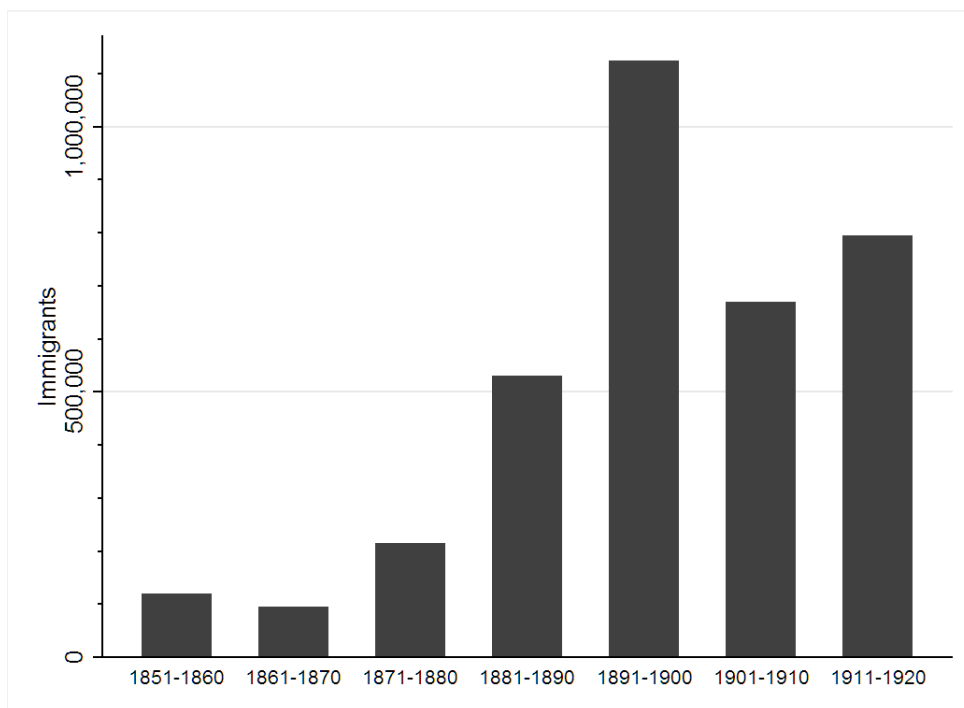
Once in Brazil, these immigrants tended to locate in the country's southernmost parts and in São Paulo. Figure 2 shows the distribution of foreign-born populations in 1920. The effects of their presence on Brazil's current economic development has received much deserved attention from scholars. Yvonne Stolz, Joerg Baten and Tarcísio Botelho (2013) argue that the high level of immigrant initial human capital, measured by a higher numeracy score in 1900, had spillover effects to the entire economy. At the state-level, they find that states that received larger immigrant contingents between 1890 and 1920 had greater gains in numeracy

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<sup>1</sup>Nationality here broadly defined, often representing a particular ethnic group from a country or countries, such as the predominantly Christian Syrian-Lebanese immigrants.



**Figure 1:** Immigrant Arrivals between 1850 and 1920



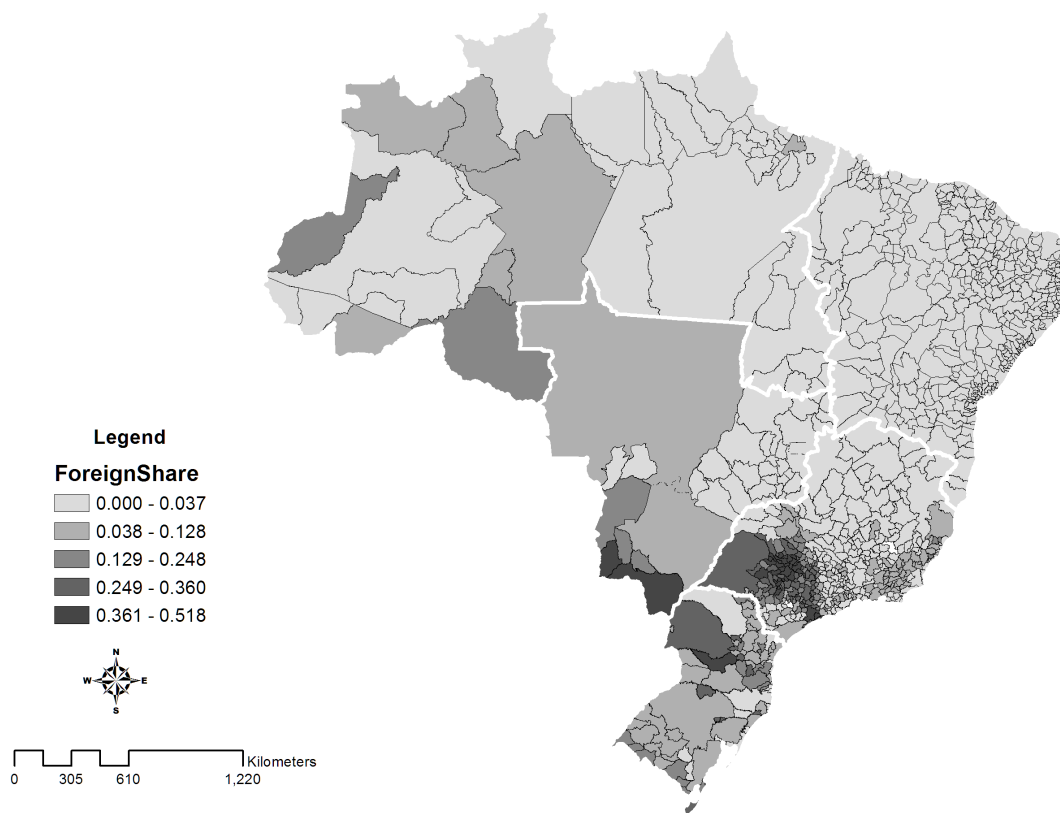
Source: Thomas W. Merrick and Douglas H. Graham (1979)

than states with less immigration.

