NBER WORKING PAPER SERIES

DOES EMIGRATION DELAY POLITICAL CHANGE? EVIDENCE FROM ITALY DURING THE GREAT RECESSION

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Working Paper 22350
http://www.nber.org/papers/w22350

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
June 2016

This is a preliminary version of a paper prepared for the 64th Panel Meeting of Economic Policy, October 2016. We are grateful to Giuseppe Ippedico for excellent research assistance. We thank Andrea Ichino for useful suggestions and conversations. We thank Desideria Toscano and Annamaria Grispo (Italian Ministry of Domestic Affairs) and Gina Carbonin (SOGEI) for valuable data provision, Massimiliano Baragona (Italian Ministry of Domestic Affairs) for help with data collection, Roberto Susanna (InfoCamere) for useful assistance with data. We did not receive any financial support for this paper. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 22350
June 2016
JEL No. H7,J61

ABSTRACT

Mobility within the European Union (EU) brings great opportunities and large overall benefits. Economically stagnant areas, however, may be deprived of talent through emigration, which may harm dynamism and delay political, and economic, change. A significant episode of emigration took place between 2010 and 2014 from Italy following the deep economic recession beginning in 2008 that hit most acutely countries in the southern EU. This period coincided with significant political change in Italy. Combining administrative data on Italian citizens who reside abroad and data on characteristics of city councils, city mayors and local vote, we analyze whether emigration reduced political change. The sudden emigration wave interacted with the pre-existing networks of emigration from Italian municipalities allow us to construct a proxy for emigration that is municipality-specific and independent of local political and economic trends. Using this proxy as an instrument, we find that municipalities with larger emigration rates had smaller shares of young, college educated and women among local politicians. They were also more likely to have had municipal councils dismissed due to inefficiency or corruption, a larger share of vote for status-quo-supporting parties and lower political participation. Migration was also associated with lower firm creation.

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1 Introduction

Individuals migrate to foreign countries in order to realize their economic and personal aspirations. Within the European Union, with no formal barriers to labor mobility, people move freely across countries. In this environment regions experiencing protracted economic growth attract people, while regions in stagnation or decline lose people. Emigration is often a symptom of diminished local economic opportunities. It is also an escape valve in stagnant local economies especially for the groups of young, highly educated individuals with marketable skills who can look for jobs elsewhere. These individuals are the more likely to emigrate in response to negative economic circumstances. In particular, highly educated individuals who expect to find large economic returns abroad are more likely to move (Grogger and Hanson, 2012). Hence, emigration may have the direct effect of decreasing the average human capital in regions of origin acting – as often remarked – as a brain drain. This could result in reduced average skill levels in the economy (Docquier and Rapoport, 2010) and possibly reduced economic opportunities, at least in the short-run. Economists have mainly analyzed labor market effects of emigration from within the simple framework of a decrease in labor supply (Dustmann et al. 2015, Elsner 2013, Mishra 2007).

The areas of origin of emigrants, however, may experience much more than a decrease in labor supply. They may also be deprived of social capital, and of people who could have been important catalysts for political change. In places where institutions are inefficient, slow to change, or even corrupt, it may also be the case that emigration draws abroad the more frustrated people who would have voiced discontent and pressed for change. Recently, some economists have analyzed the potential impact of emigration – especially high skilled emigration – on the quality and strength of democratic institutions in the sending country (Docquier et al 2011). Political scientists have also analyzed this phenomenon in detail. Hirshman (1970, 1991) studied the impact of emigration from Eastern European countries during the Soviet era. He argued the self-selection into emigration of liberal-minded voters and leaders (called "exit" by the author) weakened the reformist and more progressive voices, especially in Eastern Germany, eventually strengthening the repressive regime. He analyzed the decision of emigrating or staying in terms of a trade off between "exit" and "voice". Several other studies by political scientists have argued that emigration from countries with autocratic regimes and failed, flawed or corrupt democracies has acted to reduce domestic pressure to reform the system delaying social and political change (e.g. Colomer (2000) for Cuba, Hansen (1988) for Mexico). On

the other hand, the movement of people towards prosperous economies and democratic societies can create networks that are the channel for modernization back in the place of origin. Expatriates may put pressure on the country of origin to increase accountability and improve governance in the political arena (Batista and Vicente 2011), or they may channel to their own family and friends better information, fostering a preference for more efficient and democratic institutions (Mahmoud et al 2014).

Our study analyzes the interaction of emigration and political change during the recent period, 2008-2014, in Italy when a large and sudden wave of emigration towards EU countries such as Germany, the UK and Switzerland, took place because of deep economic recession. Analyzing the impact of this emigration wave on local political indicators is interesting because it happened at the same time as a process of political change was taking place in Italy. This process produced a generational change in leadership, also bringing more accountability and possibly less corruption of the political class.

Figure 1 shows the entity and suddenness of the emigration wave. The figure shows the number of Italian people relocating abroad each year between 1992 and 2014, who still live abroad as of 2015. The source of the data is the Administrative Registry of Italians Residing Abroad (AIRE) that collects information about all Italian citizens moving their residence to another country. Inspection of this registry reveals a relatively steady flow of emigration: about 50,000 individuals annually between 1992 and 2009. Beginning in 2010, emigration sharply increased, reaching almost 100,000 people in 2014. We also plot the Italian unemployment rate (right axis), showing two deep recessions in 2008-2009 and 2011-12 – with essentially no break between them. This generated the largest increase in the Italian unemployment rate since the creation of the Euro. Possibly with a delay relative to the onset of the first recession, the emigration response was likely triggered by this economic crisis, combined with free mobility within the EU[1]. Figure 2 shows the emigration boom was fueled almost exclusively by young individuals (below 45 years of age), while older individuals maintained their pre-2010 mobility rate. Figure 3 shows that most of the emigration was towards EU destinations and hence within the free mobility area.

Did emigration delay political change in those municipalities that lost the largest share of their people to emigration? Did such a brain drain slow the renewal of local politicians in 2008-2014?

[1]Other studies have noticed the strong within-EU migration response to the economic recessions of 2008-9 and 2011-12. Bertoli et al (2016) for instance, show that EU immigrants to Germany increased by a factor of 4 between 2008 and 2014.

One may think it is hard to assess such an effect in the short-run. However, we take advantage of a second fact that makes the 2008-2014 period of particular interest and the change occurring in those years as potentially consequential for the long-run. During that period, in fact, the Italian political landscape went through a significant transformation. Beginning in 2008 with a cabinet lead by Silvio Berlusconi, considered by many as rather ineffective in implementing reforms crucial for financial stability, Italy experienced a technical government between 2011 and 2013, a short-lived "great-coalition government" and in the 2013 elections, the rise of a large "protest" party, the Five Star Movement. Then, beginning in February 2014, this transition was completed with a new cabinet lead by the younger Matteo Renzi, leader of the Democratic Party. The general perception was that this government brought higher standards of efficiency when implementing reforms, it was more accountable, and possibly less corrupt. It certainly produced a generational change by lowering the average age of ministers and politicians and increasing among them the presence of women. Alongside the change undertaken by the central government, transformations took place also at the local level. The old politicians, however, could be well established and entrenched at the local level. Hence, the relative power of established older elites needed to be challenged by the emerging young new ones. In this period of political change towards more efficient and innovative local institutions, the presence of young, innovative and highly educated people in a municipality may have significantly accelerated the transformation. However, as this was also a period of strong economic recession in Italy, some of the people who could have contributed to the change may have found an easier escape from stagnation by emigrating to Germany, the UK, Switzerland or other European countries. In the trade off between "voice" and "exit" described above, municipalities in which emigration to an economically growing European country was easier experienced larger emigration rates. To the contrary, in municipalities where such opportunities were less easily available, young and dynamic leaders – fed-up with the status quo – may have voiced the need for change and contributed to changing the local political class.

A key issue we face in establishing a causal link between emigration and political change is that omitted economic and political variables may affect both variables and bias the least squares estimate of this effect. Similarly, local political change may affect propensity to migrate, inducing an endogeneity bias. To address these issues we construct a proxy that affects the probability of emigrating for economic reasons over the period 2010-2014, but is likely uncorrelated with local economic and political conditions. This constitutes our instrumental variable. To do this, we interact the intensity

of economic crisis across EU countries and the presence of pre-existing networks of emigrants towards those countries in a municipality. As the economic recession was much stronger in the Mediterranean economies (Greece, Spain, Italy, France) than in the rest of Europe, the integration of labor markets pushed many people to leave Italy to go to northern EU countries such as Germany, Switzerland and the UK. The presence of links to specific booming countries in the form of networks of pre-2000 emigrants from each municipality allow us to construct a municipality-specific emigration opportunity. We then analyze whether this proxy that combines the strength of economic opportunities in a country and its ties to a specific Italian municipalities predicts the emigration flows from Italian municipalities during the 2010-2014 period.

A key innovative contribution of this paper, is the use of individual administrative data that we exclusively obtained from the Italian Ministry for Foreign Affairs on the totality of Italian citizens residing abroad as of May 2015. The data include the municipality of last residence in Italy and country of residence when abroad, the year of migration, and a few demographic characteristics including age.[2] They allow us to construct stock of emigrants by municipality of origin and country of residence so we can reconstruct the stock of emigrants before 2000, as of 2009, and the flows between 2010 and 2014. Merged with data on population, we calculate emigration rates. As for the outcomes we obtained from administrative data, we use the information on the characteristics of local governments (local council, mayor and city commissioners). Our analysis shows that network-predicted emigration had strong predictive power of actual emigration in 2010-2014 for municipalities and, reassuringly, it does not seem correlated with economic outcomes prior to 2008.

Using this as an instrument, we find that larger emigration rates had a negative effect on the change in average education level and on the female share of municipal councils, while it had a positive effect on average age of local politicians. Municipalities with higher emigration rates also had higher probability of being dismissed for inefficiencies or corruption. And municipalities with larger emigration rates had larger share of votes for the "status quo" party (led by Silvio Berlusconi), fewer votes for the anti-establishment party (Five Star Movement) and smaller electoral turnout. Moreover, emigration had a negative effect on the net number of firms created during the 2008-2014 period. Taken together, these results suggest that emigration significantly tempered the local push for political change. This is

[2]Importantly, we can use the information about the reason for enrollment in the AIRE registry and birth place to focus exclusively on emigrants born in Italy and moving abroad in the 2010-14 period. This allows us to exclude second-generation Italians born abroad and acquiring citizenship through their parents' nationality.

consistent with the idea that emigration deprived Italian municipalities of young, dynamic individuals who could have become local leaders for change.

The rest of the paper is organized as follows: Section 2 frames this paper in the context of the existing literature. Section 3 describes the data and illustrate important facts about the emigration wave and the measures of change in local politicians that we use in the paper. Section 4 describes the empirical model and the identification strategy that we adopt. Section 5 shows the main empirical results. Section 6 shows some extensions and checks and section 7 concludes the paper.

2 Literature Review

This paper relates to three branches of the literature in Economics and in Political Science. The first is the literature known as the effects of "brain drain" on sending countries. More specifically, economists have analyzed how the emigration of highly educated people – who are more likely to move internationally – affects the average education, income level, fiscal pressure and, potentially, economic growth in the country of origin. This literature originally presented a dire picture of the effect of brain drain as reducing income per person and growth potentials (Bhagwati, 1977). More recently researchers have found that incentives to schooling (Docquier and Rapoport 2010), brain circulation (Mayr and Peri, 2011) and remittances (Di Giovanni et al 2013), all stemming from more international mobility of brains, can help income per person in the sending country, or at least reduce the negative effects originally emphasized. A more limited version of this literature has looked simply at the labor market effects of emigrants, either analyzing the effects of reduced skill and labor supply at origin (Elsner 2013, Dustmann et al 2015, Mishra 2007) or considering the potential human capital externality at origin (Docquier, Ozden and Peri, 2011).

A second branch of the literature – more directly related to the key question of this paper – analyzes the effects of emigration on the quality of democracy and on the political outcomes in the country of origin. A set of studies focuses mainly on the impact through emigrant selection. Docquier et al 2011, focus on the human capital channel emphasizing that emigration may reduce average human capital with a negative effect on the quality of government and negative effects on the probability of democratic institutions. Related to this line of analysis are the studies by Hirshman (1970, 1991) and Pfaff and Kim (2003). They emphasized the effect of emigrant selection on the maintenance of the status quo in Eastern European countries during the Communist regime. As dissenters and liberal-minded citizens

left by migrating abroad, the political system became further dominated by anti-democratic elites, and the quality of institutions continued to evolve in a totalitarian direction. The operation of this channel was also hypothesized, albeit in a less extreme form, for dysfunctional democracies. Mexico and Haiti (Hansen (1988)) have been considered as cases in which the large emigration rates (mainly to the US), providing an escape valve to the voice of dissent, reduced the potential for political and institutional change in these countries. While Italy is a more developed and better functioning democracy than the previously-mentioned countries, the Economist Intelligence Unit's Index of Democracy from 2008 ranks Italy only 29th (out of 160) in the world, behind all Western European countries. In terms of the democracy index – which summarizes aspects of pluralism, political participation, political culture, civil liberties and functioning of the government – Italy was not far from Eastern European countries such as Poland or the Czech Republic as of 2008. According to the definition used by the Economist Intelligence Unit (2008), Italy was at the very bottom of the group of "full democracies". Still very far from the authoritarian regimes occupying the bottom 50 position of the ranking, Italy, however, was not as functional as the top "full democracies" and, hence, could be subject to significant improvement from political renewal. Another set of studies emphasizes the fact that emigrants channel information and preferences from the country of emigration back to the country of origin. In this case, emigration to well-functioning liberal democracies can be a channel for increased political involvement and democratization back home. Pérez-Armendáriz and Crow (2010) find that the presence of a migrant to US or Canada in a family increases participation in elections in Mexico. Chauvet and Mercier (2013) also report a similar increase in turnout for families with an emigrant for Mali. Pfutze (2012) studies Mexico's local elections and shows that municipalities with large number of migrants in the US are more likely to vote for opposition parties. Mahmoud et al (2014) show the share of migrants to Western Europe decreased the municipality vote to the communist party in the 2009 elections in Moldova, while the share of migrants to Russia increased it.

The third branch of the literature relevant to this study is related to the idea that innovation in the technological and institutional field comes with generational change. Only companies with young managers seem inclined to adopt radical innovation (Acemoglu, Akcigit and Celik, 2014). And political and institutional change is more likely to come when a new generation becomes prevalent and displaces an old one. In this perspective the power balance between young and old may be crucial in determining the prevalence of the status quo versus the introduction of new institutions in a country.

Our paper improves significantly on the literature described above on several dimensions. First, this is the very first paper to estimate the causal effect of emigration on political change using a clean and reliable identification strategy. This strategy is also new as it is based on a sudden and large increase in emigration rates, interacted with a variation in the probability of migrating across local areas, likely to be orthogonal to other political factors. Second, it uses outcomes that better capture the change in the local political class. We not only look at the political participation and party vote, but we also try to capture characteristics of the local politicians, such as their age, education and gender. Third, it is the first paper to look at this phenomenon within a developed democracy, Italy and within an area where there are no migration restrictions across countries, the EU. Hence the selection of emigrants and the direction of emigration is purely determined by individual choice and not by barriers to mobility. Finally, ours is one of the few papers using individual data from administrative records of emigrants (possibly Mahmoud et al, 2014 being the only other paper). While most of the focus in Europe is currently on the impact of immigrants, we want to emphasize that the outflow of young and educated Italians is potentially an important cause of slower economic and institutional change in some specific countries of Mediterranean Europe.

3 The Emigration wave and the Institutional Improvements of 2009-2014

The European Union introduced full labor mobility of its citizens across countries since 1992 (Maastricht Treaty). Then, since 1999 the introduction of a common currency allowed easy comparison of wages across countries. Another milestone in the integration of European labor markets was the so-called "Bolkestein Directive" of 2006 (The Services in the Internal Market Directive 2006/123/EC) implemented as of December, 28th, 2009. It established a single market for services and professionals within the European Union, eliminating some remaining "de-facto" barriers. These policies have certainly encouraged significant cross-country mobility from lower-wage to higher-wage countries. However, linguistic barriers and difficulties in portability of degrees and social security history across countries still constitute significant costs to full labor mobility. A deep recession (or rather two in sequence) hit the countries of Southern Europe between 2008 and 2013. Officially, the recessions date 2008-09 and 2011-13. The first was triggered by the US great recession and the second by the

Greek debt crisis. While Italy, Greece, Spain, Portugal and France experienced a severe and strong contraction of income and employment during both periods, countries such as Germany, Luxembourg, Sweden and Switzerland experienced much milder or no recession, especially in 2011-13. Interestingly, this asymmetric shock triggered large flows of people moving from Mediterranean countries towards central and northern Europe.

Our analysis focuses on Italy. We use a dataset obtained from the Italian Ministry of Foreign Affairs on Italians who have migrated and reside abroad (AIRE data) to construct the number of permanent migrants abroad from each municipality in Italy, who left between 1992 and 2014. For these people we can also observe the country where they reside, their age, their gender and few other characteristics. In this section we use these data to document the entity and the features of the emigration wave from Italy in the period 2010-2014[3]. While there is a lot of anecdotal evidence of brain drain, especially from Northern Italy to the rest of Europe and these stories have multiplied since 2010[4], only sparse data have been collected on this[5]. Our study fills this gap. Then we use data on characteristics of members of the city councils in Italy and on local elections to document the political and institutional change that took place in Italy during the same period 2008-2014. Anecdotal evidence and case-studies have also described a political renewal that started in the country at the end of the last Berlusconi government in 2011, produced several social movements expressing discontent and protest (mainly the five star movement) and eventually lead to the first Renzi Government in 2014. This government was perceived as a political renovation. Lead by a younger and more dynamic part of the Italian center-left coalition, this government brought a younger and more diverse political class to power, but no data on this renewal have been collected and analyzed. Focusing on city councils, we document the changes in age, education and female participation in the leadership of local governments. We will illustrate these data in the following sections.

3.1 The Emigration Wave

Figure 1, already described in the introduction, shows the simple count of expatriates by year of emigration and is the best measure one can construct of the annual flow of Italian emigrants between

[3]The data and the construction of variables are described in greater detail in the Data Appendix.

[4]For instance an online page of "La Republica", one of the leading Italian newspapers, is fully devoted to stories of Italian Brain Drain. See http://www.repubblica.it/argomenti/cervelli_in_fuga.

[5]Bertoli et al. (2016) document very clearly the increase in immigrants from EU in Germany beginning in 2008, and accelerating in 2010-2014.

1992 and 2014. The Figure shows very clearly that beginning in 2009-10 the number of emigrants increased suddenly and substantially, doubling in number by 2014. The figure also shows a rather flat trend in the pre-2010 period all the way back to 1992, producing the idea that increased emigration was not a slow trend, but a sudden episode that took place in correspondence with the beginning of the great recession. Figure 2 and 3 show two more features of the sudden flow that are consistent with the idea that the bulk of it was due to economic reasons, and was motivated by escaping the recession. Figure 2 shows that the whole increase of emigrant flow since 2009 was due to young individuals (younger than 45) whose yearly emigration more than doubled. The number of older emigrants per year (over 45 years of age) whose number was similar to that of younger immigrants before 2007, did not change at all after 2009. As young emigrants are those who can gain the most from a new job in terms of present discounted value, it makes sense they responded the most to economic differentials. Figure 3 shows most of the growth in the emigrant flow was to EU countries (plus Switzerland and Norway) that allow free access to Italian citizens. Migration outside the EU was rather flat after 2010.

To characterize the emigration wave further, it is helpful to stratify the data by country of origin. Figure 4 shows the flows separately from North, Center and Southern Italy. Figure 5 separates the origin between urban (>10,000 inhabitants) and rural types of municipalities. Two interesting features of the recent wave stand out. First, while up to the mid-2000's northern and southern municipalities contributed roughly equally to emigration abroad, after 2005 northern emigrants became more numerous; the steep increase after 2009 was a phenomenon confined to emigrants from Northern Italian municipalities. Second, a similar trend is visible for emigrants from rural versus urban municipalities. The second group of emigrants became larger after 2005, and the sudden increase post 2009-10 was quantitatively much larger for the urban ones. Finally, Figure 7 shows that municipalities with a greater share of college-educated had a larger emigration flow throughout the considered period, and the increase post-2009 was only fueled by emigrants from high-human-capital areas. These features, illustrated in Figures 1-4, are also summarized more compactly in Table 1. The table shows the composition of emigrants and the emigration rates (emigrant number divided by population as of 2000) before the "great emigration wave" in 1992-2009 and during the wave in 2010-2014. The significant increase in the share of young emigrants and the decrease in their average age is quite apparent. The table also show clearly that the emigration rate almost doubled in northern Italy leading up to the great wave, while it actually declined in Southern Italy and remained unchanged in the Central Italy.

