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Outward and Inward Migrations in Italy:
A Historical Perspective

by Matteo Gomellini and Cormac Ó Gráda

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Outward and Inward Migrations in Italy: A Historical Perspective

Matteo Gomellini* and Cormac Ó Gráda**

Abstract

This work focuses on some economic aspects of the two main waves of Italian emigration (1876-1913 and post-1945) and of the immigration of recent years. First, we examine the characteristics of migrants. Second, for the period 1876-1913 we investigate the determinants of emigration using a new dataset that allows us to control for regional fixed effects. In this context, the role of the networks formed by once migrated in shaping early 20th century Italian emigration results enhanced (30 per cent higher than previously found). Third, we analyze the consequences of emigration for those left behind. A particular concern is whether emigration as a whole raised the living standards of those who stayed and whether it promoted interregional convergence within Italy. Our simulation exercises suggest that in the long run emigration accounted for a share of 4-5 per cent of the total per capita GDP growth; the contribution at the South was twofold with respect to the North. In the recent past Italy has become a country of net immigration. We explore nowadays' immigration in the light of our findings on earlier Italian emigration, focusing on the links with the economic activity, the labor market, the balance of payments, crime and public opinion, on the other.

JEL Classification: N0, F22

Keywords: migration determinants, migration effects, self-selection, public perception

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1. Introduction¹

Throughout history people have always moved to better their lot, but before the 19th century the extent of such movements was severely constrained by transport costs and by fear of the unknown. Mass migration from Europe to the New World began in the 1840s. In the early decades it was mainly confined to migrants from northwestern Europe, and included few Italians. International migration within Europe was also limited before the 1880s.

Italy's emigration rate rose from 5 per thousand (of population) in 1876 to nearly 25 per thousand in 1913. Between 1876 (when data on Italian emigration first became available)² and 1975, 26 million emigrated. More than half headed for destinations elsewhere in Europe; about 6.4 millions reached the United States and Canada; and 4.5 million chose Argentina and Brazil. The outflow was disproportionately a pre-WWI phenomenon; between 1900 and 1913 alone, nine million left (see Table 1).³

Before the beginning of the last century, Italian migrants headed mainly for Europe and Latin America. Thereafter, due in part to the dynamism of the U.S. economy, in part to an ongoing transport revolution that made overseas trips safer and cheaper, there was a big surge of emigration to the U.S. that lasted until the war.⁴ After a temporary halt due to WWI, emigration resumed, showing a progressive shift from overseas to continental destinations, mainly due to the restrictive laws on immigration passed in the U.S (see Timmer and Williamson 1998). In 1927 the Fascist regime, in turn, enacted legislation to restrict emigration from Italy.⁵ Due to a combination of these restrictions and to the Great Depression, only 2.5 per cent of the population emigrated in the following decade and the ratio of return migration to gross emigration fluctuated between 60 and 80 per cent.⁶

The post-WWII emigration was definitely a European one: the overseas share of emigration dropped to an average of ten per cent of the total. Gross flows were nonetheless

¹ We wish to thank Alberto Baffigi, Federico Barbiellini Amidei, Claudia Borghese, Alfredo Gigliobianco, Claire Giordano, Ferdinando Giugliano, Kevin O'Rourke, Lorenzo Prencipe, Roberto Tedeschi, Gianni Toniolo, and Jeff Williamson for comments and guidance. The views expressed in this paper are those of the authors and do not reflect necessarily those of the Bank of Italy.

² A reconstruction of Italian emigration flows from 1869 to 1876 was done by Carpi (1887).

³ The number of studies on Italian emigration, in particular by Italian scholars, is endless. Just to refer to the more complete and exhaustive works: Rosoli (1978), Sori (1979), Bevilacqua, de Clementi and Franzina (2002), Corti and Sanfilippo (2009). Rosoli and Ostuni (1978) present an extremely rich bibliographic essay that reports the sources of the data on Italian emigration. The present paper does not aim to review these works.

⁴ Hatton and Williamson (1998a).

⁵ Although the law also sought to dampen internal mobility and urbanization as potential threats for the regime, *de facto* there was a high intra-regional internal mobility. See Golini (1978, p.160).

⁶ The available official data on return migration (lacking until 1905) imply that the ratio of return to gross emigration cannot have exceeded half in the pre-1914 period. Giusti (1965) offers an alternative estimate of net migration flows based on censal and natural increase data. Gomellini and Ó Gráda (2011) suggest caution in using the Giusti data; hence our choice of postponing elaborations on return migration for a future study. See also Bandiera, Rasul and Viarengo (2011).

sustained: 8.5 million people emigrated in this period, 7.3 million of them before 1975. The numbers returning were also high (Figure 1).

Though a majority of migrants remained abroad for good, a significant but varying proportion always returned. A sense of the relative importance of return migration in the cases of the United States and Argentina may be obtained by comparing gross migration flows and the numbers of Italian-born residents as recorded in the census (Tables 2-3). Thus, a gross migration of over 0.6 million Italians during the 1890s led to an increase in the number of Italian-born of only 0.3 million in the U.S. between 1890 and 1900, while a gross outflow of 1.2 million in the 1910s increased the number of Italian-born by less than 0.3 million between 1910 and 1920. In Argentina, by comparison, gross outflows of 0.6 million in 1876-1895 and 1.2 million in 1896-1914 yielded increases in the numbers of Italian-born of 0.4 million in 1869-95 and over 0.4 million in 1896-1914.⁷ Note too that despite considerable publicity about the poor conditions enjoyed by Italian immigrants in Brazil, culminating in 1902 in the Prinetti Decree (which prohibited landowners from subsidizing immigration), the number of Italian-born residents in Brazil in 1920 was an impressive 558,405 relative to an aggregate inflow of 1,243,633 between 1876 and 1920. Likely factors behind the greater willingness of *italiani brasiliani* to remain on were their faster assimilation and, in the case of those who settled in southern Brazil, their links to the land.

Data on return migration, available from 1905, show that after 1923 the proportion of returnees from Europe surpassed that from the U.S. This was mainly due to the huge numbers of returnees from France, whose economy virtually stagnated between 1924 and 1927. The ratio of returnees to leavers rose until WWII, driven by the reduction in outflows. In the second part of the 20th century, the ratio of returned to total emigration reached 60 per cent in 1963 (the effect of stationary emigration flows and rising returns). Then, in the first part of the following decade the ratio was stable; while in the second part gross outflows decreased and the returned to total emigration reached unity in 1973.

As far as regional aspects are concerned, over the whole period about 50 per cent of the emigrants came from northern regions; 40 per cent from southern; and 10 per cent from the regions at the centre (see Figure 2). While the share of emigrants from regions in the centre of Italy remained steady at around ten per cent during the whole period, the shares of the south and north fluctuated considerably. In particular, in 1876 emigration was an almost entirely northern phenomenon. By 1900, the shares of north and south had converged and remained similar until the early 1920s. After the U.S. Quota Act of 1924 the southern share fell, losing 10 percentage points: its average during the fascist period would be around 30 per cent. After WWII the situation was reversed, with the southern share rising from 45 per cent during the 1950s to 75 per cent in 1963 (a crucial year for the Italian economy when it was hit by its first post-WWII economic crisis: see Ciocca, Filosa and Rey, 1973; Rossi and Toniolo 1996, pp. 442-443).

⁷ This tallies with the high correlation (0.67) across regions between the proportion of all emigrants returning in 1905-1920 and the proportion choosing the U.S. in 1876-1910.

During the 1970s emigration flows decreased substantially, notwithstanding the high level of unemployment in Italy during that period. It would seem that the gains made during the years of the ‘economic miracle’ (Rossi and Toniolo 1996; Cohen and Federico 2001, pp. 87-106) were mainly responsible for this apparently counter-economic choice. Emigration today is very low and restricted mainly to highly skilled and specialist workers (e.g. Monteleone and Torrisi 2010).

Almost from the outset Italian migrants spread themselves widely over a range of destinations. The choice of destination was rarely accidental; the immigrant to Australia who declared that it had never occurred to her ‘that Australia was not in America’ (Choate 2008, p. 23) was quite atypical. It will be argued later that, by and large, before 1914 swings between destinations – mostly in Europe, North America, and Latin America – reflected shifting relative prospects in the different receiving countries, although the sharpness of such swings was attenuated by the size of pre-existing migrant stocks. Migration to Brazil totaled about one million between the early 1880s and the early 1900s, but declined rapidly thereafter, while migration to Argentina reached 0.7 million in the 1900s. The increasing preference for Argentina (where in 1914 one inhabitant in nine was Italian-born and where over half the population today can claim some Italian ancestry) over Brazil is accounted for by the relative decline of the latter’s economy. After 1914, war and immigration policy mattered: with access to the United States severely limited, Europe would become the most important destination of Italian migrants.

This paper focuses on some economic aspects of the phenomenon (overlooking other important features)⁸ and is organized as follows. Part 2 describes migrant characteristics, with particular attention given to the issue of self selection: were those who left the ‘best and the brightest’? Part 3 focuses on the determinants of emigration; emigration rates are explained using economic conditions of Italian regions relative to those in destination countries as well as previous migrant flows to catch a ‘network’ effect. It also examines the case for poverty traps as an explanation for the (sometimes) apparently counterintuitive positive relation between emigration and per capita income. Part 4 examines the consequences of emigration for those left behind. A particular concern is whether emigration as a whole raised the living standards of those who stayed and whether it promoted interregional convergence within Italy. The outcome is not *ex ante* predictable, since it results from the interplay of different and potentially conflicting factors (positive or negative selection, age structure, labor market conditions, use of remittances). We do simulation exercises and calculate the short and long-run effects of emigration on per capita GDP. Although smaller than previously found, the contribution of

⁸ One such feature is, for example, mortality on ocean crossings. Unfortunately, today these crossings are more likely to end in tragedy than in the past, as highlighted by Molinari (2009): “In the past, shipwrecks and the loss of lives during the crossing were the exception, today these tragic experiences seem to be one of the most frequent outcomes. Some parts of the Mediterranean Sea are authentic ‘marine cemeteries’ and the phenomenon is considered almost physiological to the dynamic of new migration flows [...]. According to the most careful estimates, in the past decade the victims of the passages from North Africa to the South of Italy amount to 10,000”. In the wake yet of another such shipwreck on June 5th 2011 the President of the Italian Republic, Giorgio Napolitano, wrote on this topic: <http://www.quirinale.it/elementi/Continua.aspx?tipo=Discorso&key=2222>

emigration turns out to be significant both with respect to the growth of living standards and to regional convergence. Finally, in the recent past Italy has become a country of large-scale net immigration. Part 5 offers a review of that immigration. It focuses on the links between migration, the economic activity, the labor market, the balance of payments, crime and public opinion.

2. Emigrant characteristics

Generalizations are always necessary for analysis to proceed so, while it makes sense to model Italian migration as consisting of unskilled workers because the great majority in periods of mass migration such as 1880-1914 were unskilled (see below), Italians were also associated at one time or another with niche occupations such as picture-framers, plaster figure makers, barbers, fish and chip merchants, ice-cream makers, and tunnel workers.

Much about migrant characteristics may be inferred from quantitative sources such as census data, shipping records, and official inquiries, and also from qualitative sources. Three of the richest sources include the massive report of the Dillingham Immigration Commission (U.S. Congress 1911), a by-product of nativist concerns about the social and economic impact of immigration into the United States; the *Annuario statistico della emigrazione dal 1876 al 1925*, drawn up by the Commissariato Generale dell'Emigrazione, an institution founded in 1901 by the Luzzati Law (n. 23, 31st January 1901), a by-product of Italian concern for emigrant welfare;⁹ and the Ellis Island archives detailing immigrants into New York from 1892 on (Bandiera, Rasul and Viarengo 2011; Abramitzky, Boustan and Eriksson 2010).

Ship passenger lists offer valuable insights into the age and gender aspects of migration. As noted, when the fixed cost of migration is high, there is a presumption of a bias in favour of young adult males and infrequent return migration. Figure 3 describes the age at arrival of Italian-born males and females as reflected in the U.S. census of 1900. Figures 3a, 3c, and 3d describe the age and gender distributions early in the last century of thirty thousand or so Italian emigrants on the steamship SS. Roma, which made the crossing from Naples to New York several times a year between the early 1900s and the 1920s. Several features of the migration are clear. First, males were much more likely to leave than females: in the period in question over seven in ten emigrants were male. Second, over half the males were aged between 15 and 29 years, although the significant proportion of older males on board – over three in ten were aged 30 or above – is also striking. Third, the age distribution of female migrants did not vary much over the year, but that of males did. The preponderance of male travelers and the small proportion of young males early in the year are striking; clearly, family units were more likely to travel in the second half.

The *Annuario Statistico* reveals that migrants from the south were more likely to be temporary or seasonal migrants. Thus between 1905 and 1920 well over one-third of migrants in

⁹ One of the many aspects not addressed here is the evolution of legislation referring to migration. A milestone is represented by the so-called Legge Luzzatti passed in 1901. This law provided, among other things, a safeguard for emigrants (for example providing institutional care for emigrants in every port and on board health assistance). For a thorough analysis, see Coletti (1911). For the legislation on immigration, see Einaudi (2007)

the regions of Lazio, Abruzzo, and further south returned, while the proportion in regions to the north was about one in ten. The exceptions were Sardinians (who were very reluctant to migrate in this period but, when they did, mostly left for good) and Ligurians (of whom over half returned).

In the 1900s an unskilled male worker from the Italian south might have hoped to earn the equivalent of 500 lire annually at home or \$400-\$500 (equivalent of 2,000-2,500 lire) in, say, New York. He would have weighed such numbers against the duration of the voyage (7 to 10 days), the cost of getting from his home village to the port of embarkation, the 170-190 lire fare for a steerage or third-class passage to the U.S. in an iron steamship carrying hundreds of passengers, and the uncertainty of gaining employment on landing (Commissariato Generale dell'Emigrazione 1927; Fenoaltea 2002; also Keeling 2007). The cost could have constrained his initial move outwards, but the frequency with which some males crossed the Atlantic – notably the '*golondrine*' or 'birds of passage,' who travelled as seasonal migrants – implies that it was not a constraint for them. The contrasting age-gender patterns in Figures 3c-3d point to the importance of temporary or repeat migration by such migrants, particularly in the first half of the year, a century ago. Seasonal migration was a distinctive feature of Italian migration; no other migrants engaged in it over such long distances. Such migration makes it seem unlikely that a poverty trap could account for the relatively low rate of migration from the south (see Faini and Venturini 1994a; 2001; Hatton and Williamson 1998b, pp. 110-116; see also Part 2 below). Although improvements in transport technology seems not to have cut the real cost of trans-Atlantic travel they certainly reduced the risks, uncertainties, and discomforts of the voyage (Keeling 1999; Hatton and Williamson 1998a, p. 14).