Stolz et al. (2013) argue that the mechanisms through which those effects come about were fourfold. First, higher immigrant human capital had a level-effect on human capital accumulation, meaning the stock of human capital increased per capita as the the average immigrant "exhibited a formal and informal education and training that was better than that of native Brazilians." Second, immigrant self-selection increased the level of entrepreneurial capital in the country, meaning entrepreneurial immigrants were more inclined to educate themselves and their families in order to improve their economic conditions. Third, immigrant human capital had spillovers to the native population "as they initiated success behavior." Stolz et al. (2013) connect this third mechanism is with the creation of immigrant associations designed to assist the immigrant communities. Finally, they argue that female human capital can have "positive implications for intergenerational transfer." The immigrant experience can change the relative importance of female education and create spillovers.

An alternative argument to explain human capital formation at the state-level is that commodity booms influenced the amount of revenues available for education investment. Aldo Musacchio, André Martínez Fritscher and Martina Viarengo (2014) find that states undergoing export booms between 1889 and 1930 had greater access to export tax revenues for reinvestment and that the presence of immigrants in each state did not affect how those revenues were spent. In fact, Musacchio et al. (2014) find a negative correlation between immigrant presence and educational expenditures at the state-level.

**Figure 2:** Foreign-share of Total Population in 1920



Source: DGE

While the state-level relationship between immigrant presence and human capital formation may appear weak, there are two reasons to believe that at the municipality-level the effects of immigrant presence are more pronounced. First, other factors may confound the state-level outcomes as the analysis becomes more complex as the scope of jurisdictions increase. As Musacchio et al. (2014) point out, after 1891, "improving education became a political prerogative, not only because voters could demand education, but because due to the literacy requirement to vote, increasing literacy could help local political bosses to mobilize more voters in state and national elections." Multiple political demands influenced state-level decision-making.

Second, competition for a scarce labor force between municipalities drove local politicians to invest more in educational services where immigrants were present. This effect cannot appear in any state-level analysis, because it was driven by local demands. According to William Summerhill (2010), "[where] there were higher proportions of immigrant owners, local elites decided to spend more on education. Given that the immigrants were not enfranchised, this was most likely a 'supply-side' phenomenon. By offering higher levels of local public education, counties could recruit more immigrant workers, some of whom became farm owners."

Further evidence of the relevance of immigrant presence for the local provision of education comes from Irineu de Carvalho Filho and Renato P. Colistete (2010), who argue that "the growing presence of immigrants seems to have increased the demand for primary education at the local level, reflecting on municipal and state level policies." They find a positive and persistent effect of immigrant presence in São Paulo state municipalities on public instruction.

Similar positive results come from Rudi Rocha, Claudio Ferraz and Rodrigo R. Soares' (2017) analysis of São Paulo state-sponsored settlements and Irineu de Carvalho Filho and Leonardo Monasterio's (2012) work on southern immigrant settlements. Rocha et al. (2017) argue that the effects of these settlements persisted due to higher supply of education overtime and to a structural shift in occupations towards activities that required higher skills and thus more educational investments. De Carvalho Filho and Monasterio (2012) find that the closer a municipality is to a nineteenth century government-sponsored immigrant settlement, the greater that municipality performs economically today.

There is little doubt that immigrant areas underwent deep economic transformations in the late nineteenth and early twentieth centuries. The driving mechanisms of such change are debatable and more research is needed to explore them. This essay addresses such research needs by highlighting differences in national traits as potential drivers of positive effects on human capital formation. The general hypothesis is that where immigrants were present during the early twentieth century, the market for education, both in its demand and supply sides, shifted to increase the equilibrium quantity of education in the long run. Furthermore, the scale of this positive shift depends on original traits that shape demand and supply for different national groups.

The majority of immigrants to enter Brazil in the late nineteenth and early twentieth century came from Italy, Portugal, Spain and Germany. Large numbers of Japanese immigrants arrived in Brazil starting in 1908. (Levy, 1974) The 1920 Census discriminates between 30 different nationalities present in Brazil at the time. We focus the analysis of heterogeneous effects of the five main immigrant nationalities, namely Italian, Portuguese, Spanish, German, Japanese. In addition, We also analyze the Syrian-Lebanese, whose presence in Brazil is well-documented but varies in scale from the other national groups. Syrian-Lebanese immigration was much smaller relative to the five main nationalities, making them good case studies of the effects of smaller immigrant communities.

In Section 2, We explicit the national traits and their connection with human capital. Section 3 is devoted to understanding how these traits developed within each of the main

national groups. In Section 4, We discuss the mechanisms through which the heterogeneous effects of national traits persisted. Section 5 concludes the essay with its implications and direction of future work.

## 2 Nationality Traits

There exist at least five main national traits which distinguish the immigrant groups within Brazil and affect the market for education. Three traits changing demand: the extent to which universal access to public education was available in one's home country; the religious affiliation of each group, the degree to which it differed from Brazilian Catholicism and the relative relevance of religious education; and the demographics of the immigrant populations. On the supply side, the main traits are the level of social capital available within each immigrant community and the size of each community. This section provides an overview of each individual trait and its relationship with the provision of education.

There are two main mechanisms through which access to universal education in one's home country affects human capital formation in a recipient country. Both mechanisms affect one's expectations of access and thus increase demand for education. First, certain societies place great value on formal education and the extent to which formal education is available is endogenous to this valuation. Second, in the case of exogenous implementation of formal education, longer periods of exposition to public education and the greater extent of this provision, the more likely it will be that citizens will come to expect future provision. The two mechanisms are complementary.