In summary, the sudden increase in emigrants from Italy after 2009-10 was mainly a phenomenon involving young people who moved to other EU countries and was essentially limited to northern Italy and was much stronger from urban areas and areas with high human capital. These features are consistent with a migration phenomenon concentrated among young, highly educated people, leaving because of economic motivation. On the other hand, the stylized facts show that some characteristics of the municipality, such as average education and population density, affect the intensity of emigration. Hence, controlling for pre-existing economic conditions, and for regional dummies, will be important to isolate the effect of emigration on political outcomes.

3.2 Characteristics of Mayors and City Councils

Changing the political system and improving the quality of institutions is certainly a high priority for a country like Italy. Corruption, lack of accountability and vast inefficiencies are still present in the Italian democracy, as measured by the Economist Intelligence Unit (2008); they may also be important reasons for slow economic growth, large income inequality, low investment in innovation and research, and stagnation. While it is hard to measure the quality of institutions at the municipal level, we gather data that allow us to identify at least changes in the characteristics of the local leadership. From public information available online we organized data on the composition of Italian municipal councils, on city mayors and on city commissioners. In particular, age, degree and gender data were collected so as to characterize the Italian political class at the local level. Moreover, we are also able to identify which city councils were dismissed due to grave inefficiency and corruption – very negative outcomes. Differently from several papers in this literature, we consider indicators of political change that go beyond simply voting for the opposition, instead we use data on the characteristics of local politicians. Institutional and political renewal in Italy implied a younger, better educated political class with more gender diversity following decades of male dominance. We consider these characteristics at the local level as indicators of renewal and change. While one may doubt these new politicians are, per se, better or less corrupt, the change in composition reveals a propensity toward change and exposure to new ideas. The Italian political class was certainly prevalently male, older and not very highly educated during the 1992-2008 period, hence changes in those indicators are revealing.

Table 2 shows the evolution between 2008 and 2014 of these characteristics for mayors, city council members and city commissioners. In general, the share of women increased significantly among mayors,

local council members and commissioners and so did the share with a college degree. The average age of city council members decreased by one year while the ages of mayors and city commissioners changed little. Overall, the general trends support the idea that local government politicians became younger and better educated. Additionally, political leadership became more female in the period between 2008 and 2014. At the same time, a large wave of emigration was occurring for economic reasons. Table 3 shows the more common measures used to illustrate the political landscape in Italy, namely the share of votes to main parties in 2006 and their change over the period 2008-2013. As we will describe below, during these years the traditional parties, particularly the party in power between 2008 and 2011, the PDL (People of Freedom), a center-right party led by Berlusconi (but also the democratic Party, PD, and the Northern League), lost votes. To the contrary, the big winner was a newly founded movement, the Five Star Movement, collecting discontent mainly from young and left-leaning voters. Table 3 shows this party's support grew from 0 to 25% of total votes.

In our empirical analysis we also consider another variable, measured in this case at the provincial-level, that reveals the extent of entrepreneurial dynamism. that is, the number of firms per person in a province. Entrepreneurs, typically a dynamic group, positively contribute to the economy and drive economic change in Italy. They are those who take risks, translate ideas into productive possibilities, and drive the growth of jobs and the economy. Measuring the net change in firms per person (created minus destroyed) between the 2006-08 period (pre-migration) and the 2012-14 period provides a measure of economic dynamism and entrepreneurship in a location. We will relate these measures to the emigration rates in municipalities during the large emigration episode of 2010-2014. A very detailed dataset obtained from the Italian Chamber of Commerce allows us to construct these values by province, year, and sector. [6]

4 Empirical Specification

The empirical strategy we adopt to identify the causal impact of emigration on political outcomes begins with a simple cross-sectional regression in differences. Let $y_{post,i}$ be an outcome variable for municipality i in Italy in 2014, the last year of data we have available, which is also after the large

[6] We use data on the stock and net creation of firms across Italian provinces from the database " Movimprese" managed by InfoCamere. The Movimprese database collects quarterly data on the stock of active firms and the flows of created and destroyed firms registered in all Italian Chamber's of Commerce in each year from 1995 to 2014. Breakdowns by province, main sector of activities (according to the "Ateco" classification) and type of firm are also available. More details on this source can be found in the Data Appendix

surge in emigration rates. The variable $y_{pre,i}$ would be the same outcome in municipality i measured before the large emigration took place, hence circa 2008. Then $\Delta y_i = (y_{post,i} - y_{pre,i})$ would be the change in the outcome between those two years that bracket the large emigration wave from Italy. We then similarly define Δm_i as the cumulated number of Italians moving abroad from municipality i between 2010 and 2014 relative to the population of municipality i in the year 2000. This is sometimes called the emigration rate and is a measure of the magnitude of the drain of people due to emigration in percentage points of the initial population. The basic specification that one can estimate is as follows:

$$\Delta y_i = \alpha + \beta \Delta m_i + \phi_R + \gamma X_{i,pre} + \varepsilon_i \tag{1}$$

Where $X_{i,pre}$ captures a set of controls in municipality i measured in the years preceding the wave – namely, before 2010. These controls include the unemployment rate and GDP per person of municipality i measured at the commuting zone level[7] in 2004 (well before the emigration wave). In further checks we also control for measures of human capital. The term ϕ_R captures a set of regional fixed effects that control for constant regional characteristics that may have affected the evolution of emigration and political institutions during the period 2008-2014. In the more demanding specification we also include province fixed effects[8]. The term ε_i is a zero mean random error. The dependent variable y will be, alternatively, average characteristics of the municipal council, of the major, or of the city commissioners in municipality i; or an indicator for the city council being dismissed due to grave inefficiencies or corruption; or measures of vote shares and political turnout. We also consider a measure of the stock of firms per person and of firm creation and destruction. The coefficient of interest is β but because of the likely presence of omitted variables, potentially correlated with economic and political factors that may affect emigration rates and the outcome variables, it would be unwise to interpret the OLS estimates as causal.

A set of variables (relative to institutional and cultural characteristics) unobservable to the econometricians, vary only at the regional or provincial levels, and is controlled for using fixed effects. Initial economic characteristics proxy for important economic conditions. Still, other omitted variables could take the form of differential economic growth or differential social change at the municipal level that

[7]Each of around 8000 municipalities is mapped by the National Statistical Office - ISTAT - to one of 683 commuting zones ("Sistemi Locali del Lavoro")

[8]The more than 8,000 municipalities are grouped into 103 provinces and 20 regions in Italy.

may affect outcomes and emigration. Alternatively, changes in the political sentiment in a municipality leading to both political change and higher emigration rates could generate reverse causality. Let us emphasize again that the specification in pre-post differences and the inclusion of region- and sometimes province- effects, absorb many local trends. As some residual correlation may linger we adopt an instrumental variable approach.

4.1 Identification: The IV approach

Our identification strategy takes advantage of the interaction of two sources of variation in emigration rates. First, we consider the sudden increase in the emigration rate between 2009 and 2014, which is plausibly the result of the deep economic recession affecting Italy and other Mediterranean countries more than the rest of Europe. This event, triggered first by the US mortgage market collapse – and then by the Greek debt crisis – was likely uncorrelated with political conditions and political change across Italian municipalities. However, it generated large incentives to emigrate – especially for young, highly educated Italians. Second, we take advantage of differences across municipalities in the opportunities that people had to migrate, which implies different rates in response to this recession. We construct a proxy for these differential emigration opportunities in each municipality by combining two factors. First, people had incentives to migrate to other EU countries that were in better economic circumstances in the 2008-2014 period. These countries provided the best short-run economic opportunities. Second, it is reasonable to think that it was easier to emigrate to a specific country from those municipalities with strong previous network links to that country. Hence, if an Italian municipality had a long-standing community of emigrants in Germany while another had a large community in France (within the EU but also severely hit by the recession) when the 2008-13 recession hit, we predict that people of the first community were more likely to emigrate abroad relative to people in the second community. Not just the presence of previous migrants who could provide contact, information and help to find a job, but previous migrants in the "right" countries, namely those experiencing good economic performance in 2008-2014. Past conditions and historical events affected the size of the community of emigrants in specific countries abroad. As long as those past conditions are not too persistent in affecting recent political change, the instrument constructed this way satisfies the exclusion restrictions.

Namely we construct the following proxy for the emigration rate $\widehat{\Delta m_i}$:

$$\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})} \quad (2)$$

In expression (29), the variable $sh_{i,c,2000}$ is the number of Italians from municipality i residing in country c in the year 2000[9] as a share of that municipality's population in the year 2000. This variable captures the relative strength of networks between one municipality i and a specific country c, as established by prior emigration before 2000. The fact that we only include long-established emigrant communities implies that whatever the reason for their emigration twenty years earlier, it is likely very weakly correlated with current political change. The term $\frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$ is the cumulative real GDP growth factor in country c relative to Italy over the whole recession period (2009-2013). It captures the relative economic incentives for moving to that country. Our proxy variable weights the network measure for a country by a value larger or smaller than one depending on the economic performance of that country relative to Italy. A municipality with a large community of emigrants abroad (as of 2000) in countries experiencing better economic conditions than Italy is predicted by this instrument to have a higher emigration rate between 2010 and 2014.

While this instrument has some similarity with the so-called "enclave" instrument – broadly used in the literature on the Impact of immigrants (see for instance Altonji and Card 1991) – two important differences exist. First, we are using the presence of a relative network in the region of origin (rather than destination) to predict the location of new emigrants. Second, we are using differential economic performance at destination as a potential driver of emigration. This instrument does not simply build on the presence of past migrants by country, but also relies on the contemporary economic performance of these countries in creating a different propensity for emigration from Italian Municipalities.

4.2 First Stage Results

Table 4 shows the predictive power of the constructed variable as an instrument in the first stage regressions with emigration rates as the endogenous variable. The first four columns of the Table consider the municipality as the unit of analysis and includes around 7,000 observations. Columns (5)-(7) use the province instead, and include 110 observations. In all instances, except one case at the provincial level, the power of the instrument is quite strong. In the municipal-level analysis, which is the relevant one for all political outcomes, the F-stat of the instrument ranges from 77 to

[9] We include in the pre-2000 stock of emigrants all those who moved abroad between 1992 and 2000.

134, revealing the strong predictive power of the instrument. At the provincial level the F-stat is low when not controlling for any covariate (Column 5), but increases to 19 and 39 when including fixed regional effects and pre-period income and unemployment. The regressions show that initial income per person is a significant determinant of emigration rates between 2010 and 2014. Richer municipalities had higher emigration rates when the recession hit. This could also be related to the fact that people in those cities may have known of better job opportunities elsewhere as those cities were more connected to European business networks. Controlling for initial economic conditions also increases the power of the instrument, likely by reducing correlated confounders. Conditional on initial economic conditions, the network proxy is a better predictor of network flows. Figures 7-9 show the correlation in a scatterplot between the instrument and the dependent variable, and also the partial correlations when controlling for region fixed effects (Figure 8), or for initial economic conditions and region fixed effects (Figure 9). These figures shows graphically what Table 4 already made clear, namely that the tightness of the correlation improves when including controls, and also that some municipalities with intermediate values of the predicted immigration flows exhibit the largest emigration rates[10].

Figures 10 and 11 show emigration rates and the predicted emigration rate, respectively, by province on the Italian map[11]. While one notices the strong correlation between darker and lighter areas across the two maps, one can also see that the instrument seem to overpredict the propensity to emigrate in some southern provinces (especially in Calabria and Abuzzi) while it underpredicts the emigration rate in some provinces of the northern regions of Lombardy and Veneto. This may be due to the fact that a large part of the older emigration flows to some European countries from southern Italian regions was associated with low-skilled types of jobs (such as mining or heavy manufacturing during the 50's and 60's) and did not generate network of connections that were particularly useful to young professionals in the most recent emigration wave. Nevertheless, when controlling for regional differences (via fixed effects) the instrument captures the within-region variation in network intensity fairly well, and this turns out to be a good predictor of the difference in emigration rates in the 2010-2014 period.

[10] Similar scatterplots can be drawn for the data at the municipal level. They also show significant positive correlation and a tighter relationship after controlling for pre-existing economic variables. Those figures are available upon request.

[11] Figures B1 and B2 in the Appendix show the corresponding maps for municipalities.

4.3 Channels

Our first goal is to establish whether emigration affected the change in local politicians: Did local governing bodies in Italian municipalities with a high rate of emigration change more slowly and remain more anchored to the status quo? A second, related question, however, is how, – and through what channels – did emigration affect change. On one hand, selective emigration may reduce the number of young, educated and dynamic individuals in a municipality, directly affecting the group who may win political leadership. Better connected people, who may have an interest in protecting the status quo, may be less likely to emigrate, while less connected and frustrated people, who could be part of the leadership for change, could be more likely to leave. This will decrease the presence of a local leadership for change where emigration is large. On the other hand, emigrants may affect political outcomes indirectly through changing the voting preferences of the local electorate. While they could deprive municipalities of votes that would go towards political change, if emigrants remain connected with their municipality of origin they could transfer innovative ideas from their country of emigration. In this case, they might contribute to greater political change and positively influence the quality of local institutions.

In order to analyze these possible channels, we consider several dependent variables in our regressions, whose change may be consistent with some, but not all, explanations. After having analyzed how emigration affects the share of the young, the highly educated, and women in local governing bodies, which we take as indicators of political change, we also analyze whether it affects the probability of extremely negative outcomes in the municipal council. In particular we focus on its dismissal. A city council is dismissed if some form of extremely severe malfunctioning happened or if its members are put under investigation for corruption or crime.[12] Given the prevalence in Italy of political corruption and of occasional involvement of local governments in some forms of organized crime (such as a Mafia), a decrease in the probability that a city council is dismissed can be considered as a sign of improvement in local institutions. Very likely, it reveals a decrease in corruption levels. If the emigration rate affects a city council's probability of dismissal, this is a strong sign of an impact on local government quality.

In order to gain some insight on the more direct or indirect channels, we also analyze whether the

[12]We randomly sampled 10 municipalities among the 146 ones that had a dismissed municipal council in 2014 and tracked the reason for the dismissal. Out of 10 municipalities, 5 had a dismissed council due to organized crime infiltration, 1 for resignation of the mayor, 1 for resignation of half of the council members, 1 for a no-confidence vote for the mayor, 1 because of absence of candidates at the local election and 1 for missing the minimum turnout threshold in case of a single party election.

emigration rate affects the local vote. We are interested in determining whether emigration affects political participation, by affecting electoral turnout. If young people who are engaged in civic life emigrate, the political participation in a municipality may decrease. We also analyze how emigration rates affect the percentage of votes to the more traditional parties relative to those going to parties that push for substantial change and renewal. During this period, Italy experienced the emergence of a very anti-establishment party (the Five Star Movement) that aggregated different voices of aversion to and dissatisfaction with the status quo in a clear, if somewhat generic and unorganized, sign of protest. Young people responded strongly to this movement. Alternatively, we also analyze whether emigration affected the power of more isolationist, anti-European parties (in Italy expressed mainly by the Northern League), once people with a more open and tolerant mentality left. The analysis of all these political indicators will provide an interesting and complete picture, and will be suggestive of the channels through which emigration affects local political change.

Finally, as a way to check whether emigration is a drag not just on the potential leadership that would bring political change, but on local leadership also in the economic and managerial world, we test whether emigration affected local entrepreneurship. We analyze whether net firm creation (and gross firm creation and destruction) in municipalities was affected by the emigration share in the 2008-2014 period. An impact of emigration rates on entrepreneurial dynamism will be consistent with the idea that emigration affects the economic leadership in a province. This could also be connected to the effect on local politics. We will analyze all these outcomes in turn.

5 Main Results

5.1 Age, education and gender of Municipal Councils, Majors and City Commissioners

We consider the change in the characteristics of politicians who were occupying the role of mayor, city commissioners, and city council members between 2008 and 2014, which essentially coincides with an electoral cycle.[13] Table 5 shows the coefficients of Specification (1) where the dependent variable is the change in the average age of the mayor (Columns 1 and 2), of city commissioners (Columns 3 and 4), and of city council members (Columns 5 and 6). We show both OLS and IV estimates. Each regression

[13] As electoral cycles are of five years, each municipality in the sample had at least one election between 2008 and 2014

controls for value added per capita and unemployment per capita in the municipality as of 2004, which is pre-2009 and the only year for which a full set of municipality data is available. Table 6 shows the same outcomes of Table 5 with the addition of regional fixed effects (Columns 1,3,5) and provincial fixed effects (Columns 2,4,6). In this table we only report the IV estimates. Focusing on the IV estimates (that should be the closest to a causal effect), two results emerge. First, among the control variables, it appears that municipalities with greater income per person and a lower unemployment rate before 2009 experienced a larger reduction (negative coefficient) in the average age of the mayor, city commissioners and city council members. The effects are significant and, reasonably, they suggest that richer and more dynamic municipalities were more likely to renew their political class. Focusing on the effect of emigration, one sees a positive impact of emigration on the age of the mayor and of the average age of city council members, while the effect (still positive) is not significant for city commissioners. The magnitude of the effect implies that an increase in the emigration rate of one percentage point of the population would increase the age of the mayor by 2.1 years and of the average city council member by 0.8 years (using the estimates of table 4). These are very substantial effects showing clearly that higher emigration slowed the general trend toward younger politicians in a period of political change.

Tables 7 and 8 show estimates from specifications similar to the previous two tables, but considering the change in the share of politicians with a college degree as dependent variable. Columns (5) and (6) show the estimates for city commissioners and Columns (7) and (8) for city council members. For the mayor, we consider as outcome in Columns 1 and 2 a dummy equal to one if he/she has a college degree so that its change takes on zero if the mayor's degree status did not change between 2009 and 2014, +1 if the mayor " gains" a college degree, or -1 if the mayor "loses" a college degree. In Columns 3 and 4 we restrict the sample to municipalities where the mayor originally did not have a college degree in 2008 and consider as an outcome whether the mayor had a college degree in 2014 (dummy equal 1 if mayor had college degree in 2014). The point estimates of the effects of emigration are usually negative on this outcome, revealing a reduced increase in the college share of politicians in high emigration municipalities. The one consistently significant estimated effect is on the share of college graduates among city council members. An increase in the emigration rate by 1 percentage point of the population decreases the share of college graduates in the city council by 2.7 percentage points. This is a very significant difference in a period in which the city council members increased

on average their share of college graduates by 7 percentage points. The other effects, while usually negative, are not significant, both in the main specifications (Table 7) and in those with regional or provincial fixed effects (Table 8). As an attempt to go more in depth into the analysis of the human capital change of local politicians and the impact of emigration, we try, in Tables 9 and 10, to categorize mayors, city commissioners and city council members into two types of professions. Those whose professions are more technical-scientific and mathematical (including doctors, engineers, scientists and technicians) and those whose are not. Usually, highly educated migrants tend to be more concentrated among engineering-scientific types of professions (see Peri et al 2015). Hence, one can think that people in those professions become less available as local politicians. Tables 9-10, however, shows no measurable effect on this outcome neither in the basic specification or in those controlling for regional and provincial fixed effects.

In a society as patriarchal and male-biased as Italy, where the female labor participation rate is still below 50% and positions at the top of the executive ladder are extremely hard to access for women, the evolution of the political class to include more women can be considered as one of the most relevant index of renewal. This is all the more relevant during the considered period, as, starting with the local elections of 2013, voters in municipalities with more than 5,000 citizens have been allowed to vote for two different candidates to the municipal council as long as the two candidates are of a different gender. By introducing the option of voting for both a male and a female candidate, this policy has given voters the opportunity to boost the presence of women[14]. As a consequence, in municipalities in which competitive female candidates were running, this new law reduced their disadvantage vis-a-vis men. Hence, smaller differences in the preference for women across municipalities might have had a magnified effect with the new law.[15] The share of women among mayors (10% nationally in 2008), city commissioners (16% in 2008) and among city council members (18% in 2008) was certainly extremely low and experienced, even because of this law, a substantial growth between 7 and 10% nationally between 2009 and 2014. Hence the growth of women's share among elected officials in a municipality can be one of the strongest indicators of political change. Tables 11 and 12 show

[14]Baltrunaite et al. 2016 find an increase of 22 percentage points in the share of women in municipal councils following the implementation of this policy.

