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The Immigration Puzzle in Italy. A Survey of Evidence and Facts[¤]

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Abstract

Recently, in Italy, immigration has been at the centre of public debates. Nonetheless, the still growing literature has focused mainly on the experience of old settlement countries and has looked at single aspects of the phenomenon. In order to guide effective local policy intervention, we offer an exhaustive view of immigration in Italy. We combine the presentation of stylized facts from available data, based on descriptive analyses, with a review of existing studies. Our conclusions tell that evidence available for Italy does not match the policy relevance of the issue and also identify areas where solid evidence is needed.

Keywords

Immigration, Mobility, Integration, Education, Regional Labour Market

JEL codes

F22 I24 J15 J61 R23

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1. Introduction

Migration has been at the centre of academic and policy debates, especially in the recent past. Several studies on this topic have been developed and they have generated substantial evidence on the impact of migration on countries of origin and destination and on migrants' welfare.[1]

The still growing body of evidence, however, is based on analyses focusing on the experience of a relatively small number of countries and has mainly looked at single aspects of the phenomenon, often guided by data availability and by policy relevance. While such an evidence increases our general knowledge on migration, it does not offer an exhaustive view with reference to individual countries. In fact, the external validity of the existing studies remains an open question.

Especially for policy purposes, a systematic overview of the different aspects of migration in a single country would be particularly useful. It would allow to assess if and to what extent the different effects identified in the literature are actually at stage and, consequently, it can offer the basis for a better assessment of the changes and adjustments induced by immigration.

This paper attempts to fill this gap by providing a survey of the evidence and analyses of different aspects of immigration in a specific country: Italy. To our knowledge, such an analysis has never been carried out for Italy or other countries. Existing surveys focus on a specific aspect and not with reference to a specific country.

We combine the presentation of stylized facts from available data, based on descriptive analyses, with a review of existing studies. In order to have on objective criteria for the selection of the papers to be considered, we will present only papers published in peer reviewed journals. This also allows to identify areas where solid evidence or analysis is lacking. Given that the distribution of immigrants over the territory is far from homogeneous (as are likely to be its effects) in the descriptive analysis we use the most disaggregated data. The latter are at the municipality level (LAU2) or at the local labour market level (LAU1), when relevant.[2] The choice of the country is determined by the fact that Italy is a country in which immigration has become a relevant phenomenon only in the recent past, getting a great relevance in the political debate.[3]

The paper is divided in three sections. Firstly, we present the basic facts about immigration in Italy. We also briefly discuss some issues relative to the definition of immigrant and its implication for the empirical analysis. In Section 3, we focus on the integration of immigrants and we explore all the fundamental aspects of integration: geographical distribution, labour market and education. The last

[1] For a recent review, see World Bank (2018).
[2] The descriptive statistics relative to human capital are an exception since data are available at provincial level (NUTS3) only.
[3] There is also evidence that immigration has an impact on voting outcomes (Barone et al., 2016).

section discusses the impact of immigration on the native population along the same three dimensions: geographical displacement, human capital and labour market. By doing so, hopefully we cover most of the potential effects of immigration on the destination economy identified by the literature.

2. The basic facts

2.1 Data and definition of the immigrant

In economics, the immigrant status is mainly defined on the basis of citizenship or on the basis of the country of birth. In the present analysis, we follow the official definition used by Istat (the Italian National Statistical Office) and identify immigrants according to their citizenship.[4] Therefore, immigrants are all the individuals who are not Italian citizens, are legally residing in Italy and are registered in a municipality. This excludes two important categories of immigrants: Refugees and asylum seekers, and irregular immigrants.[5]

Differently to the country of birth, the citizenship allows for a definition that includes individuals born abroad who were naturalized Italians and excludes individuals born in Italy who are not citizens. Because of the *Jus Sanguinis*, individuals born in Italy by foreign-born parents acquire the Italian citizenship only after turning 18. Therefore, while the foreign-born definition is the most appropriate in countries where the *Jus Soli* holds, the choice of the best immigrant definition is not straightforward in the case of *Jus Sanguinis*. Beside the quantitative implications, it is an open question which definition does capture better the immigrant status in socio-economic terms.

In the case of Italy, the stock of immigrants computed on the basis of the country of birth exceeds by just less than one million that obtained using the citizenship criteria (see table 1). A difference that almost coincides with the stock of citizenships granted from 2002 (see figure 1). Indeed, recently, the acquisition of citizenship has become an increasingly important phenomenon and for this reason we briefly discuss its characteristics and its implications for the analysis we carry out.

[4] For the analysis on education, instead, we define immigrants with respect to the country of birth. For more details on data used in this paper see Appendix A.

[5] According to IOM (2017) in 2016 Italy processed 123,000 first-instance applications and in 2017 irregular migrants were about 490,000 according to the ISMU Foundation. Furthermore, dalla Pellegrina et al. (2018) show that the probability of regularization of migrants is higher after 2011.

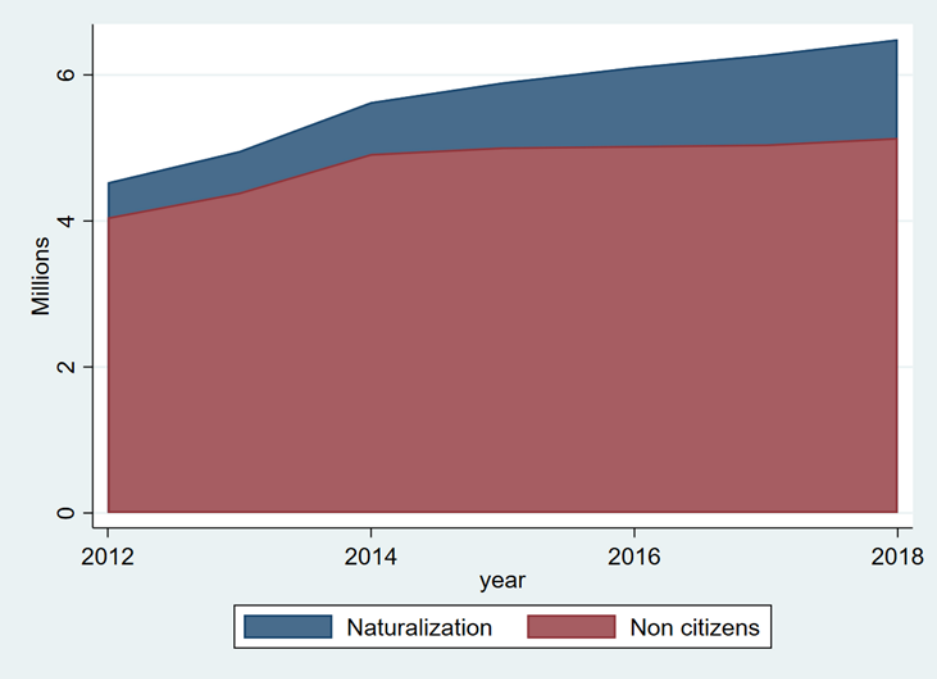
Table 1: Immigration in Italy in 2018

	Country of Birth		Citizenship		Naturalization		
	Stock (thousand)	Rate	Stock (thousand)	Rate	Residence	Marriage	Other
Italy	5883	9.78	4983	9.03	0.35	0.21	0.43
North-West	1830	11.45	1681	11.76	0.36	0.21	0.43
North-East	1444	12.50	1189	11.48	0.40	0.19	0.41
Centre	1448	12.09	1280	11.96	0.32	0.24	0.44
South	805	5.76	599	4.47	0.26	0.22	0.51
Islands	356	5.35	233	3.63	0.21	0.29	0.49

Source: Authors' elaboration on Labour Force Survey (LFS) and ISTAT data.

Notes: Residence refers to naturalizations due to long-term permanence in Italy. Marriage refers to naturalizations due to marriage with an Italian citizen. Other refers to all other reasons, mainly Italian born of foreign origins turning 18 years old.

Figure 1: Stock of population of foreign origin in Italy from 2012 to 2018



Source: Authors' elaboration on ISTAT data.