Religious affiliation has received quite a bit of attention from social scientists seeking to understand its relationship with human and social capital formation<sup>2</sup>. The common argument is that religiosity has positive influence on both by operating as a community organizer and motivator. (Furseth, 2008) The manner in which religious affiliation differs in the context of this paper from its standard treatment in social capital research is that the religious mechanism highlighted in this essay hinges on the different roles of religious education between immigrant communities. The desire for religious preservation is the driver of demand.

The element of religiosity is present in nearly all immigrant groups, with the exception of the Japanese, whose religious traditions are hard to disentangle from secular cultural elements. The relationship between religious affiliation and the social context within which these immigrant groups find themselves can explain more of the variations in human capital formation than the relationship between religiosity and social capital. The further one's religion is from Brazilian Catholicism, the more likely that community will be to engage in religious education. This is the German case, which We explore in the following section. Moreover, the closer the concept of group identity is tied to a religion and religious traditions,

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<sup>2</sup>See, for example, Acemoglu et al. (2014); Arruñada (2009), Becker and Woessmann (2009, 2010) Cantoni (2015); ?); Easterlin (1981); Guiso et al. (2003); Iyer (2016); Zhai and Woodberry (2011).

the more likely that community will be to organize ethnic schools. This is the case of Italians in Brazil.

Another driver of immigrant demand is the demographic composition of immigrant groups, which varied between national groups. The immigration of families creates a different demand for education than the immigration of single, young males. Adult members of immigrant families had greater incentives to invest in education and to pressure local politicians for schooling opportunities for their children than did single, young males, who were more likely to return to their home country and less likely to require any human capital investment at adulthood. (Sampson, 1999) Moreover, the larger the share of single males, the smaller the share of women in each immigrant group. Fewer immigrant women could reduce the opportunities for intergenerational spillover effects highlighted by (Stolz et al., 2013). On the supply side local authorities who needed to keep a labor force within its jurisdiction would be more likely to invest in public education if the immigrant group contained higher proportions of families.

The broadest mechanism through which immigrant national traits can affect human capital formation differentially is social capital. To avoid confusion, social capital here is equivalent to civic capital as defined by Guiso et al. (2011). Civic capital comprises of "those persistent and shared beliefs and values that help a group overcome the free rider problem in the pursuit of socially valuable activities." Unlike broader definitions of social capital, civic capital encompasses only those informal institutions that facilitate coordination within groups to solve collective action problems and are long lasting or "durable."

There are two main ways in which social capital affects the provision of education and thus contributes to human capital formation. First, social capital increases the costs of free riding behavior within immigrant groups and thus increases the ability of those groups to organize into associations to provide education and other services to the community, by reducing externalities. (Coleman, 1988; Putnam, 1993; Zhang et al., 2017) Immigrant associations were fundamental to the early provision of education in Brazil, where public provision was scarce. (Kreutz, 2000b)

Second, social capital underlies the ability of groups to generate political pressure and obtain public goods through political processes. In a study of Chinese local elections, Gerard Padró We Miquel, Nancy Qian, Yiqing Xu and Yang Yao (2015) find that "social capital enhances the introduction of elections in terms of government-provided public goods. More generally, they show that pre-existing informal institutions can play an important role in determining the success of formal political institutions." This transferability from informal to formal institutions is fundamental to understand the persistence of the heterogeneous effects of national traits. In the Brazilian case, immigrant associations worked to sway politicians to increase education expenditures at the local level, transforming social capital into political capital overtime. In areas where immigrant social capital was low, such transformation did not occur.

The effectiveness of each group's ability to organize hinges on the size of each community within a given municipality. Sufficiently small immigrant groups cannot organize due to

high individual costs, whereas sufficiently large groups weaken social capital and immigrant networks and increase the costs of monitoring individuals within the group. Fukuyama (2001); Oliver and Marwell (1988); Poteete and Ostrom (2004) Group size can influence the capacity of immigrant groups to organize in order to solve local collective action problems and provide public goods to its community. Graphically, the relationship between group size and transaction costs has an inverted U-shape, illustrating the high costs of provision at very small and very large group sizes.

## 3 Immigrant Nationality and Demand and Supply for Education

### 3.1 Italians

The effect of the presence of Italian immigrants on human capital formation is likely positive and large. Many Italians, though not all, had had experience with universal access to public education. The strong ties between religiosity and education within Italian communities and the demographic composition of these immigrants, who arrived in family units, strengthened the demand for education. Moreover, the Italian immigrant communities in Brazil developed into strong networks of mutual aid associations, many of which devoted to educational services. The size of the communities magnified the capacity of their constituents to organize to provide services and to pressure local politicians.

Universal access to education did not expand uniformly across Italian territories. Northern Italians had far more access to education than their southern counterparts. (Pagani, 2014) The largest contingent of Italian arrivals in Brazil originated from the North and many had experienced public education and had come to expect it from Brazilian authorities. (Silva Simões and Pimentel Franco, 2014) In addition, there developed in unified Italy a desire to build an Italian nation with a unified language and culture. The Italian government actively promoted the ethnic education of its emigrant population in an effort to promote a strong sense of *italianità*. (Salveti, 2014)

While the concept of *italianità* was connected to Catholicism, religious and government-funded education efforts did not coincide within Italian immigrant communities. (Salveti, 2014, p. 69) In fact, religiosity was the major force driving the educational efforts of the Italian populations in Brazil, who often saw themselves connected by religion rather than a newly-formed national identity. (Kreutz, 2000b, p. 360) Schools founded by Italian religious orders served not only the local immigrant community, but also native Brazilians and immigrants of other nationalities. (Maschio, 2014) This meant that the Italian push for education influenced human capital formation not only within but also outside of their communities.