[15]Using a regression discontinuity approach Baltrunaite et al. 2016 find the double-gender vote policy for municipal councils of cities above 5,000 people did not affect the share of female candidates differentially for the municipality below and above 5,000 inhabitants, but increased substantially the actual share of women elected in cities right above the 5,000 inhabitant threshold. This is evidence that the margin that most mattered for change in the local political establishment was driven by voters' preference

the impact of emigration on this share, in a format that is identical to that of Tables 7 and 8. In particular, Columns (1) and (2) consider the change in a dummy "female" for the major between 2008 and 2014, while Columns (3) and (4) use as outcome a dummy " woman" for the mayor gender in 2014, conditional on being equal to 0 in 2008. Columns (5) and (6) analyze the change in the female share of city commissioners and (7) and (8) the change in share of women among city council members. In this case the effect is large, significant and very robust for all groups. The increase of emigration rate by 1 percentage point in a municipality is associated to a decrease in the probability of a woman as mayor in 2014 by 7-8 percentage points. It also leads to a decrease in the share of female city commissioners by 4 percentage points and in the share of women among city counselors by 3 percentage points. These estimates are robust across specifications and to the inclusion of regional and provincial fixed effects. These are very large effects. As the share of emigrant women has not changed much in this period, it is unlikely that the decrease in women's share (or the slower growth in this share) due to emigration is related directly to women's departure[16]. More likely, it is related to the culture of the political class itself, who is left less open to change. Confirming that the change in women's share is potentially a very good indicator of political change at the local level, the average income and unemployment variables are both strongly correlated to it. Municipalities with higher income per person and higher employment rates were more likely to increase the share of women among their politicians. In fact for municipalities whose income per capita differ by an order of 2 (100%), their share of women in the city council differ by 3.5 percentage points.

5.2 Extremely negative political outcomes: dismissal of the city council

In many of the municipalities under consideration a clear sign of failed political leadership and grave inefficiency and corruption is the dismissal of the city council. This occurrence implies that a city council has been deprived of its political power and its administration is given to a temporary authority. Being in such circumstances occurs mainly for grave suspicion of corruption, for being under investigation or for having reached a state of complete and utter paralysis in the ability to make decisions. We randomly sampled 10 municipalities among the 146 that had a dismissed municipal council in 2014 and tracked the reason for the dismissal. Out of 10 municipalities, 5 had a dismissed council due to organized crime infiltration, 1 for resignation of the mayor, 1 for resignation of half of

[16]The actual share of women among emigrants is slightly decreasing in this period

the council members, 1 for a no-confidence vote for the mayor, 1 because of absence of candidates at the local election and 1 for missing the minimum turnout threshold in case of a single party election. One illustrative example of the severity of city council dismissal is that of Casignana.

Casignana is a municipality in Southern Italy (Calabria Region) of 800 inhabitants, whose mayor and municipal council were elected on May 15 of 2011. Shortly before the election, the mayor in office was investigated for allegations of illicit interactions with a local mafia boss (the so-called 'Ndrangheta) finalized at exchanging votes for future administrative favors. On November 24, 2011, the elected mayor was arrested on criminal charges related to disposal of illegal and hazardous waste. Following the arrest of the mayor, a full scale investigation was conducted by a so-called "Prefetto" (Judicial authority) that collected a large amount of evidence on the illegal vote exchange with the local Mafia organization. The official concluded that the infiltration of organized crime was so extensive that political freedom and independence of the municipal council were substantially undermined. As a consequence of this investigation's report, on May 13 of 2013 the Italian President signed a decree to dismiss the municipal council of Casignana and sent a government commissioner to act as mayor. As of December 31, 2014, the municipality of Casignana had not held new elections due to the fragile local political environment; the government commissioner was still acting as mayor. A new mayor was elected on May 31 of 2015.

Hence, while it is quite hard to evaluate the efficiency and administrative quality of a municipal council, we can consider dismissal as a proxy for extremely bad outcomes, likely driven by incompetence or corruption. Table 13 shows how emigration rates affected the change of this indicator across municipalities. The rate of dismissal for municipal councils elected in 2008 was at 7.7%, confirming that this is a rare outcome (though, it may be not as rare as one would hope). Our estimates show that when controlling for regional and provincial fixed effects, an increase in the emigration rate by one percent of the population increases the probability of a council being dismissed by about 6 percentage points. This is a very large and important results. One potential interpretation is that the emigration of the people who are more likely to be non-corrupt increases the likelihood of a corrupt city council. Better economic conditions in the form of higher income are also associated with lower probability of dismissal of the city council, confirming that this extreme outcome is associated with economic stagnation. While we do not want to draw excessively strong conclusions, given the small probability of this event, the results of Table 13 certainly appears to suggest emigration significantly increased

the probability of having a very bad city council resulting in its dismissal.

5.3 Effects on Electoral Outcomes and Turnout

The indicators of political change analyzed above pertain to a small group of politicians who are in leadership positions in local administrations. Selective emigration may have substantially affected the quality of these politicians, by depriving the municipality of potential leaders who might have been likely to push for change. However, selective emigration may also have a more indirect effect on the political environment by changing voter participation and thereby the outcome of elections. Local democratic engagement for most people takes the form of voting rather than being part of the political class. By selecting more engaged and potentially vocal citizens into emigration, a larger number of departures may have decreased the "pressure" for change by reducing political participation, and among the participants, by reducing the vote for change. This is the story told by Hirshman (1991) on the alternative between "voice" and "exit" in countries of the old communist block. On the other hand, if emigrants help to diffuse back in their municipalities of origin democratic values and institutional progress from their destination countries, more emigration may result in more engagement and change, at least in the long run (Pfutze 2013, Mahmud et al 2014), if not in the short-run.

We first analyze the impact of emigration on voter turnout during national parliamentary elections. In particular, we estimate how the emigration rate affected the change in turnout between 2008 and 2014 controlling for previous turnout and for economic conditions across municipalities. Table 14 shows the results. Columns (1) and (2) show estimates from the basic specification, Column (3) and (4) from the specification including regional fixed effects and Columns (5) and (6) show the specification with provincial fixed effects. In all cases the IV estimates show a significant and large negative effect of emigration on the electoral turnout. For each percentage point of the population leaving the municipality, voter turnout decreases by 2-2.6 percentage points. If this is due to a direct effect, it means that emigrants were much more likely than the average citizen to go vote, thus their absence decreases participation significantly. Alternatively, this may also be a spillover effect on people who did not emigrate. In a municipality with better emigration opportunities (as proxied by the IV) several other citizens, besides the emigrants, may become convinced that a more effective action against the status quo is to leave, rather than to change, the municipality. Hence, even while they are in the municipality the greater probability of leaving makes them less engaged in political change.

This would reduce the turnout of the non-migrants too and act as a spillover effect on remaining voters. Both channels can be at work.

We then analyze the outcomes of political elections, by testing whether emigration had an impact on the percentage of votes going to different parties. The Italian political landscape was evolving and changing in the years 2008-2014. We identify four major parties that, together, collected the large majority of votes. Some of them are representative of the status quo, others express more clearly the discontent with the status quo. We track their electoral outcomes and see how emigration affected them. The largest parties of the Center-Right (PDL, People for Freedom) were in power in 2008 and clearly represented the status quo. Investigations and scandals around its leader, Silvio Berlusconi, reached a peak in these years. The other large party, the Center-Left (PD, Democratic Party) was instead undergoing an important transformation from an old-style, union-based, socialist type of party to a more dynamic, pro-market and younger party. This was embodied in the change of leadership in this party from the older Pier Luigi Bersani to the much younger Matteo Renzi. Then the third largest party in Italy, the Northern League, certainly captured the discontent of Italians in many respects, but it also maintained a very strong anti-Europe and anti-globalization stance. The real new phenomenon of this period was the rise of the "Five Star Movement" (party), a group that gathered discontent, protest and vague anti-establishment ideas mainly from the left of the political spectrum[17]. While the leadership of this party was somewhat confused, its voters were certainly expressing great discontent and desire for change. The PDL was certainly symbolizing the status quo. For many young people the PD was not enough of a change, and the anti-establishment sentiment really was aggregated by the Five Star Movement. The Northern League continued to appeal to conservatives who had an anti-immigrant and anti-Europe view. The summary statistics in Table 3 show the main features of political change we described. The average share of votes for each party at the municipal-level shows, between 2008 and 2013, a large decline of the PDL (People for Freedom) by 11 percentage points, a smaller decline of the PD and Northern League (by 6 percentage points), and the boom of the anti-establishment party, the Five Star Movement, that went from 0 to 24% of the votes.

If emigration reduced the "voice" of discontent at the local level, given the selection of people who emigrated, municipalities with large emigration rates should also have a larger share of votes going to the government party (PDL) and a smaller share going to the party of discontent (Five Star

[17]Smaller parties such as extreme right, extreme left and a centrist list also existed. They were of small size and we do not find much of an effect from emigration on those. Results for these smaller parties are available upon request

Movement). At the same time, emigrants are probably much more open to Europe and to global forces than the average Italian. Without them, the Northern League may have gathered more votes. The effect on the Democratic Party is less clear, as it was still part of the established power, but was undergoing an internal change. Tables 15 to 18 show the estimates of the effect of emigration on the share of votes going to the PD (Table 15), the PDL (Table 16), the Five Star Movement (Table 17) and the Northern League (Table 18). The dependent variable is the change in the share of votes for that party between the 2008 and the 2013 elections. We show, as usual, the base estimates controlling for vote share in the previous election of 2006 and controlling for economic variables such as income per person and the unemployment rate in Columns 1 and 2. Then we include among controls the regional fixed effects (Columns 3 and 4) and finally we add provincial fixed effects (Columns 5 and 6). We focus on IV estimates (even-numbered columns) as those are addressing potential endogeneity issues, and we comment on the most demanding regressions, those including provincial fixed effects, in Column (6). The findings are very robust across specifications.

Three trends are clear. First, larger emigration rates produced smaller shares for the Five Star Movement. The young, potentially engaged protesters not happy with the status quo, had an escape valve in emigration. In those municipalities with better migration opportunities, the strength of protest votes was reduced. For each one percent increase in emigration, the Five Star Movement received 6 percentage points lower share of votes in the municipality. Second, the party that benefited the most from emigration was the PDL, representing the status quo. In regions with large emigration rates, the PDL had a significantly larger share of votes: 3.6 percentage points higher for each one percentage point increase in emigration. Finally, the northern League and the PD had smaller positive effects (+1.7 percentage points and 0.9 percentage points) from emigration. The fact that these parties were still perceived as pro-status quo (in the case of the PD) or were anti-Europe may explain why people who are more likely to emigrate were not likely to vote for them. It is important to emphasize the large generational change, the inclusion of women and the improvement in quality of local politicians, that was negatively affected by emigration as we saw above, was a phenomenon taking place very intensively within the PD. Hence, for that party, emigration may have helped the more traditionalist component of the party and hurt the more innovative one, hence the positive effect on total votes. Overall, the indirect channels confirm that emigration reduced the engagement and pressure for change in the municipalities where more people left. Not only the potential leadership was affected, but the

voting behavior of people was. If the Five Star Movement was a party with scattered plans and without a coherent agenda, its growth pushed other parties, especially PD to change, renew and attract more young people. This may have been an engine for change in the local political class. All these processes of voicing discontent and political change were slowed by larger emigration.

5.4 Entrepreneurship

To dig further into the role of emigration in reducing local leadership for innovation and change, we look at an economic outcome. Entrepreneurs are often among the strongest agents of change. In the words of Schumpeter they bring the "creative destruction" needed to innovate and break with the status quo. In many Italian cities the entrepreneurial class, especially the entrepreneurs in small firms, constitute an active engine of economic growth. Industrial districts created in the 1980's and 1990's around small firms and local entrepreneurs who became leaders in specific sectors, constituted the basis of Italian economic growth during the 1980's and 1990's. Driven by economic dynamism, creative ideas and possibly enriched by the local social capital (e.g. Brusco 1982, Leonardi and Nanetti 1990; Putnam 1993) small entrepreneurs thrived, especially in the center and in the north of the country (Beccattini 1987). The younger generation, during the 2008-2014 period faced a much more difficult economic environment. Challenges from the recession and from growing global competition in traditional sectors tested entrepreneurial success in Italy. The question is whether emigration also weakened entrepreneurial activity in municipalities that experienced large outflows. This would be another sign that emigration hurt local potential for change as local entrepreneurs often become social and political leaders, and small entrepreneurs are among the most dynamic groups in Italy.

In this section we consider as an outcome the number of firms per capita in a province and how this value changed between 2008 and 2014, as a function of emigration rates across Italian provinces. From the Italian registry of firms[18] we can count firms in each province (data at the municipal level are not available), as well as observe their creation and destruction. We consider three different types of firms, depending on their legal status. The first group is constituted of corporations that have a separate legal identity from their founders who only contributed a limited amount capital (Societa' di capitali - "S.C." in Tables). The second group is constituted of those firms founded by a group of people who retain joint ownership of the company (Societa' di persone - "S.Per." in tables). The third group is

[18]The "Movimprese" registry is managed by InfoCamere and collects quarterly data on the stock of active firms and the flows of created and destroyed firms registered in all Italian Chambers of Commerce at the provincial level.

constituted of firms created and owned by one person only (Societa' Individuale - "Ind." in tables). The small size and local identity of the last two types of firms make them more likely to be created by local entrepreneurs. Consequently, the drain of talent through emigration may be particularly damaging to these firms. In Tables 19 to 21 we show the impact of emigration (2010-2014) on the net change in firms per capita by province in over the 2008-2014 period. The first two columns show the impact of emigration rates on net change of firms per person, including all firms. Columns (3) and (4) show the impact on the net creation of incorporated firms ("S.C."), the first group described above. Columns (5) and (6) consider net creation of multi-person-owned firms ("S.Per." - the second group) and Columns (7) and (8) look at individual-owner firms ("Ind." - the third group). The period considered spans a deep recession and, hence, several provinces experience a slowdown in net firm creation. Table 19 shows that, when using IV estimation, we identify a negative effect of emigration on net firm creation. This effect is significant when looking at all firms (Column 2) and is particularly strong when considering individual-owner firms (Column 8). An increase of emigration rates by one percent of the population would reduce the stock of firms per person by 0.006 firms per capita with respect to an average number of firms per capita in 2000 of 0.093. The two following tables look at whether the net decrease in firm due to emigration is driven by reduced firm creation or by larger firm destruction. As emigrants tend to be young, it is reasonable to think that their loss would mainly affect the creation margin, with fewer young entrepreneurs starting firms. Confirming this hypothesis we see that the impact on firm creation (Columns 2 and 8 of Table 20) both for all and for individual-owner firms, is significant, negative and large, while the impact on firm destruction is smaller (although also negative, as shown in Table 21). In Table 22 we try to see if emigration affected firm creation in particular sectors. We analyze whether the effect of emigration on net firm creation is larger in high value-added sectors (such as high tech manufacturing and high human capital services). While the point estimates are still negative, the effects is smaller (Columns 2 and 8) and not marginally significant. Emigration hurt entrepreneurship, but not high value-added sectors in particular.

In summary, the results on firm creation confirm the idea that emigration weakened local entrepreneurial activity and economic leadership. This is an interesting complement to the results on political change. It appears that if one thinks of entrepreneurs as agents for change, these results are consistent with the weakening of political renovation and change caused by emigration of brains and entrepreneurial capital.

6 Extensions and Checks

6.1 Focus on the North

As shown in Figure 4, the emigration wave that occurred beginning in 2009 was mostly concentrated in Northern Italy. While emigration from southern and central Italy remained stable, the outflow from the north increased from 22,000 people per year in 2008 to more than 60,000 per year in 2014. Northern Italy is the economic engine of the country and many young people there, dissatisfied with local economic conditions, moved to more enticing options in Northern Europe. This part of the country could lead the political change as a larger share of highly educated people and of entrepreneurs reside there. Hence, we look whether the impact of emigration on political change was particularly strong in this area. Table 23-25 show the effects of emigration on average age, on the share of college educated and on the share of women among politicians, respectively, limiting our sample to only municipalities in Northern Italy. We report the more demanding specifications with regional and provincial fixed effects and only show the IV estimates. All the estimated coefficients are of the same sign, more significant and larger than for the national sample. For instance, the effect on women's share (including provincial fixed effects) shown in Column 8 of Table 25 implies that an increase of emigration rate by 1 percentage point decreases the female share among city council members by 7 percentage points in Northern Italy. The corresponding figure for the whole country was only 3 percentage points. Similarly, the effect on age of the mayor and of city commissioners (Columns 2-4 of Table 23) is almost one year larger for each percentage increase in the emigration rate in Northern Italy relative to the average for the country. Finally, the coefficients in Table 24 imply that emigration reduced the share of politicians with a college degree by 50% more in the North than in the rest of Italy. The effect of emigration on the city council share of college educated is -0.038 percentage points in northern Italy and only -0.027 on average. So Northern Italy, not only experienced the larger decrease in population due to emigration, but given the stronger impact found in these regressions, it likely also experienced the strongest "positive" selection of people into emigration. Their loss caused substantially less political change in their municipality of origin. One important qualification is needed for these results. While southern regions did not experience much emigration to the EU, it is possible, and in fact likely, that the recession may have encouraged young and highly-educated people in the south to migrate to Northern Italy. This is an interesting possibility, as part of the young talent

from the south may have replaced the lost talent in the north and contributed to renewal in northern local government. However, it is unlikely that internal migration is correlated with the international migrant network and so such omission should not alter our results. It is nevertheless an interesting topic per se. The analysis of recent internal migration flows from the south to the north of Italy, and how this may affect the sending southern municipalities, is a subject to develop in further research.

6.2 Controlling for Human Capital

Figure 6 showed the partition of emigrants originating in municipalities with low or high levels of human capital, as measured by the share of college graduates in the population in 2011. It is very clear that high human capital areas have always been those losing more people to emigration, but this difference became so much more dramatic in 2009. The fact that emigration rates were much larger in those municipalities is consistent with our hypothesis that emigrants are more highly educated than non-emigrants. On the other hand, it implies that the level of human capital in a municipality before the great migration wave could be an omitted variable affecting some of our results. In this section we test whether the estimates of the effect of emigration rates on political change are altered when controlling for human capital levels in the province as of 2011.[19]. Table 26 shows the impact of emigration on politicians' age, obtained using IV estimates and controlling for fixed effects and adding human capital in 2011 as a control. Table 27 does the same for the impact of emigration on the share of politicians with college education and Table 28 for the effect on share of women among politicians.

First of all, notice that the level of human capital (share of college educated) in the population as of 2011 usually had a significant impact on political change in the expected direction of facilitating more political change. Provinces with a higher share of college educated had a significantly larger decrease in the age of the mayor (in 2008-14), they had a significantly larger increase in the share of college educated mayors, and a significantly larger increase in the share of women as city commissioners and in the city council. The inclusion of this control does not significantly change the estimated effect of emigration on political change, which remains strong and negative. While the loss of human capital due to emigration can certainly be a channel for many of the observed effects, emigration rates are not

[19]Data on the share of college educated at the municipal level are obtained from the Italian Census of 2011. Unfortunately, data on the share of college educated are not available for any other year for geographies more disaggregated than the 20 regions. While using data for 2011 as a control is not ideal – we would rather use pre-2010 measures – we believe the share of college educated for 2011 on the entire municipal population was not yet significantly affected by the strong increase in emigration started in 2011 itself.

simply a proxy for initial human capital in a province. Increased education, however, seems an effective force bringing political renovation and change. It also increases emigration and, just as pointed out in the debate about brain drain and brain gain (see Docquier and Rapoport 2012), increased education and international mobility may result in more people leaving, but also in the long run, more human capital available in the region of origin.

6.3 Check of instrument Validity

A final check of our empirical analysis involves testing the validity of our instruments. We have constructed a variable that proxies for emigration opportunities in a municipality as related to economic options abroad. We have shown that this instrument predicts emigration between 2009 and 2014, and that it is robust to the inclusion of economic controls and to regional and provincial fixed effects. In Table 29 we perform a test to see if this instrument is correlated with pre-2008 economic trends. This would cast doubt on its validity as we are assuming the only channel through which it affects political and economic outcomes is the predictive ability on post-2009 emigration. Due to the availability of data, we can only test if the instrument is correlated to the net firm creation in 2000-2006, which is the measure of entrepreneurial activity that we used in section 5.4 above[20]. Column 1 of Table 29 shows the correlation of the instrument with net creation of corporate firms between 2000 and 2006, Column 2 shows the correlation with net creation of multi-owner firms and Column 3 of individual-owner firms. Column 4 shows the correlation with creation of firms in the high value-added industries. In the case of corporations, some correlation is detected, but this outcome is less clearly related to local entrepreneurship as these firms may be located in a municipality for fiscal or legal reasons. Creation of the other types of firms, which is more likely to be correlated with local economic conditions (as they are located in the place where the entrepreneurs live and are thus subject to local opportunities), during the 2000-2006 period has no correlation with the instrument. Firm creation in the 2009-13 period was, instead, strongly and significantly affected by it, suggesting that emigration, and not pre-2008 economic trends, drove that relationship.

