

Social Capital and the Labor Market: When is the Family at Work? *

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Abstract

Exploiting social capital heterogeneity within Italy, I find that in low social capital areas the probability of using different forms of family help in the labor market is higher. In particular, people use more often relatives' referrals as their job finding method. The impact of social capital is stronger where legal enforcement is weaker and levels of education lower. I also find that in low social capital areas the probability of using social help in the labor market provided by someone outside the family is lower. This suggests that the main finding does not stem from unobserved geographical heterogeneity in labor market institutions. To further explore the causal nature of these results, the so-called epidemiological approach is applied: controlling for geographical fixed effects, the likelihood of using different forms of social help is also affected by the level of social capital of the province of residence before university attendance.

JEL Classification: J01, Z10, J13.

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1 Introduction

Trust and civic cooperation are higher in countries with better economic performance (Knack and Keefer, 1997). In turn, within a given community, social capital is believed to be one of the main determinants of the prevailing level of trust and civic values. However, from a theoretical standpoint, the causal link between social capital and growth is only indirect and, so far, it has been difficult to pin down the precise mechanisms through which social capital has a direct effect on economic development.

The aim of the present paper is to investigate the role of social capital in fostering economic prosperity through its effect on labor market development. In labor transaction, likewise in financial ones, trust is particularly important. Buyers and sellers differ with respect to the information at their disposal and the cost they have to bear to acquire it. In this context, especially in the absence of efficient institutions devoted to labor market intermediation and prompt labor law enforcement, generalized trust is believed to be crucial.

The basic hypothesis of this work is that if the level of social capital is low, the family is an important labor market intermediary. Of course, the general idea is not new. Banfield (1958) is probably among the first to note that in low social capital areas transactions within smaller subgroups such as families are more important. More recently, Fukuyama (1995) argues that within large organizations generalized trust is likely to replace others forms of cooperation likewise the ones working among family members. Consistently with this hypothesis, La Porta et al. (1997) report that strong family ties are associated with weak development of large firms. As far as financial markets are concerned, Guiso et al. (2004) find that the likelihood of receiving a loan from a relative or a close friend decreases with social capital. The present paper is the first empirical investigation that test the above general idea focusing on the labor market.

The family plays a fundamental role in the allocation and distribution of economic resources and is probably the single most important institutions for non-market transactions (Ben-Porath, 1980). Even in market transactions, however, family members may act as providers of useful information and other forms of help. Transactions occurring in the labor market are a relevant example: it is a well know fact that, together with other types of social contacts, family members are an important channel through which workers connect to jobs (Ioannides and Loury, 2004).

The role of the family in labor transactions is especially important at early stages of economic development. For example, Anderson (1971) and Vogel (1967) offer interesting accounts on the functions performed by the family in employment placement in nineteenth century England and Japan. As far as modern capitalistic economies are concerned, Albert Rees (1966) and Mark Granovetter (1973) are

among the first to document that personal connections are still among the most used job finding methods. More recently, Kramarz and Norstrom (2007) show that in Sweden family ties are important for school-to-work transition.

To be sure, important differences exist among countries. Pellizzari (2004) reports that across Europe the importance of personal contacts as job finding method varies to a great extent, ranging from 13.3 per cent in Finland to 45 per cent in Spain. Understanding the causes of such variation is important for at least two reasons.

First, family connections encompass a large variety of activities and are usually maintained for other purposes than getting a job. Moving from this basic observation, Bentolila et al. (2004) argue that the use of social contacts (differently from professional ones) may generate mismatch between workers' occupational choices and their comparative productive advantages. In the case of family contacts, this problem is even more serious: the possibility of finding more easily a job through relatives' help may lead to chose a career in professions, sectors, and locations where personal abilities are not fully exploited. Using a two sectors matching model, the above authors show that an increase in the proportion of individuals using contacts may lead to a reduction in aggregate net income. Consistently with this theory, the same paper reports that in European regions the importance of contacts for finding a job depresses average regional wages more than individual ones.