Italian communities had a particular feature that strongly influenced the demand for education in Brazil in the early twentieth century. The state of São Paulo required that



Italians who wished to receive a full subsidy to migrate to the state's coffee areas had to do so in family units. Single males were not eligible. This led to a large number of families, including many children, settling in the rural areas of the state. Combined with an expectation and appreciation of the value of education, the demographics of these Italian communities put education as a priority for these groups.

Given such relatively large demand for educational services within these Italian communities, the lack of actual educational offerings in Brazil at the turn of the twentieth century meant that these communities would have to organize not only to provide education but also to pressure local politicians to create and maintain schools. Italians, much like the Germans and the Japanese, founded the largest numbers of mutual aid associations with an educational focus. Indeed, the Italian associations were fundamental in providing education to the children of its members, given the government's inability or unwillingness to step in. (Pagani, 2014; Silva Simões and Pimentel Franco, 2014) Underlying the development of these associations are the social networks of Italian immigrants and the social capital that created and stemmed from these networks. Kreutz (2000b, p. 349) explains that immigrants tended to organize into ethnically homogeneous groups in order to facilitate the strengthening of these networks.

A fundamental aspect of this strengthening of community ties and its subsequent effect on human capital formation was the sheer size of the Italian immigrant community within Brazil. The founding of settlements and the distribution of Italian immigrants in southern Brazil and in the coffee areas of São Paulo favored the development of sufficiently large Italian communities, whose voice local politicians needed to hear. The incentive to maintain immigrants on the coffee farms was often sufficient to push São Paulo leaders to provide some measure of public goods to their constituents.

## 3.2 Germans

The German experience with universal education was the most widespread of the nationalities here analyzed. Compulsory education was introduced in Prussia in 1763 and by 1870 primary enrollment was 67 percent (see Table 1). While the Italian experience with universal education was not uniform, German immigrants had come from regions where universal education was well-established. (Kreutz, 2000b, p. 355) After arriving in Southern Brazil, these immigrants faced a severe shortage of public education opportunities for their children, and to mitigate it began opening ethnic schools.

According to (Kreutz, 2000a, p. 355), the growth of German ethnic schools was slow until 1875 when the different religious groups within the immigrant communities took control of the schools' management. In 1875, there were 99 ethnic schools in Rio Grande do Sul and in 1900 there were 308. As Table 2 shows, by 1931, seven years before the prohibition of ethnic schooling in Brazil, 56,596 students attended 952 German ethnic schools across the country.

The German Lutheran communities were fundamental to the process of education in Brazil. Lutherans understood education as a necessary step in the development and maintenance

**Table 1:** Year of Introduction of Compulsory Education and Primary Enrollment Ratios in 1870 and 1900

Country	Introduction of Compulsory Education	Primary Enrollment Ratios in 1870	Primary Enrollment Ratios in 1900
Prussia	1763	73	77
Spain	1838	40	48
Portugal	1844	13	19
Japan	1871	18	51
Italy	1877	29	38
Brazil	1934	6	10

Source: Adapted from Soysal and Strang (1989), Yamasaki (2010) and Lindert (2004)

**Table 2:** German Ethnic Schools by Religious Affiliation - 1931

State	Evangelical		Catholic		Mixed		Total	
	Schools	Students	Schools	Students	Schools	Students	Schools	Students
Rio Grande do Sul	549	18,938	362	16,666	41	1,474	952	37,078
Santa Catarina	116	4,874	80	4,920	82	3,052	278	12,846
Paraná	10	309	7	1,142	17	731	34	2,182
São Paulo	6	295	2	690	21	2,261	29	3,246
Rio de Janeiro	1	30			4	400	5	430
Espírito Santo	21	705			1	12	22	717
Minas Gerais	2	76					2	76
Other states					4	102	4	102

Source: Kreutz (2000a, p. 357)

of their religious tradition and that in the absence of public schools, the congregation had the duty to provide education to the future generation of Lutherans. As dos Santos and Cecchetti (2013) put it, "the founding of schools was the fruit of the faith" and the religious motive drove Lutheran Germans to devote themselves to the "secular task" of creating and maintaining the ethnic schools.

The demand for ethnic school was fomented by the large number of German families that migrated primarily to the countryside of Southern Brazil. They sought to join or create immigrant settlements and to acquire and work in small agricultural farms. Germans who went to the coffee areas of São Paulo operated similarly to their Italian counterparts. In the South, however, the permanent nature of the German move created incentives for the development of community-based associations while at the same time lessening the local governments' incentives to provide public goods as a means to win over immigrants from other towns.

Without much government support, the German communities organized themselves in associations to meet their demand for education. In addition to the religious motive, ethnic schools contributed to the preservation of the German ethnic identity as well as to the assimilation process of many communities.<sup>3</sup> German associations served not only as the promoters of ethnic schooling, but also as the organizations around which the entire immigrant community centered. These organizations built on and strengthened the existing social capital within the German immigrant communities in southern Brazil. According to dos Santos and Cecchetti (2013), these associations worked as a "social cement that produced solidarity and social cohesion based on the preservation of German attitudes and cultural traditions."

Another contributing factor to human capital formation in the German case was the size of the German community. In the South, there were many immigrant settlements of sufficient size to guarantee the operability of these organizations. In other areas, albeit smaller, German communities generally had a sufficiently high number of families (about 80 families) to not only generate a large enough demand for these associations but also to supply them continuously.