Figures 4a and 4b compare the socio-economic and educational status of Italian immigrants and U.S. born first-generation Italian-Americans (i.e. those with at least one Italian-born parent) in 1920. Based on the Integrated Public Use Micro Samples (IPUMS) census sample, they track the mean values of *SEI* and *EDSCOR50*, two-widely used IPUMS proxies for earnings/job status, by age-group (from 15-19 years to 55-59 years). Both measures indicate that the immigrants acquired few skills after arrival, but the children of immigrants fared better. We also estimated pseudo-earnings equations in which the dependent variables were these and other related IPUMS proxies.¹⁰ Earnings and status were modeled as a function of literacy, the ability to speak English, marital status, gender, age at arrival and years in the U.S. The outcome implied by this exercise is the following. Those who arrived when young were at an advantage, even after controlling for language and literacy (see Hatton and Williamson 1998a, pp. 137-138). Italian immigrants fared relatively better in the north-eastern states than the U.S.-born, perhaps because their skills were more readily recognized where they were most numerous. The returns to age were much greater for those born in the U.S. than for immigrants. This could mean that it was easier for the U.S.-born to acquire experience because they changed jobs less frequently, or else (as Hatton has suggested) that the market did not fully recognize the value of increases in immigrant human capital.

¹⁰ On the IPUMS proxies see <http://usa.ipums.org/usa-action/variableAvailability.do?display=Person#occ>. The details are reported in Gomellini and Ó Gráda (2011).

2.1 *Migrant selection in the age of mass migration*

Migrants are not randomly selected from the population of their countries of origin (Borjas 1987, p. 1687). Each generation in the host country believes that the latest wave of immigrants is of poorer ‘quality’ – slower to assimilate, more criminal, less industrious – than those that preceded it. In sending economies, on the other hand, the worry has long been that the departures of their best and brightest created a ‘brain drain.’ Public opinion in the United States a century ago, reflected in the report of the 1907-1911 Immigration Commission chaired by Senator William Dillingham, notoriously distinguished between ‘old’ and ‘new’ immigrants to the U.S. and argued that the latter (which was heavily Italian) were less educated and slower to adapt to American culture than their northwestern European predecessors. That conviction was partly responsible for the literacy test stipulated in the 1917 U.S. Immigration Act, harbinger of a series of restrictive measures seeking to screen newcomers. For Robert Foerster, however, author of a classic work on the Italian diaspora, the self-confidence of Italian emigrants who braved the Atlantic indicated that they were ‘of the race of Columbus still’ and, furthermore, their ‘energy and prowess’ placed them well ahead of their stay-at-home neighbours (Foerster 1919, p. 419). Foerster’s account was largely deductive and impressionistic, however, with little hard evidence in support of his assertion of positive selection.

The nature and direction of selection bias in migrant populations remains controversial (see Belot and Hatton 2008; Abramitzky, Boustan and Eriksson 2010; Faini 2003). In one respect, the presence of selection bias is clear: emigrants tended and tend to be disproportionately young and healthy. In the past, too, the gender bias towards males entailed a reduction in labour force productivity in the sending country. Common sense suggests that those with most to gain left – unless prevented from doing so by legislation. So were those who left also better schooled, more self-confident, and less risk-averse than their peers? These aspects of human capital are less easily identified. One proxy often used to signal positive self-selection is, for example, upward mobility within and across generations. Hatton (2010) invokes the superior labour market performance of the children of immigrants (second generation immigrants) – and this certainly holds for Italian-Americans in the U.S. before 1914 – as evidence that they inherited valuable characteristics which their disadvantaged parents had failed to capitalize on; Ferrie and Mokyr (1994) infer positive selection bias from the overrepresentation of immigrants among U.S. entrepreneurs. Again *a priori*, the high cost of migration from eastern and southern Europe during the pre-1914 age of mass migration and the large gap between incomes in sending and host economies tip the scales toward positive selection bias (Hatton and Williamson 2005, p. 14).

As noted above, passenger lists point to migrant selection by age and gender, but are silent on other aspects of selection. *A priori*, if the return to education and skills was greater in the sending than in the receiving country, then negative selection might be the result. On the other hand, the considerable fixed costs associated with the migration decision might lead to a bias toward migration by the more skilled. In general, the greater the gap between incomes in the sending and receiving economies, the greater the presumption that the more skilled will leave.

There is little doubt that emigrants were relatively uneducated, with a very low average years of schooling in absolute terms (Sori 1979, p. 205). There is also evidence that the literacy rate among Italian emigrants was low compared to that of other immigrant groups in the age of mass migration (in line with the Italian disadvantage in the population at large: see Bertola and Sestito 2011), and that the illiteracy rate was higher for those who came from the South of Italy (Cipolla 1971, p. 93).

Nonetheless, there is some evidence based on different indicators that points to a positive selection of Italian emigrants.

Literacy is one of the more straightforward measures of human capital. Table 4 reports the percentages of Italians arriving in the U.S. in 1900 and 1910 and of all Italians resident in the U.S. in 1880 described as literate in the census. The data are broken down by age-group and gender. The relatively small number of arrivals in the U.S. before the mass migration of the 1880s and later were clearly in a different league to the immigrants of later decades. Fewer than half of males and females arriving in their twenties in 1900 were literate, although the proportions who were literate rose thereafter. Still, the post-1880 emigrants were more literate than the average in the south whence most of them came. Those data refer to the U.S.; the literacy rates of Italian-born brides and grooms in Uruguay a century or so ago – 89.9 per cent for grooms and 65.8 per cent for brides in 1907-08 (Goebel 2010, p. 221) – imply stronger positive selection among emigrants there.

The ensuing loss of human capital to the Italian economy was mitigated by two factors. The first is emigrant remittances, discussed elsewhere in this essay. The second stems from the impact of emigration on the literacy of the stay-at-homes. An increasing probability of leaving must have led to increased investment in schooling by all those who had some prospect of emigrating, and not simply those who left (Coletti 1911, pp. 257-259; Sori 1979, p. 207; Stark, Helmenstein and Prskawetz 1997).¹¹

The mean height of a community or a population is a widely-accepted measure of its health and nutritional status (A'Hearn, Peracchi and Vecchi 2009). A recent anthropometric study of Italian-Americans based on Massachusetts naturalization records offers a second indication of positive selection bias in the pre-1914 period. It finds that early 20th century Italian immigrants in the U.S. were taller than the mean in the regions they left: 165 cm. on average for adult, mainly southern, males born after 1880, 3-4 cm. taller than military recruits from the south born around the same time. The outcome is striking, even if the sample is rather small and perhaps biased by the tendency for self-reporting to exaggerate heights somewhat (Danubio, Amicone and Vargiu 2005).

A third piece of evidence, less supportive of positive selection bias, invokes wage data on skill differentials. The Roy hypothesis (see Borjas 1987; Stolz and Baten 2011) states that emigrant selectivity is a function of relative skill premia in receiving and sending countries. The trends in skill premia in Italy and the U.S. (Bertran and Pons 2004) described in Figure 5

¹¹ See also data from Commissariato Generale dell'Emigrazione (1927).

implies that, *ceteris paribus*, between 1880 and 1930 the departure of unskilled workers lowered the skill premium in Italy and increased it in the U.S.

And were the minority who returned self-selected too? *A priori* there is no strong presumption either way. Emigrants who found it hard to adapt to conditions abroad might have been more likely to return. Particularly in the era before the welfare state, the so-called ‘salmon bias’ may have encouraged sickly emigrants to return to their kinfolk. But the empirical evidence on returnees is weak (Faini 2003; Rooth and Saarela 2007).¹² Whatever its bias, return migration could have mitigated the brain drain, if returnees brought back human capital accumulated abroad (Dustman, Fadlon and Weiss 2010).

The continuing ambiguities and controversies about migrant selection underline its Janus-faced character: while opponents of migration everywhere lament the loss of accompanying human capital, opponents of immigration highlight the low human capital endowments of new arrivals. Thus anti-immigrant commentary in Italy today closely mirrors that of anti-Italian commentary in the U.S. a century ago. In practice, selection from the middle of the income distribution is a stylized fact about unfettered migration that has almost never been violated since 1492, and Italian migration is unlikely to be exceptional in that regard.

2.2 Migration after WWII

After WWI a series of developments – restrictive U.S. quotas from 1924, the rise of fascism, global economic depression, and WWII – combined to greatly reduce Italian emigration. When emigration resumed after WWII its main focus was no longer the New World, but western Europe. The proportion of emigrants opting for the latter destination rose from 55 per cent in the 1950s and 81 per cent in the 1960s. The numbers involved were large: 2.8 million in the 1950s, 2.9 million in the 1960s. As always, the size and direction of the outflow was sensitive to macroeconomic conditions and host-country regulations. Thus emigration began to decline from the late 1960s, as Italian wages converged on those further north and the economic recession of the 1970s led to the closure of labour markets. While Switzerland remained the favoured destination of Italian emigrants throughout this period – by the mid-1960s there were nearly 0.5 million Italian nationals, mostly male, working there – France ceded second place to Germany after the 1950s (Venturini 2004, pp. 10-17; Mayer 1965). Even to a greater extent than earlier the outflows were accompanied by significant return migration: thus in the 1960s a gross outflow of 2.9 million led to a net emigration of only 0.8 million (Venturini 2004, pp. 10, 16).

A major theme in the literature on post-war immigration into the U.S. and OECD countries generally has been its increasingly poor ‘quality.’ Again, this does not imply negative selection: across the globe today, the poorer the country of origin the greater the positive selection bias. The bilateral Italian-German *Gastarbeiterprogramm* negotiated in 1955 prompted the migration of over one million low skill Italian workers between 1955 and 1973. The findings of a recent analysis of the children of guest-workers who stayed in Germany are consistent with

¹² Bandiera, Rasul and Viarengo (2011) report much higher return migration rates from the US than previously found.

negative selection bias (Dronkers and de Heus 2010). However, the particularly poor PISA¹³ science scores recorded by the children of Italians may have been partly due to their parents' origin in southern Italy, where scores were strikingly lower than in the north (ranging from 436-450 in the poorest southern regions to 520-540 in the richest northern regions). In the case of children of Swiss-Italian immigrants, the analysis revealed positive selectivity, perhaps because Switzerland practiced a strict policy of repatriating unemployed immigrants. The PISA science scores of first and second generation Italian immigrant students in Switzerland were 476 and 451, respectively, compared to 416 and 417 in Germany, and 473 in Italy itself.

One of the reasons why immigrants typically earn less than native workers is that labour markets place a low value on the human capital content of their schooling in the home country. This holds true for Italy: a recent study of migrants in Lombardy, towards which more skilled and educated immigrants have tended to gravitate, finds that the return on immigrant investment in schooling was very low, and virtually non-existent in the case of illegal migrants and immigrants from Latin America (Accetturo and Infante 2010). This outcome points to the non-transferability of human capital accumulated in the home country. Discrimination is one likely reason for this, although the low quality of that capital may also play a role (see Hatton and Williamson 1998a, for evidence from the 19th century).

3. The determinants of emigration

What are the determinants of migration flows and how much do they account in determining emigration rates? Are push or pull forces (like employment opportunities at home and abroad) important or does the gradual formation of migrant networks dominate?

The pre-1914 mass migrations from Italy, Tsarist Russia, and 'Other Central Europe' countries to the United States were uncannily similar both in size and short-term fluctuations (Figure 6). The correlations between first differences in the three flows between 1880 and 1914 ranged from 0.7 to 0.8. This implies that all three were prompted by the relative dynamism of the U.S. economy in that era, but common features affecting the sending countries – late-comer industrialization and rapid population growth – undoubtedly played their part too (Williamson 2004).

At its simplest, the economic analysis of migration proceeds with a representative individual who moves from the sending country (*S*) to the host country (*H*). The likelihood of migration, usually represented by the ratio of annual gross migration to population, is then modeled as a function of the difference between expected earnings in *S* and *H*. If *H* represents a choice between countries, then the model predicts the one with the highest expected wage. Such a model captures the overwhelmingly economic motivation of most migrant flows. For added realism, allowance may be made for the cost of migration, the occupational flows between *S* and *H* (Hatton and Williamson 1998b). The economic motivation of the migration is likely to influence its age and gender composition, and its regional distribution. Finally, if *S* is a very economically backward region, the response may be constrained by low levels of human and

¹³ Programme for International Student Assessment. The data refer to 2006.

physical capital, and “income growth [...] will lead to more migrations” (Faini and Venturini 1994a, p. 86).

Hatton and Williamson (1998b; henceforth, HW), is among the few quantitative attempts (together with Faini and Venturini 1994a; 1994b; Moretti 1999) that investigates the determinants of the Italian pre-1914 emigration. Following Todaro (1969) and Hatton (1995), they model emigration using a framework in which potential migrants decide whether to leave by comparing expected incomes at home and abroad. In addition, they account for dynamics by using adaptive expectations, and introduce migrant stock to catch a network effect.¹⁴

In their analysis of pre-1914 migration Faini and Venturini (1994a) use relative per capita GDP instead of wage differentials since, they claim, income per capita may be a better proxy for expected earnings for long-term moves (Faini and Venturini 1994a, p. 80). Their findings differ somewhat from those of HW. In particular, they find an elasticity of the migration rate with respect to income differentials 60 per cent higher than that with respect to wage differentials. Furthermore, their results indicate that demographic factors do little to explain fluctuations in Italian migration. The results they mainly highlight are the relevance of host country labor market conditions, and the positive correlation between the income per capita and the migration rate. They interpret this result as a poverty trap: higher domestic income removes constraints to would-be migrants and leads to higher migrations.

3.1 *Regional analysis*

According to Faini and Venturini (2001, p. 12), ‘the existence of persistent and substantial regional differences within Italy implies that any aggregate analysis of the migration behavior of the Country is most likely to be meaningless or even misleading.’ Perhaps anticipating such criticism, HW (1998b, pp. 118-120) have also attempted to model the choice of destination across Italian provinces between the U.S., Argentina, and Brazil early in the last century.¹⁵

We replicated the estimates of HW (1998b) using a different dataset. From Commissariato Generale dell’Emigrazione (1927) we collected data on gross emigration for 16 *Compartimenti*

¹⁴ Such models are geared to periods when migration was unrestricted. In practice, public policy also influenced the size and destinations of migrant flows. Before 1914 and after WWII Italian policy towards emigration was broadly supportive; the focus was on migrant welfare rather than on discouraging people from leaving (Choate 2008). During the interwar Fascist era, policy was ambivalent, disapproving of but not prohibiting emigration outright (Cannistrato and Rosoli 1979; Choate 2008, pp. 230-231). Restrictions in the U.S., the main host country, exemplified by literacy restrictions and quotas introduced by the Immigration Acts of 1917 and 1921, hit would-be Italian migrants hard in the 1920s. Reduced demand for immigrant labour in the New World reduced migration further in the 1930s. Gross migration to the U.S. fell from 350,000 in 1920 to annual averages of 42,000 in 1921-30 and 12,000 in 1931-39. On the role of policy restrictions, see Timmer and Williamson (1998) and Sanchez-Alonso (2010).

