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Stay or emigrate? How social capital influences selective migration in Italy

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ABSTRACT

Internal migration in Italy has been characterised by deep changes in its composition, because of the growing share of high-skilled migrants (the emigration of which contributes to widening the internal brain drain) and the decreasing proportion of low-skilled migrants. Furthermore, recent interest in the literature in the role played by noneconomic elements in affecting migration decisions has highlighted the importance of a nonpecuniary factor, namely social capital (SC). For these reasons, this paper empirically investigates the role played by SC in interprovincial selective migration, considering migrants according to two education levels using data on 103 Italian provinces (2004–2012). The main findings reveal that provincial SC mainly contributes to reducing the migration flows of low-skilled individuals, albeit while also deterring the emigration of high-skilled individuals. Control variables confirm that better income conditions represent an important determinant of high-skilled migrants most likely because they seek to earn more, while better socioeconomic conditions such as labour market efficiency mostly influence those with a lower level of education.

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KEYWORDS

Interprovincial migration; social capital; selective migration; human capital; Italian provinces

1. INTRODUCTION

Interprovincial migration[1] is a common phenomenon in many countries, and is usually driven by the personal desire to improve one's socioeconomic condition and, more generally, one's own quality of life (Greenwood, 1997). This is because the heterogeneous spatial or territorial characteristics of different locations may represent important factors that push people to migrate, thus explaining their migration choice (Etzo, 2008). In some cases, the internal migration of a country is selective, i.e., migratory flows vary depending on characteristics of the migrants, e.g., level of education. The economic literature mainly emphasises the movement of highly educated subjects, who bring with them skills and abilities (Faggian et al., 2017).

In particular, when migration involves significant flows of educated people, the risk of a 'brain drain' phenomenon becomes of primary interest for policy interventions, as it can be detrimental for the areas of origin. In a country such as Italy, which is characterised by strong territorial

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imbalances and a great polarisation in economic development (central-northern area) and relative poverty (southern area), the migration of individuals with a high level of education contributes to widening local disparities, triggering a self-reinforcement mechanism of the same migration flows. For peripheral areas, improving the capacity to attract and retain younger and the brightest could represent a crucial strategy for inverting this negative trend (Sonzogno et al., 2022).

The present research aims to contribute to that part of the economic literature interested in the determinants of the localisation choices of individuals (Harris & Todaro, 1970; Nifo & Vecchione, 2014; Ciriaci, 2014), by empirically analysing the effects of several socioeconomic and institutional aspects on the internal mobility of different skill groups of individuals in Italy.

More precisely, our research starts from the idea that noneconomic factors are increasingly important in migration decisions, and among nonpecuniary factors, a major role is played by social capital (SC) (David et al., 2010). SC acts together with economic aspects and natural, social and cultural amenities present in the context of the origin of migrants, affecting their decision to stay or migrate (e.g., Wajdi et al., 2017). The well-being of and opportunities for potential migrants in their place of origin depend on the effects of SC on several local factors – from quality of life to social integration – which are central in shaping individuals' rational incentives to move to a different province in the country. A well-developed social 'space' that is characterised, for instance, by a wider share of voluntary activities; a higher degree of associationism and cooperation; greater values, norms, trust and code of conduct; and wider political participation, could represent a strong deterrent to migration. However, all these factors can have different impacts, and for different reasons, on individuals, depending on characteristics and opportunities influenced by their level of education. The reasons that lead people to migrate can be very diverse: highly educated individuals might decide to migrate in search of new and better opportunities; poorly educated individuals often leave their place of origin to escape from local problems and discomfort.

Although SC is a multidimensional phenomenon, we consider the synthesis proposed by Putnam (2001) to define it, which is based on the role and value of networks and the associated norms of reciprocity – which have a value for the people who are in them – and has demonstrable externalities. Therefore, Putnam does not rule out the presence of private returns from SC, which is an idea that we can connect to what Bourdieu (1985) already hypothesised decades earlier regarding the fact that individuals could develop relationships for future benefits as well. In our research, the presence (absence) of a strong SC in the context of origin of the migrants would be a force to stay (move elsewhere). Such a hypothesis is grounded in the fact that family ties and social networks affect opportunities to migrate; for example, it has been found in many cases that SC discourages leaving the home context to maintain these bonds (see the literature review by Biagi & Dotzel, 2018).

The relationship between SC and migrations is therefore well established; for example, Robert Putnam himself – who greatly contributed to the study of SC in Italy (see Putnam, 1993) – described in his 'repotting' hypothesis how easier movement in modern times contributes to the weakening of civic engagement and SC in general for the USA: 'Mobility, like frequent repotting of plants, tends to disrupt root systems, and it takes time for an uprooted individual to put down new roots' (Putnam, 2000, p. 232).

A key aspect in our research is that SC also concerns selective migration, since, for example, educated migrants may rely less on SC and use different SC channels to the social networks that are useful for less educated migrants (e.g., Takenaka & Pren, 2010). For example, Wong and Salaff (1998) found that working class emigrants (comparable to our least educated category) need dense family or kinship ties to migrate. Those who have clerical or bureaucratic occupations or are of a high social class, despite having a broader social network, do not need it to migrate. In addition, a significant reason to migrate for highly educated individuals is to improve their economic condition by broadening their 'search radius' for better working opportunities (Faggian et al., 2015). For this reasoning, highly educated individuals would bear relatively lower costs (lower

psychological costs of adaptation) compared to other individuals, deriving from the loss of the SC of the place of origin, which would make them more mobile (Neudörfer & Dresdner, 2014).