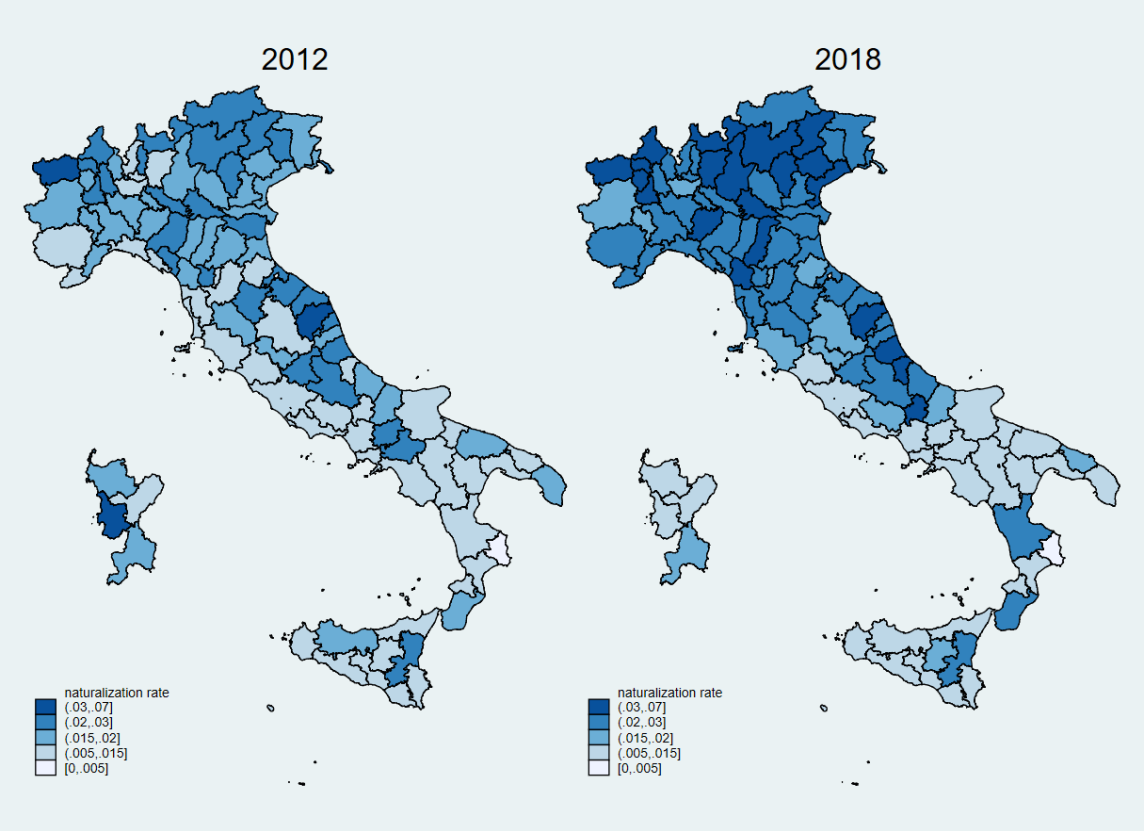
Notes: The stock of naturalized immigrants is computed starting from 2000 because of data availability.

There are three main channels of naturalization in Italy: residency along with work experience, marriage, when native-born individuals of foreign origin turn 18 years. All three have played an

important role in the process of naturalization (see tableTable *1*) and, apart from marriage, they depend directly or indirectly by the length of stay in the country.

Figure 2 presents the number of citizenships granted in Italy in 2012 and 2018 by province.[6] The high variability in the naturalization rate across provinces can reflect either a different composition of immigrants (e.g., with respect to their time of arrival or to the rate of Italian-born children of foreign origin) or different attitudes and efficiency of the local administration.

Figure 2: Naturalization rate by province



Source: Authors' elaboration on ISTAT data.

Notes: Naturalization rate is computed as the number of new citizens over non citizens.

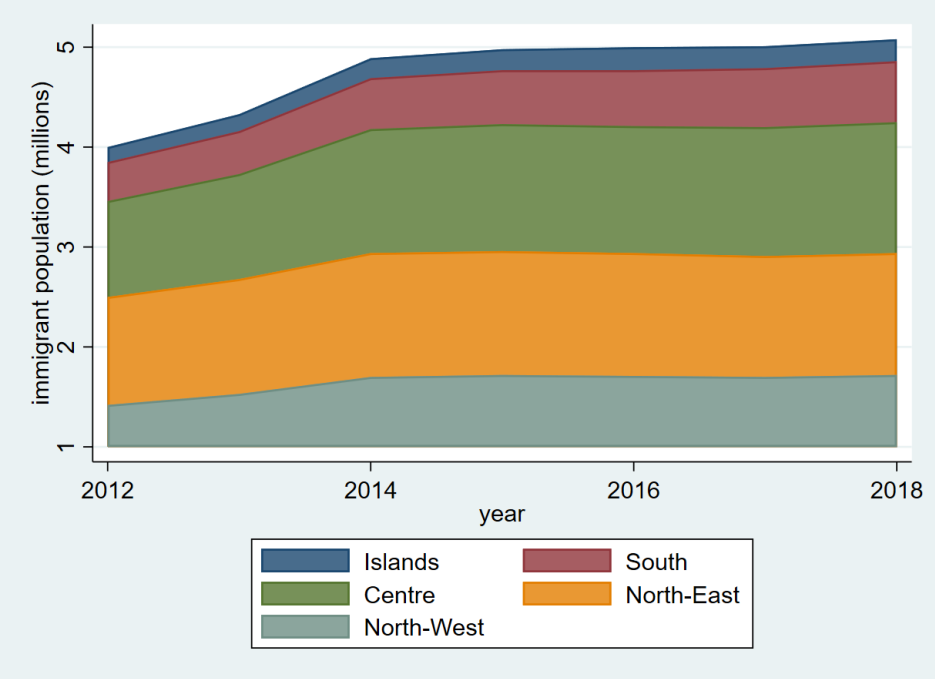
2.2 The overall picture

[6] Naturalization rate is computed over the number of non citizens.

In the recent past, the stock of immigrants living in Italy has reached the all-time high of just over 5 million. At the same time, the growth rate of the stock – albeit high in the earlier decade – substantially decreased since 2014 (see figure 3).

In 2018, the share of the immigrant population with respect to the native population was about 9 per cent, with a relative higher concentration in the North and in the Centre (see table 3). During this period the presence of immigrants increased relatively faster in the areas where they were less present – namely, in the South and in the Islands. Therefore, while in the years 2012-2018 there was a reduction in the rate of growth of immigration, the period was also characterized by a diffusion of the phenomenon over the Italian territory.

Figure 3: Immigrant stock by area from 2012 to 2018



Source: Authors' elaboration on ISTAT data.

Notes: Areas are classified according to NUTS 1 level.

The composition by country of origin of immigrants has been fairly stable in the recent past (see Table 2). Romanian, Albanian and Moroccan represented the largest communities in both 2012 and 2018, and the relative ranking in the top 10 countries of origin presents only minor changes. Altogether, immigrants from the top 10 countries account for about 65 per cent of the total immigrant population. This suggests that immigration in Italy is relatively concentrated in terms of countries of origin with respect to old settlement countries, e.g. USA and Canada (OECD 2019).

Moreover, thanks to the territorial disaggregation of our data, we can observe that immigrants are relatively more concentrated in the largest municipalities, where they accounted for about 14 per cent of the native population in 2018 – a substantial increase with respect to the 9 per cent observed in 2012 (see table 3).

Table 2: Composition of Italian Immigration by nationality (top 10 countries of origin)

	2012		2018
Romania	20.90	Romania	23.30
Albania	11.20	Albania	8.60
Morocco	10.20	Morocco	8.20
China	4.90	China	5.70
Ukraine	4.50	Ukraine	4.60
Moldova	3.30	Philippines	3.30
Philippines	3.20	India	3.00
India	3.00	Moldova	2.60
Peru	2.30	Bangladesh	2.60
Poland	2.10	Egypt	2.30
Total	65.60	Total	64.20

Source: Authors' elaboration on ISTAT data.