### 3.3 Japanese

The Japanese were the immigrant group who placed the highest value on education, surpassing the Germans. Setoguti (2008, p. 1171) describes the immigrants' demand for education deriving from "a historical experience promoted by the modern Japanese state, in support of education." Not attending school, she argues, was a marginalizing attitude, and the expectation of return to Japan led immigrants to create, "by any means," ethnically Japanese schools. Demartini (2000)'s work on the oral account of early Japanese immigrants corroborates the importance of education to these groups. The Japanese created associations to "first and foremost, supply education to their children." The associations built schools before anything

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<sup>3</sup>Some communities in southern Brazil have kept close ties to their German or Austrian heritage and speak German to this day.

else. These schools operated not only to provide formal education but also to serve as the main medium through which Japanese culture, including the high regard for education, was passed on to future generations.

Despite the strong Japanese commitment to the education of their children, that effort was not connected to the promotion of any religion and religious group did not participate directly in the education of Japanese children in São Paulo. Still, the Japanese actively promoted and maintained ethnic organizations promoting Japanese culture and education. The desire to return home impelled the Japanese to bring up their children as if they were in Japan, with the same customs and educational background. The parents feared that bringing up their children in a foreign country would ostracize them upon return. (Setoguti, 2008, p. 1166)

A strong desire to return home usually existed within immigrant groups formed of young and single males, who migrated in search of quick financial success. Yet, despite a desire to return, the Japanese in Brazil had come in as family units. This feature of Japanese immigration had a dual role in fomenting human capital formation. First, the arrival of families meant that children were a large part of the immigrant contingent. The arrival of thousands of new potential students increased demand for education. Second, familial ties created a strong sense of community between immigrants, who used those ties to help create and maintain the associations involved in educating the Japanese children.

The role of associations cannot be underestimated in the Japanese case. The Japanese organized to supply their children with education whether or not the government stepped in. (Setoguti, 2008, p. 1171) The objectives of Japanese education were broader than those of the general public and the immigrants had little interest in assimilating into Brazilian culture. Only community-run associations could promote these objectives and unlike other national groups, whose associations performed different roles, the primary goal of these Japanese groups was the provision of education. Moreover, these associations helped promote cooperation within the community and with other Japanese groups. (Demartini, 2000, p. 3)

Not only did the Japanese organize into these ethnic associations, but they also tended to concentrate in tightly knit communities. Rather than develop several small nuclei, the Japanese concentrated into larger groups to facilitate the provision of education and the maintenance of their culture. In 1934, of the 11,000 thousand Japanese who lived in urban areas, about 5,000 of them were in São Paulo city, which to this day is the home to the largest number of Japanese descendants. In fact, the Japanese population in Brazil centers around one and a half million, second only to Japan itself. (IBGE, 2008)

### **3.4 Portuguese**

The limited extent of education system in Portugal at the time of the mass migration suggests that those arriving in Brazil at the time did not have the same expectations as the Germans and Japanese with regard to the provision of education. Despite the introduction of compulsory education laws in 1844, the expansion of public and private education in Portugal did not mimic that of Germany or even Spain. The primary enrollment ratio in 1870 Portugal

stood at 13%, while Germany's (then Prussia) was 67% and Spain's 40%, as shown in Table 1.

António Carlos Luz Correia and Vera Lucia Gaspar da Silva (2004) describe the poor outcomes of the educational effort in Portugal as a failed result granted by the "passive resistance" of the populace to the education laws. They further argue that the Portuguese people, "in their majority ignorant," were "indifferent, if not refractory, to the benefits and campaign for education." An alternative explanation is that the Portuguese did not see it in their interest to invest in their children's education at that point, given the economic conditions in the country. Ultimately, the concept of education as a means necessary for individual advancement did not seem to take root with the Portuguese in both Portugal and Brazil.

The demographic composition of the Portuguese immigrant contingent explains in part why those communities did not get involved in pushing for education. Most Portuguese immigrants were single males and concentrated in urban areas where they engaged in commercial activities. There were few women and many very young men (children, in fact) and older unmarried men, who were less likely to marry immigrant women from other nationalities and native Brazilians. (Klein, 1993) This meant that the Portuguese community had less interest in promoting and demanding education and their associations' objectives illustrate that. These associations, which in the German, Italian and Japanese cases were fundamental in the creation and maintenance of ethnic schools, tended to focus on recreation, health care and the preservation of Portuguese culture, rather than on formal schooling.

The lack of Portuguese ethnic schools did not mean that the Portuguese forwent their cultural identity and divested themselves from their communities completely. The Portuguese were the first immigrant group to found and maintain mutual aid associations of various kinds. While the Portuguese associations did not focus on universal education, they were responsible for creating some of the most important literary clubs and libraries in the country, which served overwhelmingly the wealthier Portuguese immigrants. For the poorer immigrants, these association provided hospital care and recreation opportunities. (Klein, 1993, p. 255) The language commonality lowered the costs of integrating the Portuguese children into the Brazilian educational system and freed up resources within the Portuguese community to invest in associations whose foci were to provide assistance to the poorer members of the community and to the preservation of a Portuguese cultural identity. (Fiss, 2001)

### **3.5 Spanish**

There is much less information on the Spanish immigration experience in Brazil, but it appears to resemble the Portuguese in regard to education. There were two ways in which the Spanish may have come to demand and supply more education than their Portuguese counterparts in Brazil. While universal access to education in their home country, religious drive and community size did not contribute significantly to the Spanish decision to invest in education, their demographic composition and social capital levels would have led to greater investment incentives.

Spanish immigration to Brazil consisted heavily of family units and resembled the Japanese and Italian experiences. These three immigrant contingents located in rural communities and engaged in agricultural work, especially in coffee farming. (Martins, 1989, p. 12, 15) The family organization and rural distribution of the Spanish in Brazil may have contributed to an increase in demand for education in areas which they occupied, because families were more likely to pressure local politicians and those politicians had an interest in keeping these immigrants within their jurisdictions.