[20] We have not collected data on electoral and political outcomes before 2006. With some effort we could extend those outcomes back and test for the absence of pre-2008 trends in those variables as well.

7 Conclusions

Following the Greek debt crisis and the deep recession that ensued, Mediterranean countries in the EU have experienced poor economic opportunities, and many anecdotes and stories have suggested that many among their young, dynamic and productive people are moving towards other countries of Europe such as the UK, Germany and Denmark. Our study is the first to quantify this emigration wave and, using a credible identification strategy, to analyze the impact of brain drain, or more precisely, emigration rates, on indicators of political and economic change in the sending country.

We first document, and then take advantage of, a large wave of emigration from Italy corresponding to the deep economic recessions between the 2008-9 period and the 2012-14 period. This economic-driven sudden outflow, interacted with the presence of established emigrant networks from different municipalities to specific EU countries, allows us to construct a proxy for emigration opportunities that varies by municipality. This proxy turns out to be a good instrument that should capture variation in migration opportunities unrelated to local political and economic factors. Using it as an instrumental variable for emigration rates, we find three interesting results. First, larger emigration rates had a negative impact on indicators of political change such as the average age of local politicians, the share of highly educated and the share of women among them. Second, larger emigration rates also increase the probability of very negative local political outcomes, such as the dismissal of a city council, usually due to grave inefficiency or corruption charges. Finally, larger emigration rates reduced election turnout and also the vote share going to anti-establishment parties, and increased the vote share going to status quo parties. Interestingly, higher emigration rates also reduced firm creation and hence the intensity and dynamism of the local entrepreneurial class.

Taken together, these results suggest that by losing motivated, creative young talent to emigration may significantly reduce the potential for political change, civic engagement and economic dynamism in the sending country. While certainly emigration is just a symptom of economic problems, three interesting policy corollaries follow our analysis. First, the emigration rate from a municipality is an important indicator that may predict subsequent change and economic success. Local authorities should be aware of who the emigrants are and their characteristics, and encourage connections with them so as to channel back some of their dynamic potential. Second, the possibility of attracting recent emigrants (who are more likely to return), by creating opportunities for their return, may not only bring back their brains, but also facilitate the political and institutional change needed to modernize

their municipality of origin. The challenge would be to bring back these people in the local institutions making them part of the group pushing for renewal and not leaving them as outsiders in their local environment. Finally, a third interesting option to be considered is that of allowing emigrants to vote in the local elections of the sending municipality. This would allow people who are in favor of change to keep the "voice" option even when they elect to "exit" the system, thus counterbalancing status-quo forces in the presence of emigration. This policy would be feasible to implement since the AIRE registry of Italians resident abroad are maintained by each municipality and each emigrant is required to record his/her departure at the Italian municipality of last residency in Italy. Local politicians may oppose such an idea on the grounds that local governments should represent local people, but the vote of people from abroad will subject local administration to stronger scrutiny and, likely, keep them more transparent.

References

Acemoglu Daron, Ufuk Akcigit & Murat Alp Celik, (2014). "Young, Restless and Creative: Openness to Disruption and Creative Innovations," NBER Working Papers 19894, National Bureau of Economic Research, Inc.

Altonji, Joseph G. and David Card, 1991. "The Effects of Immigration on the Labor Market Outcomes of Less-skilled Natives," NBER Chapters, in: Immigration, Trade, and the Labor Market, pages 201-234 National Bureau of Economic Research, Inc.

Baltrunaite, Audinga, Alessandra Casarico, Paola Profeta, Giulia Savio, 2016. "Let the Voters Choose Women", CESifo Working Paper Series 5693, CESifo Group Munich.

Batista, A., and P. Vicente (2011). "Do Migrants Improve Governance at Home? Evidence from a Voting Experiment", *World Bank Economic Review*, 25(1), 77-104.

Becattini, G. (1987) "Mercato e Forze Locali. Il Distretto Industriale" Il Mulino, Bologna, Italy, 1987

Bedrtoli, Simone, Herbert Bruecker, Jesus Fernandez Huertas Moraga (2016) "A Migration Gravity model with Dynamic Microfoundations" Manuscript, Universitat Carlos III, Madrid, Spain.

Bhagwati J. (1977) "Brain Drain and Income taxation" Pergamon Press, Cambridge Mass.

Brusco, S. (1982) "The Emilian Model: Productive Decentralization and Social Integration" *Cambridge Journal of Economics,* Vol. 2, pp.167-184.

Chauvet, L., and M. Mercier, (2013). Migration and Elections in Mali. Does Migration Promote Democratization in Africa?, Mimeo, Paris School of Economics.

Colomer, J.M. (2000). Exit, Voice, and Hostility in Cuba, *International Migration Review*, 34(2), 423-442.

di Giovanni Julian , Andrei A. Levchenko and Francesc Ortega, (2015). "A Global View Of Cross-Border Migration," *Journal of the European Economic Association*, European Economic Association, vol. 13(1), pages 168-202, 02.

Docquier, F., and H. Rapoport (2012). Globalization, Brain Drain, and Development, *Journal of Economic Literature*, 50(3), 681-730.

Docquier, F., E. Lodigiani, H. Rapoport, and M. Schiff (2011). Emigration and Democracy, World Bank Policy Research Working Paper No. 5557

Docquier Frédéric, Çağlar Ozden and Giovanni Peri, 2014. "The Labour Market Effects of Immigration and Emigration in OECD Countries," *Economic Journal*, Royal Economic Society, vol. 124(579), pages 1106-1145, 09.

Dustmann, Christian Tommaso Frattini and Anna Rosso (2015). "The Effect of Emigration from Poland on Polish Wages," *Scandinavian Journal of Economics*, Wiley Blackwell, vol. 117(2), pages 522-564, 04.

Economist Intelligence Unit (2008) "The Index of Dempcracy, 2008" available at: http://graphics.eiu.com/PDF/Democracy%20Index%202008.pdf

Elsner, Benjamin, 2013. "Emigration and wages: The EU enlargement experiment," *Journal of International Economics*, Elsevier, vol. 91(1), pages 154-163.

Hansen, L. O. (1988). The Political and Socio-economic Context of Legal and Illegal Mexican Migration to the U.S. (1942-1984), *International Migration*, 26(1), 95-107.

Hirschman, A.O. (1993). Exit, Voice, and the Fate of the German Democratic Republic: An Essay in Conceptual History, World Politics, 45(2), 173-202.

Hoffman, B. (2005). Emigration and Regime Stability: Explaining the Persistence of Cuban Socialism, Journal of Communist Studies and Transition Politics, 21(4), 436-461.

Leonardi, R. and R. Nanetti (1990) "The regions and European Integration, the case of Emilia Romagna" Pinter Publisher, London UK, 1990.

Mayr Karin and Peri Giovanni, 2009. "Brain Drain and Brain Return: Theory and Application to Eastern-Western Europe," The B.E. Journal of Economic Analysis & Policy, De Gruyter, vol. 9(1), pages 1-52, November.

Mishra, Prachi, 2007. "Emigration and wages in source countries: Evidence from Mexico," *Journal of Development Economics*, Elsevier, vol. 82(1), pages 180-199, January.

Pérez-Armendáriz, C., and D. Crow (2010). Do Migrants Remit Democracy? International Migration, Political Beliefs, and Behavior in Mexico, Comparative Political Studies, 43(1), 119-148.

Pfaff, S., and H. Kim (2003). Exit–Voice Dynamics in Collective Action: An Analysis of Emigration and Protest in the East German Revolution, *American Journal of Sociology* 109(2), 401-444.

Pfutze, T. (2012). Does Migration Promote Democratization? Evidence from the Mexican Transition, Journal of Comparative Economics, 40(2), 159-175.

Putnam, R.(1993) "Making Democracy Work" Princeton University Press, Princeton NJ, 1993

Toman, Omar Mahmoud, Hillel Rapoport & Andreas Steinmayr & Christoph Trebesch, 2013. "The Effect of Labor Migration on the Diffusion of Democracy: Evidence from a Former Soviet Republic," CESifo Working Paper Series 4389, CESifo Group Munich.

Figures

Figure 1: Number of Italian emigrants per year (1992-2014)

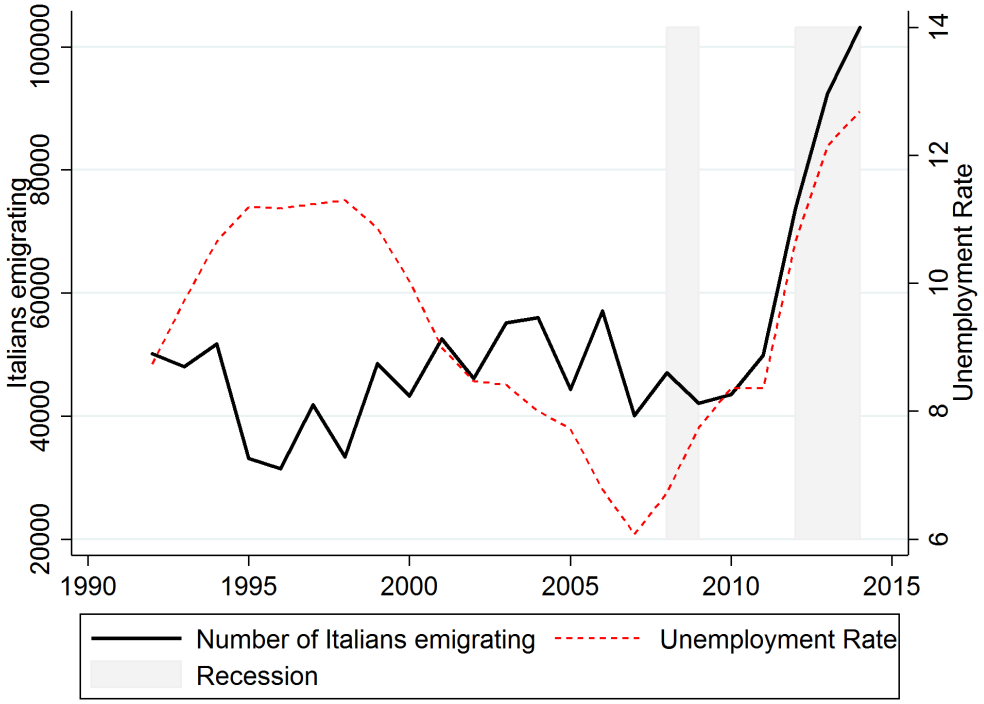


Figure 2: Number of Italian emigrants per year (1992-2014) by age category

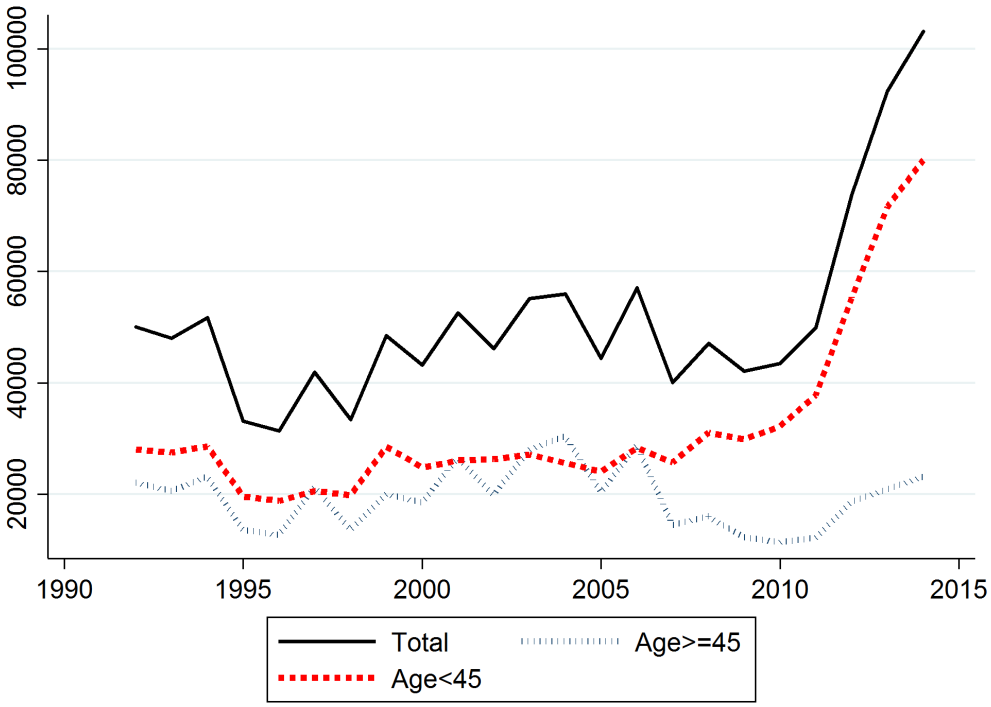


Figure 3: Number of Italian emigrants per year (1992-2014) by destination

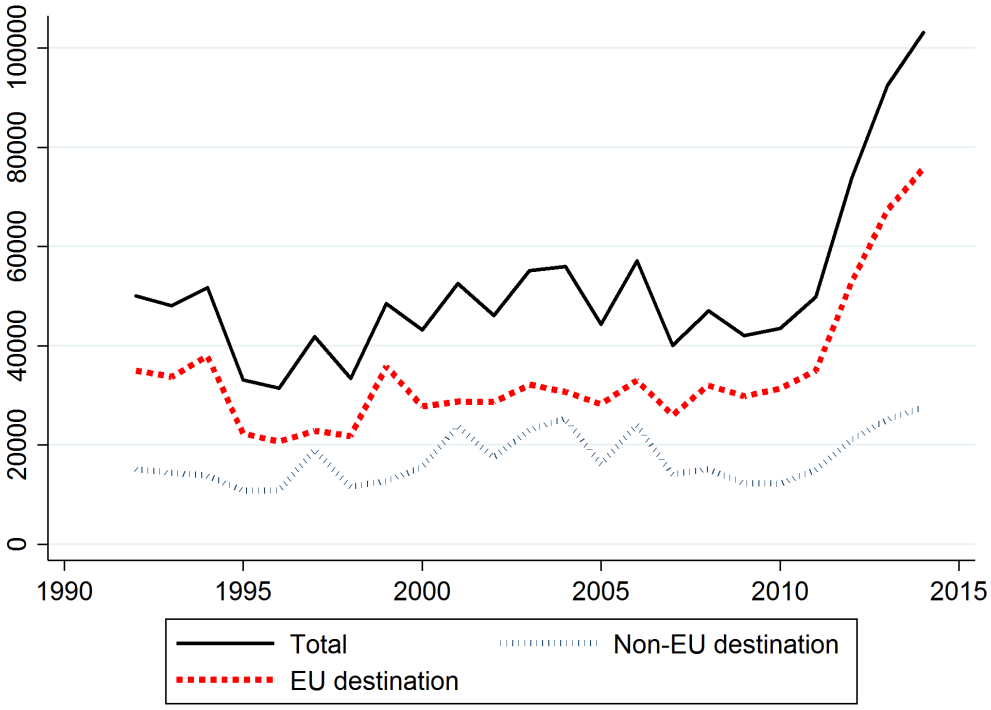


Figure 4: Number of Italian emigrants per year (1992-2014) by origin

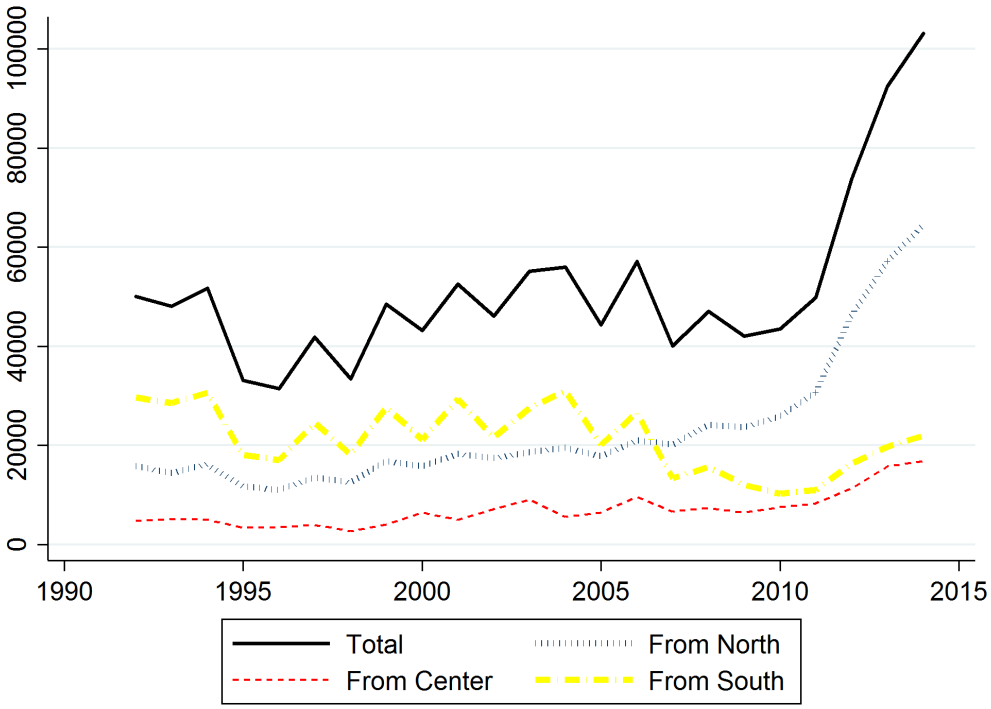


Figure 5: Number of Italian emigrants per year (1992-2014) - urban vs rural municipalities

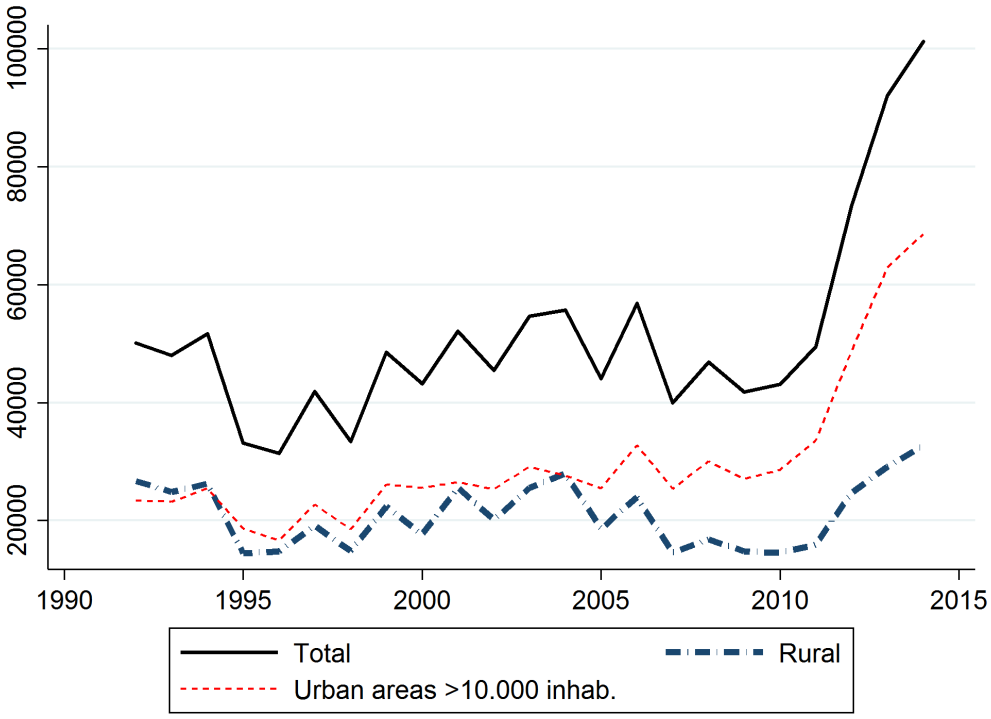


Figure 6: Number of Italian emigrants per year (1992-2014) by intensity of human capital in municipality