In the analysis of SC and migration, Italy offers an interesting case among other advanced economies. First, the SC paucity present in many provinces is well known and has been subject of specific investigations over several decades. More specifically, it is known that the scope and quality of SC greatly varies at the within-country level (Woolcock, 1998); consequently, its role in influencing local socioeconomic processes also changes (Iyer et al., 2005). In Italy, a large part of the country – essentially the southern area and the two main islands – suffers from a severe scarcity of SC (Banfield, 1958).[2] Second, Italy is characterised by significant recent internal migration[3] phenomena (Biagi & Dotzel, 2018), and these migrations are often skill-selective in nature. In particular, there has been a focus on the movements of skilled migrants (Fratesi & Percoco, 2014), as they represent a mechanism of internal brain drain (Di Berardino et al., 2019).

We look at whether SC has an effective role in conditioning the interprovincial migration of individuals, who possess different educational levels (low and high); this division arises from the fact that more highly educated subjects tend to be more mobile than less educated subjects, in light of their investment in human capital (Faggian et al., 2015). More specifically, we analyse how different characteristics of the native province, in particular the role of SC, impact skilled and unskilled migration flows.

For peripheral areas, the potential disincentivising effect that SC may have on the migration choices of better educated individuals could be added to the socioeconomic opportunities brought about by the COVID-19 pandemic crisis that, along with dramatic suffering, insecurity and worry, has opened up new scenarios for lagging areas. Since 2020, a growing proportion of educated individuals, thanks to the possibility of working remotely (smart working), have shown an increasing interest in less populated areas (Gurrutxaga, 2021) that are characterised by lower living costs and better quality of life factors (Sonzogno et al., 2022).

In addition, while a large part of the literature investigates the individual aspects (microdata) of migrants and how these affect individual choices both in testing economic factors (e.g., Liu & Xu, 2017) and quality of life (e.g., Liu & Yu, 2020), our focus on local SC prompts us to use macro data that describe the characteristics of local societies and how these characteristics affect migration flows.

To answer our research question, we include data on the 103 Italian provinces in our panel analysis, using a unique dataset covering the period 2004–2012. The consideration of provincial (NUTS3 level) data follows the recent literature that considers internal migrations among provinces as adequate to study, among other factors, the effects of networks by groups of migrants (Casacchia et al., 2022), environmental quality controlling for socioeconomic aspects (Germani et al., 2021), and the role of migrants as information and carrier channels in the case of highly transmissible diseases, e.g., the COVID-19 case (Valsecchi & Durante, 2021). To determine the effect of SC on Italian interprovincial migrations, econometric analysis is carried out by making use of the system generalised method of moments (system-GMM) of Blundell and Bond (1998). This choice strongly relies on the capacity of this estimator to take into account identification issues due to reverse causality and potential omitted variables.

The remainder of this paper is organised as follows. In Section 2, we summarise the literature on internal migration with a particular focus on social capital, followed by the Italian case. In Section 3, we present our original dataset and the econometric approach. We present the results in Section 4, and we conclude the paper with policy implications in Section 5.

2. LITERATURE SURVEY

Among the factors that have affected migration in recent decades – mainly concerning disparities in living conditions – we observe that when migrations are voluntary, social, environmental and noneconomic conditions become increasingly important (e.g., Lundholm et al., 2004;

Lundholm & Malmberg, 2006). SC is categorised as a noneconomic aspect. The relationship between SC and migration is obvious in its simplicity; to move involves stress and risks, while the knowledge of an area and the previously developed social ties encourage one not to move (Clark & Lisowski, 2017). SC acts as a force that binds potential migrants to their family of origin (or other type of social network), thereby discouraging leaving to an extent that can be proportional to the sense that one belongs to a collectivity (see the literature review by Biagi & Dotzel, 2018). The literature also suggests variants to this connection to the origin context; for example, SC can result in an 'excessive' bond, and it can hamper unemployed persons who, instead of moving, stay close to their network (Bähr & Martin, 2016). The opposite is also possible, i.e., when the family of origin has had migratory experiences (or the lifestyle of moving) and these habits are learned by the children (Bernard & Perales, 2021).

More specifically, the effect suggested at the beginning of this section is part of the prospect theory, which, considering the imperfect information that characterises the world, states that the decisions made by a person can be illogical and inconsistent and can also change in different contexts (Kahneman & Tversky, 1979; Kahneman, 1999). At the same time, the risk aversion that characterises most individuals causes them to prefer a sure outcome even though the value associated with this choice is lower than that associated with an unsure outcome. This widespread risk aversion is particularly true in the context of migration, where psychological elements play a crucial role in the decision to move.

Indeed,

people will not necessarily choose the highest expected utility because they are more concerned about losing what they have than about what they might gain. In other words, they value what they have beyond its actual use value. Thus, loss aversion becomes the central theorem for understanding behaviour in the market. […] This notion of the reference point is the central reason why prospect theory is so relevant to understanding staying, because the reference point adds value to staying. Thus, people make different choices about the same likely outcomes of moving depending on their reference points (Clark & Lisowski, 2017, p. E7433).

In this sense, a sort of local SC can provide both group externalities and a kind of interdependence that is influenced, e.g., by trust between subjects; therefore, having 'invested' in the SC of a place makes the subjects 'less mobile' (David et al., 2010). Such investment can consist of the fact that the SC developed in the area where people reside involves resources such as the possibility of receiving aid; thus, those who have high levels of SC are incentivised not to lose it and thus avoid migrating (Clark & Lisowski, 2019). For example, Kan (2007) found that the possible assistance available to a household in case of need received in the neighbourhood influences residential mobility behaviours. Hotchkiss and Rupasingha (2021) defined 'sociability' as the set of activities forming local SC, including not only interactions with family,[4] friends and neighbours, but also participation in group activities at the local level; sociability thus influences migration choices, especially those of individuals living in small communities with strong ties (such as rural areas). Furthermore, the aforementioned mechanism feeds itself; thus, subjects who are moving, or have moved in the past, to a location with (initial) high levels of local SC would be more incentivised to invest in the same SC. This effect would bring the local community to an 'equilibrium' with high SC and low migration (Staněk et al., 2021).