A second issue concerns the effect of the pervasive use of the family in the labor market on human capital accumulation. As suggested by Knack and Keefer (1997), if hiring decisions are influenced more by family networks and less by educational credentials, returns to education decrease and individuals may reduce their investment in human capital.

Labor market institutions are very heterogeneous across countries (see e.g. Freeman (2007)). Thus, it would be very difficult to rely on social capital variation across countries to address the central issue of this paper. I therefore concentrate on a single country, Italy, which is a suitable candidate for data availability and the well known variation of civic norms within its borders.¹

Most social capital proxies are outcome based, i.e. they do not measure social capital itself but the levels of trust, mutual confidence or cooperation it engenders. Therefore, they are possibly contaminated by other factors that may have similar consequences such as legal institutions aimed at achieving prompt law enforcement. Following Guiso et al. (2004), I use two indicators that to a good extent do not suffer this problem: electoral participation and blood donation.

To measure the importance of the family in the labor market, I exploit a unique source of information. While most labor surveys simply provide data on the main

¹See for example the pioneer investigation by Putnam (1993).

job search channel used, I have information on the kinship relationship between the job finder and the helper. Moreover, I know whether the help simply consists in providing useful resources (financial, practical or informational) or conversely it deals with connecting the worker with her employer.

Controlling for a large set of individual and geographical covariates, I find that in area with low levels of social capital people rely more on different kinds of family help. In particular, individuals are more likely to be referred to their employer by a family member. Interestingly, the correlation reverses if the help is provided by someone who is not a member of the family. This suggests that the result is not driven by the lack of formal labor market institutions.

Social capital, however, might be negatively correlated with other important cultural traits like the strength of family ties. If the latter positively affects the probability of being helped by the family, the effect found would be spurious. Following Alesina and Giuliano (2007), I exploit a set of questions asked in the World Value Survey to build measures of the strength of family ties across Italian regions. Descriptive evidence shows indeed that these measures are negatively correlated with social capital. However, using them as controls in our regression does not affect my basic findings.

To study the relationship between the role of social capital and other factors that are positively correlated with trust, I check whether the importance of social capital varies with the quality of legal institutions and the education levels. As expected, the effect of social capital is found to be stronger where legal enforcement and education levels are lower.

To further explore the causal nature of the correlation, the so-called epidemiological approach is applied. I run a number of regressions with provincial fixed effects and the social capital of the province of residence before university attendance. First, it is found that social capital of the province of origin has a positive effect on the probability of using the help of people who are not of family members. Second, when only the use of those forms of family help different from referrals is considered, social capital of the province of origin has a negative effect on the probability of using family help. Even if movers are not a random sample, this findings indicate that our main results are not driven by omitted geographical controls.

The rest of the paper is organized as follows. Section 2 discusses the notion of social capital and its applications. Section 3 describes the data employed in the present study. Section 4 presents the main empirical results. Section 5 investigates the causal nature of the main finding. Finally, section 6 concludes.

2 Social Capital and the Family

As noted by Kenneth Arrow (1999), social capital is probably a poorly chosen name. In fact, among others things, the concept of capital requires a deliberate sacrifice in the present for future economic benefits. As such, social capital is often built up for reasons different from its economic value and hence it lacks the above requisite. On similar grounds, two excellent surveys convincingly argue that the confusion about its meaning may undermine the usefulness of term (Durlauf and Fafchamps, 2004; Sobel, 2002). Nevertheless, this does not require abandoning the concept as a general organizing idea but being very precise about its meaning and its measurements. The aim of the present section is to fulfill this goal.

Social capital is broadly defined as the advantages and opportunities stemming from membership in certain communities (Bordieu, 1986). In the previous literature, however, as convincingly pointed out by Portes (2000), it has been applied to two distinct types of problems. In a first set of studies, mainly carried out by sociologists, social capital is conceived as the benefits accruing to *individuals* by virtue of their ties with others (Coleman, 1993). In this context, social ties might be beneficial for a number of reasons: as a source of social control, a source of family mediated benefits and a source of resources mediated by nonfamily networks (Portes, 1998).