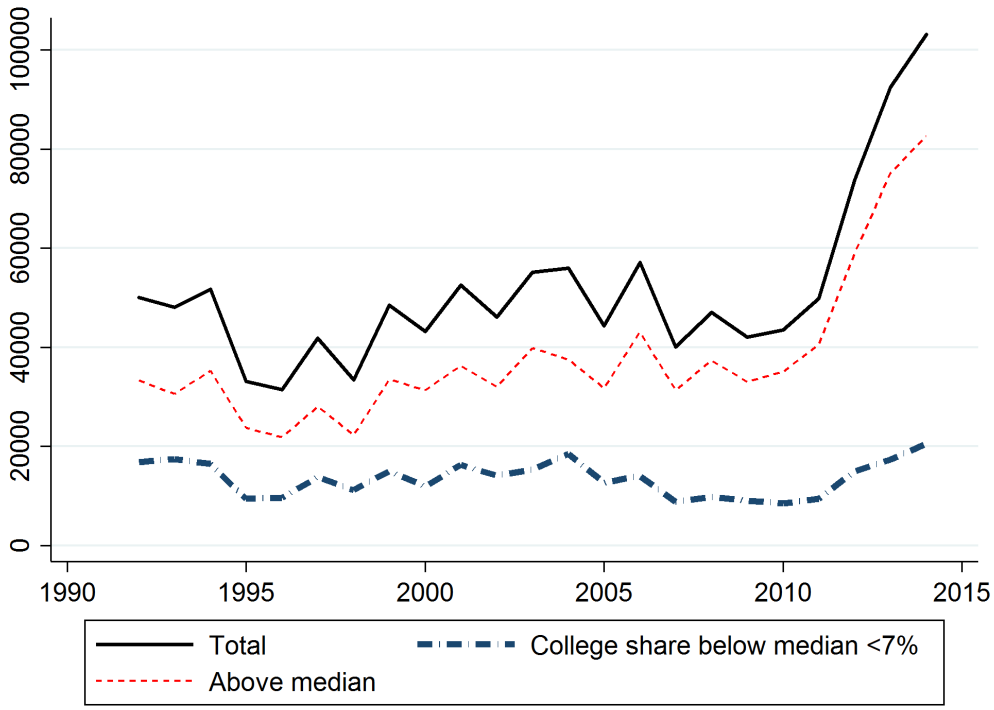


Figure 7: Correlation of observed emigration rates and emigration rates predicted by the instrumental variable - provincial level

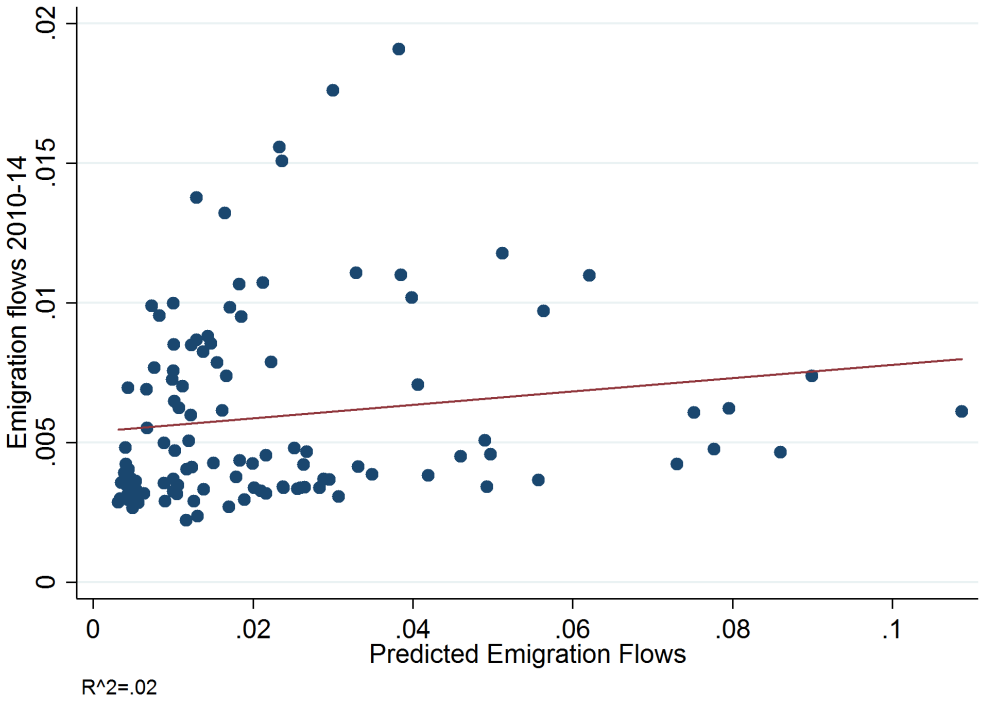


Figure 8: Correlation of observed emigration rates and emigration rates predicted by the instrumental variable - provincial level - residuals on region fixed effects

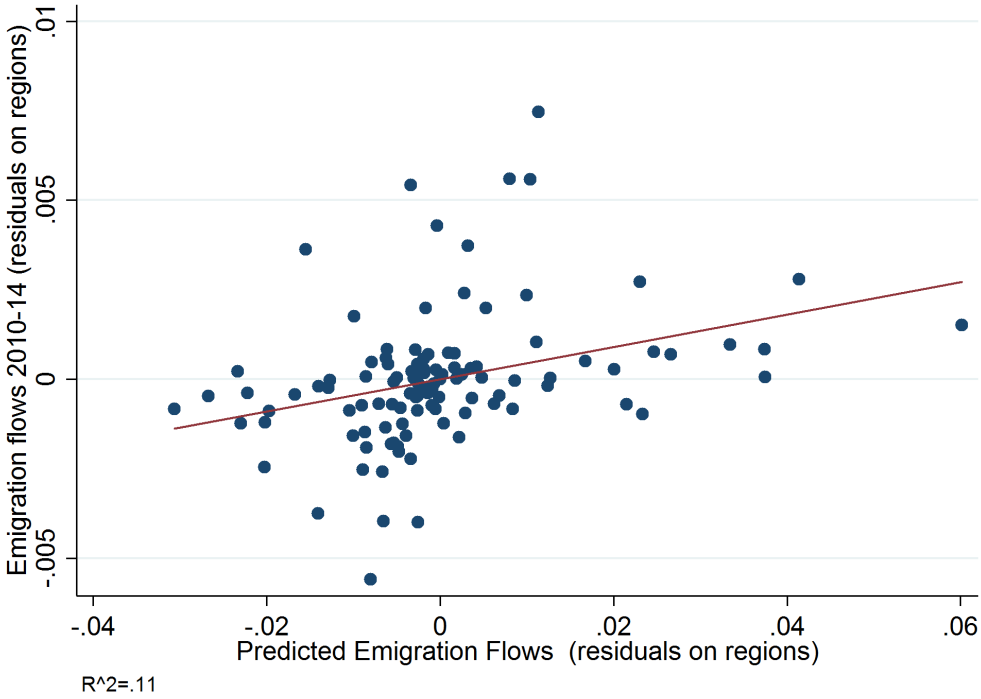


Figure 9: Correlation of observed emigration rates and emigration rates predicted by the instrumental variable - provincial level - residuals on region fixed effects and controls

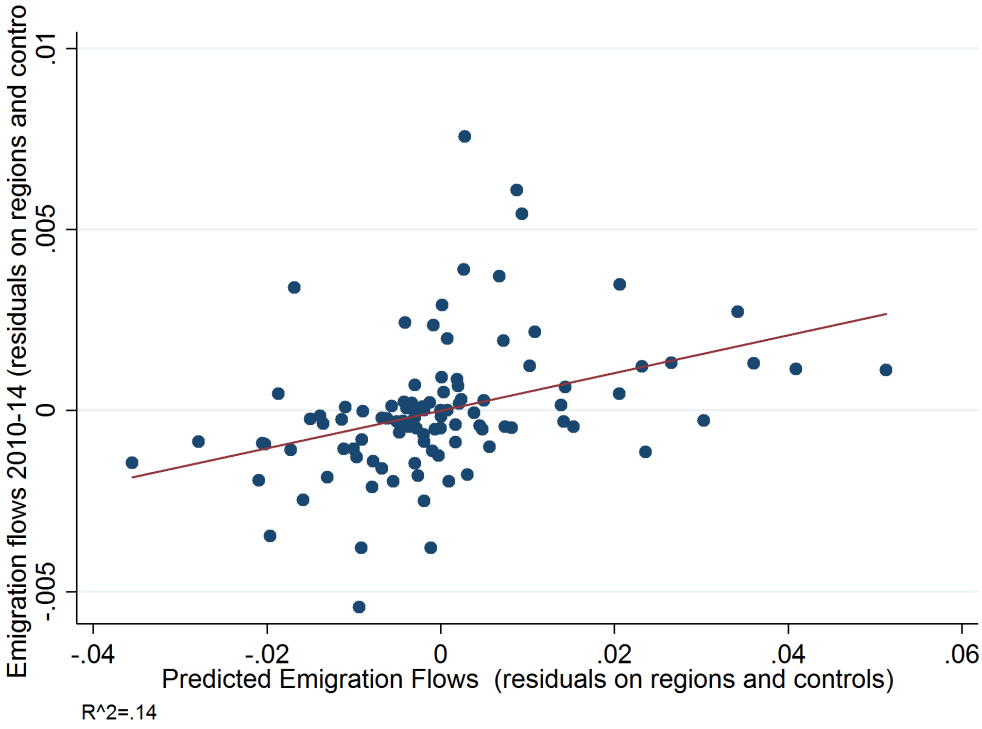


Figure 10: Emigration rate by province (2010-2014)

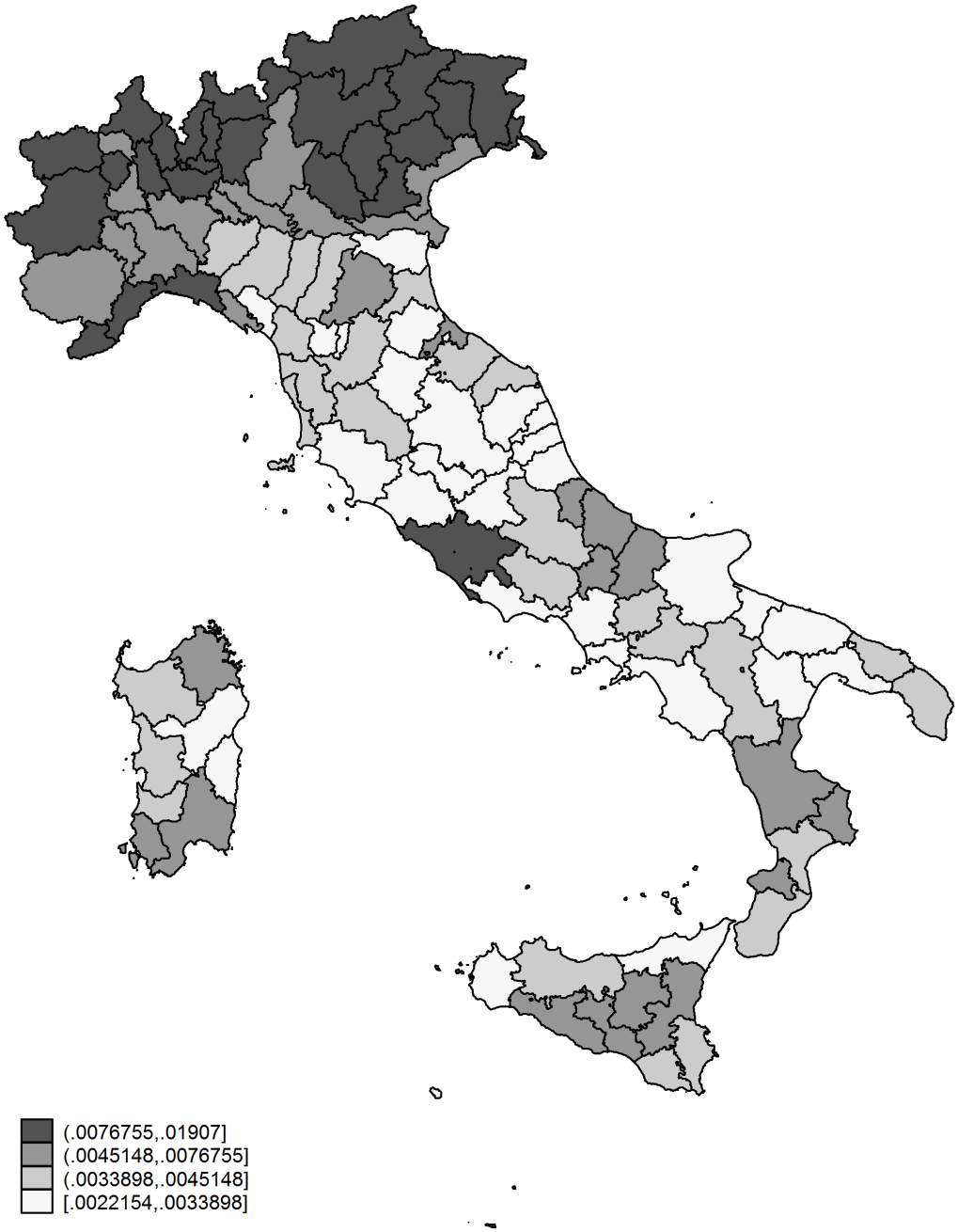
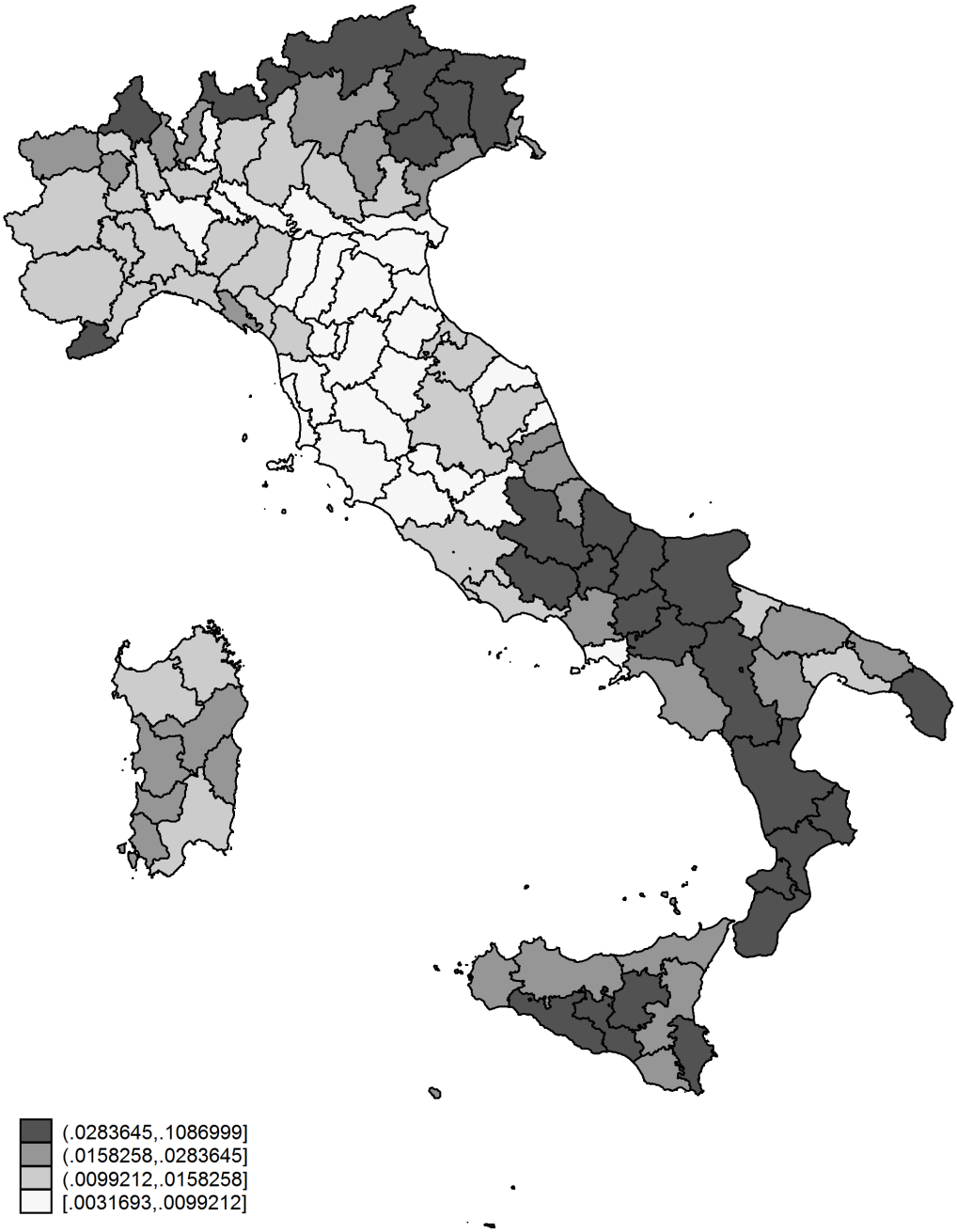


Figure 11: Predicted emigration Rate by province



Tables

Table 1: Summary statistics of emigrants by relevant period

	Pre-Migration Wave 1992-2009	Migration Wave 2010-2014	Diff. (t-stat)
Female	0.435	0.409	-0.0259***
	(0.496)	(0.492)	(-26.41)
Age at Emigration	43.17	34.74	-8.426***
	(18.50)	(18.17)	(-231.37)
Share of 25-45 years old emigrants	0.437	0.547	0.109***
	(0.496)	(0.498)	(110.42)
Annual emigration rate, northern Italy	0.374	0.618	0.243***
	(0.484)	(0.486)	(251.64)
Annual emigration rate, central Italy	0.124	0.164	0.0405***
	(0.329)	(0.370)	(56.69)
Annual emigration rate, southern Italy	0.502	0.218	-0.284***
	(0.500)	(0.413)	(-322.68)
European Destination	0.642	0.722	0.0809***
	(0.480)	(0.448)	(88.70)
Observations	821,820	362,866	

Table 2: Summary statistics of political selection in municipalities

	Averages by year	
	Pre-Migration Wave 2008	Post-Migration Wave 2014
Mayor's age	51.72	51.46
	(9.567)	(10.60)
Mayor has math-science-tech occupation	0.429	0.467
	(0.495)	(0.499)
Mayor is female	0.0992	0.135
	(0.299)	(0.341)
Avg. Age in City Council	47.04	45.99
	(4.179)	(4.748)
Share of college educated in City Council	0.258	0.321
	(0.159)	(0.194)
Share of female in City Council	0.180	0.257
	(0.109)	(0.138)
Share of City Counc. Members with math-science-tech occupation	0.103	0.103
	(0.0969)	(0.118)
Avg. Age of City Commissioners	48.59	47.99
	(6.078)	(7.211)
Share of college educated City Commissioners	0.300	0.384
	(0.251)	(0.308)
Share of female City Commissioners	0.168	0.264
	(0.178)	(0.221)
Share of City Commissioners with math-science-tech occupation	0.113	0.121
	(0.163)	(0.203)
City Council is Dismissed	0.0729	0.0182
	(0.260)	(0.134)
Observations	8011	8011

Table 3: Summary statistics of municipality party vote shares for national parliament elections

		Change
	2006	2013-2008
Avg Turnout	0.810	-0.0630
	(0.0632)	(0.0459)
Avg Share for Democratic Party	0.287	-0.0625
	(0.102)	(0.0591)
Avg Share for Freedom People	0.347	-0.115
	(0.0973)	(0.0667)
Avg Share for 5 Stars Movement - M5S	0	0.236
	(0)	(0.0703)
Avg Share for Northern League	0.0669	-0.0569
	(0.0720)	(0.0663)
Observations	7782	7782

Table 4: First stage regression of observed emigration rates on emigration rates as predicted by the Instrument Variable

Dep. Var.: Observed Emigration flows 2010-14							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Municipality Variation	Municipality Variation	Municipality Variation	Municipality Variation	Province Variation	Province Variation	Province Variation
Predicted Emigration shock	0.019***	0.028***	0.028***	0.026***	0.024**	0.085***	0.052***
	(0.002)	(0.002)	(0.003)	(0.003)	(0.012)	(0.014)	(0.012)
CZ-Add.V.P.Cap2004		0.003***	0.002***	0.002**			
		(0.001)	(0.001)	(0.001)			
CZ-Unemp.Rate2004		-0.036***	0.002	0.013**			
		(0.002)	(0.004)	(0.005)			
V.Add P.Cap*100K 2004						0.040***	0.024**
						(0.008)	(0.010)
Unemp.Rate 2004						-0.010	0.004
						(0.008)	(0.011)
Constant	0.006***	0.008***	0.009***	0.007***	0.005***	-0.004	0.002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.002)
Observations	7,095	7,095	7,095	7,095	110	103	103
R-squared	0.028	0.097	0.202	0.304	0.022	0.412	0.748
F-excluded Instrument	77.021	134.588	109.707	86.655	4.199	39.099	19.384
Avg Emigration2010-14/pop2000	0.007	0.007	0.007	0.007	0.006	0.006	0.006
Region FEs			X				X
Province FEs				X			