The relationship describing the factors of migration leads us to formulate the first hypothesis of our research question as follows:

> **Hypothesis 1:** The increased endowment of SC rooted in a place should result in a decline in the reasons to emigrate.

To answer our research question, we need further specifications. In broader research on skill-selective migration, the role of SC must be compared to different types of migrants. In general,

educated migrants rely less on social networks, and the networks they use are qualitatively different, e.g., more extensive and with fewer ties (see the literature review by Takenaka & Pren, 2010). More specifically, social networks serve to explain why only some subjects choose to move, precisely due to the influence of the society of origin; thus, when the aforementioned networks exist, they influence low-skilled individuals more.

More recent studies have found that the role played by SC may be different for educated individuals, who tend to view their communities in a positive way and to have a higher level of community attachment (Kao & Sapp, 2020). For example, Kaplan et al. (2016) found that social connectedness and social norms play a relevant role in retaining knowledge workers in Saxony (Germany), while Darchen and Tremblay (2010) found that social networks are an important factor influencing the retention of students in Montreal and Ottawa (Canada). Other studies have suggested that educated migrants tend to rely less on SC and its related networks than less educated subjects (Takenaka & Pren, 2010).

The different results in the relationship between SC and skill-selective migration amplify the interest in the Italian case. Over the last 20 years, unlike other high-income countries such as the United States (Molloy & Smith, 2019) and Australia (Bell et al., 2017), in Italy, the intensity of internal migration has remained quite stable. However, this stability is the result of two opposing trends that emerge when we separate the internal migrants on the basis of their educational level. While the proportion of high-skilled migration has shown a rapid increase during the last two decades, the mobility of low-skilled individuals has shown a significant decline. The decision to stay (De Jong, 2000) is defined as an explicit decision (Cohen & Sirkeci, 2011) that is 'fundamentally rooted in individuals' class-based dispositions, their social practices, and cultural beliefs' (Henne-Ochoa, 2016). Indeed, individuals endowed with human capital could possess the nonpecuniary resources (skills, education, information, ability, etc.) needed to absorb the high economic and social costs of migration (Henne-Ochoa, 2016, p. 34). As a consequence, if SC can be considered crucial in understanding migration dynamics, it is possible that its effects may depend on the level of education of individuals. Accordingly, we test the following second hypothesis:

Hypothesis 2: The effect of SC on migration decisions depends on educational level; high-skilled individuals should rely to a lesser extent on the SC rooted in their origin context with respect to their low-skilled counterparts.

2.1. The Italian case

Italy has always been characterised by marked internal mobility, mainly from the less developed south towards the more industrialised north. Historically, economic migration derived from income differentials related to the chances of finding a job, but individuals were held back by mobility costs and differentials in costs at the local level (e.g., housing), as well as the presence of temporary aid from institutions, which decreased their need to move (Etzo, 2011). Even more recently, inequality in economic opportunities has marked longer-range movements (south–north), while social and amenity factors have increasingly played a role in suggesting moving to relatively nearby provinces that offer a different (better) quality of life (Biagi et al., 2011). At the same time, reasons not to migrate exist. In the country, the so-called Mediterranean patriarchal model is characterised by strong family ties, postponing leaving the family nest, and maintaining close economic and sociocultural relationships with one's family (see the literature review by Bordone, 2009). Potential migrants are thus conditioned by family ties in regard to their localisation choices, and adults often decide not to move more than 25 km from their parents; in fact, they often co-reside with them and engage in daily contact (Hank, 2007). Homeownership is not only typical of local social capital but also a discouraging factor in

internal migrations in Italy (e.g., housing transaction costs), together with the progressive ageing of the population and inefficiencies in the job matching process among regions (Faini et al., 1997).

In recent Italian history, significant flows occurred during the 1950s–1960s and after the mid-1990s (Etzo, 2011), influenced by the territorial imbalances that have marked the different degrees and speed of economic development (Odoardi & Muratore, 2018). Over these decades, social and economic modernisation has led to both shorter-range migrations and increased attraction of large cities (metropolitan areas) throughout the country (Bonifazi & Heins, 2000). The second important flow – from the second part of the 1990s – was marked by the importance of human capital because the migration of subjects with secondary and tertiary education has led to what Basile et al. (2019) defined as the 'internal brain drain'. The educational premium affects this phenomenon, but Piras (2020) found that the average level of education at the origin also plays a role; in particular, it has a positive role in the Italian case.

Over time, despite a typical push factor remaining in the disparity of the labour markets (Etzo, 2011), the Italian migration flows have become more complex and heterogeneous; this can be observed, for example, by observing elderly migration flows towards the south (Raymer et al., 2006) or by those who choose to move towards neighbouring provinces where the cost of living is lower (Biagi et al., 2011).

In addition to the material needs in place since the postwar period, more recently, migratory flows have been influenced by educational opportunities and by the search for suitable jobs, especially for highly educated subjects (counteracting overeducation situations) in favour of richer and more dynamic labour markets (Iammarino & Marinelli, 2015). The unskilled migration that composed most of the flows up to the 1970s has been replaced by skilled migration due to the many graduates who want to improve their condition (Fratesi & Percoco, 2014). The causes of skill-selective migration gain attention because the movement of human capital (towards the more developed areas) simultaneously marks the self-nourishment of the phenomenon and worsens territorial dualism (Basile et al., 2019). For example, Dotti et al. (2014) observed that more dynamic local labour markets influence university enrolment choices by attracting students from other locations (particularly for specialisations in science and technology).

The features of skill-selective internal migration suggest that different pressures exist among migrants. For example, Bonasia and Napolitano (2012) observed that the economic causes of migration are different for skilled and unskilled Italians, starting with distinct income expectations but also displaying the increasing relevance of noneconomic variables and the quality of life for both groups.