In a second group of works, usually authored by political scientists, social capital rather concerns the advantages for *collectivities* by virtue of the civic norms prevailing among their members (Putnam, 1993). Here, benefits stem primarily from the generalized trust engendered by social capital within a given community.² To be sure, generalized trust—differently from personalized one—does not rise from kinship or repeated interpersonal interaction, but from general knowledge of a population of agents, their incentives, and the upbringing they have received (Durlauf and Fafchamps, 2004).

Though often compatible, the two applications of the concept are sometimes at odds with each other. For example, when personal connections give preferential access to certain public resource at the expenses of more qualified subjects, the individual advantages due to personal ties may negatively affect the ones stemming from collective norms against parochialism and patronage prevailing in a given community. The distinction among the two applications of is hence especially important for the present study. This paper aims at measuring the effects of the second type of social capital on the probability of using family social ties in the labor market.

²The definition of community used in this paper does not limit to "a group of people who interact directly, frequently and in multi-faceted ways" likewise in Bowles and Gintis (2002). Rather, a community is simply the set of people living in a given geographical area.

3 The Data

3.1 Individual Variables

The main data set used in this study is drawn from three almost identical surveys named *Indagine Inserimento Professionale Laureati* (Survey on University-to-Work Transition) run by the the Italian National Institute of Statistics (ISTAT) in 1998, 2001 and 2004 on representative samples of Italian universities' individuals who graduated three years before.³ For each respondent we have information concerning sex, age, high school grade, actual province of residence, province of residence before attending college, university and field of study attended, parents' education, parents' occupation. The final sample is composed by 44145 individuals who answered the question concerning the job finding method used to find their actual job and are resident in Italy at the time of the interview. Table 1 reports summary statistics of the variables used in the analysis.

Key for our purposes is a subset of questions related to job-finding methods. First, employed individuals are asked: "How did you find your actual job?". Together with direct application, newspaper ads, public exam, State Employment Service, the respondent may choose "A relative, a friend, or an acquaintance referred me to my employer". Second, all respondents that did not indicate the last channel are asked if they believe that a single person has been very useful or crucial in the matching process. Finally, an additional question asks about the identity of the referral or anyone who happened to be helpful in the matching process. In particular, I know whether she is a relative or not.

The main outcome variables of this study are four dummies defined as follows: *Family help* takes value 1 if a relative was helpful in the job finding process and 0 otherwise; *Family referral* has value 1 if a relative connected a given individual with her employer and 0 otherwise; *No-family help* takes value 1 if a non-relative turned out to be helpful and 0 otherwise. *No-family referral* has value 1 if a non relative referred a given individual with her employer, 0 otherwise. The Appendix reports the key questions of the survey and a detailed descriptions of the procedure followed to build the above variables.

³ISTAT also run a 1995 edition of the same survey that did not asked detailed questions on job finding methods. The publicly available micro-data do not include information concerning the university the interviewed individual graduated from. Therefore, we carried out the analysis at the ADELE ISTAT laboratory in Rome.