¹⁵ HW (1998b: 112-15) manage to account for a considerable proportion of the interprovincial variation across Italy’s 69 provinces in 1902 and 1912. Some of the estimates yielded by alternative specifications are not very consistent, but they show that provincial migration rates varied inversely with economic development, and positively with the share of owner-occupiers in agriculture and past migration rates. When analyzed at a regional level, major differences in the timing and destinations of the migration become evident.

of origin and 9 destination Countries, from 1876 to 1925 (a grand total of 10,400 observations). Our estimations follow the same specifications as HW and Faini and Venturini (1994a):

$$MigRate_{t,i,j} = \alpha + \beta_1 Hactivity_{t-1,i,j} + \beta_2 Sactivity_{t,i,j} + \beta_3 (Hy/Sy)_{t,i,j} + \beta_4 MigStock_{t,i,j} + \beta_5 DPassport^{16} + \beta_6 WPop_{t-1,i} + D_{region} + D_{host} + D_{year}$$

where $i=1,\dots,16$ is the region of origin; $j=1,\dots,9$, is the country of destination, y is the per capita income; Ds are dummy variables for region of origin, country of destination, *Hactivity* and *Sactivity* are the deviations of the logs of host and sending country per capita GDP from its trend; *Wpop* is the population in working age; *DPassport* is a dummy for post-1900 emigration boom.

We introduced both, alternatively, per capita income and wage ratios. Internationally comparable regional GDPs per capita are obtained by using Maddison (2009) and the regional indices proposed by Daniele and Malanima (2007). Internationally comparable regional wages (from 1905) are obtained from Williamson (1995) and the indices of regional wages proposed in Arcari (1936). Measures of host and sending country economic activity are obtained as a deviation of GDP per capita from its trend (calculated using a Hodrick-Prescott filter). Migrant stock (*MigStock*) is the cumulated flow; *WPop* is the one year lagged share of population at working age (15-64 years) obtained using census data of the population share at working age within each region and obtaining inter-census figures using the dynamics of population present in each year.¹⁷

The structure of our data allows us to introduce fixed effects for each region of origin, country of destination (Argentina, Brazil, Canada, U.S.; Germany, France, Switzerland, Austro-Hungary; Australia, Asia) and year. When we account for these fixed effects, our results confirm in some respects those obtained by other authors but differ in some others (Table 5). The level of host country activity is significant and has the expected impact (in particular when relative wages are considered: Table 6); domestic activity is often not significant. Relative wages, relative per capita incomes and network effects (proxied by previous migrants) are the variables that explain the emigration rate most; population pressures have some effects mostly in the pre-1900 period. As far as macro areas are concerned, regions in the North-Centre of Italy exhibited higher elasticity both to income per capita and to wage differentials. Elasticities in southern regions were lower. Income and wage effects are a little lower than in previous studies.

¹⁶ As a starting point for their analysis, HW (1998a, pp. 97-98) focus on shortcomings in the data. In particular, they claim that a change in the regulations governing passports in 1901 led to an overestimation of the migration flows. We have some reasons to think that if there was an overestimation it was much lower than they claim (17 per cent). Nonetheless, we introduced a dummy that accounts for the post-1901 boom in emigration. Furthermore, we also introduced a time trend to identify an effect due to the lowering of transport costs but it did not result significant.

¹⁷ We do not introduce any variable that is able to catch the possible effect of employment structure changes (from agriculture to industry). See Hatton and Williamson (1998a, ch.6).

HW estimated that a ten per cent increase in the wage ratio would have raised the emigration rate by an average of 1.3 per thousand a year. Our analysis implies a fall of 0.5 per thousand in the migration rate in response to a ten per cent reduction of the per capita GDP ratio, while a fall of 10 per cent in the relative real wage leads to a fall in the migration rate of 0.9 per thousand.

Although extremely variable across regions, these results imply that (controlling for other variables) a complete convergence of Italian wages to international levels (i.e. a cancellation of the wage differential) would have not been able to bring migration to zero, inducing ‘only’ a 83 per cent decrease of the migration rate (Table 7).

Our estimates also capture an important chain-network effect that is nearly 30 per cent higher than previously found: HW estimated that a net increase in the migrant stock of a thousand people would lead to an increase of 83 migrants a year, whereas we find the same net migrants (i.e. taking into account return migration) would draw 109 more abroad (Table 8).

Of particular interest is the relation between the emigration rate and income growth. According to Faini and Venturini (1994a) Italy offers an example of the ‘poverty trap’ in operation: that is, at low income levels the cost of emigration to overseas destinations is beyond reach. Thus as income rises one can observe a progressive, and somewhat counter-intuitive, growth in the emigration rate. After a certain income threshold (identified by Faini and Venturini in a cross-country analysis for post-WWII at a GDP per capita ranging between 3,500 and 4,000 PPP\$ at 1990 prices) the relationship between income and emigration reverses.

As noted in Part 2, the first stage of this ‘emigrant life cycle’ – the poverty trap lock-in effect – sits somewhat uncomfortably with the presence of significant seasonal migration from Italy’s poorer regions across the Atlantic before WWI (although not entirely: consider seasonal migrants working in agriculture who bargained a salary inclusive the cost of the trip). In order to investigate this issue for the pre-1914 era, we added two supplementary terms to the equation: per capita income (in logs) and its squared value. Controlling for a set of other variables, our findings suggest that during the age of mass migration Italy, notwithstanding rising living standards, never reached the reverse threshold. If anything, income growth, supposedly also fueled by remittances, acted as a *push factor*. Migration represented a sort of ‘investment for the future,’ the best way of investing one’s skills (and income). In this sense, it was an attempt to secure personal and family economic prospects. We find that, on average, the relationship between per capita GDP and the emigration rate is captured by an upward sloping curve with very tenuous convexity that tends to flatten at high levels of income. Italy was moving to escape the trap, but the road to travel was still hard (Figure 7).

4. On the consequences of emigration

Economic theory predicts that international factor flows, like international commodity flows, should increase world income and narrow the gap between rich and poor economies. Taylor and Williamson (1997) find that migration accounted for seventy per cent of the convergence in wages between the Old World and the New World between 1870 and 1914, and that it increased real Italian wages by over a quarter.

But such movements also produce winners and losers in receiving and sending economies. Who gained from migration? The most obvious winners were those who left; they were usually the envy of their brothers and sisters who stayed at home. But the latter benefited too, because their bargaining power as laborers was stronger as a result and they stood a better chance of renting land. To be more precise, unskilled workers and their families who remained gained, while landowners, capitalists, and skilled workers, as the (far less numerous) owners of complementary inputs, were likely to lose. Opponents of Italian emigration in the past articulated the interests of such people. Conversely, the Stolper-Samuelson theorem predicts that unskilled workers in the U.S. would have been the most strenuous opponents of Italian immigration. The perception – exaggerated though it certainly was – that immigrants were crime-prone, charity-dependent, and unwilling to integrate into the cultural mainstream broadened the anti-immigrant coalition that inspired the anti-immigrant report of the Dillingham Commission in 1911. The report found that Italian and other new immigrants had brought few skills with them, competed for employment with the most disadvantaged natives, and were slow to integrate. Articulating the concerns of the labour movement, it argued that ‘the development of business may be brought about by means which lower the standard of living of the wage earners,’ and accordingly called for slower economic growth (U.S. Congress 1911, vol. I, p. 45).

Goldin (1994) and Hatton and Williamson (1998a) support claims that immigration reduced unskilled wages in the U.S. The former found that a one per cent increase in the foreign-born share of the population reduced wages by 1-1.5 per cent, while the latter reckoned that real wages in the U.S. would have been 11-14 per cent higher in the absence of immigration after 1870 (Hatton and Williamson 1998a, p. 173). HW find that the immigrants concentrated in the urban northeast and in jobs in slow-growing sectors, with the result that they had an important negative impact, ‘just as the Immigration Commission argued’ (1998, p. 174). Allowing for migrant selection complicates the outcome considerably, however; the departure in disproportionate numbers of the healthier and more resourceful among the unskilled could be damaging to the sending country, while the converse could hold for the receiving country. The human capital characteristics of the migrant flow are therefore very important but often difficult to pin down. Did out-migration in earlier eras, such as before 1914 and after 1945, penalize those Italian regions where it was heaviest? Some theoretical support for the possibility that migration could have had such effects may be found in the new economic geography associated with Paul Krugman (Whelan 1999).

Some critics of emigration argued that its age-structure imposed an additional significant loss of capital on the Italian economy. The cost of the emigrants’ upbringing and education was borne by Italy, while host economies benefited from the arrival of ‘ready-made’ adults equipped for immediate employment. The loss was compounded by the return in their twilight years of migrants likely to impose a further economic burden on the mother-country. The claim builds on a life-cycle view of production and consumption, whereby the young and the old are net consumers and those aged in between net producers. The economist Vilfredo Pareto reckoned the annual cost to the Italian economy of this life-cycle character of migration at between 400-450 million lire (or about 2 per cent of GDP) in the early 1900s (Pareto 1905; Choate 2008, p. 93).

4.1 *'A fantastic rain of gold:' the remittances*

Their close links to home and their high probability of returning permanently increased the likelihood that Italian migrants would remit some of their earnings to the home country (see Faini, 2006; Galor and Stark 1990). Remittances helped the home country in several ways. Firstly, they added handsomely to GDP; the most recent estimate puts their average share of GDP in 1876-1913 at 2.7 per cent (ranging from 0.3 per cent to 5.8 per cent, with CV of 0.62; see Borghese 2011 and Figure 8). Details on the number of remitters are lacking, but data from other sending countries imply that they may numbered as many as 3 million annually in the 1900s (Esteves and Khoudour-Castéras 2009, Appendix B).

Secondly, the impact was clearly much greater in low income regions of high emigration, and so helped reduce the regional disparity in incomes, if not in productivity. There remains some controversy as to how the remittances were spent. Were they spent or invested? Either way, the benefits to the sending regions must have been significant, although remittances devoted to increased consumption contributed little to economic growth.

Thirdly, remittances helped to finance deficits in the balance of payments on current account (Massulo 2001; Drinkwater, Levine and Lotti 2003; Esteves and Khoudour-Castéras 2009). Figure 9 indicates that remittances sustained a surplus on the balance on current account between the 1880s and the 1900s. Indeed, those data underestimate the contribution of remittances insofar as the savings of 'birds of passage' who travelled seasonally across the Atlantic were excluded. Foerster (1919, p. 448) linked Italy's ability to convert its foreign debt in 1906 and the lira's strength on the foreign exchanges before the Great War to remittances and its subsequent weakness to the decline in 'the export of labor services' (on this point see also Cesarano, Cifarelli and Toniolo 2010). It may not be farfetched to link Italy's switch to net capital exporter by the mid 1900s to emigrant remittances.

Fourthly, remittances had a positive impact on financial development. They found their way back through a variety of channels, formal and informal, but as the size of the outflow increased, the scope for institutionalizing the remittance business rose too. The Dillingham Commission reported that Italians remitted money through 2,625 banks in 1907. The role of the Banco di Napoli in reducing the risk and cost of making transfers was notable, though hardly dominant. In its first year it remitted 9.3 million lire, and it was sending back nine times that amount, mostly from the U.S, by 1914. Boosted by wartime inflation, remittances through the Banco di Napoli peaked at nearly one billion lire in 1920 (Choate 2008, pp. 79-80; U.S. Congress 1911, vol. XXXVII, p. 271).

In the sending regions savings banks became important hosts for repatriated savings, helping facilitate the spread of financial know-how. In Italy as a whole, the volume of deposits in post office savings accounts rose from 323 million lire in 1890 to over two billion lire in 1913, while the share of emigrants' savings rose from 0.03 to 4.4 percent (Esteves and Khoudour-Castéras 2010). Southern savings banks, in particular, benefited from remittances.

The sense that remitters in the U.S. were subject to systematic exploitation by predatory *banchieri* was highlighted in the U.S. press (e.g. The New York Times 1897), and this prompted

Italian Treasury Minister Luigi Luzzatti in 1897 to propose a plan to replace the *banchieri* by a reliable and low-cost means of transferring remittances. Whether it was in the interest of a market in which there were 150 specialist firms in Lower Manhattan alone – mostly small – by the late 1890s, and where there was the prospect of much repeat custom, to be systematically predatory, remains a moot point. After a highly acrimonious debate, the still privately-owned Banco di Napoli was given the privilege in 1901 (De Rosa 1980).

Before 1914 the emigrants' close links to home and their high probability of returning permanently increased the likelihood that Italian migrants would remit (see Faini 2006). Yet because the income gap between sending and receiving economies is greater, today emigrant remittances are probably a more important factor in the economic wellbeing of the world's poor economies than they were in Italy before 1914. They average about 6 per cent of GDP in the poorest two-thirds, compared to 1 per cent in the top third. In 2009, without emigrant remittances, the current account deficits of Romania and Poland would have been over half higher than they were. In the 2000s non-EU immigrants in Italy remitted an annual average of €2,500-€3,000 per head, most of it to developing countries.¹⁸ In 2007 Senegal's 63,000 Italian immigrants remitted an estimated total of €252 million, the equivalent of about 2 per cent of Senegalese GDP. The proportionate loss in host economies was not commensurate: in 2007-08 in Italy, for example, workers' remittances by immigrants were worth about 0.4 per cent of GDP (€6 billion of a GDP of €1,600 billion).

4.2 *Evaluating the economic impact of migration: a counterfactual analysis*

Massive immigrant flows invariably generate fears about their impact on the host economy, whence the voluminous literature on the effects of immigration on the host country's economy. These include the impact of immigrants on unemployment, wages, and on the skill composition of natives; and on the long run budgetary position of the host country as a result of the difference between costs and contributions to the welfare system. The literature on the economic effects of emigration is sparse by comparison. Nonetheless, emigration can have a major economic impact, on economic welfare and per capita GDP in the sending country. The sign of this impact is not *ex ante* determined and it depends on the interplay between different factors: the amount and the use of remittances, the characteristics of the population outflow in terms of gender, age and skills, the brain drain phenomenon,¹⁹ the effects on the labor market and on real wages. Are the potentially positive aspects of emigration outweighed by the loss of human capital entailed by the emigration of skilled workers (Coppel, Dumont and Visco 2000)?

We approach this issue by performing two simulation exercises that consider hypothetical scenarios in which people would have not emigrated. A *caveat* is necessary here. The perfect

¹⁸ http://ec.europa.eu/economy_finance/publications/publication6422_en.pdf; <http://www.mandasoldiacasa.it/english/rimesse.html>.

¹⁹ These can be positive depending on the existence of an *ex ante* brain effect. The perspective of getting higher wages induces an investment in human capital that has positive effects on the economy of departure. Furthermore, the extent to which brain drain is an issue is also related on whether emigrants stay permanently or whether they eventually return (Coppel, Dumont and Visco 2000). They also state that little doubt there is on the fact that investments in human capital, FDI in these countries could remove incentive to leave).

counterfactual analysis would require, in order to be performed, a time machine and a magic wand to change the path of the events. Unfortunately, these are not included in the economist's toolkit. Nonetheless, by using the available instruments, although with many approximations (some removable, some not),²⁰ we aim at giving an evaluation of the issue we are investigating.

So, we draw on Taylor and Williamson (1997; henceforth TW), one of the relatively few studies of the effect of emigration on per capita GDP, and important from an Italian standpoint (see also Sori 2009). TW use a partial equilibrium model based on a CES production function and find that in 1910, in the absence of emigration, Italy's real wage and per capita GDP, respectively, would have been 22 and 12 per cent lower than their actual levels. We proceed from their results and build on their methodology, using new data and allowing for the impact of remittances.²¹ We show how the scenarios could differ by using alternative values for the parameters of the model and we extend the analysis in space and time by considering regional aspects and the post-WWII migration flows.