Table 3: Immigrant share in Italy by municipality size

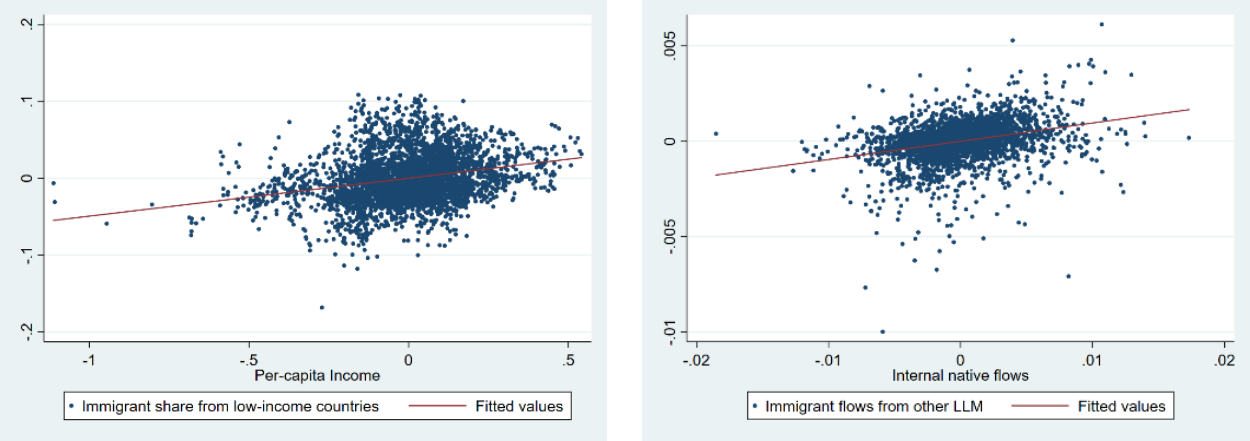
Panel A		
Municipality population	2012	2018
Italy	7.32	9.33
Less than 100000	6.76	7.45
Up to 250000	7.06	9.06
More than 250000	9.52	14.04
Panel B		
Municipality population	2012	2018
Less than 100000	29.20	24.41
Up to 250000	51.97	53.13
More than 250000	18.83	22.16

Source: Authors' elaboration with ISTAT data.

Notes: In Panel A the immigrant share by municipality size is computed as the percentage of the native population in the municipalities. In Panel B it is computed as the percentage of the total number of immigrants.

In the left panel of figure **Errore. L'origine riferimento non è stata trovata.** we plot the partial correlation between the share of immigrants and the per-capita income of Local Labour Markets (LLMs).[7] The concentration of immigrants from non high-income countries is correlated with the per capita income of their area of residence. Albeit small, the positive correlation indicates that immigrants do not tend to concentrate in the more deprived areas of the country. Similarly, from the right panel of the same figure, we can see that immigrants' net flows from other LLMs are positively correlated with those of natives. This suggests that internal movements of immigrants after arrival contribute to the demographic concentration already in place for natives.

Figure 4: Partial correlation between per-capita real income, native internal migration flows and immigrant share (LLM)



Source: Authors' elaboration with ISTAT data.

Notes: Income data are available only for the years from 2012 to 2016.

Some of the characteristics of the immigrant distribution over the territory are discussed in Mocetti and Porello (2010). They show that areas of residence are highly differentiated across nationalities and stable over time. Immigrants' choice about the province of destination, therefore, appears not

[7] The partial correlation has been obtained conditioning the share of immigrants on the public budget, natural population increase, year and geographical macro area fixed effects.

driven by local economic conditions alone. According to Mocetti and Porello (2010) the proximity to the frontiers played a key role, as most nationalities concentrated close to their gateways of entry.

3. Integration

The arrival of a new group – ethnically distinguished, as in the case of immigration – opens to two alternative patterns: the new group can be segregated or a process of integration can start. A successful integration process implies the disappearance over time of differences in socio-economic outcomes – such as education and labour market outcomes – between the two groups (Alba and Nee, 1997).

Previous literature has generally measured the degree of integration, in Europe and in Italy, by the distance between (median or mean) income of natives and migrants (see e.g. Storm et al., 2018). Nonetheless, other socio-economic dimensions – i.e. health, consumption, type of labour contract and education – are important.

The EU has endorsed a list of Common Basic Principles for immigrant integration according to which employment is central, as it is necessary for immigrants' participation and contribution to the host society.[8] Furthermore, "Basic knowledge of the host society's language, history, and institutions is indispensable".[9] Lastly, "stimulating living conditions in urban environments enhance the interactions […]" which are fundamental for integration.[10]

In the current section, we give a broad picture on the level of integration of immigrants living in Italy, focusing on the three fundamental aspects pointed at by the EU institutions – the territory, the education and the labour market.

3.1 Geographical Allocation and Internal Mobility

With data from Istat at municipality level, we can look in more detail at the geographical segregation of immigrant population living in Italy. We compute a Residency Duncan Segregation Index for natives and immigrants. The index ranges from 0 (no segregation) to 1 (complete segregation) and table 4 presents the Residency Duncan Segregation Index computed for the years 2012 and 2018. The level of geographical segregation between immigrants and natives does not appear to be particularly

[8] https://www.eesc.europa.eu/resources/docs/common-basic-principles_en.pdf
[9] Common Basic Principle n. 4.
[10] Common Basic Principle n. 7.

high, indicating that both tend to concentrate in the same areas. The index is constant over time showing only a marginal decrease from 0.28 in 2012 to 0.26 in 2018.

Table 4: Geographical segregation index of immigrants with respect to native, by year

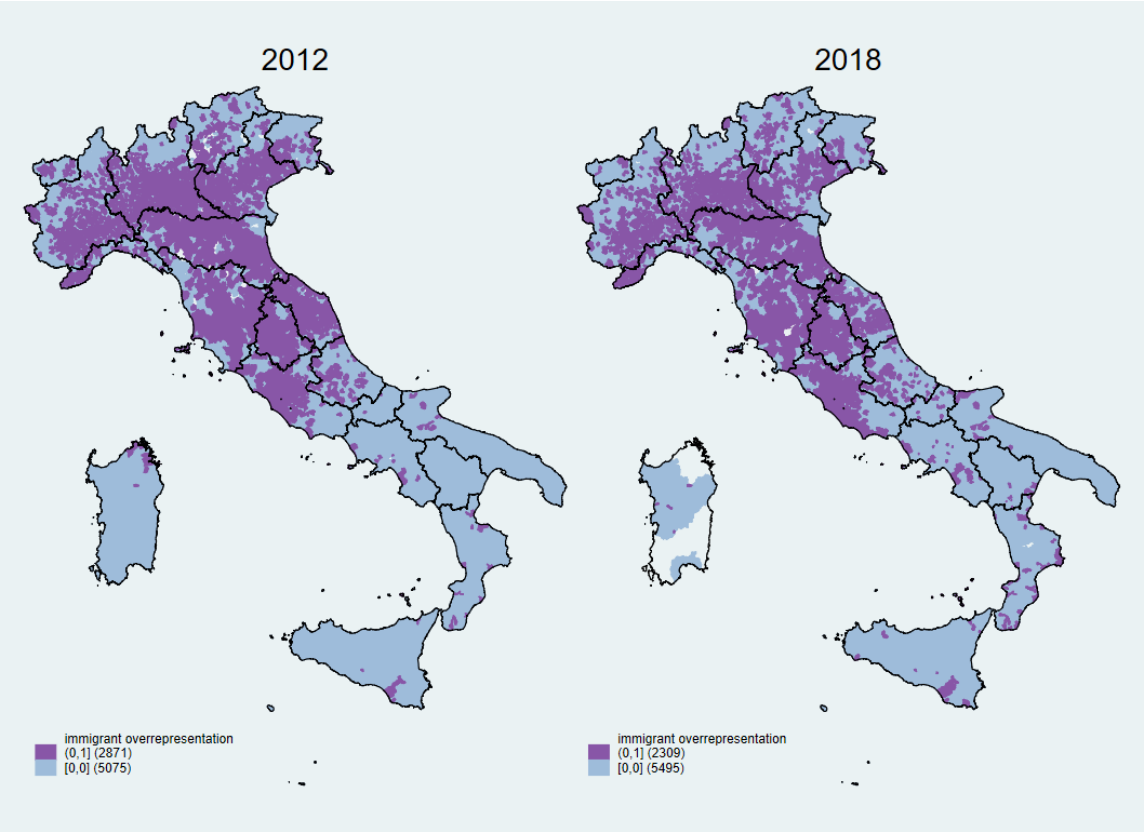
Year	Duncan Index
2012	0.28
2018	0.26

Source: Authors' elaboration on ISTAT data

Figure 5 shows the municipalities where immigrants are overrepresented with respect to natives. In purple are indicated the municipalities where the share of immigrants with respect to the total immigrant population is higher than the share of natives with respect to the total native population. Immigrants concentrate more, with respect to the native population, in the Centre-North of Italy. The number of municipalities where they are overrepresented decreased from 2012 to 2018.