Table 1: Summary statistics

	Mean	Std. Dev.	Min	Max	Obs.
<i>1. Individual variables</i>					
Family help	0.091	0.287	0	1	44145
Family referral	0.041	0.199	0	1	44145
No family help	0.239	0.426	0	1	44145
No family referral	0.149	0.356	0	1	44145
Age	27.708	4.117	21	69	44145
High school grade	48.919	7.205	36	60	44145
No movers	0.716	0.451	0	1	44145
<i>2. Province variables</i>					
Social capital 1	0.820	0.07	0.62	0.92	44145
Social capital 1 origin	0.810	0.076	0.62	0.92	44513
Social capital 2	0.029	0.021	0	0.105	44145
Unemployment	8.801	6.872	1.3	30.7	44145
Average years of education	7.856	0.848	5.754	10.292	44145
Gdp per capita	17.883	9.597	6.082	38.163	44145
Judicial inefficiency	3.4	1.089	1.441	8.324	44145
Big firms	0.013	0.006	0.001	0.03	44145
<i>3. Region variables</i>					
Trust WVS	3.271	0.114	3.029	3.625	44145
Family importance	1.129	0.042	1.024	1.282	44145
Respect parents	1.793	0.057	1.645	1.921	44145
Parental duties	2.629	0.059	2.333	2.854	44145

Notes: "Social Capital 1" is the voter turnout at the province level for all referenda before 1989. "Social Capital 1 origin" is the voter turnout in the province of residence before attending university. "Social Capital 2" is the number of blood bags per million inhabitants at the province level. "Trust WVS" is an index of the level of trust based on the WVS for Italy. "Judicial Inefficiency" is the mean number of years it takes to complete a first-degree trial by the courts located in a province. GDP per capita is measured in thousands of euro.

Table 2: Cross-correlation table

	Social capital 1	Social capital 1 origin	Social capital 2	Trust WVS	Imp. Family	Respect parents	Parental Duties
Social capital 1	1.000						
Social capital 1 origin	0.816 (0.000)	1.000					
Social capital 2	0.681 (0.000)	0.564 (0.000)	1.000				
Trust WVS	0.669 (0.000)	0.546 (0.000)	0.612 (0.000)	1.000			
Imp. family	-0.206 (0.000)	-0.142 (0.000)	-0.339 (0.000)	-0.371 (0.000)	1.000		
Respect parents	-0.541 (0.000)	-0.434 (0.000)	-0.322 (0.000)	-0.432 (0.000)	0.090 (0.000)	1.000	
Parental duties	-0.406 (0.000)	-0.342 (0.000)	-0.379 (0.000)	-0.289 (0.000)	0.061 (0.000)	0.316 (0.000)	1.000

Notes: "Social Capital 1" is the voter turnout at the province level for all referenda before 1989. "Social Capital 1 origin" is the voter turnout in the province of residence before attending university. "Social Capital 2" is the number of blood bags per million inhabitants at the province level. "Trust WVS" is an index of the level of trust based on the WVS for Italy. "Importance family", "Respect parents", and "Parental duties" are three measures of the strength of family ties drawn from the WVS.

3.2 Measures of Social Capital and Geographical Controls

As mentioned in the introduction, our principal measures of social capital are electoral turnout at referenda and blood donation measured at the province level.⁴ Both measures are only indirect, but are intended to capture the degree of generalized trust and civicness that do not stem from formal institutions. The indicators are drawn from Guiso et al. (2004) and the interested reader finds therein a full description of the variables and details about their construction.⁵ Here it suffices to say that, as shown in Table 2, the two measures are highly correlated but not perfectly, hence it is possible to gain insights from common components.

We also consider an additional province control: a measure of the importance of big firms. In fact, as reported in several studies (see Ioannides and Loury (2004)), bigger firms are more likely to have recruitment offices and therefore less likely to hire through social networks. We draw from ISTAT the share of firms with more than 50 employees on the total number of manufacturing firms (*Big firms*).

⁴Italy has today about 104 provinces. When the first survey took place, however, they were 95.

⁵Buonanno et al. (2006) use an alternative measure of blood donation. I also employ their data as a robustness check.

As noted, higher levels of trust and civic attitudes may also stem from economic development and better institutions. Therefore, a set of province level controls are considered: first, provincial GDP per capita is used as a measure of economic development. Second, following Guiso et al. (2004), the average number of years it takes to complete a first degree trial is employed as a measure of the inefficiency of law enforcement. Finally, the average years of schooling in the province is meant to be a proxy for the average level of education.