The evidence on the level of Spanish associationalism in Brazil is mixed. While several associations formed in São Paulo state to cultivate cultural ties to Spain, the Spanish were one of the groups whose integration into Brazilian society occurred more naturally and rapidly. Martins Dias (2010) Moreover, the Spanish associations resembled the Portuguese ones by focusing on recreation and aid rather than education of Spanish children.

### **3.6 Syrian-Lebanese**

The effect of Syrian-Lebanese immigration on human capital formation in Brazil is likely small but positive. This is due to the small size, demographic composition and limited social capital of the Syrian-Lebanese communities in the early twentieth century. Smaller communities, even if organized, had high organizational costs, limiting the effectiveness of a political claim and their internal capacity to organize. The characteristic organization of Syrian-Lebanese communities into patriarchal family units restricted the capacity of these communities to organize to establish and maintain ethnic schools. While Syrian-Lebanese attitude toward universal education was positive, the majority of immigrants were young and single males, whose priorities were financial success and returning to their home countries and not education.

Though the demographics of its immigrant cohort lessened the push for education early on, the Syrian-Lebanese population in Brazil had had experience with educational access. The Syrian-Lebanese population in Brazil understood that having a good education was an effective mean to achieve personal advancement and social mobility. (Truzzi, 2009) As Knowlton (1960) put it, "few nationalities in Brazil had such acute conscientiousness of the social, economic and political advantages of a good education." This conscientiousness, he argued, derived from "the competition between religious sects leading to the creating of schooling systems in nearly all Christian villages in Lebanon and Syria" in the nineteenth century. While Syrian-Lebanese demand may have been mitigated in the early years of immigration due to the heavy presence of young, single males, evidence suggest this changed once their demographics evolved towards family units. (Knowlton, 1960, p. 156)

Religiosity had little influence in the educational decisions of the Syrian-Lebanese population in Brazil. Though the expansion of schooling in Lebanon and Syria had taken place due to religious competition, the focus of schooling shifted towards preparing the Syrian-Lebanese youth to act as intermediaries between European commercial interests in the Middle East and the local populations. In turn, the students sought to acquire western values, languages

and knowledge in order to take advantage of the well-paying middlemen job opportunities. Thus, religious motives did not play a large role in the Syrian-Lebanese decision to demand education in Brazil.

One of the main reasons the Syrian-Lebanese effect is small is the demographic composition of its first immigrants. The Syrian-Lebanese immigrants arriving in Brazil at the turn of the century were for the most part young and single males. There were 214 Syrian-Lebanese men for every 100 fellow countrywomen in Brazil in 1920. This ratio was the highest for all major immigrant nationalities at that time and in 1940, though smaller, it was second only to the Portuguese ratio. (Knowlton, 1960, p. 94-5) These demographic characteristics suggest that education demand did have much importance for early Syrian-Lebanese immigrants, and despite the general positive attitude towards education, there were few incentives for these males youths to push for access to schooling.

Another major factor which subdued any Syrian-Lebanese effect on human capital formation was the limited social capital of the immigrant communities, which centered around the family as the main social organization. This preference for familial organization was also reflected in their business ventures. As Knowlton (1960) wrote, "in general they are suspicious of business partners and prefer to own and manage their own businesses. When they enter into partnership, the partners are close relatives such as fathers, sons, brothers, uncles and nephews. Few Syrians and Lebanese are willing to reach outside the family and those who do, partner with close personal friends." Societies that organize around family units tend to be less trusting of outsiders and have lower civic sense, both of which hinder the process of developing communal solutions to collective action problems. (Alesina and Giuliano, 2010, 2015)

Although there is some evidence that the Syrian-Lebanese communities organized into immigrant associations in larger cities, such as São Paulo, the role of these association in providing educational services was much smaller than the in German and Italian communities. This is not to say that they did not exist. Knowlton (1960) found that there existed three or four "long-lasting" ethnic schools in Brazil between World War We and 1930, all funded by donations from Syrian-Lebanese communities. These communities were, on average, smaller than their European counterparts. In most rural areas, communities were comprised of one or two families. In such small setting, even if associations with an educational focus were to form, they would find themselves in financial distress and lacking a minimum number of students. Independently, only larger communities could support even small schools, as many other ethnic associations struggled to keep schools open.

## 4 Persistence

There are two complementary mechanisms through which the heterogeneous effects of national traits have persisted. First, ethnic schools may have contributed to the sustained formation of human capital in the municipalities in which they were located by increasing the availability of

education services to the population. While it is true that the presence of ethnic schools and associations varied with the distribution of particular national groups across the territory, it cannot fully explain the persistence of the heterogeneous effects on human capital formation, because the formal education of immigrant children and the ability of immigrants to formally mobilize suffered profound changes in 1938 with the enactment of the nationalist Decree 406.

The purpose of Decree 406 was to weaken immigrant identity and Brazilianize the population by severely limiting the rights to organize of the immigrant communities. With regards to formal education, the decree prohibited the publishing of any books, magazine or newspaper in any language other than Portuguese. Immigrants were no longer allowed to manage rural schools and the teaching of foreign languages to children younger than fourteen years old was forbidden. The curriculum had to focus on Brazilian themes, including not only the Portuguese language, in which all courses were to be taught, but also geography, history and politics. (Brasil, 1938)

Decree 406 not only limited immigrant's ability to educate their children but also to found and manage associations. From 1938 on, no rural settlements or associations founded within them were to be "denominated in a foreign language." The decree also prohibited rural settlements populated by a single national group. In fact, the decree limited the share of each national group to no more than a quarter of the total population of each settlement. At least thirty percent of the population had to be composed of Brazilian natives and in cases in which there was not a sufficient number of Brazilians, Portuguese immigrants were to substitute for them.