Even if, on average, immigrants do not appear to be geographically segregated with respect to natives, individuals from different areas of origin tend to concentrate in different areas of the country. The segregation index for each pair of area of origin (see table 5), it is around 0.4 for most of the pairs indicating a substantial degree of geographical segregation across nationalities. Observe that while in aggregate immigrants and natives do not appear to be segregated as shown in table 4, there is relavant segregation once we compare immigrants of different origin to natives, because the former tend to concentrate by ethnic origin.

Figure 5: Immigrant overrepresentation by municipality



Source: authors' elaboration on ISTAT data.

Notes: In purple municipalities where the share of residing immigrants with respect to the total of immigrants is higher than the natives' equivalent.

Table 5: Pairwise Residency Duncan Segregation Index by area of origin

	Africa	South America	Asia	Europa	High Income	Native
Africa	0					
South America	.409	0				
Asia	.376	.377	0			
Europe	.283	.424	.4	0		
High Income	.415	.372	.378	.367	0	
Native	.315	.468	.423	.261	.38	0

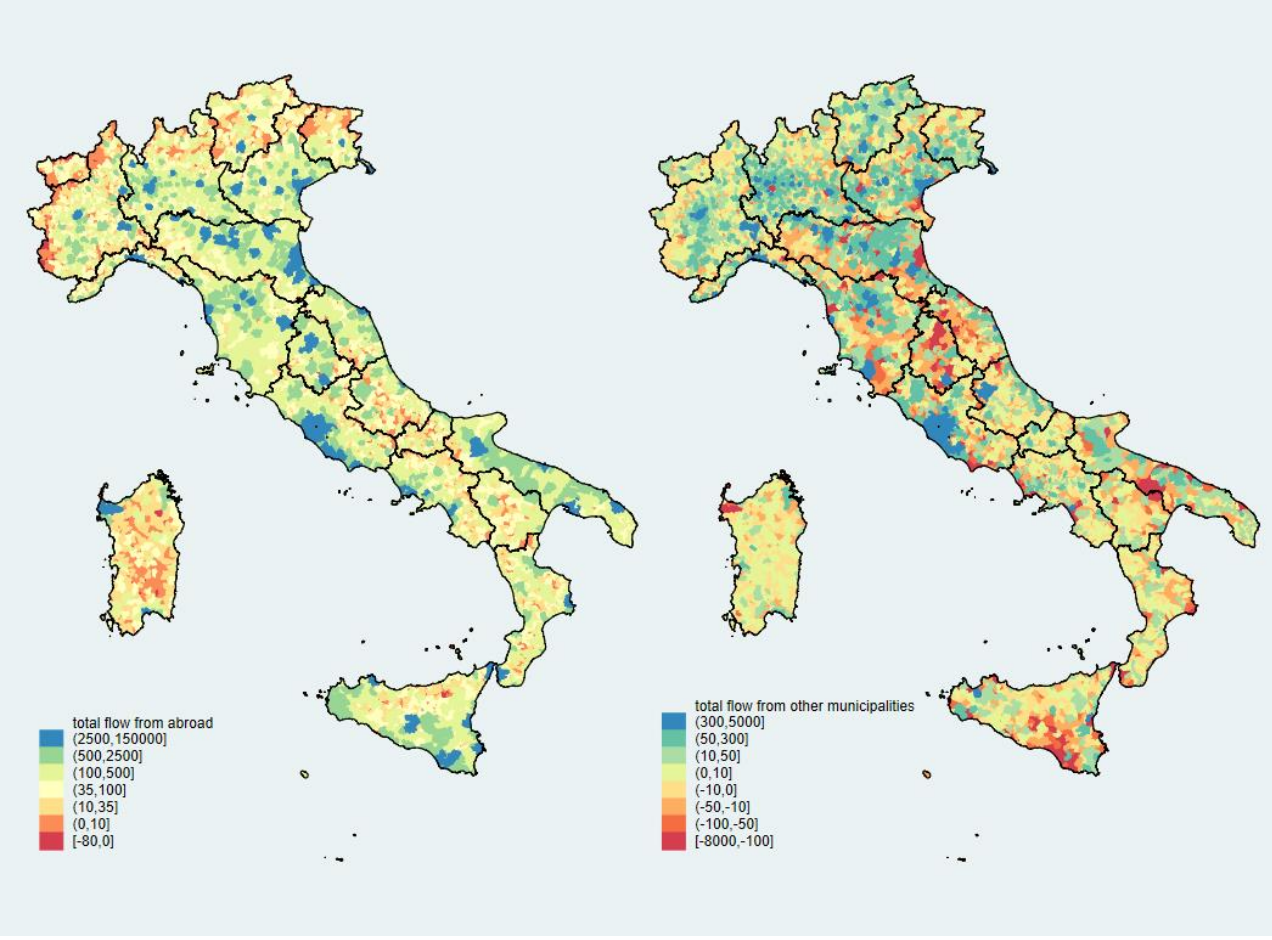
Source: authors' elaboration on ISTAT data.

Notes: The reference year is the 2018. High-income countries include: EU15, EU EFTA, North America and Oceania. Europe includes all EU countries excluding those in EU15.

Once in Italy, immigrants show a higher internal mobility than natives. Figure 6 illustrates the size and direction both of immigrants' net flows across Italian municipalities (figure 6, right panel) and immigrants' net flows from abroad (figure 6, left panel) over the period 2012-2018. In most of the municipalities of the Centre and North of Italy, where the number of immigrants arrived from abroad has already increased from 2012 to 2018, internal net flows are positive.

Most of the largest metropolitan areas and the surrounding municipalities present high net inflows, both internal and international. Milan is an exception being characterized by a negative net flow, differently from its surrounding municipalities, suggesting a movement of the immigrant population to the suburbs. Negative internal net flows (on the right panel) are experienced in the municipalities of Puglia, Calabria and Sicily that are often a port of entry for immigrants, as evident from the left panel of figure 6.

Figure 6: Immigrant flows from abroad (left) and from other municipalities (right). 2012 to 2018



Source: Authors' elaboration on ISTAT data

In table 6 inflows, outflows and net flows of natives and immigrants across macro areas are reported separately. The immigrants' in- and out-flows are approximatively the double of those of natives in most of the areas. The gross (in or out) flows are of an order of magnitude larger than the net flows. However, they decreased sharply between 2012 and 2018 – a possible explanation is that the reduction of net flows from abroad in the period, reduced the need for subsequent reallocation across macro areas. Table 7 presents the internal migration flows (as the share of the relevant population group) by municipality size for 2018. The net flows of immigrants are negative for large municipalities,[11] while they are positive for small and midsize municipalities.[12] Again, immigrants flows are larger than those of natives.

Table 6: Internal flows by macro area, immigrant status and year

		Immigrants		Natives	
Area	Flow	2012	2018	2012	2018
North-West	In	7.58	5.31	3.27	2.92
	Out	7.18	5.05	3.12	2.75
	Net	0.40	0.26	0.15	0.17
North-East	In	7.04	5.68	2.90	2.75
	Out	6.88	5.18	2.76	2.54
	Net	0.16	0.50	0.14	0.21
Centre	In	6.24	3.77	2.68	2.01
	Out	6.02	3.84	2.44	2.00
	Net	0.22	-0.07	0.24	0.01
South	In	6.56	4.08	1.95	1.57
	Out	6.51	5.04	2.25	1.94
	Net	0.05	-0.96	-0.30	-0.37
Islands	In	6.18	3.87	2.04	1.60
	Out	6.30	4.58	2.21	1.92
	Net	-0.12	-0.71	-0.17	-0.32

[11] Note that the group of larger municipalities in the table is broader than those of the big metropolitan areas experiencing positive net flows according to figure 9.

[12]Contrary to what expected, the net internal flows are not zero for Italy, since the observation of the inflow and that of the outflow are not simultaneous (see https://www.istat.it/it/archivio/226919).

Source: Authors' elaboration on ISTAT data.

Notes: Native flows are expressed as a percentage of the geographical area's native population. Immigrant flows are expressed as a percentage of the geographical area's immigrant population.

Table 7: Internal flows by municipality size and immigrant status (2018)

Municipality type	Flow	Immigrants	Natives
Less than100,000	In	7.09	2.64
	Out	6.97	2.71
	Net	0.12	-0.07
Up to 250,000	In	4.93	2.22
	Out	4.67	2.23
	Net	0.27	-0.01
More than 250,000	In	1.88	1.57
	Out	2.47	1.62
	Net	-0.59	-0.05

Source: Authors' elaboration on ISTAT data.