Before turning to a TW-style analysis, in order to cross-check the aggregate results we have also used an alternative methodology developed by Abadie and Gardeazabal (2003), who examine the effects of Basque terrorism in the Basque region in terms of induced per capita GDP loss. They develop a method whereby they construct a "synthetic" control region based on a weighted combination of other Spanish regions, which resembles relevant economic characteristics of the Basque Country before the outset of Basque political terrorism in the late 1960s. The economic evolution of this 'counterfactual' no-terrorism Basque Country is compared to the actual experience of the Basque Country. The authors find that terrorism reduced per capita GDP in the Basque Country by about 10 per cent.

In the same vein, we tried to evaluate the effects of Italian mass emigration in the early 20th century on Italy's per capita GDP, by constructing a sort of "synthetic" Italy. Our synthetic per capita GDP is obtained estimating Italy's per capita GDP using per capita GDPs of other European countries. The choice of these countries is guided by two criteria. The first is the "best fit" criterion, meaning that we choose the combination of those countries that allow us to better estimate Italy's per capita GDP 'before the treatment,' i.e. before the boom in emigration of early 1900's. The second is the criterion of selecting the countries that did not experience an emigration spurt at the beginning of the century.²² We consider this as an upper-bound estimate

²⁰ The simulations, for example, do not consider the fertility rate of non-migrant people in the regional analysis (see for example Livi Bacci 2010, p. 60); the possible migration-induced human capital accumulation (on human capital: see Bertola and Sestito 2011); the possible effects on foreign trade and on productivity (for analyses on trade, productivity and immigration, see Peri 2010 and Peri and Requena 2010).

²¹ We use new GDP estimates from Baffigi (2011), wage data from Fenoaltea (2002), and remittances data from Borghese (2011).

²² Although the 1861-1913 period is called the "age of European mass migration," not all the European countries experienced a burst in emigration flows after 1900. We choose these countries according to the data on international migration flows between '800 and '900 reported in Ferenczi and Wilcox (1929). They are: Switzerland, the Netherlands, France, Belgium, and Denmark (see also Hatton and Williamson 1998a). We also used the GDPs of some non-European countries whose GDP is available in Maddison's dataset (Maddison 2009).

since it is likely that our identification strategy does not rule out some confounding factors. The result is that we are possibly catching something more than the impact of emigration alone.

We use a weighted combination of those countries' per capita GDP to obtain a synthetic Italy that gives us a counterfactual Italian per capita GDP as if the early 20th century boom in emigration did not happened.

The model belongs to the family of 'statistical matching methods for observational studies' (Abadie and Gardeazabal 2003, p. 117).²³ The aim is to approximate the per capita GDP path that Italy would have experienced in the absence of post-1900 emigration. This counterfactual per capita GDP path is calculated as the per capita GDP of the 'synthetic Italy.' Figure 11 shows actual and counterfactual GDP per capita (Y_t and Y^*_t) for the period 1880–1910. After 1900 the lower line represents the synthetic Italy obtained as a weighted combination of the per capita GDP of some European countries that did not experience the post-1900 boom in migration. The upper line is the actual Italian per capita GDP.

This counterfactual scenario implies that had Italy not experienced its post-1902 surge in emigration its GDP would have been around 5.0 per cent lower (1902-1913 average). This would have deprived it of nearly 10 per cent of its entire GDP per capita growth over the first decade of the 20th century. Closely following Abadie and Gardeazabal (2003), we strengthen the inference on the effect of migration on the Italian economy by looking at the relationship between per capita GDP gap (synthetic vs. actual Italy) and the intensity of emigration in Italy during the sample period. So, in Figure 12 we plotted the percentage gap between actual and synthetic per capita GDP, together with the emigration rate. The (lagged) correlation between the two is 0.7.

As noted above, one of the very few attempts at estimating the economic effects of emigration on per capita GDP in Italy is the work of TW (1997) on the effects of migration on convergence in Europe. In order to examine the effect of migration on per capita GDP convergence, they use a partial equilibrium model to calculate counterfactual per capita GDPs (and wages, and GDP per worker) for several European countries. Their results in the case of no emigration show, for Italy, a level of GDP 12 per cent lower than the actual one. This seems to be a very high value. It implies that emigration alone would have accounted for more than one third of per capita GDP growth between 1870 and 1910.²⁴

²³ See Appendix 1. For a full exposition see Gomellini and Ó Gráda (2011). We use a slightly simpler version of model applied by Abadie and Gardeazabal (2003). In their original model they use different growth predictors selected. We only exploit the pre-1900 correlation between the Italian per capita GDP and the GDPs of other countries that did not experience the boom in emigration after 1900.

²⁴ The 1870 level of GDP per capita was 1,244 (Geary Khamis \$, GK\$); the actual level in 1910 was 1,933 GK\$. The counterfactual level was 1,692 GK\$, 12 per cent lower than the actual. In terms of growth, the actual growth was 55 per cent. The counterfactual is 36 per cent, so 19 percentage points can be attributed to emigration, i.e. a share of 35 per cent of the entire growth rate ($19/55 = 0.345$). In the same context they estimate the effects of migration on real wages finding that in 1910, in a counterfactual no-migration scenario real wages in Italy would have been 22 per cent lower. Our estimates, not presented here, point to a virtual zero-migration real wage 10 per cent lower than the actual.

In the following exercise we draw on TW, while extending the analysis in space and time by considering regional aspects and post-WWII migration flows. Employing a Hicks-neutral production function where migration affects long-run equilibrium per capita output through population increase and its influence on labor supply, and allowing for the contribution of remittances to capital accumulation, we derive the following reduced form equation for per capita GDP growth:²⁵

$$Y^* - POP^* = \theta_L \mu \gamma M + \theta_K [(1/\lambda) \cdot R \cdot r \cdot (\theta_K)^{-1}] - M = (\mu \gamma \theta_L - 1)M + (1/\lambda) \cdot R \cdot r \quad (2)$$

In words, the additional rate of growth of per capita GDP due to non-emigration depends on the cumulative emigration rate (M), on the labor share (θ_L), on the ratio of total remittances to GDP (R) and investment (λ), on the relative labor participation rate of migrants (γ), on the rental price of capital (r), and on the self-selection parameter (μ).

In performing simulations based on this accounting framework, we set $\gamma = 1.3$,²⁶ μ at 1.2 for the early 20th century and at 0.8 from 1945 onward; and assume on the basis of employment data that 10 per cent of the counterfactual population of working age would have stayed unemployed in the absence of emigration after WWII.²⁷ The θ_L parameter was calculated using new GDP data.²⁸

Our simulations imply that per capita GDP in 1910 would have been 2.4 per cent lower without emigration. This would account for 6.6 per cent of total growth during 1880-1910 (Table 9 and Figures 13 and 14). Adding half of the remittances (through investments) would increase the contribution by 0.5 per cent. If we cumulate the effects of migration until the early 1970s the simulation shows that per capita GDP would have been 4.2 per cent lower and would have accounted, on the whole, for 4.2 per cent of all growth. Limiting the calculation to the post-WWII period, and imposing negative self selection ($\mu = 0.8$) and a 10 per cent of unemployment on non-migrated workers, yields a contribution of net migration to GDP per capita growth of 3.8 per cent, with a per capita GDP level 2.5 per cent higher.

We performed the same exercise in order to evaluate the long run contribution of net migration on per capita GDP for each single region, adopting, where possible, region-specific parameters (for example, γ). The contribution of net migration to per capita GDP varied significantly by region. The results range from very low for Liguria, Lazio, Sardegna and

²⁵ See Appendix 2. The full model is set out in Gomellini and Ó Gráda (2011).

²⁶ Rather than TW's 1.65, on the basis of census data and data drawn from Commissariato Generale dell'Emigrazione (1927), which reports age and sex structure of migrants (also by region of departure).

²⁷ For the mass emigration period assuming an unemployment rate is not very meaningful. If people wanted to work they could, but in a structural condition of under-employment (Alberti 2010; Luzzatto 1953, vol. IV, p. 5).

²⁸ TW set $\theta_L = 0.485$; our computations produce a θ_L ranging from 0.567 to 0.650.

Puglia, to very high for Basilicata (where per capita GDP without emigration would have been 20 per cent lower in 1970), Abruzzo and Molise, Sicilia, and Calabria.²⁹

If we subdivide our sample into macro areas, international emigration seems to have positively contributed to convergence (maybe not as much as internal migration):³⁰ in the North net emigration accounted for 4.1 per cent of GDP per capita growth (Veneto had the highest contribution); 5.1 per cent in the Center (fuelled by the strong impact in Marche); 7.9 per cent in the South (Tab.10 and Fig. 15).

5. From emigration to immigration

In Italy as elsewhere, immigration is currently a really contentious issue. In a 2009 poll it ranked second after the economy as ‘the most important issue facing Italy today,’ well ahead of crime and education. Opponents worry about immigration’s impact on wages, unemployment, the public finances, and social conditions, while supporters see in it the solution to specific labor shortages and to an ageing population (Coppel, Dumont and Visco 2000; Einaudi 2007; Transatlantic Trends 2010). Today’s anti-immigrant attitudes in Italy and elsewhere have their close parallels in fears in the 1900s of southern Italians ‘seeking vengeance [...] with the stiletto’ in the U.S. or in the 1920s of ‘Dagoes and Aliens’ displacing ‘white’ workers in Australia (Mayo Smith 1890 p. 166; Richards 2008, pp. 105-106). In 1960 Italy’s foreign-born population numbered 63,000; two decades later it was still only 0.3 million. Since then Italy has become a country of significant net immigration, with the recorded proportion of foreign residents rising from just 0.5 per cent of inhabitants in 1980 to 2.5 per cent in 2000 and 7.6 per cent (or 4.7 million) in 2011. *Clandestini* may account for a further 0.5-0.75 million in 2011. The increase in the number of foreign-born residents accounted for all of Italy’s population growth between 1980 and 2010.

Like Italian emigrants in the New World a century ago, migrants to Italy in recent decades have been disproportionately concentrated in high wage, high employment regions.³¹ In the late 2000s the regional distribution of Italy’s foreign-born closely mirrored the regional distribution of living standards. Every extra €1,000 in provincial GDP per head was associated with about 0.4 percentage points in the proportion foreign-born in 2008, ranging from under 2 per cent in the south and islands (where GDP per head in 2008 was under €20,000) to nearly ten per cent in Veneto-Lombardy-Emilia-Romagna (where GDP was over €32,000). Not surprisingly, settlement patterns varied by country of origin; Albanians, Moldovans, and Macedonians were most likely to be located in high-income regions, but disproportionately high numbers of

²⁹ These results are correlated with the size of the emigration rates, although not perfectly. A finer calibration using regional specific parameters might improve our results.

³⁰ We estimated the contribution of internal migration to per capita GDP growth using the same model. According to our very preliminary findings internal migration emerges as a win-win game. For example, if we add internal migration to the scenario, the 9.8 long run contribution of Sicily (a region that had outflows) shown in Table 9 would become around 17 per cent and for Piedmont (a region that had inflows) the long run contribution would increase from 4.3 to almost 9 per cent.

³¹ The correlation between the foreign-born proportion of the population and regional GDP per head in 2008 was 0.87.

Ukrainians and Poles were attracted to the relatively poor regions of Lazio and coastal Campania. Immigrants from afar – Indians, Chinese, Filipinos, Ecuadorans – were much more clustered in a small number of regions than those from neighboring countries to the east and south.

Whereas host countries a century ago obtained most of their migrants from a relatively small number of countries of origin, today's Italian immigrants arrive from virtually every corner of the globe. While the top three sending countries – Romania, Albania, and Morocco – accounted for over two-fifths of the all foreign-born residents in early 2009, the top sixteen sending countries accounted for only three-quarters of the total. With the remaining quarter representing 175 nationalities, the immigration of the recent past has been truly global (Caritas Migrantes 2010).

Is the immigration a mirror image of the emigration of an earlier era in other respects? Does the analysis of the impact of pre-1914 migration on conditions in receiving countries such as the U.S. and Argentina have any resonances for today? This section offers a brief overview of immigration in the light of our findings on earlier Italian emigration.

5.1 *Size and impact of immigration: actual vs. perceived*

First, size matters. Italian migration in the 1876-1914 period dwarfed present-day flows both as a proportion of Italian population and of the population of receiving countries. Between 1900 and 1914 when it was at its most intense, the annual net outflow reached nearly two per cent of the population. The impact on the demography of receiving countries varied. In Argentina, where it was greatest, Italians by 1895 already accounted for almost one resident in eight, a share they maintained until 1914. In the United States, in the 1900s Italians added 0.86 million to the population, more than any other sending country, but this amounted to less than one per cent of the total population.

Immigration into Italy just a century later was unprecedented by Italian standards, rising from insignificant levels in the 1990s to a peak net migration rate of over 10 per thousand inhabitants in 2003, and falling gradually thereafter (Figure 16). But it was modest compared to the rates experienced by the U.S. and Argentina before the Great War. Moreover, even in the 2000s the net migration rate into Italy was considerably less than that into Spain and Ireland.

The gap between the *actual* share of immigrants in the total population and popular *perceptions* of that share is striking. In 2009 immigrants constituted about seven per cent of Italy's population. Yet according to the GMF's *Transatlantic Trends* poll, the estimated migrant share varied from one-fifth according to those with a college education to one-quarter according to those with only an elementary education. Females, people with only elementary education, and those affiliated to the political centre and right were more likely to exaggerate the migrant share. So were the young: while those aged 18-29 years estimated the migrant share at 27 per cent, those aged 65 and above estimated it was 20 per cent. Moreover, most Italians believed that most migrants were illegal, whereas in reality only a small fraction was.

The poll results summarized in Tables 11a-11b reflect the prevailing negativity about immigration in Italy in the late 2000s, but also highlight how attitudes varied across age,

education, gender, socioeconomic group, and political outlook. They show how in 2008-2009 those more favourably disposed towards migration, legal or illegal, were more likely to be well-educated and in white-collar occupations. They were also more likely to be male and left-leaning in politics. The link between age and attitudes to migration was not straightforward: although the young were most likely to deem most migration illegal, they were also most likely to agree that migrants filled job vacancies that Italians did not want.

The gaps in sympathy and perception were widest between those with little education and the well-educated and between those on the left and the centre and right of the political spectrum. Thus while a striking majority of respondents in all categories in Tables 11a and 11b professed worry about illegal immigration, less than half of college graduates did. And while almost three in five of those with little education believed illegal migrants should be sent home, only one-third of graduates did. There was a similar cleavage between left and centre/right voters on these same questions.

The impact of immigration on wages and unemployment in the host economy remains a hotly contested issue. At first glance it is difficult to imagine why unskilled immigrants might not displace or reduce the wages of native unskilled labour. Surely 'the labour demand curve is downward sloping' (Borjas 2003)? This is certainly what Taylor and Williamson (1997, pp. 36, 40) found for the U.S. and Argentina in the era of mass migration before 1914. In the case of Argentina, although wages grew between 1870 and 1910, Taylor and Williamson reckon that they were 27 per cent less than they might have been in the absence of immigration.