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: For columns 1-4 Italian municipalities, for columns 5-7 Italian provinces.
Dependent variable: Observed emigration flows computed using AIRE registry enrollment as share of population in 2000.
Indipendent Variable: Emigration shock as predicted by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: For specifications 2-4 per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level. For specifications 5-7 per capita added value in 100,000 euros and unemployment rate in 2004 at provincial level
Fixed Effects: For specifications 3 and 7 we include 20 region fixed effects, for spec. 4 we include 105 province fixed effects

Table 5: Effect of emigration rates on change in age of local politicians

Dep. Var.: Change 08/14 in age of local politicians

VARIABLES	(1) OLS Mayor Age	(2) IV Mayor Age	(3) OLS Commis.s Avg Age	(4) IV Commis.s Avg Age	(5) OLS Council Avg Age	(6) IV Council Avg Age
Emigration 2014-2010	0.459**	2.127**	0.468***	1.147	0.530***	0.849*
	(0.225)	(0.948)	(0.139)	(0.723)	(0.102)	(0.437)
CZ-Add.V.P.Cap2004	-1.005	-1.398	-1.633***	-1.737***	-1.340***	-1.305***
	(0.926)	(0.965)	(0.531)	(0.560)	(0.315)	(0.327)
CZ-Unemp.Rate 2004	20.756***	26.066***	11.706***	13.965***	15.971***	17.145***
	(3.220)	(4.187)	(2.023)	(2.857)	(1.315)	(1.781)
Constant	-2.154***	-3.721***	-1.748***	-2.420***	-2.551***	-2.878***
	(0.360)	(0.907)	(0.223)	(0.670)	(0.149)	(0.406)
Observations	6,906	6,683	7,032	6,809	7,039	6,816
R-squared	0.006		0.007	0.005	0.025	0.025
Avg. age in 2008	51.795	51.759	48.545	48.514	47.029	47.006

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.
Specifications: Columns 1,3,5 are OLS. 2,4,6 are 2-stage-least-squares IV
Dependent variable: Columns 1,2 the change between 2008 and 2014 in the age of mayor. Columns 3,4 the change in the average age of city commissioners and Columns 5,6 the change in the average age of city council members
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Table 6: Effect of emigration rates on change in age of local politicians - with region and province fixed effects

Dep. Var.: Change 08/14 in age of local politicians

	(1) IV Mayor	(2) IV Mayor	(3) IV Commis.s	(4) IV Commis.s	(5) IV Council	(6) IV Council
VARIABLES	Age	Age	Avg Age	Avg Age	Avg Age	Avg Age
Emigration 2014-2010	2.649***	3.021***	0.994	1.108	0.525	0.514
	(1.006)	(1.128)	(0.785)	(0.909)	(0.464)	(0.539)
CZ-Add.V.P.Cap2004	-1.067	-1.328	-1.581***	-0.586	-0.912***	-0.663
	(1.013)	(1.382)	(0.587)	(0.844)	(0.341)	(0.482)
CZ-Unemp.Rate 2004	7.931	6.681	-1.805	-10.024	2.249	-3.218
	(8.217)	(11.611)	(5.211)	(7.594)	(3.302)	(4.919)
Constant	-3.108***	-2.833*	-1.319	-0.917	-1.841***	-2.076***
	(1.084)	(1.459)	(0.803)	(1.024)	(0.472)	(0.594)
Observations	6,683	6,683	6,809	6,809	6,816	6,816
Region FEs	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X
Avg. age in 2008	51.759	51.759	51.750	51.750	51.745	51.745

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.
Specifications: 2-stage-least-squares IV
Dependent variable: Columns 1,2 the change between 2008 and 2014 in the age of mayor. Columns 3,4 the change in the average age of city commissioners and Columns 5,6 the change in the average age of city council members
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 1,3,5 we include 20 region fixed effects, for spec. 2,4,6 we include 105 province fixed effects

Table 7: Effect of emigration rates on change in college share among local politicians

Dep. Var.: Change 08/14 in the share of local politicians with a college degree

VARIABLES	(1) OLS Mayor Coll. Change	(2) IV Mayor Coll. Change	(3) OLS Mayor Coll. 2014	(4) IV Mayor Coll. 2014	(5) OLS Commis.s % Coll.	(6) IV Commis.s % Coll.	(7) OLS Council % Coll.	(8) IV Council % Coll.
Emigration 2014-2010	0.007	0.012	-0.026***	-0.073	-0.001	-0.014	-0.005*	-0.027**
	(0.010)	(0.046)	(0.009)	(0.046)	(0.005)	(0.027)	(0.003)	(0.012)
CZ-Add.V.P.Cap2004	-0.044	-0.036	0.027	0.034	0.005	0.007	0.033***	0.038***
	(0.044)	(0.045)	(0.044)	(0.046)	(0.022)	(0.023)	(0.011)	(0.011)
CZ-Unemp.Rate 2004	-0.480***	-0.465**	0.490**	0.312	-0.089	-0.129	-0.145***	-0.207***
	(0.156)	(0.207)	(0.197)	(0.236)	(0.086)	(0.114)	(0.045)	(0.057)
Constant	0.071***	0.065	0.335***	0.386***	0.094***	0.106***	0.077***	0.096***
	(0.017)	(0.045)	(0.018)	(0.045)	(0.009)	(0.025)	(0.005)	(0.012)
Observations	6,490	6,287	3,611	3,457	6,978	6,758	7,032	6,810
R-squared	0.002	0.002	0.004		0.000		0.003	
Avg. Coll.=1 in 2008	0.444	0.450	0.000	0.000				
Avg. % Coll. in 2008					0.310	0.315	0.267	0.271
Only mayor no college in 2008			X	X				

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor had no college degree in 2008

Specifications: Columns 1,3,5,7 are OLS. 2,4,6,8 are 2-stage-least-squares IV

Dependent variable: Columns 1,2 the change between 2008 and 2014 in the college education of the mayor, Columns 3,4 a dummy equal 1 if mayor had college degree in 2014, Columns 5,6 the change in the average share of city commissioners with college degree and Columns 7,8 the change in the average share of city council members with college degree

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Table 8: Effect of emigration rates on change in college share among local politicians - with region and province fixed effects

Dep. Var.: Change 08/14 in the share of local politicians with a college degree

	(1) IV Mayor Coll Change	(2) IV Mayor Coll Change	(3) IV Mayor Coll 2014	(4) IV Mayor Coll 2014	(5) IV Commis.s %Coll Change	(6) IV Commis.s %Coll Change	(7) IV Council %Coll Change	(8) IV Council %Coll Change
VARIABLES								
Emigration 2014-2010	0.015	0.023	-0.081	-0.121**	-0.005	0.012	-0.027**	-0.028*
	(0.052)	(0.059)	(0.052)	(0.062)	(0.030)	(0.035)	(0.014)	(0.016)
CZ-Add.V.P.Cap2004	-0.050	-0.022	0.038	0.042	0.009	0.015	0.033***	0.036**
	(0.047)	(0.065)	(0.048)	(0.066)	(0.024)	(0.032)	(0.012)	(0.017)
CZ-Unemp.Rate 2004	-0.266	-0.969*	0.427	0.206	-0.306	-0.296	-0.024	-0.057
	(0.404)	(0.580)	(0.533)	(0.814)	(0.229)	(0.323)	(0.115)	(0.169)
Constant	0.046	0.118*	0.355***	0.475***	0.108***	0.096**	0.079***	0.084***
	(0.055)	(0.071)	(0.057)	(0.072)	(0.031)	(0.040)	(0.015)	(0.018)
Observations	6,287	6,287	3,457	3,457	6,758	6,758	6,810	6,810
Region FEs	X	-	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X	-	X
Avg College in 2008	0.450	0.450	0.000	0.000	0.315	0.315	0.271	0.271
Only mayor no college in 2008			X	X				

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor had no college degree in 2008

Specifications: 2-stage-least-squares IV

Dependent variable: Columns 1,2 the change between 2008 and 2014 in the college education of the mayor, Columns 3,4 a dummy equal 1 if mayor had college degree in 2014, Columns 5,6 the change in the average share of city commissioners with college degree and Columns 7,8 the change in the average share of city council members with college degree

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 1,3,5,7 we include 20 region fixed effects, for spec. 2,4,6,8 we include 105 province fixed effects

Table 9: Effect of emigration rates on change in share of local politicians with math-science-tech occupation

Dep. Var.: Change 08/14 in the share of local politicians with a math-science-tech occupation

	(1) OLS Mayor Science occ.	(2) IV Mayor Science occ.	(3) OLS Mayor Science occ.	(4) IV Mayor Science occ.	(5) OLS Commis.s %Science occ.	(6) IV Commis.s %Science occ.	(7) OLS Council %Science occ.	(8) IV Council %Science occ.
VARIABLES	Change	Change	2014	2014	Change	Change	Change	Change
Emigration 2014-2010	0.001	-0.007	0.004	0.005	-0.001	-0.013	-0.000	0.000
	(0.009)	(0.036)	(0.007)	(0.029)	(0.004)	(0.019)	(0.002)	(0.009)
CZ-Add.V.P.Cap2004	0.008	0.017	-0.013	-0.008	0.016	0.021	-0.003	-0.003
	(0.027)	(0.029)	(0.021)	(0.022)	(0.013)	(0.014)	(0.007)	(0.007)
CZ-Unemp.Rate 2004	-0.275**	-0.292*	0.444***	0.460***	-0.196***	-0.223***	-0.134***	-0.132***
	(0.130)	(0.161)	(0.105)	(0.130)	(0.063)	(0.084)	(0.034)	(0.044)
Constant	0.019	0.024	0.081***	0.077***	0.021***	0.031*	0.010***	0.009
	(0.013)	(0.034)	(0.010)	(0.027)	(0.006)	(0.018)	(0.003)	(0.009)
Observations	6,361	6,162	5,378	5,206	6,944	6,725	7,026	6,804
R-squared	0.001	0.001	0.004	0.004	0.002	0.001	0.003	0.003
Avg. Skill trans=1 in 2008	0.155	0.155	0.000	0.000				
Avg. % Science Occ. in 2008					0.116	0.117	0.106	0.107
Only mayor no Science Occ. in 2008			X	X				

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor had no math-science-tech occupation in 2008

Specifications: Columns 1,3,5,7 are OLS. 2,4,6,8 are 2-stage-least-squares IV

Dependent variable: Columns 1,2 the change between 2008 and 2014 in the math-science-tech occupation of the mayor, Columns 3,4 a dummy equal 1 if mayor had math-science-tech occupation in 2014, Columns 5,6 the change in the average share of city commissioners with math-science-tech occupation and Columns 7,8 the change in the average share of city council members with math-science-tech occupation

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Table 10: Effect of emigration rates on change in share of local politicians with math-science-tech occupation - with region and province fixed effects

Dep. Var.: Change 08/14 in the share of local politicians with a math-science-tech occupation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	IV	IV	IV	IV	IV	IV	IV	IV
	Mayor	Mayor	Mayor	Mayor	Commis.s	Commis.s	Council	Council
	Science	Science	Science	Science	%Science	%Science	%Science	%Science
	occ.	occ.	occ.	occ.	occ.	occ.	occ.	occ.
VARIABLES	Change	Change	2014	2014	Change	Change	Change	Change
Emigration 2014-2010	0.023	0.012	0.002	-0.004	-0.007	-0.002	0.002	0.007
	(0.041)	(0.046)	(0.034)	(0.039)	(0.022)	(0.025)	(0.010)	(0.012)
CZ-Add.V.P.Cap2004	0.010	0.005	-0.017	0.002	0.021	-0.012	-0.001	-0.006
	(0.030)	(0.046)	(0.023)	(0.037)	(0.014)	(0.022)	(0.008)	(0.011)
CZ-Unemp.Rate 2004	0.287	0.120	0.582*	0.852*	-0.306*	-0.043	-0.130	-0.151
	(0.367)	(0.537)	(0.310)	(0.437)	(0.165)	(0.231)	(0.090)	(0.131)
Constant	-0.017	0.072	0.083**	0.097**	0.033	0.058**	0.007	0.022
	(0.043)	(0.054)	(0.035)	(0.045)	(0.023)	(0.028)	(0.011)	(0.014)
Observations	6,162	6,162	5,206	5,206	6,725	6,725	6,804	6,804
Region FEs	X	-	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X	-	X
Avg. Science occ. in 2008	0.155	0.155	0.000	0.000	0.117	0.117	0.107	0.107
Only mayor no Science Occ. in 2008			X	X				

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor had no math-science-tech occupation in 2008

Specifications: 2-stage-least-squares IV

Dependent variable: Columns 1,2 the change between 2008 and 2014 in the math-science-tech occupation of the mayor, Columns 3,4 a dummy equal 1 if mayor had math-science-tech occupation in 2014, Columns 5,6 the change in the average share of city commissioners with math-science-tech occupation and Columns 7,8 the change in the average share of city council members with math-science-tech occupation

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 1,3,5,7 we include 20 region fixed effects, for spec. 2,4,6,8 we include 105 province fixed effects

Table 11: Effect of emigration rates on change in female share among local politicians

Dep. Var.: Change 08/14 in the share of female local politicians

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	IV	OLS	IV				
	Mayor	Mayor	Mayor	Mayor	OLS	IV	OLS	IV
	Fem.	Fem.	Fem.	Fem.	Commis.s	Commis.s	Council	Council
VARIABLES	Change	Change	2014	2014	% Fem.	% Fem.	% Fem.	% Fem.
Emigration 2014-2010	-0.003	0.004	-0.012**	-0.083***	-0.013***	-0.036*	-0.010***	-0.030**
	(0.007)	(0.020)	(0.005)	(0.019)	(0.004)	(0.022)	(0.003)	(0.012)
CZ-Add.V.P.Cap2004	0.016	0.013	0.044*	0.061**	0.055***	0.057***	0.028***	0.032***
	(0.031)	(0.032)	(0.025)	(0.026)	(0.015)	(0.016)	(0.009)	(0.009)
CZ-Unemp.Rate 2004	-0.229***	-0.233**	-0.900***	-1.098***	-0.162***	-0.255***	-0.009	-0.071
	(0.088)	(0.107)	(0.071)	(0.092)	(0.062)	(0.088)	(0.041)	(0.054)
Constant	0.055***	0.052**	0.191***	0.256***	0.116***	0.141***	0.084***	0.103***
	(0.012)	(0.022)	(0.009)	(0.020)	(0.007)	(0.021)	(0.004)	(0.011)
Observations	6,951	6,738	6,272	6,087	7,041	6,818	7,048	6,825
R-squared	0.001	0.001	0.018		0.003		0.003	
Avg. Female=1 in 2008	0.098	0.097	0.000	0.000				
Avg. %Female in 2008					0.169	0.168	0.178	0.177
Male mayor in 2008			X	X				

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor was male in 2008
Specifications: Columns 1,3,5,7 are OLS. 2,4,6,8 are 2-stage-least-squares IV
Dependent variable: Columns 1,2 the change between 2008 and 2014 in the dummy female of the mayor (+1 if mayor was male in 2008 and is female in 2014, -1 if mayor was female in 2008 and is male in 2014, 0 if the gender of mayor did not change in this time span), Columns 3,4 a dummy equal 1 if mayor if mayor was female in 2014, Columns 5,6 the change in the average share of female commissioners and Columns 7,8 the change in the average share of female city council members
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Table 12: Effect of emigration rates on change in female share among local politicians - with region and province fixed effects

Dep. Var.: Change 08/14 in the share of female local politicians

	(1) IV Mayor Fem. Change	(2) IV Mayor Fem. Change	(3) IV Mayor Fem. 2014	(4) IV Mayor Fem. 2014	(5) IV Commis.s %Fem. Change	(6) IV Commis.s %Fem. Change	(7) IV Council %Fem. Change	(8) IV Council %Fem. Change
VARIABLES								
Emigration 2014-2010	-0.015	-0.018	-0.066***	-0.069***	-0.043*	-0.047	-0.031**	-0.029*
	(0.022)	(0.025)	(0.021)	(0.024)	(0.024)	(0.029)	(0.013)	(0.015)
CZ-Add.V.P.Cap2004	0.026	-0.001	0.055**	0.039	0.051***	0.055**	0.030***	0.035**
	(0.033)	(0.048)	(0.027)	(0.040)	(0.017)	(0.026)	(0.009)	(0.014)
CZ-Unemp.Rate 2004	-0.036	-0.002	0.026	0.063	0.344**	0.268	-0.114	-0.321**
	(0.214)	(0.290)	(0.165)	(0.217)	(0.158)	(0.239)	(0.101)	(0.156)
Constant	0.070**	0.094**	0.217***	0.254***	0.113***	0.151***	0.103***	0.112***
	(0.028)	(0.042)	(0.025)	(0.038)	(0.025)	(0.032)	(0.014)	(0.017)
Observations	6,738	6,738	6,087	6,087	6,818	6,818	6,825	6,825
Region FEs	X	-	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X	-	X
Avg Female in 2008	0.097	0.097	0.000	0.000	0.168	0.168	0.177	0.177
Only mayor no college in 2008			X	X				

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor was male in 2008
Specifications: 2-stage-least-squares IV
Dependent variable: Columns 1,2 the change between 2008 and 2014 in the dummy female of the mayor (+1 if mayor was male in 2008 and is female in 2014, -1 if mayor was female in 2008 and is male in 2014, 0 if the gender of mayor did not change in this time span), Columns 3,4 a dummy equal 1 if mayor if mayor was female in 2014, Columns 5,6 the change in the average share of female commissioners and Columns 7,8 the change in the average share of female city council members
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 1,3,5,7 we include 20 region fixed effects, for spec. 2,4,6,8 we include 105 province fixed effects

Table 13: Effect of emigration rates on the probability the municipal council is dismissed

Dep. Var.: Probability city council is dismissed						
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
	Sciogl.	Sciogl.	Sciogl.	Sciogl.	Sciogl.	Sciogl.
VARIABLES	Change	Change	Change	Change	Change	Change
Emigration 2014-2010	0.004	0.036	0.002	0.063**	0.003	0.060*
	(0.003)	(0.024)	(0.003)	(0.028)	(0.004)	(0.033)
CZ-Add.V.P.Cap2004	-0.073***	-0.082***	-0.074***	-0.084***	-0.051*	-0.060**
	(0.022)	(0.023)	(0.023)	(0.024)	(0.028)	(0.029)
CZ-Unemp.Rate 2004	-0.823***	-0.730***	-0.498**	-0.522**	-0.680**	-0.712**
	(0.092)	(0.106)	(0.247)	(0.250)	(0.344)	(0.346)
Constant	0.004	-0.025	0.001	-0.055*	0.000	-0.049
	(0.007)	(0.022)	(0.013)	(0.028)	(0.022)	(0.034)
Observations	7,267	7,041	7,267	7,041	7,267	7,041
R-squared	0.021	0.015	0.028	0.010	0.047	0.034
Region FEs	-	-	X	X	-	-
Province FEs	-	-	-	-	X	X
Share Sacked=1 in 2008	0.077	0.079	0.077	0.079	0.077	0.079

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.
Specifications: Columns 1,3,5 are OLS. 2,4,6 are 2-stage-least-squares IV
Dependent variable: Change between 2008 and 2014 in the dummy for city council dismissed (+1 if council was dismissed in 2008 and is not dismissed in 2014, -1 if council was not dismissed in 2008 and is dismissed in 2014, 0 if the dismissal status of the city council did not change in this time span)
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 3,4 we include 20 region fixed effects, for spec. 5,6 we include 105 province fixed effects

Table 14: Effect of emigration rates on change of electoral turnout in national elections

Dep. Var.: Change 08/13 in turnout for National Parlamentary Elections

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
	Turnout	Turnout	Turnout	Turnout	Turnout	Turnout
VARIABLES	Change	Change	Change	Change	Change	Change
Emigration 2014-2010	0.006	-2.052***	0.034	-2.633***	0.079	-2.380***
	(0.110)	(0.651)	(0.111)	(0.748)	(0.117)	(0.838)
Turnout in 2006	0.114***	0.057**	0.148***	0.065*	0.133***	0.061
	(0.016)	(0.027)	(0.019)	(0.036)	(0.020)	(0.037)
CZ-Add.V.P.Cap2004	0.021***	0.027***	0.035***	0.040***	0.027***	0.031***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)	(0.004)
CZ-Unemp.Rate 2004	-0.076***	-0.185***	-0.012	-0.019	0.026	0.038
	(0.019)	(0.039)	(0.034)	(0.036)	(0.053)	(0.055)
Constant	-0.150***	-0.082***	-0.175***	-0.083**	-0.141***	-0.059*
	(0.015)	(0.028)	(0.016)	(0.034)	(0.016)	(0.036)
Observations	7,011	6,801	7,011	6,801	7,011	6,801
R-squared	0.064		0.150	0.018	0.270	0.179
Region FEs	-	-	X	X	-	-
Province FEs	-	-	-	-	X	X
Share turnout in 2006	0.811	0.811	0.811	0.811	0.811	0.811

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.
Specifications: Columns 1,3,5 are OLS. 2,4,6 are 2-stage-least-squares IV
Dependent variable: Change in turnout rates for national parliamentary elections at municipal level between 2008 and 2013
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 3,4 we include 20 region fixed effects, for spec. 5,6 we include 105 province fixed effects

Table 15: Effect of emigration rates on change of Democratic Party share in national elections

Dep. Var.: Change 08/13 in share of Democratic Party - PD in National Parlamentary Elections

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
	Vote	Vote	Vote	Vote	Vote	Vote
	Shares	Shares	Shares	Shares	Shares	Shares
	PD	PD	PD	PD	PD	PD
VARIABLES	Change	Change	Change	Change	Change	Change
Emigration 2014-2010	0.001	0.030***	0.001	0.024***	0.001	0.017***
	(0.001)	(0.007)	(0.001)	(0.006)	(0.001)	(0.006)
Vote share for Democratic Party - PD in 2006	-0.267***	-0.217***	-0.189***	-0.167***	-0.180***	-0.172***
	(0.007)	(0.014)	(0.008)	(0.011)	(0.010)	(0.011)
CZ-Add.V.P.Cap2004	0.005*	-0.002	-0.018***	-0.022***	-0.019***	-0.022***
	(0.002)	(0.004)	(0.002)	(0.003)	(0.002)	(0.003)
CZ-Unemp.Rate 2004	-0.240***	-0.165***	-0.055	-0.064*	-0.130**	-0.143***
	(0.014)	(0.024)	(0.034)	(0.036)	(0.052)	(0.053)
Constant	0.031***	-0.010	0.000	-0.027***	-0.015***	-0.033***
	(0.003)	(0.010)	(0.003)	(0.008)	(0.005)	(0.008)
Observations	7,102	6,891	7,102	6,891	7,102	6,891
R-squared	0.274	0.169	0.475	0.416	0.530	0.506
Region FEs	-	-	X	X	-	-
Province FEs	-	-	-	-	X	X
Share dem in 2006	0.288	0.289	0.288	0.289	0.288	0.289

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.