Notes: Native flows are expressed as a percentage of the geographical area's native population. Immigrant flows are expressed as a percentage of the geographical area's immigrant population.

To summarize, immigrants have a higher mobility with respect to natives, nonetheless, given the smaller size of immigrant population, the number of natives moving across areas is much larger than that of migrants. This is a phenomenon observed in several countries (see, among others, Cadena and Kovak 2016 and Basso et al. 2019).

Only a few studies analyse the differences between immigrant and native internal movements in Italy. The study of Mocetti and Porello (2010) on the internal movements of immigrants across Italian provinces for the period 1995-2005 reaches conclusions substantially in line with those presented in this section. Also, the directions of flows are confirmed – the net flows are positive in the North-West, the North-East and the Centre and negative in the South and the Islands.

Incentives to migrate internally also depends on the circumstances of immigrants, especially as far as their legal status is concerned. Using data from Italian National Institute of Social Insurance (INPS) on employees contracts and social insurance services, Cozzolino et al. (2018) study the probability of moving across provinces of three groups of workers: immigrants who entered the formal labour

market in 2000 or 2001, immigrants hired for the first time in 2002 thanks to an amnesty,[13] and the natives hired for the first time in 2002. According to their results, the *amnestied* immigrants show the highest probability of moving. Nonetheless, the difference with respect to the other groups is small, especially with respect to other immigrants. The authors suggest that the higher mobility of immigrants could imply a more efficient allocation of them and, as a consequence, a higher permanence in the formal labour market. They also speculate that immigrants' higher mobility could be the consequence of lower family ties and of the necessity to avoid the exit from the labour market not to lose the work permit.

3.2 Human capital

Immigrants' education gap provides another dimension of integration, and perhaps the most important from an intergenerational and long-term perspective.

A first indicator of lack of integration is given by the distribution of native and immigrant students across grades. Following Murat (2012), we compute the ratio between the share of immigrants (separately for the first and the second generation) and the share of natives in the same grade. Table 8 shows the results for grade 2 and 10. The relative distribution of first generation immigrants is strongly skewed towards secondary education (Grade 10), most likely because they tend to be relatively older than natives. On the contrary, the relative distribution of second-generation students is very similar to that of natives (the values of the indicator are close to 1).

Immigrants' school performances, as measured by the INVALSI test scores, show substantial differences among the three groups. The last two columns of table 8 presents the difference in test scores between immigrants and natives as a percentage of natives' scores. Immigrants' learning gap is relatively large and remains relevant, albeit slightly lower, also for second generation students.

These differences do not appear to be linked to the characteristics of immigrants' area of residence. As table Table *9* shows at provincial level the correlation between migrants' and natives' test scores is close to one, with the observed difference mainly explained by the constant term. This also implies that the gap with respect to natives' test scores is relatively larger in low performing provinces.

Table 8: Immigrant students' distribution and learning gap by grade, generation and academic year

Year	(1)	(2)	(3)	(4)

[13] In 2002 the Italian government implemented an amnesty program aiming at regularize immigrant workers employed in the informal labour market from at least three months (D.L. 195/2002).

	Grade 2		Grade 10		First		Second	
	First	Second	First	Second	Grade 2	Grade 10	Grade 2	Grade 10
2012/13	0.64	1.29	1.45	0.64	-15.1	-15.0	-8.7	-12.3
2017/18	0.53	1	1.50	1	-19.5	-10.5	-12.7	-9.0

Source: Authors' elaboration on INVALSI data.

Notes: The share of immigrant students is computed with respect to the total amount of immigrants in all grades. The share of native students is computed with respect to the total amount of native students in all grades.

Table 9: Relationship between migrants' and natives' test scores by province.

	Reading Scores	Mathematics Scores
Natives' scores	0.919***	
	(0.00274)	
Natives' scores		0.922***
		(0.00237)
Constant	-3.394***	-2.458***
	(0.214)	(0.174)
Observations	1,506	1,506
R-squared	0.987	0.990

Source: authors' elaboration on INVALSI data.
Notes: the reference academic year is the 2016/17. Standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

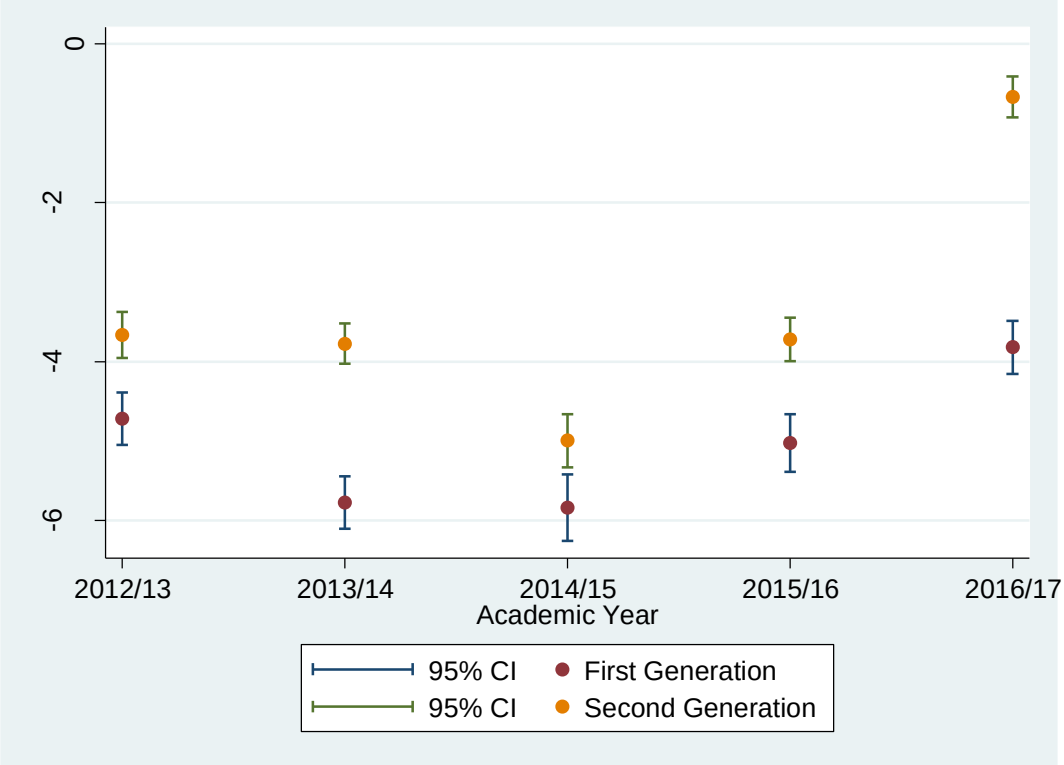
Several studies analyse the immigrant education gap in Italy. Most of them focuses on test scores in standardized assessment tests. Murat (2012) uses the 2006 test scores collected by the Programme for International Student Assessment (PISA). The gap between native and immigrant education outcomes can be due to a different composition of the two groups (i.e. different socio-economic background, school type, age, gender, etc.) or, it can be due to the immigrant status *per se*.[14] Once Murat (2012) controls for students' socio-economic characteristics, school type (lyceums, technical and vocational schools) and the interaction between the two, immigrants' educational gap in reading, mathematics and science is estimated equal to 3.17, 0.59 and 12.84 respectively. Therefore, the result suggests that immigrants with the same socio-economic background and attending the same school type of the native group experience a small learning gap.

[14] See Borjas (1992) for a more accurate discussion about the *ethnic capital.*

Di Liberto (2015) looks in more details the characteristics associated with immigrants' education gap. The author uses data on reading test scores from INVALSI (2010/2011) for grades fifth, sixth and tenth. She finds that the length of stay in Italy greatly affects the school performance of immigrants' children. Once controlled for area, school, family and children's characteristics – including the language spoken at home – the largest learning gap with respect to natives is observed for students who have been in Italy for one year or less. For the others the learning gap is substantially reduced, but not fully eliminated.

We replicate one of the regressions by Di Liberto (2015) with more recent data from INVALSI[15]. The coefficients, estimated separately for first- and second-generation immigrants, are presented in figure 7. The dependent variable is the standardized reading test score, ranging between 0 and 100. Therefore, the immigrant gap can be interpreted as a percentage gap with respect to the maximum score. All the coefficients are negative and significant, indicating that the gap between natives' and immigrants' test scores persists even after background characteristics are controlled for. The gap appears to be decreasing from the academic year 2014-15 consistently with the unconditional means presented in table 8.