Such impacts on wages explain why unskilled Argentine and U.S. workers would have been hostile to immigration, while capitalists and skilled workers would have welcomed it (see Mayda 2006). However, these 'headline' results assume, crucially, that migration did not induce complementary flows of capital. In the case of Argentine immigration, in particular, this assumption is very implausible; before 1914 inflows of migrants, mainly from Italy and Spain, were highly correlated with inflows of capital, mainly from Britain (see Figure 17). By 1914 half of Argentina's capital stock was foreign-owned. Moreover, the capital stock grew faster than population: between 1890 and 1914 they grew at 4.8 and 3.5 per cent, respectively (Taylor 1992). Allowing for the impact of capital inflows must have reduced the impact of immigration on Argentine wages considerably; by Taylor's reckoning it reduced it from 27 to 9 per cent (Taylor 1997, p. 121).

Recent immigration into Italy has not prompted comparable inward movements of capital. Yet surprisingly, perhaps, research into the labor market impact of that immigration finds little evidence of a negative effect on the wages and employment prospects of native workers. Gavosto, Venturini and Villosio (1999) found that immigration impacted positively on the wages of native unskilled labour while Venturini and Villosio (2002; 2006) found that immigrant share had no effect on the transition from employment to unemployment for native workers and, again, that immigration had a positive effect on wages. Staffolani and Valentini (2010) differentiate between 'clean' and 'dirty' unskilled work, assuming that native workers particularly dislike the latter. Their model thus does not preclude immigration reducing native unskilled wages, but their empirical analysis suggests that native workers' wages always rise

with immigration. Less surprisingly, such results are in line with some – though by no means all – research on the labour market impact of recent and contemporary immigration in Italy, Europe and the U.S. (Dustman, Frattini and Halls 2009; Brandolini, Cipollone and Rosolia 2005; Lemos and Portes 2008; Ottaviano and Peri 2008; Cingano and Rosolia 2010; D’Amuri and Peri 2010; D’Amuri, Ottaviano and Peri 2010).

The specialist literature on migration offers several possible explanations for such an outcome. Ottaviano and Peri (2008) claim that in the recent past immigrant and native unskilled workers have been complements rather than substitutes. A second possibility, raised by Shapiro and Stiglitz (1984), is that the threat from immigrant labour caused domestic labour to shirk less. A third possibility is that immigrants are discriminated against, and that native workers share some of the benefit (Dustman, Frattini and Halls 2009). Moreover, in the event that immigration enables particular industries to exploit scale economies, an increase in native workers’ wages might also be expected (Brezis and Krugman 1996). Yet another reason why immigration did not threaten the wages of native workers may be the weak assimilation of non-native workers into the Italian labour market. Venturini and Villosio (2008) find that, relative to native workers, the careers of foreign workers are ‘fragmented [...], either restricted to seasonal or temporary jobs or alternating between legal and illegal employment.’ Finally, Hatton and Williamson (2008) surmise that the reduced importance of immobile factors (land, natural resources) may explain why wage effects today are lower than they were in 1880-1914.

Another major difference between Italian emigration a century ago and Italian immigration today is the income gap between sending and host countries. A century ago, Italian GDP per head was over half that of the U.S.A. and over three-quarters that of Argentina, the two main destinations for Italians at the time. Today GDP per capita in the main source countries of Italian immigration (weighted by share) is less than one quarter the Italian level. Perhaps this helps explain why today’s immigrants are more reluctant to leave in times of high unemployment than Italians were a century ago.

The gap may also help explain why the rates of immigration to Italy in recent years are more responsive to fluctuations in the unemployment rate than those to Ireland and the United Kingdom. Hatton and Williamson’s ‘Ten Per Cent Rule’ posits that in economies where migration is relatively free a one per cent increase in the unemployment rate leads to a one per cent increase in the net emigration rate (Hatton and Williamson 2009). Italian migration has been less responsive to the economic downturn of the late 2000s than migration elsewhere in Europe (Gomellini and Ó Gráda 2011). The much bigger gap between incomes in host and sending economies – 4:1 for Italy today as against, less than 2:1 for Ireland, for example – may help account for the different response in those two destinations. However, even in Italy there are signs that the rate of growth of the foreign-born population is decelerating.

5.2 *Some remarks on “welfare shopping” and crime*

Milton Friedman’s claim that ‘you cannot simultaneously have free immigration and a welfare state’ has been interpreted as an argument against immigration by some commentators and an argument for curbing or harmonizing welfare systems by others. In the era of mass migration before the Great War the dilemma did not arise, but the growth of the welfare state during the 20th century has prompted fears in host countries that some immigrants seek welfare rather than work. A ‘blue card’ system that excludes non-citizen immigrants from some or all welfare entitlements, as in the cases of Kuwait and Singapore, has sometimes been invoked as a solution.³² In Italy immigrants cannot claim social security benefits unless they have been paying for them, and healthcare for immigrant non-claimants is restricted to emergency hospital treatment.

The belief that ‘welfare tourism’ accentuates the fiscal burden on tax-payers has fuelled demands for restrictions on immigration. And those who believe that there are ‘too many’ immigrants are much more likely to declare that they constitute a fiscal burden.³³ Experts disagree as to the macro fiscal impact of immigration, although most find that it is small (Borjas 1990, pp. 152-153; Borjas 1999; Lee and Miller 2000; Rowthorn 2008; 2009; Dustmann, Frattini and Halls 2009). Nonetheless, its perceived importance has been the most important cause of hostility to immigration, followed by fear of job market competition and crime (Boeri 2009b). The richer and more unequal the host country and the more extensive its welfare system, the greater is the hostility towards immigrants (Hatton and Williamson 2005). Access to social welfare may also reduce the sensitivity of migrants to adverse labour market shocks and increase the numbers of accompanying family members (<http://www.oecd.org/dataoecd/6/48/45628356.pdf>). Note too, however, that the reassuring presence of benefits may attract risk-averse immigrants who end up not availing of them.

If today’s Italy were to be deprived suddenly of all its immigrants the population share of those aged 65 years and above would increase from 20.2 to 21.6 per cent, and the dependency ratio from 52.2 to 54.4 per cent. Such increases may seem modest, but Italy’s combination of an aging population and a low fertility rate has rather alarming implications for the future viability of its social security regime and, indeed, its economic well-being. A recent prediction reckons that, in the absence of further migration, Italy’s population will fall from today’s 60 million to 55.55 million by 2030, and its elderly dependence ratio³⁴ rise from its current 32.2 percent to 50.6 per cent. Maintaining migration at current levels would keep numbers from falling (Billari,

³²Friedman declared this ‘a very undesirable proposal’ [<http://www.vdare.com/misc/archive00/friedman.htm>], but Lant Pritchett, a staunch supporter of immigration, views it as the only way of reconciling two desirables [<http://reason.com/archives/2008/01/24/ending-global-apartheid/4>]. In the same vein Boeri (2009a), while noting that immigrants are, on average, net payers to contributory transfers everywhere, proposes that welfare eligibility be conditional on having made social security contributions.

³³ While over two-thirds of a recent sample of Italians who thought immigrants were ‘too many’ believed they constituted a fiscal burden, only one-fifth of those who declared that immigrants were ‘not many’ believed they were a burden (GMF database).

³⁴ The elderly dependency ratio is defined as [population aged 65+]/[population aged 15-64].

Graziani and Melilli 2010), as migration has done since the early 1990s; even so, the elderly dependency ratio would still rise to 44.8 per cent by 2030. Immigration is thus not a panacea against population aging, though it can moderate its impact. However, the latter option would entail a much higher population share of immigrants and their Italian-born children than at present. That seems a change for which Italian public opinion is currently quite unprepared.

Much of the hostility towards immigration in Italy and elsewhere, both today and a century ago, stems from the perceived link between immigration and crime. The fear of immigration for this reason is real: a Demetra poll in *La Repubblica* in April 2007 found that 43.2 per cent of Italians deemed immigrants ‘a threat to public safety,’ up from 39.3 per cent in July 2005, while a 2009 survey of Italian public opinion by Ispo in *Corriere della Sera* found that over one-third of Italians believed foreign-born residents were mainly responsible for the crime in the country. According to the *Transatlantic Trends* 2009 poll, Italian perceptions distinguished sharply between legal and illegal immigration; while two respondents in three denied that legal migrants increased crime, nearly four in five believed that illegal immigrants did so. Moreover, those with little education were more inclined to link migration, legal and illegal, with crime.³⁵

Yet again, the available evidence suggests that the link between the two is less straightforward than as reflected in the media and public opinion. A century ago in the United States, the widespread belief that Italian immigrants were particularly crime-prone, which was heightened by a number of horrific high profile cases – including the murder of the chief of police in New Orleans in 1890 by the Mafia, which led to the lynching of eleven Italians accused of his murder – fuelled anti-immigrant prejudice. Yet the Dillingham Commission, no friend of immigration, was forced to concede in 1911 that no ‘satisfactory evidence’ proving a link between immigration and an increase in crime was forthcoming. On the contrary, ‘such comparable statistics of crime and population as it has been possible to obtain indicate that immigrants are less prone to commit crime than are native Americans.’ Two decades later, economist and educator Edith Abbott, author of the Wickersham Commission’s ‘Report on Crime and the Foreign-Born,’ noted how it was ‘important that we remember that the charges now made against the Italians, or even the Mexicans, are not different in kind from those made earlier against the Irish’ – charges which she declared unfounded (U.S. 1931, p. 78). Moehling and Morrison Piehl (2009) corroborate, finding that a century ago the relative youthfulness of immigrants and their geographic distribution accounted for their edge in conviction rates. In other words controlling like with like dissipates much of the immigrants’ greater criminality.³⁶

The significant over-representation of non-nationals in Italian prisons sustains the widespread sense that immigration and crime are correlated. Again, the gender and age structure of the immigrant population, its low socio-economic status and limited opportunities, account

³⁵ In July 2003 a poll of Italian teenagers found that 48 per cent of them believed ‘immigrants make cities less safe’ (http://www.angus-reid.com/polls/27215/racism_present_in_some_italian_teenagers/). Martínez i Coma and Duval-Hernández (2009) found that in the recent past in Spain individuals who overestimated the number of immigrants in the country were more likely to be hostile to them.

³⁶ Compare Bell, Machin, and Fasani (2010) on the United Kingdom in the 1990s.

for a considerable proportion of the raw gap in criminality (Bianchi, Buonanno and Pinotti 2008; see Caritas Italiana 2009). Mastrobuoni and Pinotti (2011) highlight the link between legal status and immigrant crime in Italy. Their finding that the achievement of legal status reduces the probability of recidivism by more than half may argue for a more relaxed immigration policy, but at the likely cost of higher immigrant inflows.

So is the fear of crime-prone immigrants ‘irrational’? Is this another instance where the gap between popular perception and a less dramatic statistical reality matters, and has informed voter choice?³⁷ Regression analysis using the *Transatlantic Trends* 2009 poll (not reported here) indicates that the perceived link between illegal immigration and crime was significantly boosted by personal characteristic variables representing poor education, living in the south, low skill levels, and conservative political preferences.

Research and controversy about the impact of immigration will continue. In the meantime, majority opinion among researchers into the issue implies that the impact on native wages and employment, fiscal burden, and crime are modest. What remains to be explained is the apparent disjunction between public opinion, political rhetoric, and reality.

6. Conclusions

Migration has loomed large in the history of Italy since the foundation of the state. In the era of mass emigration, beginning in the 1880s and ending in the 1970s, its reach was truly global; since the 1980s, the Italian magnet has attracted immigrants from far and near.

Here we have focused on the economic aspects of migration, ignoring important social, cultural and political ramifications. We began by investigating emigrant characteristics in the age of European mass migration and we found that different indicators points to a positive self selection of Italian migrants. Then we investigated the determinants of the early 20th century Italian emigration. Our study confirms the finding of earlier scholars that migration has a strong economic rationale, depending on the relative economic conditions of the sending and the host countries. In our analysis, the role that networks (formed by those previously migrated) had in shaping Italian emigration emerges more strongly than in previous studies.

We also found that both before WWI and in the post-war era, emigration contributed significantly to rising living standards and in all likelihood pushed toward a reduction of the North-South economic gap. According to our findings, over the long run the contribution of the huge outflow of Italians to per capita GDP growth ranged from 4 to 5 percent of the entire growth; the impact in the South was double that in the North.

³⁷ Kaplan (2001) reports that according to the Survey of Americans and Economists on the Economy nearly half of non-economists think ‘too many immigrants’ is a major reason why the economy is under-achieving, while four-fifths of economists think it is ‘not a reason at all.’ In Italy similarly wide gaps in perceptions may be found between those with more and less schooling. Thus while a striking majority of respondents to the *Transatlantic Trends* 2009 poll professed worry about illegal immigration, less than half of college graduates did. And while almost three in five of those with little education believed illegal migrants should be sent home, only one-third of graduates did.

Italy's recent history of migration is almost a mirror image of its role during the era of mass migration before 1914; the fears that stoked anti-immigrant resentment in the United States a century ago find an echo in Italy today. Yet, now as then, the gains from immigration outweigh the losses. Public opinion tends to exaggerate the link between immigration, on the one hand, and crime, fiscal pressure on the welfare state, and living standards, on the other, and may turn out to have underestimated the responsiveness of the return migration rate to economic downturns.

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Tables and figures

Table 1

Italian Emigration by Main Destinations				
Year	Total rate of emigration (per thousand)	Europe (million)	Usa and Canada (million)	Brasil and Argentina (million)
1876-1900	6,7	2,5	0,8	1,6
1901-1913	17,6	3,5	3,5	1,4
1920-1938	5,1	1,9	0,9	0,7
1948-1973	5,2	4,9	0,9	0,6

Source: our elaboration from Istat (various years).

Table 2

Italian emigration and Italian-born residents in U.S. 1880-1920			
Year	Italian-born in U.S.	Decade	Gross Migration to U.S.
1880	44,230	1876-9	16,345
1890	182,230	1880-9	267,660
1900	484,027	1890-9	603,761
1910	1,343,125	1900-9	1,930,475
1920	1,610,113	1910-9	1,229,916

Source: U.S. Bureau of the Census (1960), pp. 66, 56-57.

Table 3

**Italian migration and Italian-born
residents in Argentina 1880-1920**

Year	Italian-born in Argentina	Period	Gross Migration to Argentina
1869	71,403		
1895	492,636	1876-1895	590,125
1914	912,209	1896-1914	1,197,029

Source: Commissariato Generale dell'Emigrazione (1927).

Table 4

Literacy by age and gender

Age-Group	Arrivals in Census Year					
	1880		1900		1910	
	M	F	M	F	M	F
10-19	67.9	73.9	58.4	56.6	64.7	74.7
20-29	73.8	60.1	47.1	43.3	60.5	52.5
30-39	72.8	53.0	44.7	36.2	47.2	44.6
40-49	70.2	56.1	46.0	34.3	46.0	45.0

Note: the 'arrivals' in 1880 include all those resident in the U.S. in that year.

Source: our elaborations on IPUMS.