3. METHODOLOGY AND DATA

3.1. Dependent variables

Our dependent variables are the percentage of migrants (i.e., the percentage of people who change their province of residence across the population; see *total emig* in Table A1 in the online supplemental data) according to their education level. Migration data are provided by the Italian National Institute of Statistics (ISTAT) and are broken down into six education levels. We aggregate them according to two different skill-specific groups of emigrants, namely, the high-skilled category, defined as those who possess at least a secondary education (i.e., more than 8 years of schooling, see *high-skilled emig*) and the low-skilled group, defined as those with a primary education or those who are not educated individuals (i.e., from 0 to 8 years of schooling, see *low-skilled emig*). We, therefore, set the threshold for grouping highly educated subjects at 8 years of education. This threshold is considered relatively low, because it also includes subjects with upper secondary education, but this classification complies with the characteristics of

the Italian context. In fact, the national development path, which has existed in the country since its unification in 1861, is characterised by low investment in education, innovation and research (Nuvolari & Vasta, 2015). Over the decades, the average level of (formal) education has remained relatively low; in fact, economic development has often exploited informal knowledge and low-tech production (Bertola & Sestito, 2011), with scarce attention given to the development of education after the productivity crisis and growing international competition occurred in the 1990s (Burroni et al., 2019). This national feature has led to a relatively low economic specialisation comparable to that of emerging economies (European Union, 2013); de facto, it conditions the inadequate impact of advanced human capital – and of knowledge workers – on economic growth (e.g., Odoardi & Muratore, 2019). The relatively low requirement for individuals with an advanced education and the low training-related investment explains more recent data that places Italy in the last positions within the group of advanced economies with regard to tertiary education. For example, the OECD average in 2020 for adults (aged 25–34) with tertiary attainment was 39%, while Italy was ranked in the group below 20% (and 23% of the population has less than a secondary education; see OECD, 2021). Therefore, both the low number of graduates and the national economic trait that secondary education is an adequate level of education supports the aggregation of subjects with secondary and higher education as the high-skilled category.

Thanks to its simplicity, the attained education level, although subject to some limits, has been largely adopted in the empirical literature as a proxy of the skills and abilities of emigrants (Fratesi & Percoco, 2014). Furthermore, it is important to remark that, unlike other works based on microdata of migration at the individual level (see, for instance, Ciriaci, 2014; Nifo & Vecchione, 2014), the characteristics of the ISTAT dataset allow us to examine an entire sample of emigrants while distinguishing the educational levels embedded in the flows, all without limiting the analysis solely to those who were surveyed. At the same time, the use of macro data prevents us from gathering evidence on individual aspects such as academic success (e.g., degree grade), the possible involvement in attraction policies, and the role of overeducation, although the paucity of better data involves research in many countries (Faggian et al., 2017).

3.2. Social capital

Among the regressors, social capital is proxied by the 'voice and accountability' variable elaborated by Nifo and Vecchione (2014). More specifically, the authors, in line with the Worldwide Governance Indicators (WGI) elaborated by Kaufmann et al. (2011), aggregate data on the number of social cooperatives,[5] the number of associations,[6] election participation,[7] books published[8] and an index of books purchased in bookshops[9] (Nifo & Vecchione, 2014). The aggregation procedure is described in Table A1 in Appendix A in the online supplemental data, while Figure 1 shows the spatial distribution of this variable and highlights the wider SC endowment that characterises the central-northern provinces. The heterogeneous geographical distribution of socioeconomic phenomena such as SC in our case contributes to increasing the relevance of subnational analysis within the Italian context aimed at investigating the role played by the space and the economic resources embedded in it.

To further corroborate our choice of adopting the voice and accountability indicator, we correlate this measure with two other possible proxies of SC, namely, the share of volunteers in the nonprofit organisations and the share of nonprofit organisations.[10] The significant Pearson's r coefficients (slightly above 0.66 in both cases) suggest a significant correlation between these phenomena (see Figures A1.a and A1.b in online Appendix A), for which the provinces that enjoy a better voice and accountability seem to also be those that are, on average, better endowed with other forms of SC.