Figure 7: Coefficients of first- and second-generation immigrant status



[15] Additional details on the estimates are available on request.

Source: authors' elaboration on INVALSI data.

Notes: The outcome is reading test scores and the reference grade is 10th.

Barban and White (2011) add evidence about the heterogeneity of the learning gap by ethnicity, using the ITAGEN2 survey for the period 2005/2006. Controlling for background characteristics, the authors show that the gap is especially large for children coming from Yugoslavia, Morocco, Tunisia and Macedonia, while children coming from China perform better than natives, independently from the length of permanence in Italy. However, their results should be taken with caution since the final exam is not perfectly standardized at the national level.

As already mentioned, an important dimension of the discrepancy in human capital accumulation between natives and immigrants concerns the choice of the school type. Italy is a country of early tracking, at age 13, pupils choose between different school types (lyceums, technical schools and vocational schools). Lyceums are more academically oriented. Vocational schools are work-oriented, they can last two years less than the other types and prepare children for a specific job. Technical schools are in-between lyceums and vocational schools, offering children a more technical background together with a basic readiness for tertiary education. Table 10 presents the distribution of native and immigrant students across high school types and its change over time.

Table 10: Distribution of native and immigrant students across different high-school types

Academic	Natives			First Generation			Second Generation		
Year	Lyceum	Technical	Vocational	lyceum	Technical	Vocational	lyceum	Technical	Vocational
2012/13	53%	30%	17%	24%	35%	41%	46%	31%	23%
2017/18	55%	30%	15%	34%	36%	30%	39%	34%	27%

Source: authors' elaboration on INVALSI data.

Notes: Data are disaggregated by academic year and immigrant status. Values are expressed as percentages.

Natives have the highest percentage of enrolment in lyceums, followed by second-generation immigrants, while first-generation immigrants are more likely to be enrolled in vocational or technical education. Furthermore, this distribution is stable across years with the exception of the first generation, whose enrolment in lyceums increases at the expenses of vocational schools.[16]

Several studies have analysed immigrant children's high-school choice. Barban and White (2011) show that first-generation students have the lowest probability to be enrolled in technical schools or

[16] See Appendix B to have an overview on the distribution of native and immigrant students across the different school types disaggregated by province.

lyceums. Bertolini et al. (2015) find that immigrants have a lower probability to be enrolled in upper-secondary school in general, a lower probability to be enrolled in lyceums and a higher probability to be enrolled in vocational schools.

To sum up, both our analysis and the existing literature find that there is no full integration in school, and this is confirmed by looking at different immigrants' education outcomes. The disadvantage decreases along with the time spent in Italy and lower for second-generation immigrants, but the fact that it persists also for the latter suggests that one generation is not sufficient to close the gap.

3.3 Labour market and economic conditions

As previously stated, employment is fundamental for immigrants' integration. From 2012 to 2018, in Italy, immigrant workers concentrated mostly in Agriculture Construction, Accommodation, and Other services (table 11, first two columns). The latter includes also services to the households. As shown in the last two columns of table Table *11*, immigrants represent a relatively high share of total employment in Manufacturing and, especially, Other services. As shown in table 12, where we present the ratio of white-collar workers over blue-collar workers, immigrants are concentrated in relatively low skilled sectors. Transportation and storage is the only exception.

Table 11: Immigrants in employment

	Immigrants distribution by Sector		Share in Total Employment	
	2012	2018	2012	2018
Agriculture, forestry and fishing	12.90	15.66	5.02	5.92
Manufacturing	8.25	9.50	19.32	19.27
Construction	17.69	15.58	15.55	9.74
Wholesale and retail trade	4.83	6.26	8.12	9.08
Accommodation and food service activities	14.73	16.85	8.44	9.69
Transportation and storage	9.22	9.83	4.94	4.73
Information and communication	1.34	3.08	0.40	0.80
Financial and insurance activities	0.28	0.54	0.09	0.16
Real estate activities	6.97	6.11	7.99	7.08

Public administration and defense	0.00	0.00	0.00	0.00
Education, human health and social work activities	3.14	3.05	5.41	4.98
Other services	30.19	36.69	24.73	28.53

Source: Authors' elaboration on LFS data.

Notes: Sectors are defined as in NACE rev.2 classification and aggregated into 12 categories by ISTAT.

Table 12: Share of white collars by NACE sectors

	2012	2018
Agriculture, forestry and fishing	8.16	5.98
Manufacturing	32.71	31.81
Construction	17.91	18.35
Wholesale and retail trade	55.92	54.74
Accommodation and food service activities	28.95	20.74
Transportation and storage	50.35	44.60
Information and communication	93.50	93.44
Financial and insurance activities	98.86	99.42
Real estate activities	63.17	60.38
Public administration and defense	93.02	94.72
Education, human health and social work activities	85.08	82.72
Other services	32.28	27.07

Source: Authors' elaboration on LFS data.

Notes: The share is computed as ratio of white collars to blue collars by sector. Sectors are classified by NACE rev.2 classification and aggregated into 12 categories by ISTAT.

Some studies have analysed the labour market integration of immigrant workers compared to natives. They focus on the difference between labour market outcomes not explained by differences in education or experience. For example, Fullin and Reyneri (2011) describe immigrant workers as not penalized in terms of employment rate but segregated in manual jobs even after controlling for formal education.

Other studies have looked to the gap between immigrant and native wages as a measure of economic integration. Ceccarelli et al. (2014) used data from the Italian Labour Force Survey (LFS) for 2007 and 2012. They divide their sample into natives and immigrants of first and second generation, using

the ANOVA and the ANOGI methods to determine whether the second-generation immigrants could be assimilated to natives or to first-generation immigrants. They consider the first case as evidence for integration (defining therefore integration as a long-term process which needs a whole generation to be achieved). Both decompositions show that second-generation immigrants perform more similarly to first generation than to natives in 2012 than in 2007. Therefore, the authors conclude that the integration process slowed down in the period under analysis.

The same methodologies (ANOVA and ANOGI) are used by D'Agostino et al. (2016) with different data and with a different perspective. The authors use the data for native income from the European Survey on Income and Living Conditions (EU-SILC), and data on immigrant income from an ad-hoc survey conducted by Istat in 2009. Applying the ANOVA to different ethnic groups of immigrants, they find that nearly all the inequality is explained by the within-group component. They also observe that, among the immigrant population, the median income is the highest for Filipinos, but it is not significantly different from Albanians, Moldovans and Moroccans' income. On the contrary, the Ukrainians have the lowest median income.

D'Agostino et al. (2016) also evaluate the determinants of the observed inequality, obtaining results in line with Berti et al. (2014). The latter focus on a measure of poverty risk based on more than one dimension: basic lifestyle, consumer durables, financial situation, environment, work and education, health and household disposable income. They find the highest gap between immigrant and native populations when it comes to basic life-style, consumer durables, financial situation, work and education.

Over-education is a well-documented characteristic of immigrant workers. In a framework of asymmetric information, the education achieved abroad can be a signal of the unobserved productivity weaker than the education acquired in the country of residence. Another explanation is that formal education can be poorly transferable across countries, mainly because of linguistic barriers. In both cases, years of experience in the destination country should reduce the immigrant-native gap in over-education. Dell'Aringa and Pagani (2011), using data from the Italian Labour Force Survey from 2005 to 2007, focus only on years since immigration and job experience as affecting the probability of being overeducated, as defined by having an educational level higher than the modal level of the occupation. The result shows that this probability is not affected by the number of years spent in Italy. Fellini et al. (2018), however, observe that especially for highly educated immigrants from new EU member States experience tends to reduce overeducation relatively quickly, as shown by the upward mobility of this group.

4. The impact of immigration

After arrival, the shock induced by migration inflows exerts different effects on the local population. In this section, we discuss the impact of immigration and we address the same three outcomes already explored in the analysis on immigrant integration – i.e. geographical displacement, human capital and labour market. Since an inferencial analysis is beyond the scope of the present paper, in this section we focus mainly on the results of the existing literature.