Table 5

FE estimates. Dependent variable, log of emigration rate*							
	Yratio	Stock	S_activity	H_activity	WPop	DPassp	R-squared
South (N. obs: 1240)	.40 .000	.97 .000	-.11 .027	.05 .411	-.32 .003	.10 .627	0.87
North-Centre (N. obs: 1652)	.52 .000	.95 .000	.004 .861	.08 .059	.20 .000	.37 .007	0.87
Italy (N. obs: 2892)	.46 .000	.96 .000	-.03 .205	.02 .528	.15 .000	.21 .073	0.87
Transocean (N. obs: 1552)	.94 .000	.93 .000	-.06 .046	.02 .002	.16 .000	.08 .000	0.88
European (N. obs: 1340)	.40 .000	1.02 .000	-.17 .000	.02 .002	.16 .000	.05 .000	0.90
Pre 1900 (N. obs: 935)	-.30 .000	.98 .000	-.05 .569	.03 .458	-.38 .085	-	0.88
Post 1900 (N. obs: 1827)	.83 .000	.96 .000	-.07 .054	.03 .461	-.05 .300	-	0.89

Table 6

FE estimates. Dependent variable, log of emigration rate*							
	Wratio	Stock	S_activity	H_activity	WPop	DPassp	R-squared
South (N. obs: 375)	.66 .000	1.00 .000	-.06 .615	.04 .000	-.14 .552	-	0.87
North-Centre (N. obs: 573)	.85 .000	.91 .000	.13 .216	.03 .000	-.14 .306	-	0.87
Italy (N. obs: 948)	.83 .000	.96 .000	.06 .451	.03 .000	-.12 .000	-	0.84
Transocean (N. obs: 543)	1.1 .000	.87 .000	.10 .233	.08 .000	.17 .204	-	0.87
European (N. obs: 405)	0.8 .000	.97 .000	-.014 .950	.04 .073	-	-	0.92

Our elaboration (data sources are in the text).

*Emigrants per 1000 population. P-values in italics. Dummies for region-of-origin and years. Variables: Yratio is the log of foreign over domestic per capita GDP; Wratio is the log of foreign over domestic wage; Stock is the stock of previous migrants; H and S_Activity are the deviations of the logs of Host and Sending country per capita GDP from trend; Wpop is the population in working age; DPasp, dummy for post-1900 new legislation.

Table 7

Relative per capita GDP and relative wage effects on the rate of migration					
	Migration Rate	Δ MigRate (if $\Delta Y=10\%$)	Δ MigRate (if $\Delta W=10\%$)	% of Mig Rate reduction if Yratio=1	% of Mig Rate reduction if Wratio=1
Abruzzo	15.7	0.3	1.5	21	96
Calabria	16.2	0.5	1.6	32	101
Campania	11.3	0.3	0.9	30	75
Emilia	6.7	0.5	0.8	68	122
Lazio	3.9	0.2	0.1	55	32
Liguria	5.5	0.0	0.2	-	37
Lombardia	7.7	0.5	0.5	61	70
Marche	9.4	0.6	0.5	66	56
Piemonte	11.9	0.1	1.5	12	125
Puglia	4.9	0.1	0.3	27	61
Sardegna	3.1	0.5	0.5	165	165
Sicilia	9.5	1.0	-0.8	107	87
Toscana	7.5	0.4	0.8	52	108
Umbria	6.1	0.5	0.5	77	86
Veneto	23.0	2.2	2.1	94	93
ITALY	10.7	0.5	0.9	47	83
ITALY_HW*			1.3		

Our elaboration (data sources are in the text). Migration rate is migrants per 1000 population. Net migration is set at 60 per cent of the gross flow.

*Result obtained by Hatton and Williamson (1998b).

Table 8

Chain-network effects			
Regions	Elasticity	Gross migration	Net migration
Abruzzo	0.86	65	108
Basilicata	0.95	53	88
Calabria	0.98	72	119
Campania	1.01	62	103
Emilia	0.98	70	117
Lazio	0.98	94	156
Liguria	0.97	40	66
Lombardia	0.88	49	82
Marche	1.05	92	153
Piemonte	0.92	45	75
Puglia	1.02	89	149
Sardegna	0.98	94	157
Sicilia	0.13	12	19
Toscana	1.01	62	104
Umbria	0.97	97	161
Veneto	0.92	51	85
ITALY	0.96	65	109
ITALY_HW*			83

Our elaboration (data sources are in the text). Migration rate is migrants per 1000 population. Net migration is set at 60 per cent of the gross flow.

*Result obtained by Hatton and Williamson (1998b).

Table 9

Differences in per capita GDP (levels and growth) in a counterfactual scenario with zero emigration (percentage)					
	TW* calibration	New calibration	With remittances	With half remittances	Abadie et al.
Differences in per capita GDP levels 1910	3.4	2.4	3.0	2.7	5.6
Contribution to per capita GDP growth 1880-1910	9.0	6.6	7.2	7.0	10.7
Differences in per capita GDP levels 1970	4.7	3.4	4.9	4.2	-
Contribution to per capita GDP growth 1880-1970	5.2	3.8	5.1	4.4	-
Differences in per capita GDP growth 1950-1970	1.3	1.0	2.4	1.0	-
Contribution to per capita GDP growth 1945-1970	2.0	1.5	3.8	1.5	-
Differences in per capita GDP levels 1970**	5.4	6.2	7.8	7.0	-
Contribution to per capita GDP growth 1880-1970**	5.9	6.7	8.0	7.4	-
Differences to per capita GDP growth 1950-1970 (negative self-selection)	1.5	1.7	3.2	2.5	-
Contribution to per capita GDP growth 1950-1970 (negative self-selection)	2.3	2.7	4.9	3.8	-

Our elaboration (data sources are in the text).

*Taylor and Williamson (1997). ** Hypothesis on self selection: positive in 1880-1913; negative in 1950-1970.

Table 10

**Differences in per capita GDP (levels and growth) in a counterfactual scenario
with zero emigration: regional analysis (percentage)**

	Differences in GDP per capita levels: actual vs. counterfactual in 1970	Long run contribution of migration to per capita GDP growth. 1905-1973
Piemonte	4.2	4.3
Lombardia	4.0	3.5
Veneto	7.4	7.7
Liguria	0.9	0.9
Emilia	4.2	4.2
Toscana	3.8	4.4
Marche	9.0	8.3
Abruzzo e Molise	13.8	13.7
Umbria	5.0	5.6
Lazio	0.2	1.9
Campania	2.8	3.8
Basilicata	15.8	15.3
Calabria	10.0	9.9
Puglia	2.3	2.2
Sicilia	9.1	9.8
Sardegna	0.5	0.6
Nord*	4.1	4.1
Centro*	5.3	5.1
Sud*	6.8	7.9
ITALIA*	5.7	6.0

Our elaboration (data sources are in the text).

*Unweighted average.

Table 11a

Italian Attitudes to Immigration 2008-2009						
	'Most migrants illegal'	'I worry about illegal immigration'	'Immigrants take jobs away from natives'		'Immigrants fill jobs Italians don't want'	
			Strongly agree	Strongly disagree	Strongly agree	Strongly disagree
<i>Education</i>						
Elementary school	71	86	10	34	28	8
Some high school	67	83	13	37	34	4
High school graduate	63	81	5	43	33	6
College graduate	49	72	0	58	47	4
<i>Politics</i>						
Left	57	70	6	52	42	7
Centre/Right	71	89	10	33	27	5
<i>Age Group</i>						
18-24	75	79	7	39	20	4
25-34	66	87	8	35	32	7
35-44	63	87	8	36	29	5
45-44	66	84	9	46	34	7
55-64	66	80	9	37	33	6
65+	69	82	9	40	36	7
<i>Gender</i>						
Male	64	82	8	41	33	6
Female	69	89	8	36	30	6
<i>Occupation</i>						
Self-employed, etc.	55	85	8	38	40	7
White-collar	65	82	5	44	38	5
Manual	70	88	15	34	25	7

Source: GMF database. 2008 and 2009 data combined; the entries are percentages of the relevant sub-group replies.

Table 11b

Italian Attitudes to Immigration 2008-2009 (cont.)							
	'Immigration will influence my vote a lot'	Legal migrants should be temporary	Legal migrants should be given chance to stay	Immigrants in Italy are		Illegal migrants	
				Too many	A lot but not too many	Should be sent home	Should be allowed stay
<i>Education</i>							
Elementary school	20	23	66	60	32	59	26
Some high school	23	18	75	55	35	54	37
High school graduate	23	17	74	49	40	51	36
College graduate	17	10	79	28	53	33	49
<i>Politics</i>							
Left	16	13	80	35	48	35	48
Center/Right	22	23	66	62	31	62	31
<i>Age-group</i>							
18-24	23	17	17	42	48	47	44
25-34	22	22	22	51	40	56	33
35-44	22	19	19	59	31	58	31
45-44	19	19	19	50	37	52	32
55-64	22	23	23	56	36	53	31
65+	21	18	68	63	28	56	28
<i>Gender</i>							
Male	20	18	73	50	37	54	33
Female	23	21	68	58	36	54	31
<i>Occupation</i>							
Self-employed. etc.	26	17	73	49	34	55	29
White-collar	20	14	76	45	43	49	37
Manual	19	25	65	57	34	57	30

Source: GMF database. 2008 and 2009 data combined; the entries are percentages of the relevant sub-group replies.

Figure 1
Emigration (blue) and return migration (green)
 (numbers)

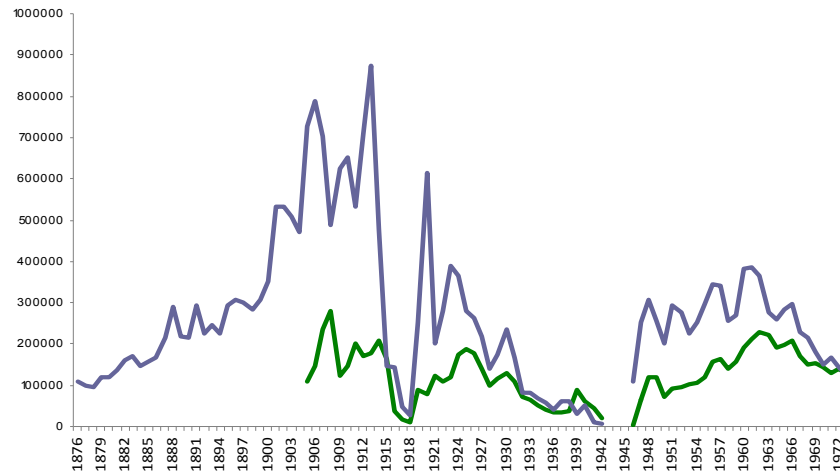
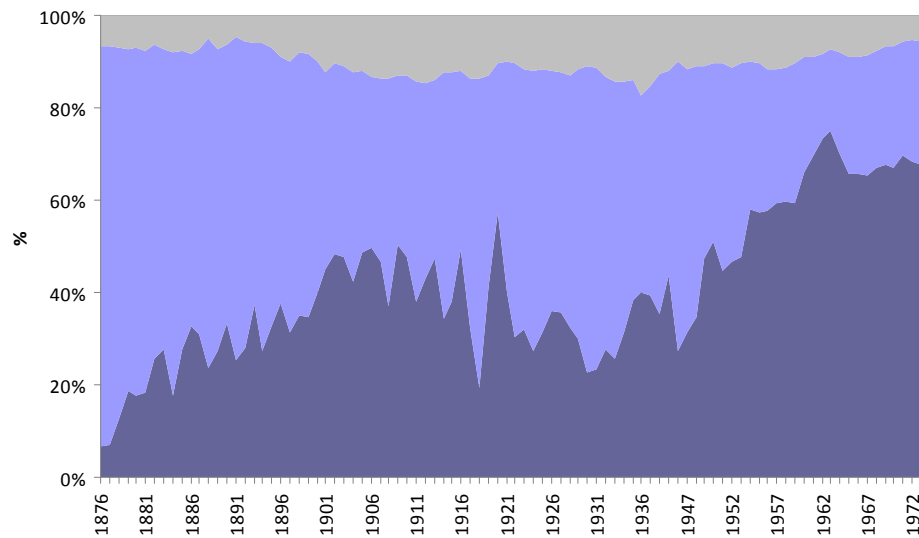


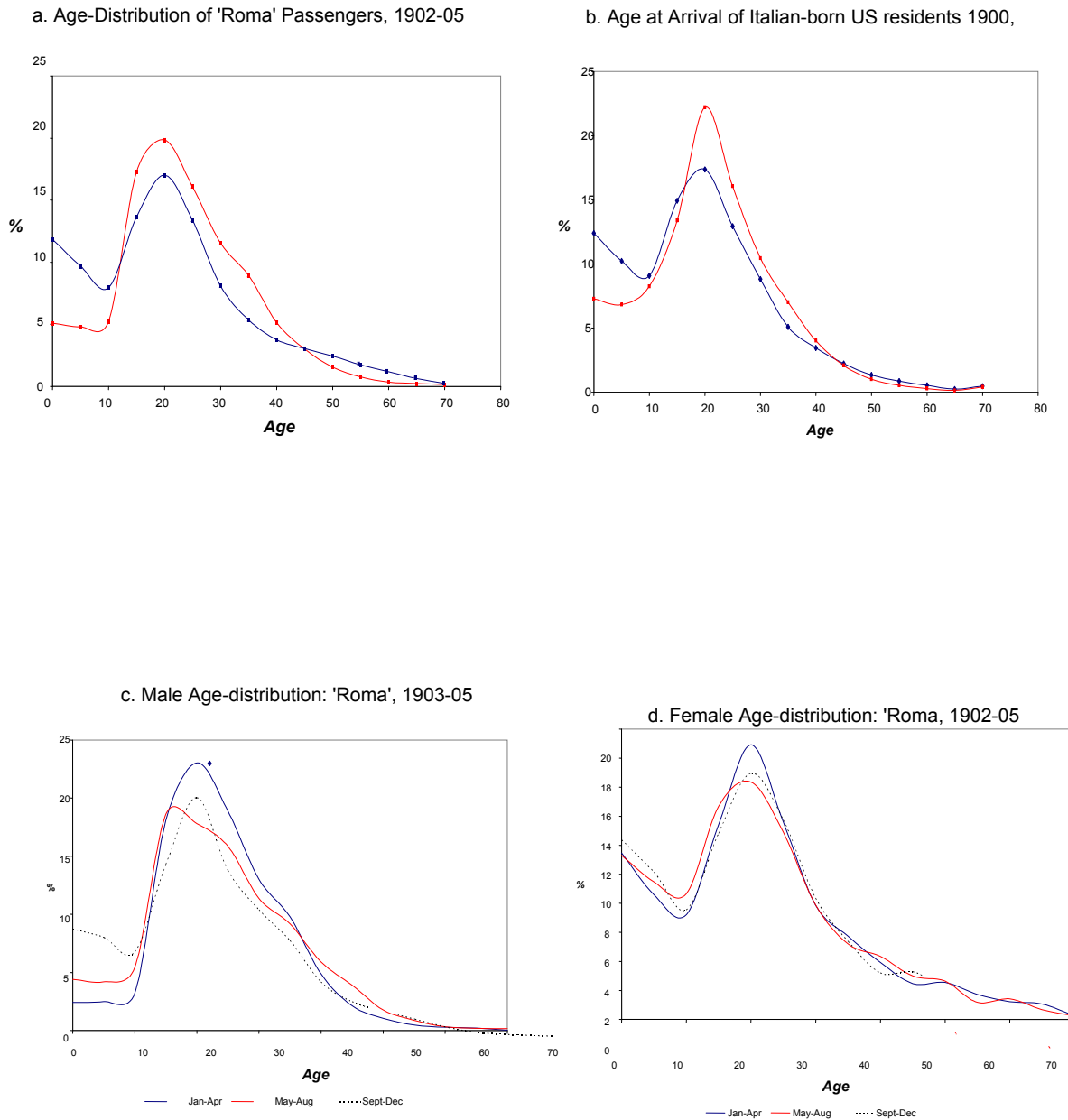
Figure 2
Emigration: shares from the North (light blue), the Center (grey)
and the South (blue) of Italy
 (percentages)