As discussed by Granovetter (1973), especially during recessions and periods with high unemployment, people tend to rely more on family networks to find a job. Osberg (1993) finds that not only the use of job search methods, but also the determinants of their success change over the business cycle. Taking this into account, the time specific level of unemployment at the province level is used as a proxy of the state of the economy. Table 1 depicts descriptive statistics of the above variables.

I also draw a number of indicators from the 1990 and 1999 editions of the World Value Survey (WVS). In each edition about 2000 Italian individuals were asked questions concerning their values and beliefs. Unfortunately, data are not disaggregated at province level, but at regional one (Italian provinces are grouped into 20 regions). The survey allows to construct one additional measure of social capital and three measures of the strength of family ties. As far as the first indicator is concerned, individuals were asked "Generally speaking, would you say you trust other Italians?". Possible answers range from "trust completely"—to which I assign value 5—to "not trust at all"—which takes value 1.

Following Alesina and Giuliano (2007), indicators on the strength of family ties are generated exploiting three questions on, respectively, the importance of the family in individual life (*Family important*), the love and respect for parents (*Respect parents*), and the duty and responsibility of parents and children (*Parental duties*). The first question is: "How much important is the family in your own life?". Four answers are possible ranging from "very important" to "not at all important". The second asks to agree with one of the following statements 1) Regardless of what the qualities and faults of ones parents are, one must always love and respect them, 2) One does not have the duty to respect and love parents who have not earned it. The third question asks the respondents which of the following statements better describes their opinion on parents' responsibilities towards children: 1) It is the parents duty to do their best for their children even at the expense of their own well-being; 2) Parents have a life of their own and should not be asked to sacrifice their own well being for the sake of their children; 3) None of the two statements. I recode the three variables to have higher values corresponding to stronger family ties and then I attribute to each individual the corresponding regional average. Table 1 displays summary statistics for the above

variables.

As shown in Table 2, the three measure of the strength of family ties are positively correlated. On the other hand, note that they are negatively correlated with our indicators of social capital.

4 Empirical Results

4.1 Family Help

The effect of social capital on the likelihood of using family ties is estimated with the following equation:

$$Family\ Help_{ip} = \alpha + \beta X_i + \delta E_p + \eta Social\ Capital_p + u_{ip} \quad , \quad (1)$$

where $Family\ Help_{ip}$ indicates whether individual i in province p used the help of a relative to get is job. X_i is a set of individual controls including sex, age, high school grade, region of residence before attending college, a set of dummies controlling for university and field of study, dummies for parents' education and parents' occupation, and dummies for year of graduation. E_p is a set of controls for province including GDP per capita, level of education, inefficiency of low enforcement, and time specific province unemployment rate. Finally, SC_p is our main indicator of social capital, i.e. electoral turnout in referenda.

Coefficients reported in column I of Table 3 are effects of a marginal changes in the corresponding regressors. Social capital decreases the probability of using the family and the effect is statistically significant at the 1 percent level. The probability of using the family for an individual that hypothetically moves from the lowest social capital province to the highest social capital one decreases by about 10 percentage points. An effect which is of the same magnitude of the sample mean.

As depicted in the same column, the probability of being helped by a relative is negatively affected by high school grade, confirming the finding of Kramarz and Norstrom (2007) and positively affected by parents' level of education (not reported).

As expected GDP per capita and average level of education are both negatively associated with the probability of using the family (not reported). Even if it is necessary to include these controls in the regression, they might absorb part of the effect of social capital. Excluding them increases both the size of the coefficient and the statistical significance of social capital.