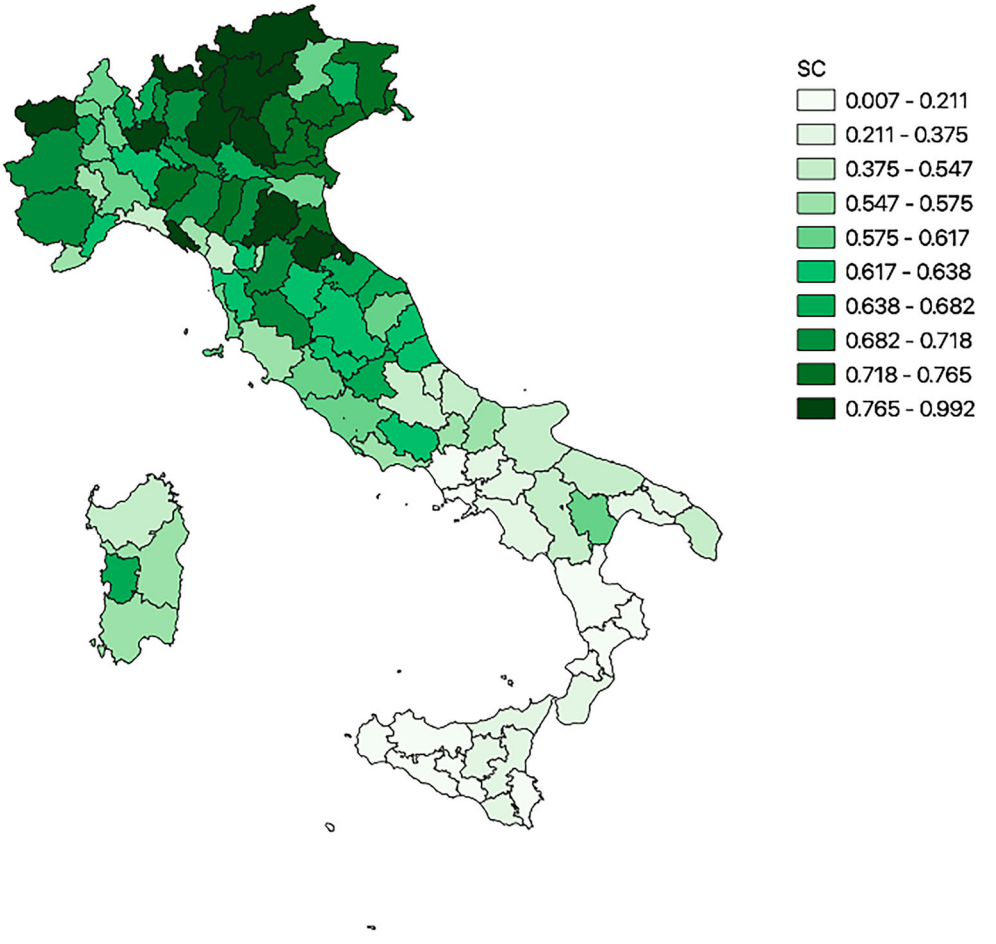

Figure 1. Spatial distribution of SC (average 2004–2012). Source: Our elaborations on Nifo and Vecchione (2014) data.

3.3. Control variables

Italian provinces differ in terms of socioeconomic development, industrial structure, and demographic features; thus, we control for a set of structural characteristics of the origin areas of migrants.

First, according to a well-established literature, we consider a set of variables that capture the socioeconomic and institutional characteristics of the migrant's province of origin. More specifically, we control for the per capita gross domestic product (*gdp* in Table A1 in online Appendix A), for the share of individuals with at least a secondary education (*human capital*) across the resident population, for the youth unemployment rate (*yur*), for the *population density*, and for *corruption*. Per capita GDP allows us to control for the overall level of development; given its strong connection with labour market conditions, it can be considered a proxy for wages (Etzo, 2011). This variable is expected to be inversely correlated with emigration flows in the sending provinces. The youth unemployment rate in the origin context is included to take into account labour market characteristics; according to economic theory, the sign of its coefficient is expected to be positive (Etzo, 2011; Franc et al., 2019). The choice of this variable instead of the unemployment rate (*ur*) is attributable to at least three main reasons. First, from a

conceptual point of view, this choice is strictly connected to the young age of the internal migrants (almost 50% of them are between the ages of 15 and 40). In 2012, the average age of the individuals who decided to transfer their residence ranged between 30 and 35 years depending on the gender and the place of birth (ISTAT, 2014). Hence, the youth unemployment rate should reflect, to some degree, both the difficulties faced by young people in finding a job and their migration decision. A second reason, closely connected to the previous one, is related to the economic and financial crisis that characterises the period of analysis and has greatly impacted younger Italian residents. From 2008 onwards, in fact, the gap between youth unemployment and total unemployment rates has increased, from a difference of 16.5 percentage points in 2004 to 24.6 percentage points in 2012. Finally, a more technical reason has to do with the multicollinearity issue that stems from the high correlation between *ur* and GDP per capita (0.8). The same correlation, in fact, drops to 0.6 when we consider *gdp* and *yur*.

Since human capital has been indicated as one of the most important determinants of migration that increases outgoing movement, we include the share of individuals with at least a secondary education across the total population among the control variables (Andrienko & Guriev, 2004). As for the population density, it should capture the effects associated with the degree of urbanisation, although in some cases the effects are not statistically significant (Basile & Causi, 2007). Among the institutional characteristics, the level of regional corruption has been indicated as a push factor for emigration whose effect can overcome those related to income conditions (Nifo & Vecchione, 2014). Lastly, we consider some important demographic characteristics that can affect the mobility of a population by including in the models *life expectancy*, the share of individuals aged 65 years old and over (*share old*), and the percentage of men across the total population (*share men*) (Andrienko & Guriev, 2004; Biagi et al., 2011).

In online Appendix A, we report a description of the variables included in the econometric analysis (Table A1), the summary statistics of the same variables (Table A2), and the correlation matrix (Table A3). The latter seems to show that no multicollinearity issues, which could bias the estimation results, are present among the explanatory variables.

3.4. Methodology

In the first step of the analysis, we start with an initial specification that considers the determinants of total emigration (i.e., without considering the education structure):

$$lntot\_emig_{i,t} = \alpha + \beta_1 lntot\_emig_{i,t-1} + \beta_2 lnsocial\ capital_{i,t} + \sum_{n=1}^{N} \gamma_n X_{ni,t} + \mu_i + \tau_t + \varepsilon_{i,t} \quad (1)$$

where the total number of Italian provinces (N) is equal to 103, and the time span of our dataset covers the period 2004–2012 (t = 9). The persistence of the emigration phenomenon is assessed by including the past level of emigration by means of a one-year lagged dependent variable ($lntot\_emig_{i,t-1}$) among the regressors. In Equation (1), *tot_emig* represents migrants, and *social capital* is our key regressor. The model also considers all the time dummies (τ_t) and the individual time-invariant characteristics (μ_i). $\varepsilon_{i,t}$ represents the idiosyncratic error term.

In the second step of the analysis, to verify the possible heterogeneous determinants of different skill-specific groups of interprovincial emigrants, Equation (1) is extended as follows:

$$lnemig_{i,t}^{skill} = \alpha + \beta_1 lnemig_{i,t-1}^{skill} + \beta_2 social\ capital_{i,t} + \sum_{n=1}^{N} \gamma_n X_{ni,t} + \mu_i + \tau_t + \varepsilon_{i,t} \quad (2)$$

where the superscript *skill* indicates that the interprovincial emigration rate is broken down by education level into high-skilled and low-skilled emigrants and that two separate models for

each category of emigrant are estimated. In other words, each specification includes the same set of regressors; thus, the only difference is related to the dependent variable from time to time examined.