Sources: our elaborations from Istat (various years)

Figure 3

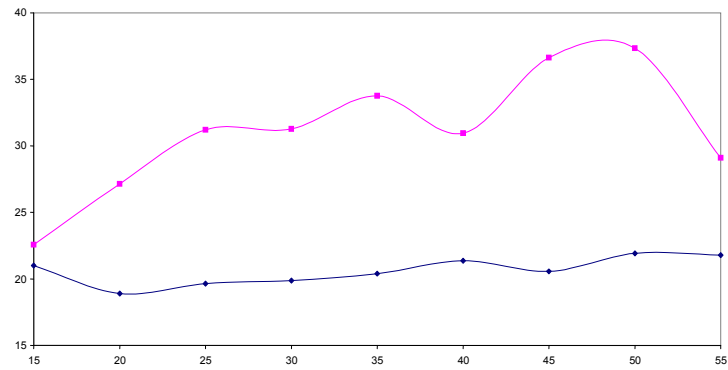
Age and gender distribution of migrants



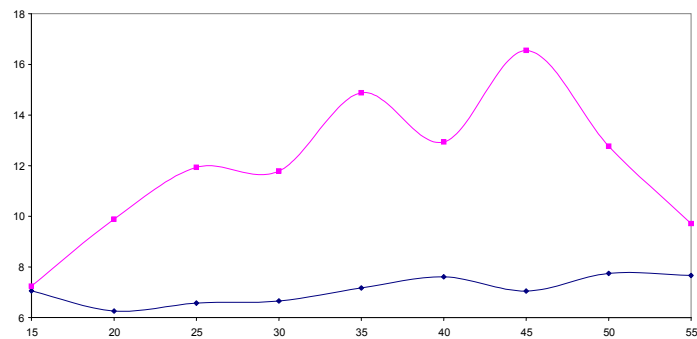
Source: Ellis Island Ship Database [at: http://www.ellisland.org/search/ship_year.asp?letter=r&half=2&sname=Roma].

Figure 4

a. SEI by age group (15-19 to 55-59):
Italian and U.S. born, 1920



b. EDSCOR50 by age-group (15-19 to 55-59):
Italian and U.S. Born, 1920



Note: SEI and Edscor50 are two-widely used IPUMS proxies for earnings/job status. SEI measures occupational status based on the income level and educational attainment associated with each occupation in 1950, while EDSCOR indicates the percentage of people in the respondent's occupational category who had completed one or more years of college. <http://usa.ipums.org/usa/>

Figure 5

Skill premia (Italy vs. U.S.). 1880-1930

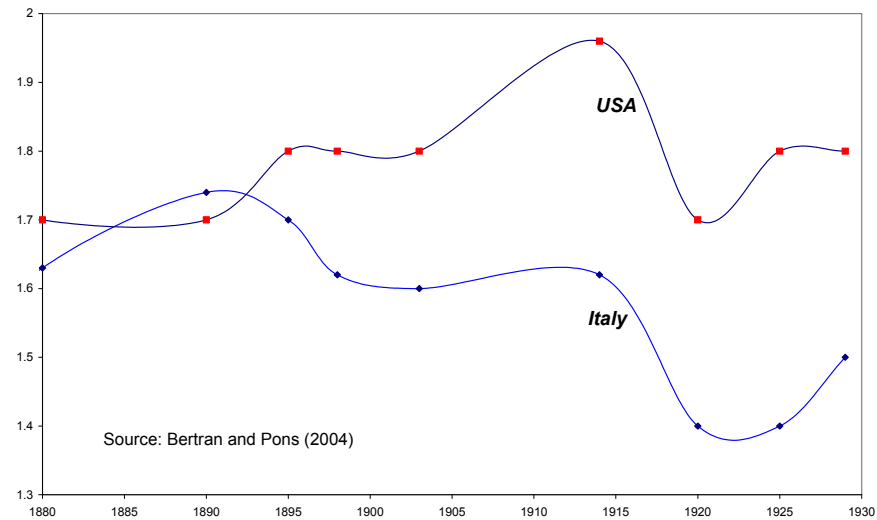
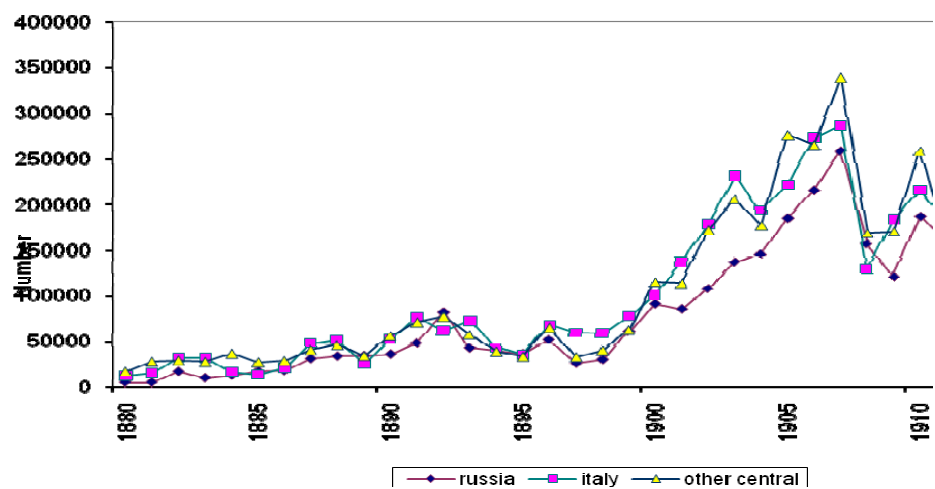


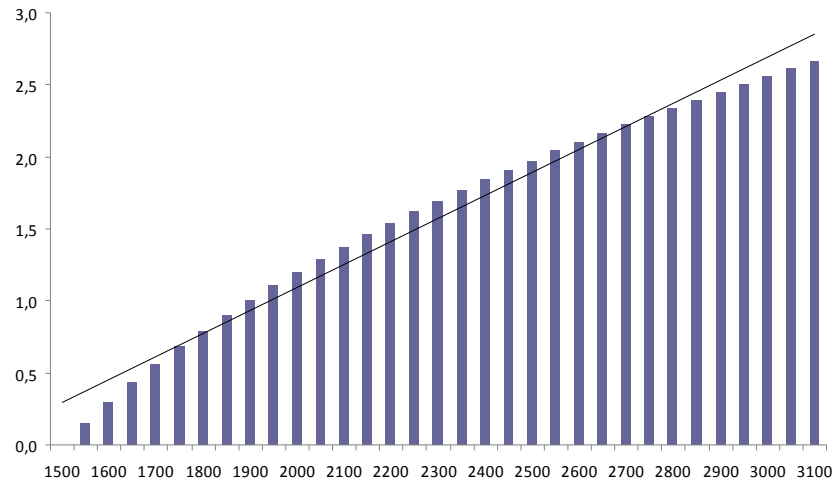
Figure 6

Immigration to the U.S. 1880-1914



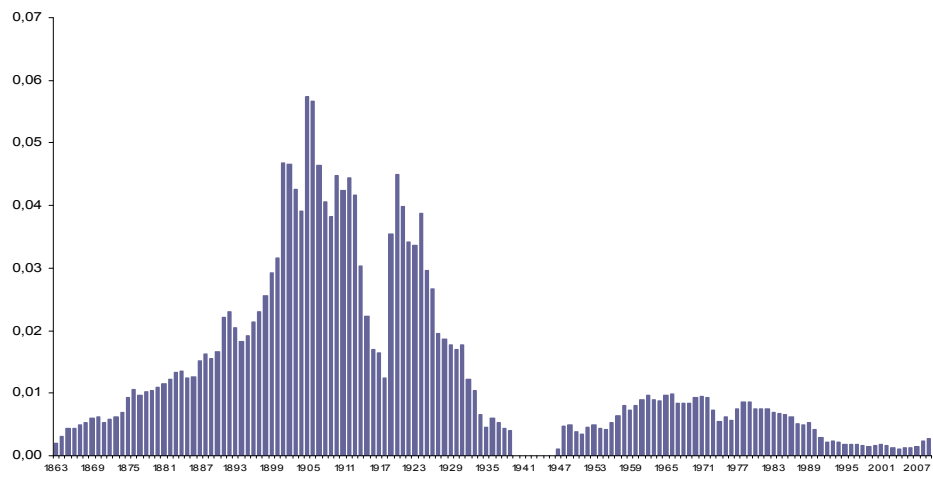
Source: U.S. Bureau of the Census (1960), pp. 56-57.

Figure 7
The poverty trap



Per capita GDP on horizontal axis (thousands of GK\$). Emigration rate on vertical axis (per thousand).
Our elaborations. Sources in the text.

Figure 8
Remittances as a share of GDP



Sources: Borghese (2011) and Baffigi (2011).

Figure 9

Remittances (red) and the Balance of Payments (blue), 1876-1913

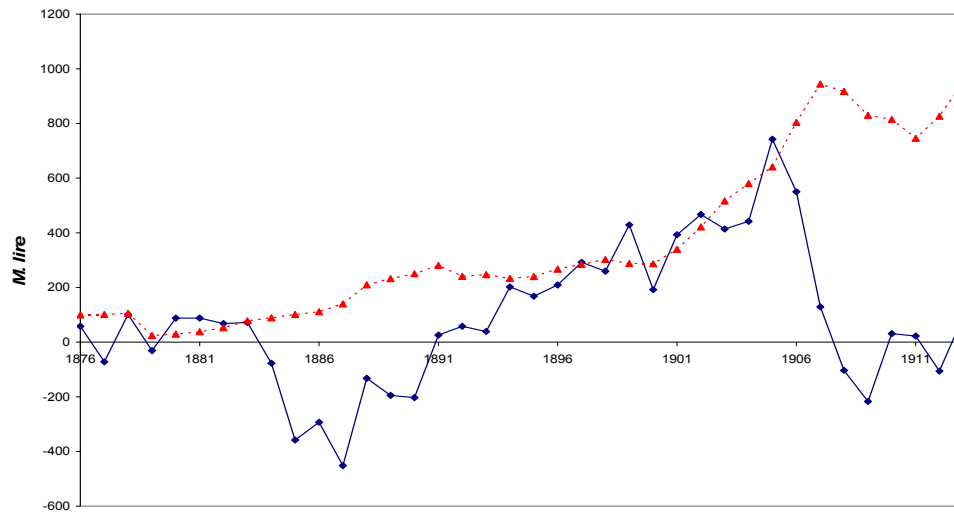
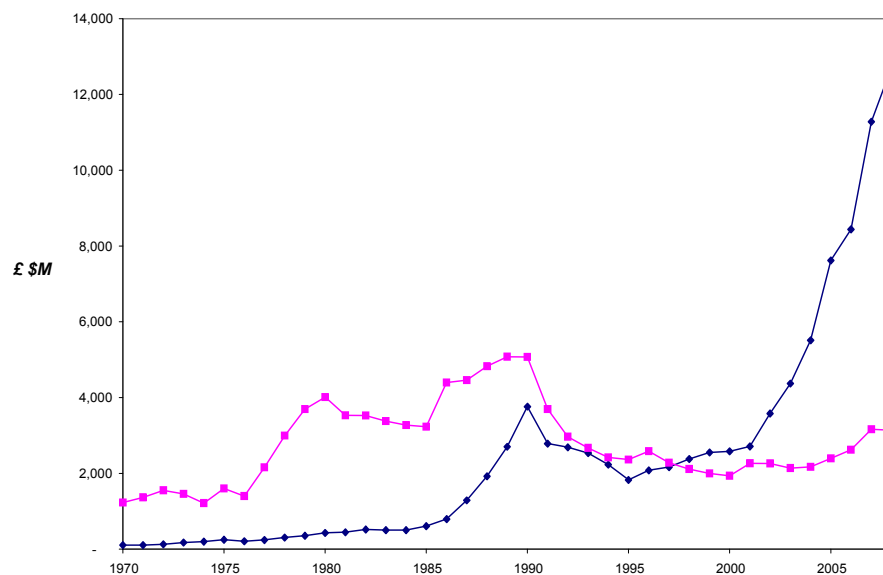


Figure 10

Remittances: Outward and Inward.



Source: [http://siteresources.worldbank.org/INTPROSPECTS/Resources/3349341110315015165/RemittancesData_Outflows_Apr10\(Public\).xls](http://siteresources.worldbank.org/INTPROSPECTS/Resources/3349341110315015165/RemittancesData_Outflows_Apr10(Public).xls)

Figure 11

Italy: actual (treated) and counterfactual (synthetic) GDPs

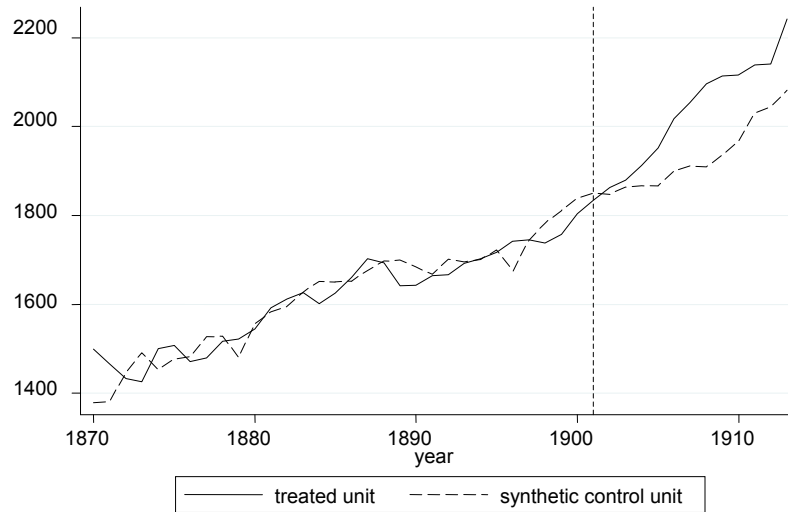
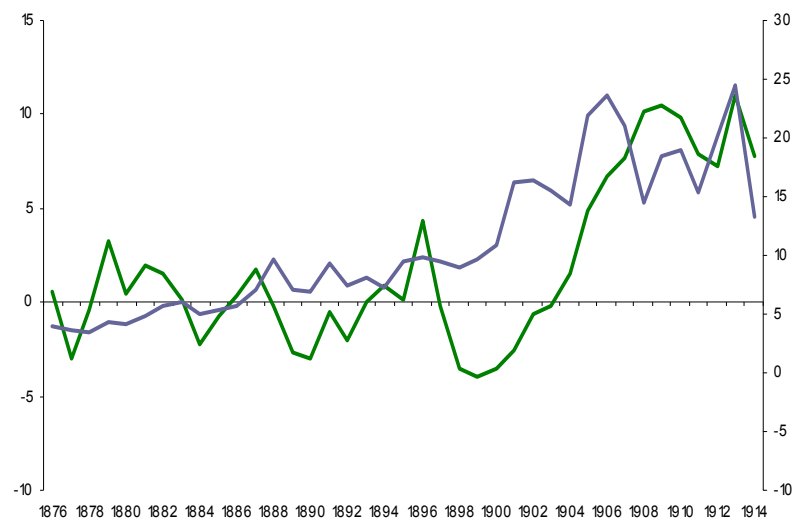


Figure 12

Emigration rate (blue line) and gap in GDP per capita between actual and synthetic



Our elaborations. Sources in the text.