As mentioned, one might object that other non measured geographical characteristics that are related to social capital are driving our results. In column 2 I add to my baseline specification four additional controls. A province level proxy

Table 3: **Effect of Social Capital on the Use of the Family**

	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
Social Capital 1	-0.343 *** (0.081)	-0.282 *** (0.087)	-0.201 ** (0.089)	-0.204 ** (0.091)			-0.568 (0.379)
Social Capital 2					-0.356 * (.213)		
Trust WVS						-0.088 ** (0.034)	
High school grade	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)
Family importance		0.013 (0.072)	-0.040 (0.072)	-0.039 (0.071)	-0.067 (0.071)	-0.105 * (0.053)	-0.039 (0.080)
Respect parents		0.131 * (0.068)	0.075 (0.071)	0.090 (0.100)	.114 (0.100)	.059 (0.072)	0.066 (0.107)
Parental duties		0.017 (0.043)	0.037 (0.050)	0.035 (0.049)	0.039 (0.048)	0.053 (0.035)	0.013 (0.063)
South			0.035 * (0.019)				
North			-0.006 (0.011)				
Regional dummies				Yes	Yes	Yes	Yes
R-squared	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Obs.	44104	44104	44104	44104	44104	44104	44104

Notes: The dependent variable is a dummy variable that takes value 1 if the interviewed graduates was helped by a family member to find her actual job. "Social Capital 1" is the voter turnout at the province level for all referenda before 1989. "Social Capital 2" is the number of blood bags per million inhabitants at the province level. "Trust WVS" is an index of the level of trust based on the WVS for Italy. "Importance family", "Respect parents", and "Parental duties" are three measures of the strength of family ties drawn from the WVS. "Regional dummies" are four macro-regional dummies (North East, North West, Center, and South). All specifications include also controls for age, sex, parental education and occupation, province GDP, province average years of education, and province judicial efficiency. All regression are clustered at province level except the one whose coefficients are reported in column VI that is clustered at region level.

* significant at 10%; ** significant at 5%; *** significant at 1%.

which captures the importance of large firms and three regional measures of the strength of family ties. All the regressors have the expected signs and one of the three measure of the importance of the family is statistically different from zero at the 10 percent level. Note that the first indicator, likewise GDP per capita and average years of education, is potentially endogenous (La Porta et al., 1997). Nevertheless, the effect of social capital is still significant at the 1 per cent level.

Several studies have documented that differences between the South and the North of Italy are considerable and go beyond social capital. Given that the correlation between electoral participation and the South is strongly negative while the one with North strongly positive, column III of Table 3 depicts the results obtained when two dummies for North and South are included in equation 1. As expected, respondents who work in the South are more likely to find a job through the family. The coefficient magnitudes of social capital reduces but it is still significant at the 5 percent level. In column IV a more detailed partition of Italian regions is used adding dummies for North East, North West, Center, South and Islands. Results do not change significantly and the probability of using the family for an individual that moves from the lowest social capital province to the highest one decreases by about 6 percentage points.

So far the analysis has relied on a single social capital indicator. To check the robustness of the indicator used, I run the same specification depicted in column IV using blood donation instead of electoral participation. Column V shows that social capital has again a negative effect on the probability of using family help. However, the magnitude of the impact is somewhat smaller and it is significant only at the 1 percent level.

I also check whether there is a relation between a direct measure of trust and the use and availability of family help. I hence rely on the 1990 and 1999 editions of the World Value Survey (WVS). Results depicted in column VI confirm the previous ones.

Finally, in column VII electoral participation is instrumented with blood donation to capture the common component of these two measures. The estimated coefficient more than doubles, pinpointing that the effect is driven by common component. However, the coefficient is not statistical significant at the usual levels.

4.2 Family Referrals

This subsection presents results obtained applying the above analysis on a subset of family help: the probability of family referral. Table 4 reports the basic findings. The impact of social capital is somewhat smaller but it exceed the sample mean. The probability of using family referral for an individual that hypothetically moves from the lowest social capital province to the highest social capital one decreases