In our analysis, the presence of a lagged dependent variable among the covariates raises an estimation problem related to the fact that in a dynamic panel data framework (particularly in the so-called small T – large N context, as in our case), a static panel approach such as fixed- or random-effects models leads to a biased estimate of the coefficient associated with the lagged dependent variable, which is not mitigated by increasing the number of individual units (Nickell, 1981). In these cases, as in our analysis, the inclusion of additional regressors does not reduce this bias if the explanatory variables are correlated with the lagged dependent variable since their coefficients will be seriously biased as well.

We must also consider that the endogeneity issues related both to the reverse causality between the emigration variables and the SC and to the omitted variables could result in biased estimates. To address this problem, Arellano and Bond (1991), by generalising the method of Anderson and Hsiao (1982), proposed taking the dynamic panel data model in first differences and using lagged levels of the explanatory variables as instruments of the endogenous first differenced variables. However, Arellano and Bover (1995) and Blundell and Bond (1998) highlighted a potential weakness in the Arellano–Bond estimator; namely, the lagged levels can be rather poor instruments for first differenced variables. Thus, they proposed an extension of this technique by adding the equation in levels to the equation of the first difference and to instrument the endogenous regressors with the lagged differences of the same variables.

We adopt this estimator, namely system-GMM, to address the criticalities emerging in the dynamic panel data model (Granato et al., 2015). In particular, the endogeneity issues related to the reverse causality between SC and emigration are addressed by exploiting internal instruments. To use the same lag structure for each specification and to keep the number of instruments lower than the maximum threshold given by the 103 Italian provinces (Roodman, 2009), the lagged dependent variable, as well as the provincial SC variable, are instrumented with their second to third lagged levels for the first difference equations and with the most recent lags of the first differences of the same variables for the level equations. Additional lagged first differences, in fact, would only create redundant moment conditions. The validity of moment conditions is verified by implementing Hansen's (1982) J test of overidentifying restrictions, while the absence of second-order autocorrelation is controlled by adopting the Arellano and Bond test. Both tests indicate that the null hypothesis cannot be rejected at the 10% level and thus demonstrate, on the one hand, that all moment conditions are valid and, on the other hand, that a higher-order autocorrelation is not present in the following system-GMM models.

4. RESULTS

In Table 1, we report the more robust results of the SYS-GMM estimator, while the OLS (ordinary least squares) and FE (fixed effects) estimates are reported in online Appendix A (Tables A4, A5, respectively). The models refer both to the total number of Italian internal migrants (as dependent variable) and to classifying migrants according to their level of education.

The positive and statistically significant beta parameter of the initial level of emigration indicates an overall path-dependent process during the 2004–2012 period. In other words, provinces that exhibit higher levels of past emigration are also those that show higher current emigration flows.

As far as our key regressor is concerned, the SC rooted in the area of origin, independent of the education level of the emigrants, seems to have a moderation effect on the outflows of

Table 1. Robust system-GMM estimation results.

Estimation Procedure: Dependent Variable: Emigration	System-GMM (1) total emig	System-GMM (2) high-skilled emig	System-GMM (3) low-skilled emig
L.(dependent variable)	0.4835***	0.4454***	0.3382***
	(0.1162)	(0.1004)	(0.1055)
social capital	-0.0553***	-0.0478***	-0.0756***
	(0.0187)	(0.0161)	(0.0219)
human capital	0.0729	0.2240**	-0.0982
	(0.0941)	(0.1066)	(0.137)
gdp	-0.1106	-0.2401***	0.006
	(0.0693)	(0.0738)	(0.098)
yur	0.0545***	0.0510***	0.0766***
	(0.0184)	(0.0193)	(0.0217)
corruption	-0.0168*	-0.0194**	-0.02
	(0.0096)	(0.0089)	(0.0135)
life expectancy	-3.1655**	-2.0252	-5.4634**
	(1.4556)	(1.3276)	(2.1276)
share male	4.5546***	3.6661**	6.8248***
	(1.5979)	(1.543)	(2.1594)
share old	0.6638***	0.5354***	0.9993***
	(0.1941)	(0.166)	(0.2687)
population density	0.0514*	0.0376	0.0826**
	(0.0279)	(0.0271)	(0.039)
Constant	16.1852**	10.5213*	26.5671***
	(6.6122)	(6.1316)	(9.5307)
NT	824	824	824
N	103	103	103
Arellano-Bond (1)	0	0	0
Arellano-Bond (2)	0.072	0.016	0.169
Arellano-Bond (3)	0.534	0.116	0.931
Hansen test	0.118	0.097	0.106

Source: our elaborations. ISTAT, EUROSTAT, and Nifo and Vecchione (2014) data.
Note: *statistically significant at 10%; **statistically significant at 5%; *** statistically significant at 1%. Standard errors clustered by provinces are given in parentheses. All the variables are expressed in logarithm form.

individuals. In fact, in each of the models adopted, the coefficients associated with the variable *social capital* take on negative values and are statistically significant. Focusing on the results of the regressions in which high and low skilled emigrants are separated (columns 2 and 3), it can be noticed that the bond relationships are much stronger in terms of the coefficient and significance for low-skilled individuals. If we consider that the latter group is prevalent in southern regions, our result may be conditioned by the strong importance of informal networks and connections in this area to help one find work, which is more frequent among less educated subjects (Ponzo & Scoppa, 2010). In addition, considering the large migratory flows from the less developed provinces, we can link this result to the stringent 'family networks' that bind individuals who, also considering their poor education, have not developed significant 'extended networks'. This result is in line with the representation of SC in less developed regions, which – even if it is considered less constraining in more recent studies than previously theorised – is still very much based on family ties (e.g., Prandini, 2014). In synthesis, considering the strictly family bonds of low-skilled individuals (as discussed in Section 2) and the higher effect of SC observed in our

results (compared to high-skilled individuals), our findings seem to counterpose the bond effect of SC to the encouraging effect of the 'migration tradition' in the provincial area (which in some way is described by the path-dependent process).