Figure 13
Actual and counterfactual per capita GDP, 1880-1913
(thousands of euro on vertical axis)

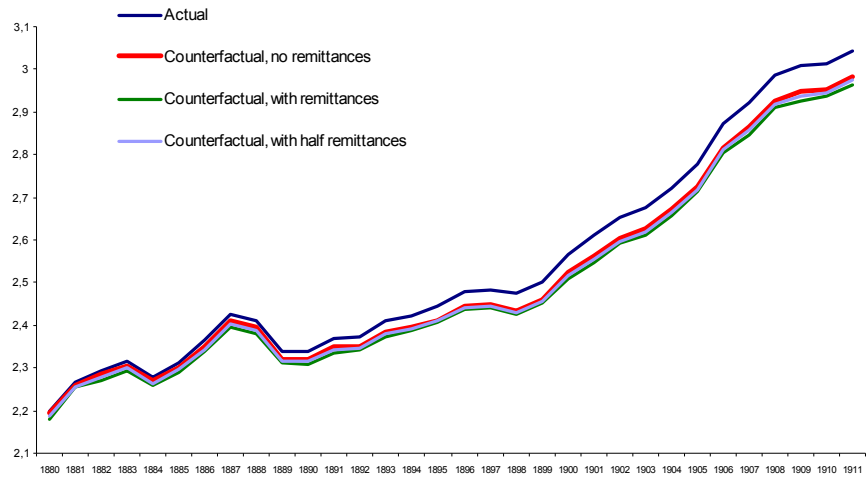
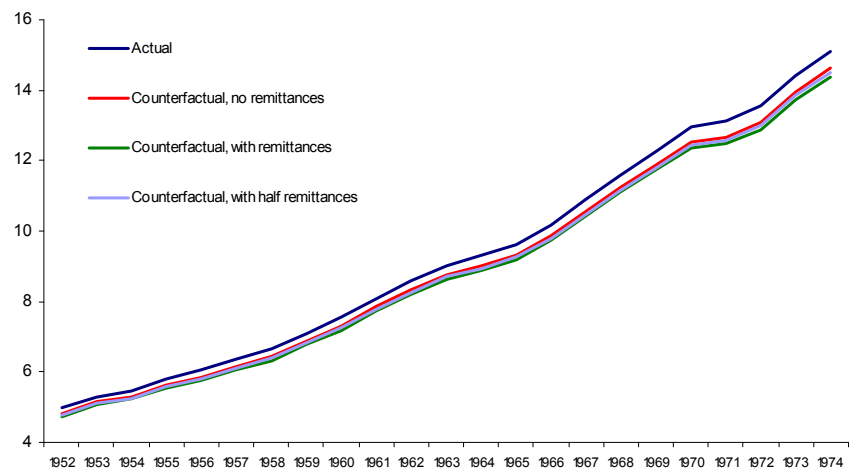


Figure 14
Actual and counterfactual per capita GDP, 1952-1974
(thousands of euro on vertical axis)



Our elaborations. Sources in the text.

Figure 15

Differences, in percentage, between actual and counterfactual regional per capita GDP growth, 1905-1970
(percentages on vertical axis)

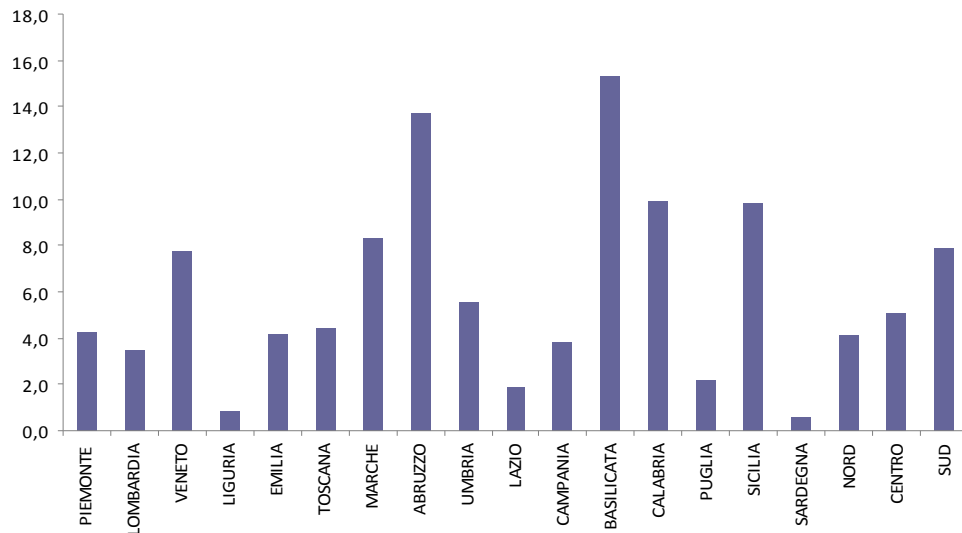
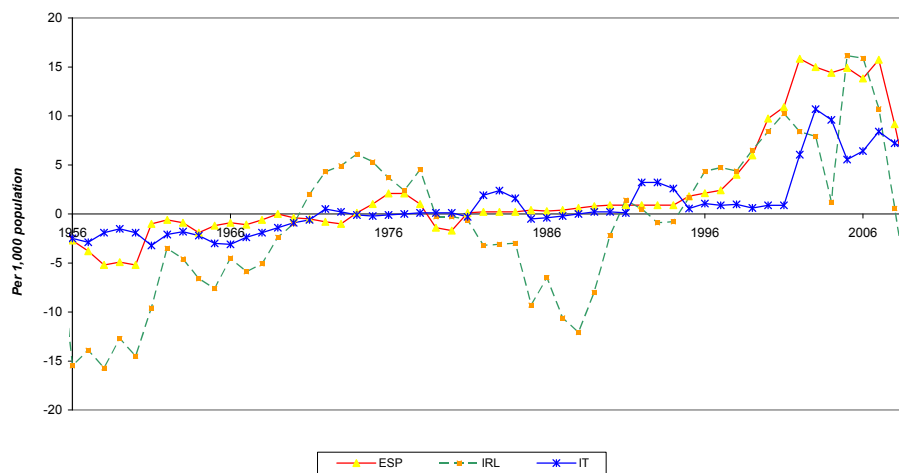


Figure 16

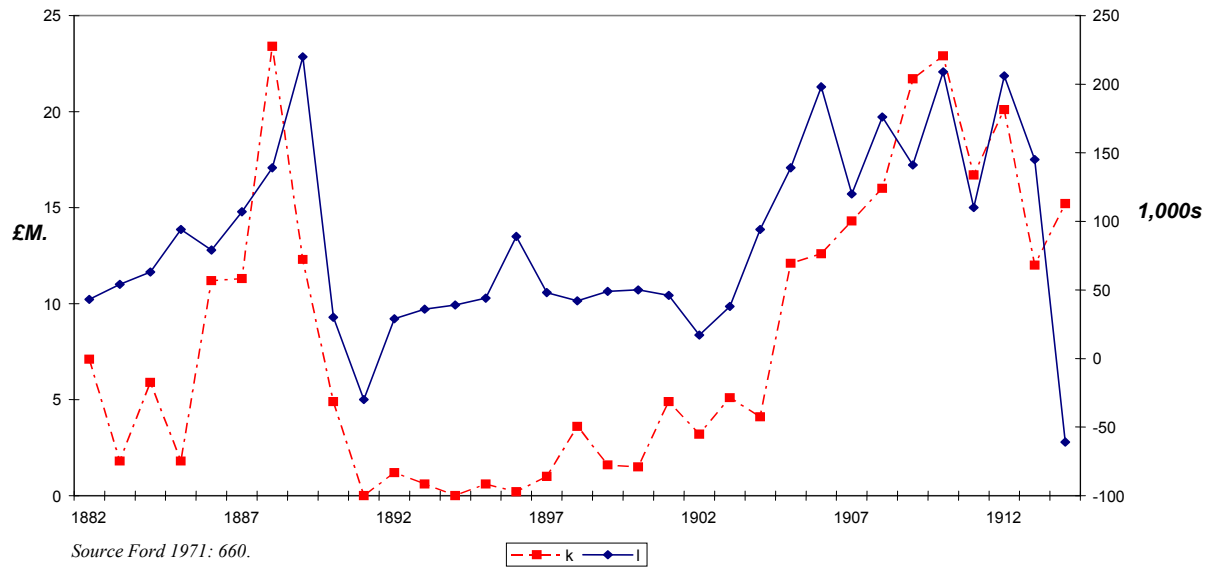
Net Migration Rate 1956-2009: Italy, Ireland and Spain



Our elaborations. Sources in the text.

Figure 17

Migration and Capital Inflows: Argentina 1882-1914



Appendix 1

The method described belongs too the family of “statistical matching methods for observational studies” (Abadie and Gardeazabal 2003, p.117, henceforth AG). We use a slightly simpler version of AG.

Let j be the number of available control variables and

$$W = (w_1, \dots, w_J)$$

a $(J \times 1)$ vector of nonnegative weights which sum to one.

w_j ($j = 1, \dots, J$) is a scalar that represents the weight of country j in the “synthetic Italy” and the weights are chosen so that the synthetic Italy country most closely resembles the actual one before mass migration outbreak.

Let X_1 be the pre-emigration value of economic growth. Let X_0 be a $(I \times J)$ matrix which contains the values of the same variables for the J possible control regions. In this procedure, the vector of weights W^* is chosen to minimize

$$(X_1 - X_0 W)'(X_1 - X_0 W)$$

subject to $w_j \geq 0$ ($j = 1, 2, \dots, J$) and $w_1 + \dots + w_J = 1$.

The vector W^* defines the combination of non-emigration control regions which best resembled Italy at the outset of mass migration.

Let Y_1 be a $(T \times 1)$ vector whose elements are the values of real per capita GDP for Italy during T time periods. Let Y_0 be a $(T \times J)$ matrix which contains the values of the same variables for the control countries. Our goal, as said, is to approximate the per capita GDP path that Italy would have experienced in the absence of post 1900 emigration. This counterfactual per capita GDP path (Y^*_1) is calculated as the per capita GDP of the synthetic Italy (Y_0), times the vector W^* :

$$Y^*_1 = Y_0 W^*$$

Appendix 2

Assume a standard Hicks-neutral production function:³⁸

$$Y = A \cdot F(L, K), \quad (1)$$

where Y is GDP, A is a technology measure, L is the labor input, K capital.³⁹

Log differentiating this equation, with the hypothesis of inputs remunerated at their marginal productivity, we obtain a standard growth accounting result:

$$Y^* = A^* + \theta_L L^* + \theta_K K^* \quad (2)$$

where the θ_j are factor shares.

We can use this equation to calculate the migration induced counterfactual rate of change in GDP per capita.

Let us assume for now that K and A are not affected by emigration: $Y^* = \theta_L L^*$. The impact on per capita output is derived in TW converting the migrant streams of population into the increase in labor supply L^* .

Migration affects long-run equilibrium of per capita output through the increase in population and through its influence on labor supply. Given the cumulative net migration rate M we can calculate the counterfactual population change in case of no emigration: $POP^* = M$, where the star denotes the log-derivative ($x^* = d \ln x = \Delta x / x$).

Let's take α_M as the share of the active in the labor force in the migrant and α_{POP} as the correspondent share in the population. Assume also that migrants are not fully equivalent to non migrant worker due to self selection. Let's call μ the worker productivity ratio between migrants and natives –for example, due to differences in skills.

The labor content of the population is given by $L = \alpha_{POP} POP$, while the native-equivalent labor content of the migrant flow is $dL = \mu \alpha_M M POP$ ⁴⁰. Defining $\gamma = \alpha_M / \alpha_{POP}$ (the migrant-to-population ratio of labor-force participation rates) we obtain the following:

³⁸ TW (1997) use a CES production function that allows calibration options where they want to simulate the effects on real wage.

³⁹ We are calculating the rate of growth (that can be positive or negative) that must be added to the actual rate of growth of per capita GDP, because of the increase in population due to non-migrated people. So, we will drop the technical change variable A , by this assuming no migration-induced technical change.

⁴⁰ Since $L = \alpha_{POP} POP$, it's easy to get to (3) dividing for L the right and the left side of dL equation.

$$L^* = \mu \gamma M \quad (3)$$

The simulation equation used to calculate the impact of migration on GDP per capita is simply:

$$Y^* - POP^* = \theta_L L^* - M = (\theta_L \mu \gamma - 1) M \quad (4)$$

Now let us introduce the remittances into the model. As we know remittances contribute to a country's economic growth in different ways. They can fuel investment, they can be used for consumption, savings, repaying debts. They also give an important contribution in releasing the balance of payment constraint on growth.

Here we consider only the first of those different channels, namely the contribution of remittances to capital accumulation.

Let's make, for now, the assumption that all the remittances are used for productive investments:

$$Rem = \lambda I \quad (5)$$

where Rem =remittances, λ is the share of total remittances over investment. Let us make the hypothesis that $I = \Delta K$ and, so:

$$\Delta K = (1/\lambda) \cdot Rem \quad (6)$$

Dividing for K :

$$\Delta K/K = K^* = (1/\lambda) \cdot (Rem/K) \quad (7)$$

Dividing and multiplying the right hand side for Y we obtain:

$$K^* = (1/\lambda) \cdot (Rem/Y)/(K/Y) \quad (8)$$

that is, the log derivative of K is a fraction of Rem/Y remittances over GDP (henceforth, R) multiplied the capital over GDP ratio.

Now, since in the growth accounting framework the capital share is $\theta_K = r \cdot (K/Y)$, where r is the rental price of capital, then $(K/Y) = r^{-1} \theta_K$. The previous equation now becomes:

$$K^* = (1/\lambda) R \cdot r \cdot (\theta_K)^{-1} \quad (9)$$

The simulation equation for per capita GDP growth now turns into:

$$Y^* - POP^* = \theta_L \mu \gamma M + \theta_K [(1/\lambda) \cdot R \cdot r \cdot (\theta_K)^{-1}] - M = (\mu \gamma \theta_L - 1)M + (1/\lambda) \cdot R \cdot r \quad (10)$$

The additional rate of growth of per capita GDP that we consider in a counterfactual zero-emigration framework, depends on the cumulative emigration rate (M), on the labor share (θ_L), on the ratio of total remittances over GDP (R) and over investments (λ), on the relative labor participation rate of migrants with respect to the population (γ), on a proxy of the rental price of capital (r) and on the self selection parameter (μ).

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