These prohibitions on immigrant life meant that at least formally the immigrants were no longer able to supply any more formal education than what the nationalist federal government allowed. Decree 406 revealed how low the federal government's tolerance of immigrant culture was. Given all the formal limitations on immigrants, an informal element of culture must have persisted if the effects of the national traits have persisted. We argue here that this element is the strength of the immigrant networks, *W.e.e.* the ability of certain groups to retain their social capital in the face of legal constraints.

Cultural assimilation has weakened immigrant networks and the social capital stock contained within them. There are few descendants of turn of the century immigrants who today do not speak Portuguese as their first language and who are not fully assimilated into Brazilian culture. However, the complete social assimilation of immigrant descendants does not mean that a complete cultural dissociation occurred. Many elements of German, Italian and Japanese cultures were incorporated in Brazilian customs. São Paulo is well-known for its pizza and immigrant neighborhoods. Petrópolis, in Rio de Janeiro state, hosts a German festival yearly. Similar festivals occur in Blumenau and Pomerode in Santa Catarina state, celebrating German and Austrian traditions. The Japanese assimilation process took longer and has been more incomplete than most, but sushi is a popular food choice for many Brazilians. Many elements of turn of the century immigration were integrated into Brazilian culture rather than forgotten.

Soccer clubs are another example of the persistence of immigrant ethnic identities. Many



major clubs were founded by European immigrants at the turn of the century, but there are at least two major clubs founded by immigrants and whose identities are still directly tied to the nationalities of their founding members. In 1898, a group of Portuguese and Brazilian athletes founded CR Vasco da Gama in Rio de Janeiro. (Club de Regatas Vasco da Gama, 2017) Its emblem is a Portuguese sailing ship sporting the Cross of the Order of Christ, also known as the Cross of Portugal. Similarly, a group of young Italian immigrants founded the Sociedade Esportiva Palmeiras in São Paulo city with the purpose of uniting the Italian community through sports activities.<sup>4</sup> (Sociedade Esportiva Palmeiras, 2017)

In addition, there are several recreational clubs across the country founded by immigrants and their descendants that survived the limitations of Vargas' nationalist government, most likely because they had not engaged in ethnic educational activities. While these clubs generally do not discriminate against descendants of different national groups today, they retain old cultural ties. Some examples include the Casa de España and the Clube Monte Líbano in Rio de Janeiro and the Clube Sírio Libanês, present in several cities across the country.

Evidence of the strength of immigrant networks comes from the literature on the industrial development of São Paulo, in which immigrants played a significant role. According to Anne Hanley (2004), the web of business connections within immigrant communities was stronger than in the general Brazilian business community. While "[investors and directors concentrated their energies and their money, abandoning the practice of forming broad connections in general — and connections to a bank in particular — and turned to the stock market instead," she argues, "[the] English, Italians, and Germans continued to work in these more personal, process-based relationships. Their communities were smaller and more clearly defined than the amorphous Brazilian business community." (p. 211)

Given the persistence of the social networks around the immigrant cultural elements, e.g. food, festivities, recreational activities, business connections, there is no reason to believe that the education element of immigrant national traits has dissipated more quickly. As Guiso et al. (2011) argue, "civic capital is highly persistent, since all the methods for its transmission (interfamily transmission, formal education, and socialization) take long time. For this reason, communities/countries that, for an historic accident, are rich in civic capital enjoy a comparative advantage for very extended periods of time."

In addition, some evidence has emerged of the direct effect of ethnic schooling on human capital formation. Bruno Witzel de Souza (2016) finds that German ethnic schools in early twentieth century São Paulo have had a positive effect on current human capital due to their effect on public school enrollment. Furthermore, Witzel de Souza argues that the effect is not due to the exogenous human capital shock of introducing better educated immigrants, but to the spillovers on education demand and supply from the ethnic schools. (p. 4) While still in its early stages, more empirical research will be helpful in elucidating the effects of ethnic schools on human capital formation.

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<sup>4</sup>The founders Luigi Cervo, Luigi Marzo, Vincenzo Ragnonetti and Ezequiel Simone published an announcement of the club's creation and a call for athletes in the immigrant newspaper *Fanfulla* in 1914.

The second mechanism of persistence were high mobility costs which prevented large scale within-country migrations up until the mid-twentieth century. To the best of my knowledge, there are no studies that estimate the costs of interregional or interstate mobility for the early twentieth century, but studies focusing on later decades suggest that distance and credit constraints contributed to the high costs of internal migration. (Leff, 1972; Graham, 1969; Sahota, 1968) This rigidity meant that immigrants tended to permanently settle in or near the areas to where they initially migrated and that few people migrated to immigrant areas from other regions of Brazil.<sup>5</sup> These early immigrant areas were thus more likely to benefit from immigrant presence and most importantly, to see a shift in the structure of their local economies. In particular, immigrant areas that had higher human capital early on underwent a shift in their employment structure overtime towards activities that require skilled labor. (Rocha et al., 2017) With the shift in employment structure, the expected returns to education increased and further shifted demand for education in those areas.

Immigrant heterogeneous national traits can have long lasting effects on human capital formation and remain localized. As Stolz et al. (2013) put it, "human capital spillovers would have predominantly taken place in and around these areas with high immigrant concentration, which is particularly strong in the São Paulo region."<sup>6</sup> (p. 101) Richard A. Easterlin (1981) summarizes the persistence argument well when he writes that "[a] major commitment to mass education is frequently symptomatic of a major shift in political power and associated ideology in a direction conducive to greater upward mobility for a wider segment of the population... it often represents a sizable break with conditions of the past... the absence of mass education systems for so long in so many countries of the world is indicative of a double impediment to the spread of the technology underlying modern economic growth: limited incentives as well as limited aptitudes in the population generally." (p. 14) In this paper, We argued that nationality traits affected the incentive structure of the market for education in Brazil and thus may have affected the manner in which certain areas achieved economic growth (or failed to do so).