Specifications: Columns 1,3,5 are OLS. 2,4,6 are 2-stage-least-squares IV

Dependent variable: Change in shares of votes for Democratic Party (PD) in national parliamentary elections at municipal level between 2008 and 2013

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Vote share for Democratic Party in national parliamentary elections of 2006. Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 3,4 we include 20 region fixed effects, for spec. 5,6 we include 105 province fixed effects

Table 16: Effect of emigration rates on change of People of Freedom share in national elections

Dep. Var.: Change 08/13 in share of Freedom People - PDL in National Parlamentary Elections

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
	Vote	Vote	Vote	Vote	Vote	Vote
	Shares	Shares	Shares	Shares	Shares	Shares
	PDL	PDL	PDL	PDL	PDL	PDL
VARIABLES	Change	Change	Change	Change	Change	Change
Emigration 2014-2010	0.003***	0.043***	-0.001	0.032***	-0.001	0.036***
	(0.001)	(0.008)	(0.001)	(0.008)	(0.001)	(0.009)
Vote share for Freedom People - PDL in 2006	-0.199***	-0.209***	-0.211***	-0.221***	-0.224***	-0.249***
	(0.009)	(0.010)	(0.010)	(0.011)	(0.011)	(0.013)
CZ-Add.V.P.Cap2004	-0.035***	-0.041***	-0.050***	-0.054***	-0.042***	-0.047***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)	(0.005)
CZ-Unemp.Rate 2004	-0.496***	-0.389***	-0.100**	-0.102**	-0.170***	-0.190***
	(0.017)	(0.027)	(0.047)	(0.050)	(0.064)	(0.069)
Constant	-0.010***	-0.042***	-0.019***	-0.045***	-0.029***	-0.051***
	(0.003)	(0.008)	(0.004)	(0.009)	(0.005)	(0.008)
Observations	7,102	6,891	7,102	6,891	7,102	6,891
R-squared	0.230	0.078	0.385	0.296	0.475	0.380
Region FEs	-	-	X	X	-	-
Province FEs	-	-	-	-	X	X
Share pdl in 2006	0.348	0.347	0.348	0.347	0.348	0.347

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.

Specifications: Columns 1,3,5 are OLS. 2,4,6 are 2-stage-least-squares IV

Dependent variable: Change in shares of votes for Freedom People (PDL) in national parliamentary elections at municipal level between 2008 and 2013

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Vote share for Freedom People in national parliamentary elections of 2006. Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 3,4 we include 20 region fixed effects, for spec. 5,6 we include 105 province fixed effects

Table 17: Effect of emigration rates on change of 5 Stars Movement share in national elections

Dep. Var.: Change 08/13 in share of 5 Stars Movement - M5S in National Parlamentary Elections

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
	Vote	Vote	Vote	Vote	Vote	Vote
	Shares	Shares	Shares	Shares	Shares	Shares
	M5S	M5S	M5S	M5S	M5S	M5S
VARIABLES	Change	Change	Change	Change	Change	Change
Emigration 2014-2010	-0.010***	-0.069***	-0.006***	-0.067***	-0.002	-0.061***
	(0.002)	(0.008)	(0.001)	(0.009)	(0.001)	(0.009)
CZ-Add.V.P.Cap2004	0.033***	0.045***	0.051***	0.060***	0.049***	0.057***
	(0.004)	(0.006)	(0.003)	(0.005)	(0.004)	(0.008)
CZ-Unemp.Rate 2004	0.154***	0.004	0.287***	0.307***	0.381***	0.432***
	(0.019)	(0.030)	(0.041)	(0.050)	(0.054)	(0.066)
Constant	0.231***	0.282***	0.255***	0.310***	0.275***	0.322***
	(0.002)	(0.007)	(0.003)	(0.009)	(0.005)	(0.009)
Observations	7,102	6,891	7,102	6,891	7,102	6,891
R-squared	0.029		0.408	0.131	0.569	0.345
Region FEs	-	-	X	X	-	-
Province FEs	-	-	-	-	X	X
Share m5s in 2006	0.000	0.000	0.000	0.000	0.000	0.000

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.
Specifications: Columns 1,3,5 are OLS. 2,4,6 are 2-stage-least-squares IV
Dependent variable: Change in shares of votes for 5 Stars Movement party (M5S) in national parliamentary elections at municipal level between 2008 and 2013
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Vote share for 5 Stars Movement in national parliamentary elections of 2006. Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 3,4 we include 20 region fixed effects, for spec. 5,6 we include 105 province fixed effects

Table 18: Effect of emigration rates on change of Northern League share in national elections

Dep. Var.: Change 08/13 in share of Northern League - LN in National Parlamentary Elections

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
	Vote	Vote	Vote	Vote	Vote	Vote
	Shares	Shares	Shares	Shares	Shares	Shares
	LN	LN	LN	LN	LN	LN
VARIABLES	Change	Change	Change	Change	Change	Change
Emigration 2014-2010	-0.001	0.013***	0.002**	0.004**	0.001	0.009***
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.003)
Vote share for Northern League - LN in 2006	-0.584***	-0.609***	-0.469***	-0.467***	-0.374***	-0.361***
	(0.013)	(0.013)	(0.017)	(0.018)	(0.022)	(0.022)
CZ-Add.V.P.Cap2004	-0.002	-0.004***	-0.006***	-0.006***	0.002	0.002
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
CZ-Unemp.Rate 2004	0.408***	0.431***	0.051***	0.049***	0.047***	0.039**
	(0.013)	(0.014)	(0.011)	(0.011)	(0.015)	(0.015)
Constant	-0.047***	-0.057***	-0.063***	-0.065***	-0.054***	-0.060***
	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)
Observations	7,102	6,891	7,102	6,891	7,102	6,891
R-squared	0.684	0.668	0.860	0.864	0.892	0.893
Region FEs	-	-	X	X	-	-
Province FEs	-	-	-	-	X	X
Share lega in 2006	0.065	0.064	0.065	0.064	0.065	0.064

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.

Specifications: Columns 1,3,5 are OLS. 2,4,6 are 2-stage-least-squares IV

Dependent variable: Change in shares of votes for Northern League in national parliamentary elections at municipal level between 2008 and 2013

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Vote share for Northern League in national parliamentary elections of 2006. Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 3,4 we include 20 region fixed effects, for spec. 5,6 we include 105 province fixed effects

Table 19: Effect of emigration rates on change in stock of firms

Dep. Var.: Change 12/14-06/08 in stock of firms wrt population 2000

	(1) OLS	(2) IV	(3) OLS	(4) IV	(5) OLS	(6) IV	(7) OLS	(8) IV
VARIABLES	All	All	S.C.	S.C.	S.Per	S.Per	Ind.	Ind.
Emigration 2014-2010	0.224	-0.605**	-0.058	-0.093	0.047	0.019	0.249	-0.505**
	(0.429)	(0.246)	(0.054)	(0.082)	(0.087)	(0.040)	(0.298)	(0.216)
V.Add P.Cap*100K 2004	0.016	0.043	0.010	0.011	-0.009	-0.008	0.014	0.039***
	(0.030)	(0.027)	(0.012)	(0.012)	(0.006)	(0.006)	(0.017)	(0.015)
Unemp.Rate 2004	0.025	0.027	0.014	0.014	0.006	0.006	0.004	0.006
	(0.025)	(0.024)	(0.010)	(0.010)	(0.005)	(0.005)	(0.015)	(0.015)
Constant	-0.010	-0.011	-0.000	-0.000	0.000	0.000	-0.010***	-0.011***
	(0.007)	(0.007)	(0.003)	(0.003)	(0.002)	(0.002)	(0.004)	(0.004)
Observations	103	103	103	103	103	103	103	103
R-squared	0.009		0.061	0.058	0.101	0.099	0.027	
Avg. Stock 2000	0.093	0.093	0.008	0.008	0.016	0.016	0.067	0.067

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: All Italian Provinces.
Specifications: Columns 1,3,5,7 are OLS. 2,4,6,8 are 2-stage-least-squares IV
Dependent variable: In all columns the dependent variable is the change in the stock of a specific type of firm measured as average stock in the province in 2012-2014 minus average stock in 2006-2008, divided by the provincial population size in 2000. In Columns 1,2 we look at all types of firms, in Columns 3,4 we focus on corporations ("Societa' di Capitali"), Columns 5,6 multi-person owned firms ("Societa' di Persone") and Columns 7,8 individual-owned firms ("Imprese Individuali")
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at provincial level

Table 20: Effect of emigration rates on change in the number of new firms created

Dep. Var.: Cumulated flows of created firms 2010-2014

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
VARIABLES	All	All	S.C.	S.C.	S.Per	S.Per	Ind.	Ind.
Emigration 2014-2010	-0.909***	-1.561***	-0.244***	-0.238*	-0.068	-0.169***	-0.552**	-1.075***
	(0.290)	(0.362)	(0.046)	(0.138)	(0.043)	(0.048)	(0.227)	(0.248)
V.Add P.Cap*100K 2004	0.059**	0.081***	0.037***	0.037***	0.004	0.008***	0.014	0.032*
	(0.024)	(0.024)	(0.012)	(0.013)	(0.003)	(0.003)	(0.017)	(0.016)
Unemp.Rate 2004	0.002	0.004	0.020*	0.020**	-0.010***	-0.009***	-0.013	-0.011
	(0.018)	(0.019)	(0.010)	(0.010)	(0.002)	(0.002)	(0.011)	(0.011)
Constant	0.028***	0.027***	-0.001	-0.001	0.004***	0.004***	0.025***	0.024***
	(0.005)	(0.006)	(0.003)	(0.003)	(0.001)	(0.001)	(0.004)	(0.003)
Observations	103	103	103	103	103	103	103	103
R-squared	0.207	0.126	0.266	0.266	0.330	0.248	0.134	0.025
Avg. Stock 2000	0.093	0.093	0.008	0.008	0.016	0.016	0.067	0.067

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: All Italian Provinces.
Specifications: Columns 1,3,5,7 are OLS. 2,4,6,8 are 2-stage-least-squares IV
Dependent variable: In all columns the dependent variable is the cumulated flow of newly registered firms in the province between 2010-2014, divided by the provincial population size in 2000. In Columns 1,2 we look at all types of firms, in Columns 3,4 we focus on corporations ("Societa' di Capitali"), Columns 5,6 multi-person owned firms ("Societa' di Persone") and Columns 7,8 individual-owned firms ("Imprese Individuali")
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at provincial level

Table 21: Effect of emigration rates on change in the number of firms shut down

Dep. Var.: Cumulated flows of shut down firms 2010-2014								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
VARIABLES	All	All	S.C.	S.C.	S.Per	S.Per	Ind.	Ind.
Emigration 2014-2010	-0.632*	-0.971***	-0.076*	-0.099	-0.010	-0.239***	-0.519*	-0.583*
	(0.336)	(0.367)	(0.039)	(0.067)	(0.078)	(0.065)	(0.262)	(0.307)
V.Add P.Cap*100K 2004	0.030	0.041	0.032***	0.032***	0.013**	0.020***	-0.016	-0.014
	(0.025)	(0.025)	(0.007)	(0.007)	(0.005)	(0.005)	(0.020)	(0.020)
Unemp.Rate 2004	-0.016	-0.015	0.009	0.009	-0.008*	-0.007	-0.022	-0.022
	(0.021)	(0.021)	(0.006)	(0.006)	(0.005)	(0.005)	(0.017)	(0.017)
Constant	0.036***	0.036***	-0.003	-0.003	0.003**	0.003**	0.036***	0.035***
	(0.006)	(0.006)	(0.002)	(0.002)	(0.001)	(0.001)	(0.005)	(0.005)
Observations	103	103	103	103	103	103	103	103
R-squared	0.105	0.085	0.499	0.497	0.334	0.171	0.110	0.109
Avg. Stock 2000	0.093	0.093	0.008	0.008	0.016	0.016	0.067	0.067

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: All Italian Provinces.
Specifications: Columns 1,3,5,7 are OLS. 2,4,6,8 are 2-stage-least-squares IV
Dependent variable: In all columns the dependent variable is the cumulated flow of firms shut down in the province between 2010-2014, divided by the provincial population size in 2000. In Columns 1,2 we look at all types of firms, in Columns 3,4 we focus on corporations ("Societa' di Capitali"), Columns 5,6 multi-person owned firms ("Societa' di Persone") and Columns 7,8 individual-owned firms ("Imprese Individuali")
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at provincial level

Table 22: Effect of emigration rates on change in stock of firms in high added value Sectors

Dep. Var.: Change 12/14-06/08 in stock of high added value firms wrt population 2000

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
VARIABLES	All	All	S.C.	S.C.	S.Per	S.Per	Ind.	Ind.
Emigration 2014-2010	-0.049	-0.135	-0.031	-0.070	-0.028	-0.013	0.011	-0.048
	(0.073)	(0.085)	(0.026)	(0.053)	(0.026)	(0.017)	(0.031)	(0.032)
V.Add P.Cap*100K 2004	0.022*	0.025**	0.017**	0.018**	-0.000	-0.001	0.005*	0.007**
	(0.012)	(0.012)	(0.008)	(0.008)	(0.003)	(0.002)	(0.003)	(0.003)
Unemp.Rate 2004	0.020*	0.020**	0.015**	0.015**	0.000	0.000	0.002	0.003
	(0.010)	(0.010)	(0.007)	(0.007)	(0.002)	(0.002)	(0.003)	(0.002)
Constant	-0.003	-0.003	-0.003	-0.003	0.000	0.000	-0.001	-0.001
	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	103	103	103	103	103	103	103	103
R-squared	0.082	0.068	0.195	0.183	0.031	0.025	0.051	0.004
Avg. Stock 2000	0.016	0.016	0.004	0.004	0.005	0.005	0.007	0.007

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: All Italian Provinces. Only Firms in high added value Sectors. See Data Appendix for the list of sectors we have defined as High Added Value

Specifications: Columns 1,3,5,7 are OLS. 2,4,6,8 are 2-stage-least-squares IV

Dependent variable: In all columns the dependent variable is the change in the stock of a specific type of high added value firm measured as average stock in the province in 2012-2014 minus average stock in 2006-2008, divided by the provincial population size in 2000. In Columns 1,2 we look at all types of high added value firms, in Columns 3,4 we focus on high added value corporations ("Societa' di Capitali"), Columns 5,6 high added value multi-person owned firms ("Societa' di Persone") and Columns 7,8 high added value individual-owned firms ("Imprese Individuali")

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at provincial level

Table 23: Effect of emigration rates on change in age of local politicians - only municipalities in Northern Italy - with region and province fixed effects

Dep. Var.: Change 08/14 in age of local politicians

	(1)	(2)	(3)	(4)	(5)	(6)
	IV	IV	IV	IV	IV	IV
	Mayor	Mayor	Commis.s	Commis.s	Council	Council
VARIABLES	Age	Age	Avg Age	Avg Age	Avg Age	Avg Age
Emigration 2014-2010	2.572**	3.660**	2.459**	3.307**	0.824	1.292
	(1.198)	(1.671)	(1.010)	(1.452)	(0.635)	(0.884)
CZ-Add.V.P.Cap2004	-0.801	-1.146	-1.618**	-0.657	-1.370***	-1.288**
	(1.229)	(1.707)	(0.724)	(1.052)	(0.419)	(0.579)
CZ-Unemp.Rate 2004	22.757	13.891	17.941	-6.760	15.147*	6.867
	(22.403)	(39.224)	(14.959)	(25.557)	(8.986)	(15.777)
Constant	-3.723**	-3.810	-3.565***	-3.011*	-2.673***	-3.204***
	(1.470)	(2.466)	(1.093)	(1.707)	(0.666)	(1.020)
Observations	3,682	3,682	3,722	3,722	3,720	3,720
Region FEs	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X
Avg. age in 2008	52.538	52.538	52.519	52.519	52.518	52.518

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities in Northern Italy.
Specifications: 2-stage-least-squares IV
Dependent variable: Columns 1,2 the change between 2008 and 2014 in the age of mayor. Columns 3,4 the change in the average age of city commissioners and Columns 5,6 the change in the average age of city council members
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 1,3,5 we include 20 region fixed effects, for spec. 2,4,6 we include 105 province fixed effects

Table 24: Effect of emigration rates on change in college share of local politicians - only municipalities in Northern Italy - with region and province fixed effects

Dep. Var.: Change 08/14 in the share of local politicians with a college degree

	(1) IV Mayor Coll Change	(2) IV Mayor Coll Change	(3) IV Mayor Coll 2014	(4) IV Mayor Coll 2014	(5) IV Commis.s %Coll Change	(6) IV Commis.s %Coll Change	(7) IV Council %Coll Change	(8) IV Council %Coll Change
VARIABLES								
Emigration 2014-2010	-0.064	-0.072	-0.111**	-0.152**	-0.064*	-0.078	-0.035***	-0.038**
	(0.062)	(0.081)	(0.054)	(0.074)	(0.037)	(0.050)	(0.013)	(0.017)
CZ-Add.V.P.Cap2004	-0.035	0.024	0.071	0.083	0.020	0.048	0.050***	0.067***
	(0.058)	(0.080)	(0.058)	(0.082)	(0.029)	(0.040)	(0.015)	(0.021)
CZ-Unemp.Rate 2004	0.151	-1.697	0.748	0.500	-0.420	-0.537	-0.057	-0.653
	(1.018)	(1.786)	(0.994)	(1.833)	(0.549)	(0.955)	(0.277)	(0.435)
Constant	0.099	0.234**	0.367***	0.481***	0.167***	0.183***	0.087***	0.120***
	(0.076)	(0.114)	(0.070)	(0.108)	(0.040)	(0.061)	(0.017)	(0.027)
Observations	3,457	3,457	2,178	2,178	3,694	3,694	3,718	3,718
Region FEs	X	-	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X	-	X
Avg College in 2008	0.370	0.370	0.000	0.000	0.285	0.285	0.242	0.242
Only mayor no college in 2008			X	X				

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities in Northern Italy. Columns 3,4 municipalities in Northern Italy where mayor had no college degree in 2008

Specifications: 2-stage-least-squares IV

Dependent variable: Columns 1,2 the change between 2008 and 2014 in the college education of the mayor, Columns 3,4 a dummy equal 1 if mayor had college degree in 2014, Columns 5,6 the change in the average share of city commissioners with college degree and Columns 7,8 the change in the average share of city council members with college degree

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 1,3,5,7 we include 20 region fixed effects, for spec. 2,4,6,8 we include 105 province fixed effects