The control variables provide more information on the different effects related to aspects of the socioeconomic context in the two groups of migrants. The significance of *yur* suggests that unemployment pushes people from both groups to widen their labour market opportunities, with the obvious interest of increasing the probability of being employed. Such an effect depends on the fact that throughout Mediterranean Europe, high unemployment rates affect all subjects, regardless of level of education (Eichhorst & Neder, 2014). However, the effect is higher for those who are low skilled[11] and can be considered the other side of the coin of economic needs; this in contrast to the economic motivation concerning high-skilled individuals, i.e., the search for greater economic well-being and an education premium (abandoning areas with a low or decreasing average income, see *gdp*). The latter effect connects the private return to human capital investment to the most dynamic markets in which to exploit this investment (e.g., Wildasin, 2003, on internal migration in the US and Canada).

The differentiation in lifegoals and expectations between the two groups is confirmed, for example, by the statistical significance of *life expectancy* for the low-skilled individuals. The effect suggests that individuals who have not invested in education are 'gratified' with improving aspects of life that go beyond monetary returns (higher income), such as life quality and social relations. The *corruption* variable – a proxy of problems, quality and corruption in local public administrations – assumes higher values when the quality of local institutions is better and hence, when the level of corruption is lower. In this sense, our result has strong confirmation in the economic literature on international migration by showing how its reduction is a factor that limits the out-migration of high-skilled individuals. The effect is derived from the decrease in returns to education due to widespread corruption, which is obviously more relevant for those who have invested more in education (Dimant et al., 2013). High levels of corruption, in fact, would be a signal to the brightest individuals to seek job positions elsewhere, based on meritocracy (Ariu & Squicciarini, 2013).

The measure of the human capital of the local population with at least a secondary level education (*human capital*) affects only high-skilled migrants, representing a kind of increased competition that they face in their provincial context. This effect could be derived from the growing competition that more educated individuals (e.g., those with a tertiary education) may have with those with a lower education (e.g., those with a secondary education) for similar jobs, in light of the progressive polarisation of occupational groupings and skill downgrading (Valletta, 2018). A comparable and parallel effect involves low-skilled individuals and is related to the proxy of agglomeration economies. The variable *population density*, in fact, seems to show the effect of pressure and internal antagonism, but its positive sign on migration seems to indicate that there is no longer any attraction of the large, urbanised centres typical of the Italian migratory history (such as the rural–urban migration towards the major industrialised areas, e.g., Accetturo & Mocetti, 2019), which are now probably saturated or in decline. In addition, the effect observed for low-skilled people suggests that large masses are the most frightened by great agglomerations, probably due to widespread competition from migratory flows from abroad. Those flows are mostly composed of low-skilled workers, but the share of foreign high-skilled workers is often concentrated in low-paid and low-quality jobs (Venturini & Villosio, 2018).

Finally, provincial demographic characteristics suggest that a population composed of more men (*share male*) and older people (*share old*) tends to emigrate more. Regarding the former aspect, the positive relation between the share of males and the emigration of all categories of individuals is consistent with the findings in the previous literature (Andrienko & Guriev, 2004); i.e., males exhibit a higher internal migration propensity as a result of the existence of higher migration returns for them (particularly in Italy, where there is a widespread role of

breadwinners). Even the greater propensity of older individuals to move to improve their condition is a confirmation of the literature (the progressive growth of the age of migrants is observed in Italy; Etzo, 2008). To this explanation is added the peculiar age structure of the Italian population (in 2011, the share of individuals aged 64 and over was equal to 20.84%),[12] which influences the increasing phenomenon of retirement migration (Raymer et al., 2006); thus, provinces characterised by a higher share of older people also experience higher levels of emigration.

The greatest effect of *share male* on the low-skilled group could be influenced by the composition of the male population, since migrants from abroad are in the majority male and segregated in both low-level jobs and the underground economy, thus representing internal competition for less educated Italians (Fullin & Reyneri, 2011). Instead, the greatest effect of *share old* on the low-skilled group (coefficient is almost double that of the high-skilled group) could be derived from the links with local networks that postpone migration due to economic needs, while in the case of the high-skilled group, the search for better opportunities would have already taken place at a young age, for example, with university studies (Dotti et al., 2014) or after graduation (Iammarino & Marinelli, 2015).

The robustness of our estimates is verified by means of a sensitivity analysis (results shown in Appendix B in the online supplemental data) that consists of an estimation of the determinants of emigrations in alternative econometric models. We begin by estimating the basic model with the SC and then add two blocks of variables (i.e., the socioeconomic factors and the demographic elements). The first group includes the share of individuals with at least a secondary education, GDP per capita, youth unemployment rate, and an index of corruption. The second block contains life expectancy, the share of elderly individuals, the percentage of men, and the population density. As can be observed, the results appear to be quantitatively and qualitatively in line with those of the complete model.

5. Conclusions

The level of SC – which contributes to shaping peoples' background and context of origin – also influences the process of interprovincial migration. Both low and highly educated individuals' migrations are influenced by origin SC; nevertheless, our results show a stronger role played by SC for the lower educated emigrants. This type of migrant, who should be more connected to a close family social group, links our findings to less cultured contexts in which SC is effectively derived from very closed and exclusive social networks that approach the definition of 'amoral familism'[13] (Banfield, 1958). In this case, family bonds probably prevent young people from leaving their family-enlarged groups of origin. We cannot empirically control for the effect of these extended supportive types of kinship networks. However, we know that these family/kinship networks are more useful precisely for the lower/disadvantaged social classes (e.g., Wong & Salaff, 1998; Cemalcilar & Gökşen, 2014), which could correspond the most to less educated migrants. This effect is comparable to the findings by Neudörfer and Dresdner (2014), who observed a lower tendency to migrate due to the influence of the social networks of those who have high levels of intracommunity and weak intercommunity ties.