## 5 Conclusion

In this essay, We have laid out the mechanisms through which immigrant groups may have influenced human capital formation in Brazil. Table 3 summarizes the expected effects of each national group on the current human capital stock of the municipalities where they were located in 1920. The next step in this research project is to estimate these heterogeneous effects empirically.

To do so, we will use a newly compiled data set of the distribution of these immigrant nationalities for the entire Brazilian territory with data from the 1920 Census. The main endogenous variables include the Education subindex of the IFDM (Índice Firjan de De-

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<sup>5</sup>Large scale internal migration began in the 1940s.

<sup>6</sup>The authors here are referring to the "center and southern part of Brazil."

**Table 3:** Expected Effect of National Characteristic on Human Capital Formation

	Portuguese	Spanish	Italian	German	Japanese
Universal Access	Low	Medium	Medium	High	High
Religious Affiliation	Low	Low	High	High	Low
Demographics	Low	Low	High	High	High
Social Capital	Low	Medium	Medium	High	High
Size of Community	Medium	Medium	High	High	High

envolvimento Municipal) and other current human capital data for secondary and tertiary education from the IBGE (Instituto Brasileiro de Geografia e Estatística) and alternative sources, including but not limited to the IPEA (Instituto de Pesquisa Econômica Aplicada) and the Brazilian Ministry of Education.

Given that municipal boundaries have changed overtime, current municipalities need to be combined into minimum comparable areas (MCAs) to allow for meaningful estimation. The 1920 Census variables contain a little over 1,300 observations, while current data sets range between 5,000 and 5,700. This exercise creates geographical units, the MCAs, which do not translate into any real jurisdiction, but allow for intertemporal analysis. We will make the necessary conversions following closely the method described by Reis, Eustáquio Reis, Márcia Pimentel and Ana Alvarenga (2007) and using ArcGIS. In a previous exercise, our conversions differed from Reis et al. (2007) and the data set at IpeaData only with regards to two small MCAs, out of over 950 MCAs, which in the IpeaData data set appear as their own MCAs, whereas they integrate larger MCAs in mine.

Our very early results suggest that the effect of immigrant presence is indeed heterogenous and persistent. We plan on completing the econometric work by the end of the summer (in the United States), but at first glance, the possibility that heterogenous effects cannot be excluded. Table ?? shows the results of a simple OLS regression:

$$AveEdIFDM05 - 13_i = GShare_i + IShare_i + SShare_i + PShare_i + JShare_i + \mathbf{X}_i + \epsilon_i, \quad (1)$$

where  $AveEdIFDM05 - 13_i$  is the average Education IFDM index between 2005 and 2013 in MCA  $i$ ,  $GShare_i$  is the share of Germans in MCA  $i$  in 1920 relative to the entire MCA population,  $IShare_i$  is the share of Italians in MCA  $i$  in 1920 relative to the entire MCA population,  $SShare_i$  is the share of Spaniards in MCA  $i$  in 1920 relative to the entire MCA population,  $PShare_i$  is the share of Portuguese in MCA  $i$  in 1920 relative to the entire MCA population and  $JShare_i$  is the share of Japanese in MCA  $i$  in 1920 relative to the entire MCA population.  $\mathbf{X}_i$  are MCA level controls, which include literacy rates and total foreign-share in each MCA for the year 1920.

**Table 4:** Simple OLS Regression with Robust Standard Errors

LHS: Average Education IFDM Index 2005-2013				
	(1)	(2)	(3)	(4)
Foreign-Share	1.350*** (0.0913)	1.249*** (0.101)	0.923*** (0.0990)	-0.159 (0.162)
1920 Literacy Rate		0.0849* (0.0382)	0.0967** (0.0367)	0.120** (0.0411)
1920 Foreign Literacy Rate			-0.167*** (0.0270)	-0.164*** (0.0269)
German Share				3.429*** (0.793)
Italian Share				1.757*** (0.199)
Spanish Share				0.673 (0.538)
Portuguese Share				0.443 (0.298)
Japanese Share				2.528*** (0.423)
Constant	0.598*** (0.00482)	0.576*** (0.0110)	0.696*** (0.0248)	0.688*** (0.0253)
Observations	631	631	586	586
$R^2$	0.300	0.304	0.365	0.408

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Without drawing any undue conclusions, the results of Table ?? suggest that heterogenous effects may be present and long lasting. We will expand on these results within the next few months and hope to present them to you in São Paulo.

We are unable to identify empirically which of the mechanisms outlined in Section 2, given the limitation of the historical data available. We will conduct some proxy analysis in an attempt to sort out the effect of religious affiliation and demographic composition. Despite of this impediment, the empirical exercise contributes to the literature on the role of immigration and of social capital in human capital formation. Should it be true that the presence of immigrants of different nationalities had heterogeneous effects on human capital in the long

run, then it implies that other mass migration events may too show these heterogeneous effects. Ultimately, the results may suggest that scholars and policy-makers should err on the side of caution when, in the case of scholars, generalizing the effects of immigration, and, in the case of policy-makers, when promoting certain types of immigration policies.

In his book about the experiences of immigrants in the United States, Thomas Sowell argues that:

”Each ethnic history is distinctive, and yet all were influenced by similar factors of age, location, time of arrival, and the skills and cultures they brought with them to American shores. The current economic position of American ethnic groups covers a wide range, and yet no group is unique, nor as unusual as comparison with a statistical ‘national average’ might suggest... The national average itself is nothing more than a lumping together of large differences.” (Sowell, 1981, p. 14)

The Brazilian immigrant experiences should warrant the same conclusion.

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