4.1 Geographical displacement

A few papers have analysed the impact of immigration on native internal movements in Italy. Mocetti and Porello (2010) look at the impact of the presence of immigrants on natives' interregional mobility for the period 1995-2005. They identify a displacement effect on low-educated natives, while highly educated individuals are attracted by regions with a higher immigration rate. They repeat the analysis at Local Labour Market level, finding a similar effect.

In addition to Mocetti and Porello (2010), also Brücker et al. (2011) look at the impact of immigrants on the internal mobility of natives. They build a simple theoretical model with both natives and immigrants moving from South to North on the basis of wage and unemployment differentials. The model suggests that a larger stock of immigrants in the North might affect the incentive for natives to move through its effect on wages, unemployment, house prices, congestion and criminality. The empirical estimation confirms that a higher immigrant share in Northern regions reduces natives' internal migration to these areas for a subset of regions in the North-West and in the Centre, while in the regions of the North East seems to be a complementarity in migration.

4.2 Human Capital

The presence of immigrant students lagging behind (see section 3.2) can have an impact on native peers as well. For example, immigrant students can require additional efforts from teachers (i.e. because of higher linguistic difficulties or to foster integration), who have then less remaining time for the other students. Moreover, in presence of several students lagging behind, teachers can decide to lower the standard of the whole group. Contini (2013) estimates the impact of having immigrant peers on children educational outcome using INVALSI mathematics and reading test scores and finds

a small negative impact of the share of immigrants in the classroom on children's reading scores and no significant impact on mathematics scores. At the same time, she finds a positive impact of the presence of second-generation immigrant peers. However, both the positive and the negative effects are small compared to the average test scores. The author shows that at least 40 per cent of the negative impact of the first-generation immigrants is due to peer characteristics rather than peer achievements.

Using INVALSI data for the period 2008/2010, Tonello (2016) obtains similar results. The author shows that the negative effect of non-native students is small if the number of non-natives is small enough. Furthermore, the low performing children are especially negatively affected by the number of immigrants in the same classroom.

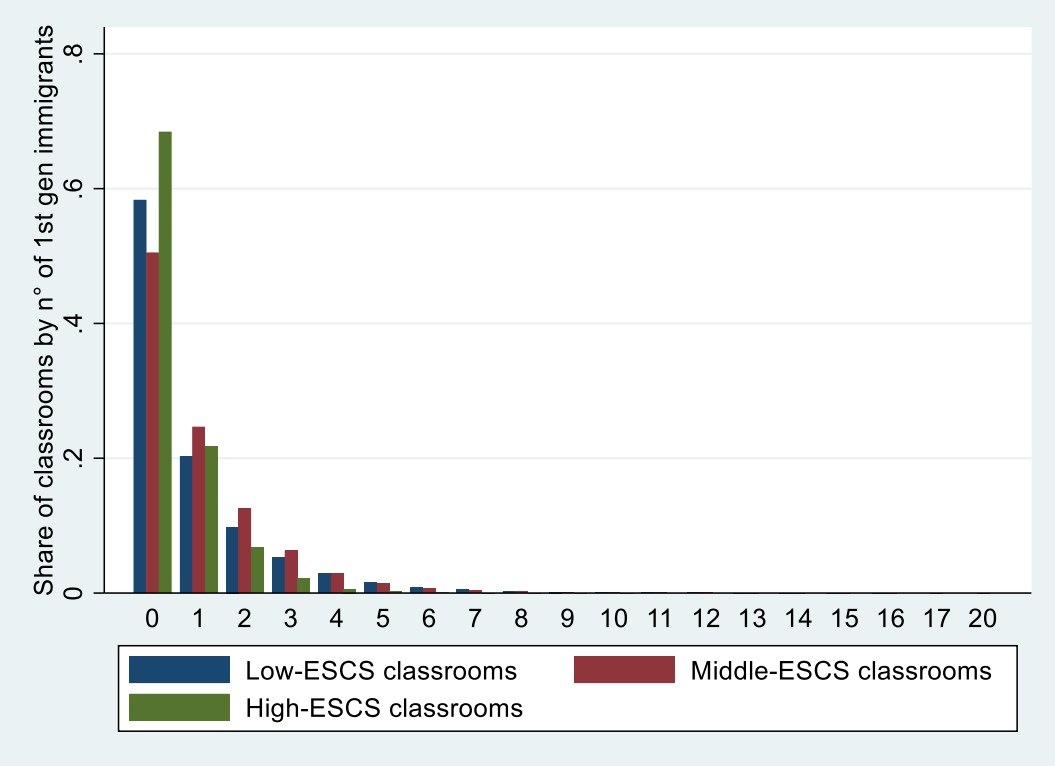
Ballatore et al. (2018) study the impact of pure ethnic composition (PEC) defined as the switch of a native with an immigrant under no variation in classroom size and in the average scholastic abilities of each ethnic group. They use data from INVALSI for the academic year 2009/2010 and find a negative and significant PEC effect of 16 percent of native scores standard deviation for reading scores and similar results for mathematics scores

Frattini and Meschi (2019) estimate the immigrant peer effect in vocational schools. This is a case of particular relevance, given the large share of immigrants attending vocational schools, along with a higher concentration of low performing students (Pasquini and Rosati, 2019). Indeed, as showed in Tonello (2016), low performing students are particularly vulnerable to the negative externalities due to classroom composition. They find no effect on reading scores and a small effect on mathematics scores for the group of natives and a larger effect for native students in the lowest half of the ability distribution. The results also point at a non-linear effect that appears to be significant only in groups with a large share of immigrants and linked to the average linguistic distance between foreign-born and native students.

The results just discussed indicates that low performing students are more likely to be negatively affected by the presence of immigrant peers. In figure Figure *8*, the share of classroom by number of immigrants is presented separately for the average socio-economic index of the natives in the classroom: lower than the first tercile (low-ESCS classes), between the first and the second (middle-ESCS classes) and higher than the second (high-ESCS classes). The lowest socio-economic levels are associated with the highest immigrants' presence. Therefore, immigrants tend to concentrate in the classrooms where their impact is higher. Similarly, table 13 displays the number of immigrant students by socio-economic category of the classroom. The average number of first-generation

immigrant students clearly varies inversely with respect to the average socio-economic status of the group.

Figure 8: Immigrant students' presence by socio-economic level



Source: authors' elaboration on INVALSI data.

Data: The average ESCS was calculated excluding immigrant children. On the horizontal axis we report the number of immigrant students of 1st generation in the classroom. Average over the period 2011-2016 (data did not differ much between one year and the others). Reference Grade: 10th.

Table 13: First-generation students by socio-economic level

Socio-economic level (ESCS)	Average number of 1st generation immigrants	Average number of 1st generation immigrants (excluding 0)
Low	0.88	2.12
Middle	0.99	2.01
High	0.46	1.45

Source: authors' elaboration on INVALSI data.

Notes The average ESCS was calculated excluding immigrant children. Average across years 2011-2016 (data did not differ much between one year and the others). Reference Grade: 10th.

To conclude, the existing literature suggests that the presence of immigrant peers in a classroom slightly affects native students' outcomes. The negative impact – often underestimated by the literature – is higher when the number of immigrant students is particularly high and it affects especially low-performing natives. Together with the fact that the number of immigrants is higher in groups with more disadvantaged natives, the latter suggests that the negative impacts on natives human capital accumulation due the presence of (newly arrived) immigrant's children affects particularly the relatively worse off among the natives.

4.3 Labour market and productive structure

According to the theoretical framework of Hanson and Slaugher (2002), the labour market can absorb a labor-supply shock, like the arrival of new immigrants, through three non-mutually exclusive mechanisms: a change in wages, a change in the output composition, and a change in technology.
More specifically, following a shift in the labour supply, the market can adjust by reaching a new equilibrium along the labour demand – with higher employment and lower wage – or the supply shock can induce a shift in the labour demand, leading to an ambigous effect on wages and employment. The shift in the demand curve can occour through a change in the output mix and/or in technology – the output of more labour-intensive firms increases and/or every production unit uses labour in a more intensive way.
In open economies, if *factor price equalization* holds, we would observe an adjustment based only on employment. Therefore, it's more likely that firms operating in the tradable accommodate the increased supply by a change in the output or a change in the technology, while firms operating in the non tradable sectors adjust by a change in wage.
The effect of immigration on natives' wages has been the core subject explored by labour economists.[17] Nonetheless, differently to other countries, analyses of the Italian case are rather scant. Gavosto et al. (1999) and Venturini and Villosio (2006) are among the few studies that try to assess the effect of immigrants on natives' labour market outcomes. Both refer to a period earlier than 1996, when immigration was a less relevant phenomenon in Italy. More in details, Gavosto et al. (1999) regress the mean wage of a specific industrial sector in a given region, conditional on a vector of individual characteristics, on the share of foreign workers in the same industry and geographical area. The total effects on natives' wages are never significant. Similarly, Venturini and Villosio (2006) estimate separate regressions for industry-region specific groups to evaluate the marginal effect of

[17] For a comprehensive review of the existing studies on the labour market effect of immigration see Dustmann et al. (2016).

immigrants on the conditional probability of being unemployed. Results are puzzling and heterogeneous, since they also change across years, showing some competion between natives and immigrants at the end of the period. Centralised wage bargaining, still very relevant during the years of the study, could have attenuated any effect of migrant inflows on native wages.