High-skilled individuals are less affected by SC; however, this seems to be a point on which to intervene to mitigate the brain drain of educated subjects, which is an effective loss of skills, creativity and productivity. Different contributions, particularly in the field of political science, have highlighted the several dimensions upon which intervention, through appropriate policy strategies, reinforces the level of SC in various forms. In particular, it has been demonstrated that by improving the functioning of public institutions and the degree of fairness of public officials (Rothstein, 2003), by reducing social and economic inequalities

(Uslaner, 2002; Alesina & La Ferrara, 2002), and by increasing systems and institutions of the welfare state (Rothstein, 1998; Kumlin & Rothstein, 2005), it is possible to enlarge the SC base of a region.

Our findings also show that people with different education levels tend to migrate for different reasons. Better income conditions can be seen as a stimulus for more educated people (educational premium), while better basic socioeconomic conditions (jobs easier to find) influence less educated people. A possible solution seems to exploit the internal migration phenomenon to make the labour market more efficient and overturn the amplification of territorial dualism (caused by the brain drain from less developed areas). This could result from investing in occupations for high-skilled workers (which would have positive effects on the overall productivity of other workers as well; Basile et al., 2019) and from taking advantage of the retaining capacity of SC where such an investment is not possible. A shorter-term intervention would be to favour the more efficient allocation of labour, particularly in southern provinces – the ones most afflicted by unemployment and weakness of human capital – thereby possibly reducing mobility costs and increasing efficiency in job matching processes (Faini et al., 1997).

This is a crucial policy strategy, especially considering the changes in tastes and preferences of workers that have occurred since the explosion and diffusion of the COVID-19 virus. The pandemic crisis, indeed, has raised an important question that has become prominent in the national and international economic debate: what will the geography of jobs of tomorrow look like? This general question impacts Italy directly, specifically because of the territorial dualism that we often mention in this work and the small-scale phenomenon given by the unusual direction of recent internal flows, i.e., in the opposite direction to the historical observed trajectories, specifically from northern regions to southern ones (thanks to the possibility of working from home, i.e., in the south) (Bianchi & Vecchione, 2021). Therefore, the effects related to the promotion of a wider SC base in the lagging regions could add to the recent changes in individual preferences towards better living conditions offered by these areas (accessible housing prices, better environmental amenities and other quality of life factors) that migrants are increasingly taking into account in their location choices. Both phenomena, in fact, could be able to reduce internal disparities by allowing the repopulation of – or at least staunching the further depopulation of – the southern provinces, which in turn would activate both the demand for goods and services in these places and income multiplier effects (Bianchi & Vecchione, 2021).

Our analysis has the merit of highlighting specific links at the macroeconomic level and giving some suggestion of the possible underlying micro mechanisms. However, this article is not free from limitations. Future research – by distinguishing in detail the subjects involved through the use of microdata – would allow specific policy indications for key development resources such as human capital, which parts of a nation can compete for (e.g., Cui et al., 2022). These data will have to provide specific information, e.g., on the duration of migrations (short or permanent; our data reflect changes of residence). In addition, we are aware that migration trends are changing in many countries after the 2008 crisis (González-Leonardo et al., 2022) and following COVID-19-related events (Sonzogno et al., 2022). These new trends – changes imposed by external phenomena and new opportunities – require the integration of more recent data. A further aspect that it has not been possible to describe yet concerns the forms of SC, such as the different effects of bridging and bonding SC on community attachment and therefore on the tendency to migrate (e.g., Kao & Sapp, 2020). The differentiation of SC furthermore characterises the Italian macro areas (we refer to the enlarged kinship family networks that form an exclusive type of SC in the south); this suggests considering the origin of the migrants, as well as their social and cultural background, in future research developments.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

NOTES

[1] We refer to the share of individuals who permanently transfer the place of residence from one province (i.e., the Eurostat NUTS-3 level) to another of the same country.
[2] Local differences are influenced by the diverse north–south social structures shaped by the historical evolution, i.e., deriving from a mainly hierarchical structure typical of the monarchy in the south and a horizontal municipal organisation in the centre-north (Putnam, 1993).
[3] Internal migration, i.e., the movement of people across distinct areas or provinces belonging to the same country, differs from the so-called residential mobility that consists of displacements within the same area.
[4] Obviously, family attachment is a strong deterrent to migration, as demonstrated by Spilimbergo and Ubeda (2004) with regard to the USA.
[5] Social cooperatives per 100,000 residents (ISTAT data).
[6] Associations per 100,000 residents (ISTAT data).
[7] 2001 general election (Interior Ministry).
[8] Number of books published (ISTAT data).
[9] Purchased books across the resident population (Il Sole 24 Ore data).
[10] It is important to remark that both indicators are available exclusively for the years 2001 and 2011 and this prevents us from including these variables into our dynamic panel data empirical analysis.
[11] Higher education pays in terms of employment in Italy; however, this country is an anomalous case among advanced economies, since an upper-secondary education gives one more chances than a tertiary education. In any case, both education levels mark greater employment opportunities than those available for people without a diploma (Scarpetta et al., 2010).
[12] Authors' elaboration on "Population by single year of age and NUTS 3 region", which is available at the following link: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=cens_11ag_r3&lang=en Retrieved on 1 March 2023.
[13] Definable as the search for maximising only short-term material advantages that concern their family.

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