Table 25: Effect of emigration rates on change in female share of local politicians - only municipalities in Northern Italy - with region and province fixed effects

Dep. Var.: Change 08/14 in the share of female local politicians

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	IV	IV	IV	IV	IV	IV	IV	IV
	Mayor	Mayor	Mayor	Mayor	Commis.s	Commis.s	Council	Council
	Fem.	Fem.	Fem.	Fem.	%Fem.	%Fem.	%Fem.	%Fem.
VARIABLES	Change	Change	2014	2014	Change	Change	Change	Change
Emigration 2014-2010	-0.029	-0.030	-0.118***	-0.146***	-0.034	-0.028	-0.051***	-0.071***
	(0.030)	(0.038)	(0.033)	(0.047)	(0.023)	(0.030)	(0.015)	(0.023)
CZ-Add.V.P.Cap2004	0.034	-0.021	0.054	0.029	0.060***	0.051*	0.039***	0.056***
	(0.044)	(0.061)	(0.037)	(0.055)	(0.020)	(0.030)	(0.011)	(0.019)
CZ-Unemp.Rate 2004	0.144	-1.163	1.481**	0.807	0.683	0.998	0.107	0.333
	(0.751)	(1.342)	(0.635)	(1.150)	(0.428)	(0.760)	(0.244)	(0.411)
Constant	0.074*	0.170**	0.199***	0.284***	0.089***	0.096**	0.111***	0.110***
	(0.044)	(0.081)	(0.040)	(0.072)	(0.028)	(0.047)	(0.017)	(0.026)
Observations	3,680	3,680	3,226	3,226	3,723	3,723	3,721	3,721
Region FEs	X	-	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X	-	X
Avg Female in 2008	0.123	0.123	0.000	0.000	0.193	0.193	0.203	0.203
Only mayor no college in 2008			X	X				

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities in Northern Italy. Columns 3,4 municipalities in Northern Italy where mayor was male in 2008
Specifications: 2-stage-least-squares IV
Dependent variable: Columns 1,2 the change between 2008 and 2014 in the dummy female of the mayor (+1 if mayor was male in 2008 and is female in 2014, -1 if mayor was female in 2008 and is male in 2014, 0 if the gender of mayor did not change in this time span), Columns 3,4 a dummy equal 1 if mayor if mayor was female in 2014, Columns 5,6 the change in the average share of female commissioners and Columns 7,8 the change in the average share of female city council members
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 1,3,5,7 we include 20 region fixed effects, for spec. 2,4,6,8 we include 105 province fixed effects

Table 26: Effect of emigration rates on change in age of local politicians - including human capital controls - with region and province fixed effects

Dep. Var.: Change 08/14 in age of local politicians

	(1)	(2)	(3)	(4)	(5)	(6)
	IV	IV	IV	IV	IV	IV
	Mayor	Mayor	Commis.s	Commis.s	Council	Council
VARIABLES	Age	Age	Avg Age	Avg Age	Avg Age	Avg Age
Emigration 2014-2010	2.195**	2.439**	0.855	0.913	0.512	0.463
	(0.922)	(1.022)	(0.724)	(0.830)	(0.427)	(0.493)
Share of pop. with college	-16.080***	-18.130***	-4.883	-5.960	-0.455	-1.538
	(6.046)	(6.210)	(3.955)	(4.119)	(2.513)	(2.631)
CZ-Add.V.P.Cap2004	-0.487	-0.706	-1.406**	-0.380	-0.895***	-0.610
	(1.019)	(1.370)	(0.588)	(0.839)	(0.341)	(0.479)
CZ-Unemp.Rate 2004	7.140	6.279	-2.052	-10.175	2.228	-3.252
	(8.194)	(11.545)	(5.213)	(7.589)	(3.311)	(4.923)
Constant	-1.522	-0.953	-0.836	-0.296	-1.796***	-1.916***
	(0.994)	(1.393)	(0.697)	(0.933)	(0.416)	(0.544)
Observations	6,683	6,683	6,809	6,809	6,816	6,816
Region FEs	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X
Avg. age in 2008	51.759	51.759	51.750	51.750	51.745	51.745

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Sample: Italian municipalities.

Specifications: 2-stage-least-squares IV

Dependent variable: Columns 1,2 the change between 2008 and 2014 in the age of mayor. Columns 3,4 the change in the average age of city commissioners and Columns 5,6 the change in the average age of city council members

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Share of municipal population with college education from the 2011 census. Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 1,3,5 we include 20 region fixed effects, for spec. 2,4,6 we include 105 province fixed effects

Table 27: Effect of emigration rates on change in college share of local politicians - including human capital controls - with region and province fixed effects

Dep. Var.: Change 08/14 in the share of local politicians with a college degree

	(1) IV Mayor Coll Change	(2) IV Mayor Coll Change	(3) IV Mayor Coll 2014	(4) IV Mayor Coll 2014	(5) IV Commis.s %Coll Change	(6) IV Commis.s %Coll Change	(7) IV Council %Coll Change	(8) IV Council %Coll Change
VARIABLES								
Emigration 2014-2010	0.014	0.022	-0.040	-0.075	-0.004	0.013	-0.025**	-0.026*
	(0.047)	(0.053)	(0.047)	(0.055)	(0.028)	(0.032)	(0.012)	(0.014)
Share of pop. with college	-0.032	-0.037	1.867***	2.062***	0.042	0.017	0.060	0.071
	(0.292)	(0.304)	(0.372)	(0.404)	(0.156)	(0.164)	(0.081)	(0.083)
CZ-Add.V.P.Cap2004	-0.049	-0.021	-0.027	-0.023	0.008	0.014	0.031**	0.033*
	(0.048)	(0.065)	(0.049)	(0.064)	(0.024)	(0.032)	(0.012)	(0.017)
CZ-Unemp.Rate 2004	-0.268	-0.970*	0.405	0.159	-0.304	-0.295	-0.022	-0.055
	(0.404)	(0.580)	(0.531)	(0.807)	(0.229)	(0.323)	(0.115)	(0.169)
Constant	0.050	0.122*	0.189***	0.286***	0.104***	0.094***	0.073***	0.077***
	(0.049)	(0.065)	(0.049)	(0.066)	(0.027)	(0.036)	(0.013)	(0.017)
Observations	6,287	6,287	3,457	3,457	6,758	6,758	6,810	6,810
Region FEs	X	-	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X	-	X
Avg College in 2008	0.450	0.450	0.000	0.000	0.315	0.315	0.271	0.271
Only mayor no college in 2008			X	X				

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor had no college degree in 2008

Specifications: 2-stage-least-squares IV

Dependent variable: Columns 1,2 the change between 2008 and 2014 in the college education of the mayor, Columns 3,4 a dummy equal 1 if mayor had college degree in 2014, Columns 5,6 the change in the average share of city commissioners with college degree and Columns 7,8 the change in the average share of city council members with college degree

Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Control variables: Share of municipal population with college education from the 2011 census. Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level

Fixed Effects: For specifications 1,3,5,7 we include 20 region fixed effects, for spec. 2,4,6,8 we include 105 province fixed effects

Table 28: Effect of emigration rates on change in female share of local politicians - including human capital controls - with region and province fixed effects

Dep. Var.: Change 08/14 in the share of female local politicians								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	IV	IV	IV	IV	IV	IV	IV	IV
	Mayor	Mayor	Mayor	Mayor	Commis.s	Commis.s	Council	Council
	Fem.	Fem.	Fem.	Fem.	%Fem.	%Fem.	%Fem.	%Fem.
VARIABLES	Change	Change	2014	2014	Change	Change	Change	Change
Emigration 2014-2010	-0.019	-0.024	-0.062***	-0.067***	-0.034	-0.037	-0.026**	-0.023*
	(0.021)	(0.024)	(0.020)	(0.023)	(0.022)	(0.026)	(0.012)	(0.013)
Share of pop. with college	-0.135	-0.182	0.127	0.030	0.307***	0.293**	0.180**	0.173**
	(0.184)	(0.187)	(0.145)	(0.148)	(0.119)	(0.124)	(0.072)	(0.074)
CZ-Add.V.P.Cap2004	0.031	0.005	0.050*	0.038	0.040**	0.045*	0.024**	0.029**
	(0.034)	(0.048)	(0.027)	(0.040)	(0.017)	(0.026)	(0.010)	(0.014)
CZ-Unemp.Rate 2004	-0.042	-0.006	0.032	0.063	0.359**	0.275	-0.106	-0.318**
	(0.214)	(0.291)	(0.165)	(0.217)	(0.158)	(0.238)	(0.101)	(0.156)
Constant	0.084***	0.113***	0.204***	0.250***	0.083***	0.121***	0.085***	0.094***
	(0.028)	(0.043)	(0.024)	(0.038)	(0.022)	(0.029)	(0.012)	(0.015)
Observations	6,738	6,738	6,087	6,087	6,818	6,818	6,825	6,825
Region FEs	X	-	X	-	X	-	X	-
Province FEs	-	X	-	X	-	X	-	X
Avg Female in 2008	0.097	0.097	0.000	0.000	0.168	0.168	0.177	0.177
Only mayor no college in 2008			X	X				

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: Columns 1,2,5,6,7,8 all Italian municipalities. Columns 3,4 municipalities where mayor was male in 2008
Specifications: 2-stage-least-squares IV
Dependent variable: Columns 1,2 the change between 2008 and 2014 in the dummy female of the mayor (+1 if mayor was male in 2008 and is female in 2014, -1 if mayor was female in 2008 and is male in 2014, 0 if the gender of mayor did not change in this time span), Columns 3,4 a dummy equal 1 if mayor if mayor was female in 2014, Columns 5,6 the change in the average share of female commissioners and Columns 7,8 the change in the average share of female city council members
Indipendent Variable: Emigration flows computed using AIRE registry enrollment as share of population in 2000. In columns 2,4,6,8 emigration flows are instrumented by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$
Control variables: Share of municipal population with college education from the 2011 census. Per capita added value in 100,000 euros and unemployment rate in 2004 at commuting zone level
Fixed Effects: For specifications 1,3,5,7 we include 20 region fixed effects, for spec. 2,4,6,8 we include 105 province fixed effects

Table 29: Instrument validity check - Effect of emigration rates on pre-shock change in stock of firms (2000-06)

Dep. Var.: Change 00/06 in stock of firms				
	(1)	(2)	(3)	(4)
VARIABLES	OLS S.C.	OLS S.Per	OLS Ind.	OLS High Added Value Ind.
Predicted Emigration shock	-0.025***	0.003	-0.014	-0.001
	(0.004)	(0.003)	(0.020)	(0.002)
Constant	0.004***	0.001***	0.000	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	103	103	103	103
R-squared	0.141	0.006	0.007	0.001
Avg. Stock 2000	0.008	0.016	0.067	0.007

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Sample: All Italian Provinces.
Specifications: Ordinary least square estimations
Dependent variable: In all columns the dependent variable is the pre-migration shock change in the stock of a specific type of firm measured as average stock in the province in 2006-2008 minus average stock in 2000-2002, divided by the provincial population size in 2000. In Column 1 we look at corporations ("Societa' di Capitali"), Columns 2 multi-person owned firms ("Societa' di Persone"), Columns 3 individual-owned firms ("Imprese Individuali") and Column 4 high added value individual-owned firms ("Imprese Individuali")
Indipendent Variable: Emigration flows as predicted by our instrumental variable of pre shock-network intensity to country c: $\widehat{\Delta m_i} = \sum_c sh_{i,c,2000} * \frac{(GDP_c^{2013}/GDP_c^{2009})}{(GDP_{Ita}^{2013}/GDP_{Ita}^{2009})}$

Appendix A - Data

The data used in this study come from several different sources: the complete Registry of Italians Residing Aborad (AIRE), the Registry of Local Politicians, the Historical Archive of Italian Elections, the "Movimprese" registry of firms registered in all Italian Chambers of Commerce, the International Financial Statistics (IFS) dataset by the International Monetary Fund, the "Atlante Statistico dei Comuni" and the 2011 Housing Population Census by the Italian National Institute of Statistics (ISTAT).

The first three pieces of data are maintained by the Ministry of Interior and allowed us to construct our measures of emigration, local political selection and political outcomes at municipal level (there are more than 8000 municipalities in Italy). The "Movimprese" registry of firms was used for calculating the stocks, creation and destruction rates of firms at provincial level (there are more than 100 provinces in Italy). We used also the IMF-IFS dataset to construct the "shock" component of the instrumental variable and multiple ISTAT dataset to reconstruct control variables such as local added value per capita, unemployment and share of college educated.

A1 The Registry of Italians Residing Abroad (AIRE) data

We used an original dataset provided by the Italian Ministry of Interior containing the complete administrative information on Italian citizens resident abroad (more than 6 million records are present in the dataset we have obtained). We focus on the subset of Italian citizens who reside in a foreign country individuals enrolled in these registry as permanently migrated to a foreign country starting from 1992. We are thus excluding from the analysis the foreign-born who registered because of citizenship acquisition"Ius Sanguinis" and those who registered in the first two years of implementation of the AIRE Registry (migrated in the previous decades and registered in bulk in the first year the Registry was started up). In theory, the dataset should collect information on all emigrants, but in practice registration with AIRE can not be perfectly enforced. This problem is very residual, since the incentives that emigrants have to register with AIRE. Registration, in fact, implies exemption from paying income tax on wages earned abroad, the right to vote from abroad for national elections and access to consulate services, such as passport services, civil statistics services (marriage, births and death registrations) which are subject to enrollment in AIRE.

The AIRE registry contains several information such as the municipality of origin of migrants, the country of current residence and the year of registration, the date of registration, the reason for enrolling in the registry, place of birth as well as several demographic variables such as age. We are thus able to identify Italian born citizens who enrolled in the AIRE registry because of "expatriation" (this is our definition of Emigrant).

A2 The Registry of Local Politicians

Data on local politicians come from the Census of all individuals elected in the political institutions of all Italian Municipalities ("Anagrafe degli Amministratori Comunali") maintained by the Italian Ministry of Interior. These registry contains yearly records of all municipal administrators, including their function within the municipal council and several demographic indicators. The Italian municipal councils are composed by a mayor ("Sindaco"), an executive commission ("Giunta") appointed by the mayor, and an elected council ("Consiglio comunale") that supervises the legislative activity of the mayor and approves the annual budget under majority rule. In this work, we study the effect of migration on political selection by looking at mayor's age, college education and gender, as well as average age, the shares of females and the shares of college educated in the council and in the commission. We construct also the share of administrators with a math-science-tech occupation, such as engineers, medical doctors and architects. Finally, we have created an indicator for municipal council

dismissal. Possible reasons for dismissals are: a negative vote of confidence on the mayor, resignation of half of the council, absence of candidates at the elections or organized crime infiltration within the council. After randomly sampling 10 municipalities among the 146 ones that had a dismissed municipal council in 2014 we have tracked the reason for the dismissal. Out of these 10 municipalities, 5 had a dismissed council due to organized crime infiltration, 1 for resignation of the mayor, 1 for resignation of half of the council members, 1 for a no-confidence vote for the mayor, 1 because of absence of candidates at the local election and 1 for missing the minimum turnout threshold in case of a single party election.

A3 Historical Archive of Italian Elections

To study the effects of emigration on voting preferences in the Italian municipalities, we look at the voting share of the main parties in the parliamentary elections in 2006, 2008 and 2013. Electoral data are also provided by the Italian Ministry of Interior.

We aggregated the most relevant parties across different elections according to main ideology and/or political manifestos, in a way to ensure continuity across the three election years considered. The complete classification is available in the following table.

Table A1: Aggregation of parties across different elections

Year	**Democratic Party**	**PdL People of Freedom**	**Northern League**
2006	Olive Tree (L'ulivo)	Forza Italia (Let's go Italy)	LN Northern League
		AN National Alliance	
2008	PD Democratic Party	PdL People of Freedom	LN Northern League
2013	PD Democratic Party	PdL People of Freedom	LN Northern League
		FDI-CDN Brothers of Italy - National Centre-right	
Year	**Left-wing**	**Right-wing**	**M5S Five Star Movement**
2006	PRC Communist Refoundation Party	Italian Social Movement National Right	
	PdCI Party of Italian Communists	Social Movement Tricolour Flame	
	FdV Green Federation	Social Alternative	
2008	The Left The Rainbow	The RightTricolour Flame	List of the "talking crickets"
		New Force	
2013	SEL Left Ecology Freedom	Tricolour Flame	M5S Five Star Movement
		New Force	
		The Right	

A4 Stock and net creation of firms

We use data on the stock and net creation of firms across Italian provinces from the database "Movimprese" managed by InfoCamere. The Movimprese database collects quarterly data on the stock of active firms and the flows of created and destroyed firms registered in all Italian Chambers of Commerce for each year from 1995 to 2014. Breakdowns by province, main sector of activities (according to the "Ateco" classification) and type of firm are also available. We construct several outcomes to proxy for the entrepreneurship capital in the Italian provinces. First, we compute the difference between the

stocks of active firms before and after the crisis in each province. In order to smooth potential idiosyncratic yearly variation in firms' stocks, we compare the average stocks during the periods 2012-2014 and 2008-2010. Second, we compute the cumulated flows of firms created and destroyed between 2010 and 2014 in each province. All outcomes are then standardized by the 2000 population of residents in each province.

We also breakdown all the outcomes by the type of firm, respectively corporations with limited personal liability ("societ di capitali"), corporations with full personal liability ("societ di persone") and individual firms ("ditte individuali").

We further compute the before-after differences in the stock of active firms for the subset of high value-added industries. A complete classification of each sector by high-value-added is available in the following table.

Table A2: List of firms in high value added sectors

ATECO code	Description
C 20	Manufacture of chemicals and chemical products
C 21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
C 26	Manufacture of computer, electronic and optical products
C 27	Manufacture of electrical equipment
C 29	Manufacture of motor vehicles, trailers and semi-trailers
C 30	Manufacture of other transport equipment
J	Information and communication
J 60	Programming and broadcasting activities
J 62	Computer programming, consultancy and related activities
J 63	Information service activities
K	Financial and insurance activities
K 64	Financial service activities, except insurance and pension funding
K 65	Insurance, reinsurance and pension funding, except compulsory social security
K 66	Activities auxiliary to financial services and insurance activities
L	Real estate activities
L68	Real estate activities
M	Professional, scientific and technical activities
M 69	Legal and accounting activities
M 70	Activities of head offices; management consultancy activities
M 71	Architectural and engineering activities; technical testing and analysis
M 72	Scientific research and development
M 73	Advertising and market research
N	Administrative and support service activities
N 78	Employment activities
P	Education
P85	Education

Finally, to check that our instrument is not correlated with pre-trends, we look at the change in the stock of active firms between 2000 and 2006.

A5 Data on GDP growth - International Financial Statistics (IFS)

To construct our instrument, we rely on real GDP data taken from the International Financial Statistics (IFS) dataset by the International Monetary Fund. The IFS is one of the Fund's principal statistical datasets and contains country data from most Fund members as well as for other countries, based on national accounts. To our knowledge, this is the largest dataset in terms of number of countries for which real GDP data (expenditure-based) are available.

To proxy for the relative economic performance during the crisis, we compute the real GDP growth relative to Italy between 2009 and 2013 for each foreign country where there are Italian citizens residing.

A6 Italian demographic and economic data

We use several datasets from the Italian National Institute of Statistics (ISTAT). We use the 2011 Housing Population Census to gather data on the educational attainment of residents at municipality level. We also collect data on the population of residents at municipality level between 2000 and 2011 from the inter-censuses estimated resident population (data refer to January the 1st of each year).

Furthermore, we use yearly data on unemployment and value added per capita taken from the ISTAT database "Atlante Statistico dei Comuni". These data are at local labor-networks/commuting zones level ("Sistemi locali del lavoro"), that are between province and municipality levels. Each municipality is linked by ISTAT to one of the around 800 commuting zones.

References

International Monetary Fund (2016). *International Financial Statistics (Edition: May 2016)*. UK Data Service. DOI: http://dx.doi.org/10.5257/imf/ifs/2016-05

Italian Ministry of Interior - "Archivio Storico Elezioni" (2016)

Italian Ministry of Interior - "Area I - Anagrafe Italiani Residenti all'Estero" (2016)

Italian Ministry of Interior - "Dipartimento per gli Affari Interni e Territoriali", Anagrafe Amministratori Locali e Regionali (2016)

ISTAT, Italian National Institute of Statistics (2016). URL: dati.istat.it

InfoCamere ScpA (2016). *Archivio Movimprese*. Sede legale: Via G. B. Morgagni, 13 - 00161 Roma

Appendix B - Figures and Tables

Figure B1: Emigration rate by municipality (2010-2014)

Figure B2: Predicted emigration rate by municipality