A more recent work add evidence to the debate on the wage effect of immigration in Italy. According to the results by Staffolani and Valentini (2010), immigrants never reduced native wages across sectors and regions during the years 1995-2004. Natives' wages are also regressed on the overall variation of immigrants at the regional level. According to Dustmann et al. (2016), this total effect is expected to be more negative, since a *pure spatial approach* does not consider the complementarity between different workers. Surprisingly, the estimated positive coeffients are instead larger for all groups of workers.

A serious caveat is associated with all the aforementioned studies as none of them convincingly address the endogenous allocation of immigrants workers across geographical areas or industrial sectors. One important concern regarding the identification of the wage effect of immigration is that workers decide to locate in regions or industries where labour market opportunities are growing. Therefore, the results might be biased and must be considered only as descriptive of the stylized facts characterizing Italian immigration.

Assuming *factor price equalization*, the other two adjustment channels of the labour market – pointed at by Hanson and Slaugther (2002) – have to be assessed. Some papers have analysed the potential impact of immigrants on the Italian production structure. De Arcangelis et al. (2015) – in a study of the Italian provices (NUTS3) from 1995 to 2006 – find a positive effect of the share of immigrant workers on the value added of the manufacture relatively to services. A cross-sectional analysis on the manufacture sector only, developed by Bettin et al. (2014), indicates that a larger share of foreign workers is associated with an increase in the output of firms using relatively more labour-intensive production technologies. Finally, Etzo et al. (2017) analise the evolution of the value added per workers of the manufacturing sector. Using data on Italian provinces for the period 2008-2011, they conclude that – at least in a subset of manufacture sectors – an increase in immigration induced an increase in value added per capita, mainly due to an increase of total factor productivity. Differently, Bratti and Conti (2018) do not find any positive effect of immigration on firms' innovation in terms of new patents.

According to the Heckscher-Ohlin framework, international trade flows are substitutes to international movement of production factors. Nonetheless, there is evidence of complementarity between the two phenomena (see e.g. Metulini et al., 2018). This has been documented also for the

Italian provinces between 2002 and 2009. Bratti et al. (2014) show that both exports and imports display a positive elasticity to immigration.

Finally, two papers investigated the specific link between immigrant and native female labour supply. Barone and Mocetti (2011) show that an increase in the number of immigrant women employed in household services increases the hours worked by native women already employed. This effect is present only for high-skilled women and for those more involved in housekeeping duties – i.e., women with children under 3 years old or living in households with old members. Peri et al. (2015) find also that women over 55 with old persons at home delay their retirment decisions in areas where the supply of immigrant services is higher. Additionally to Barone and Mocetti (2011), they find no effect of immigrant labour supply in the child-care sector.

5. Summary and conclusions

In this paper we have presented the stylized characteristics and the existing empirical analyses on several aspects related to immigration in Italy.

In the recent past the immigrant flows to Italy substantially declined and the ratio of non citizens to the native population stabilized around 9 per cent. At the same time the number of naturalizations has shown an upward trend, so that foreign-born population has been increasing and has reached about 10 per cent of the native population.

Immigrants are not significantly segregated in terms of spatial distribution with respect to the native population, but tend to relatively concentrate by area of origin. They show a high rate of internal mobility that generates a non-negligible territorial redistribution of their presence after arrival. Immigrants tend to move towards areas characterised by higher per capita income and their movements are positively correlated with those of the natives. The presence of immigrants appears to affect natives internal movement, albeit the results of the analyses present in the literature are quite scarce. In particular, there is some evidence that immigrants reduce the internal mobility especially of low-skilled natives.

Immigrants are mainly concentrated in Agriculture, Construction, Accomodation and Food services. Household services is where 60 per cent of the immigrants work and where they represent about one third of the total labour force. These sectors are characterized by the use of relatively low-skilled labour force. Clearly, the concentration of immigrants in low-skilled sectors reflects the level of human capital accumulated before the arrival. Overeducation also plays a role in determining the

concentration of immigrants in low-skilled jobs. As shown, overeducation is significantly present in immigrants employment and does not appear to decrease substantially with the length of permanence in Italy.

Little evidence is available in terms of wage discrimination. It appears that the wage distribution of second-generation immigrants tends to converge to that of natives, albeit the process of convergence might have slowed down in the recent past. On the other hand, first-generation immigrants appear to be relatively more disadvantaged. However, the issue of wage discrimination between immigrants and natives has not been analysed in detail by the existing literature.

Apparently, the large inflow of immigrants had not a substantial impact on natives employment and wages nor on the productive structure. In fact, most of the studies show no impact on employment or wages, with some possible negative effects on natives employment in the service sector. However, it should be stressed that there is just an handful of studies in this areas and that most suffers from serious identification problems.

Human capital accumulation is the area where more solid and conclusive evidence is available. The education system appears to be doing a good job in integrating immigrant children. The learning gap of immigrant children with respect to natives is substantially reduced, albeit it still persists, for second generation immigrants, once socio-economic background characteristics have been controlled for. However, as immigrants disproportionately belong to more disadvantage groups, on average a substantial gaps persist between natives and immigrants' children in terms of learning.

The presence of immigrants in the classroom does not appear to affect their natives peers' performances in a relevant way. However, some negative effects can be identified in low performing classrooms if the presence of immigrants, especially first-generation ones, is relatively large.

As we have seen, both the territorial and sectoral distribution of immigrants is relatively concentrated and this can affect population groups in different ways. There is some evidence that in Italy low-skilled workers could have been affected by immigrant flows. Similarly, we have seen that natives children from disadvantaged background are more likely to have immigrant peers in the classroom and that this might have a negative impact on their learning. However, the possible other dimensions of inequality in the impact of immigration like housing prices, congestion of public services remain largely unexplored in the literature.

The evidence available for Italy certainly does not match the policy relevance of an issue that has been dominating the public debate in the recent years. Moreover, if taken at face value, the evidence for Italy does not lead to any conclusion alarming enough to justify the concerns present in the society at large. Therefore, either the analysis of the economic consequences of immigration is not the

relevant dimension to focus on or it has not addressed some very relevant issues. Likely both aspects are to some extent true. On the one hand, concerns about factors like cultural identity, fear of crime[18] appear to play a very important role, on the other hand aspects like the "optimal" number of immigrants, the differential impact on public services, or house prices have not been addressed.

As a final remark this review shows how, beside the specific case of Italy, from the current literature, it is difficult to get a picture of the characteristics and impact of immigration in a country detailed enough to guide effective policy interventions.

[18] see e.g. Bianchi et al. (2012)

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Appendix A. Data sources

1. Administrative data on resident population

Administrative data are collected by local statistical offices and elaborated by Istat every year since 2002. The unit of observation is the municipality – the lowest local administrative unit (LAU2).

2. Labour Force Survey

The Labour Force Survey is collected quartely and is representative of the main characteristics of the labour force at provincial level (NUT3).

3. Naturalizations

Registered by the Italian Ministry of the Interior and elaborated by Istat. The unit of observation is the individual, but data are available at the province level (NUTS3). Annual naturalizations by province are disaggregated according to the reason of naturalization – Residence, Marriage, Others.

4. Personal incomes

Individual tax returns are collected by the Italian Ministry of Economics and Finance every year since 2012. Data are aggregated at the municipal level and they include individual income, as well as total profits by small businesses.

6. Standardized learning test

The National Institute for the Evaluation of the Education and Training System (INVALSI) submits, each year since 2011, standardized tests to children in different educational levels in all the italian schools. The tests are accompanied by some questions on children socio-economic background and on demographic information including Country of origin and parents' Country of origin.