Table 4: Effect of Social Capital on the Use of Family Referrals

	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
Social Capital 1	-0.160 *** (0.049)	-0.120 ** (0.051)	-0.093 * (0.054)	-0.112 ** (0.056)			-0.248 (0.214)
Social Capital 2					-0.155 (.125)		
Trust WVS						-0.066 *** (0.023)	
Family importance		0.019 (0.038)	-0.003 (0.041)	-0.008 (0.042)	-0.021 (0.043)	-0.057 (0.039)	-0.008 (0.045)
Respect parents		0.133 *** (0.041)	0.109 ** (0.044)	0.134 ** (0.062)	.146 ** (0.062)	.108 * (.055)	0.125 * (0.065)
Parental duties		-0.002 (0.030)	-0.001 (0.034)	0.003 (0.036)	0.007 (0.007)	0.014 (0.026)	-0.005 (0.042)
South			0.011 (0.011)				
North			-0.007 (0.006)				
Regional dummies				Yes	Yes	Yes	Yes
R-squared	0.029	0.030	0.030	0.030	0.030	0.030	0.030
Obs.	44104	44104	44104	44104	44104	44104	44104

Notes: The dependent variable is a dummy variable that takes value 1 if the interviewed graduates used a family referral to find her actual job. "Social Capital 1" is the voter turnout at the province level for all referenda before 1989. "Social Capital 2" is the number of blood bags per million inhabitants at the province level. "Trust WVS" is an index of the level of trust based on the WVS for Italy. "Importance family", "Respect parents", and "Parental duties" are three measures of the strength of family ties drawn from the WVS. "Regional dummies" are four macro-regional dummies (North East, North West, Center, and South). All specifications include also controls for age, sex, parental education and occupation, province GDP, province average years of education, and province judicial efficiency. All regression are clustered at province level except the one whose coefficients are reported in column VI that is clustered at region level.

* significant at 10%; ** significant at 5%; *** significant at 1%.

by about 5 percentage points. The only mayor difference is that blood donation effect, even if has the same sign, loses statical significance.

4.3 When is Social Capital More Important?

This section explores whether the effect of social capital differs in provinces with different levels of legal enforcement and education. Following Guiso et al. (2004), I conjecture that the generalized trust engendered by social capital is more important in areas where both legal enforcement and education levels are low.

To test the first hypothesis I split the sample between provinces with efficiency of legal systems above and below the median (3.04). As depicted in Table 5 the effect of social capital is stronger where legal institutions are less efficient.

Similarly, I split the sample between those individuals who live in provinces

Table 5: **Law enforcement and education: when is social capital more important?**

	<i>Law Enforcement</i>		<i>Education</i>	
	Low	High	Low	High
Social Capital 1	-0.258** (0.129)	-0.105 (0.170)	-0.368*** (0.105)	0.183 (0.145)

Notes: "Social Capital 1" is the voter turnout at the province level for all referenda before 1989. All regression are clustered at province level.

* significant at 10%; ** significant at 5%; *** significant at 1%.

where average years of education are below and above the sample median (7.9). As depicted in Table 5, social capital in explaining the probability of using family help in those provinces where levels of education are lower.

5 Robustness Checks

This section explores whether my results on the probability of using family help are the true effect of social capital or, conversely, are driven by unobserved environmental heterogeneity. First, I investigate if the probability of receiving help by someone who is a family member is also affected by social capital. Second, I apply the so-called epidemiological approach using as a measure of social capital the referenda turn out of the province of origin to eliminate geographical fixed effect.

5.1 Non Family Help

One might suspect that the above findings are driven by geographical differences in labor market institutions whose presence happens to be correlated with social capital. If this were the case, however, one should observe also the use of other types of social networks or social referrals to be affected by social capital. I estimate equation 1 using as dependent variables the use of non family help and non family referrals. As shown in Table 6, regression results pinpoint to the opposite direction: social capital has a positive effect on the use of non family help and an even stronger positive effect on the use of non family referrals.

Table 6: **Social Capital and Non Family Help**

	<i>Non Family Help</i>	<i>Non Family Referrals</i>
Social Capital 1	0.289 *	0.244 **
	(0.146)	(0.093)

Notes: "Social Capital 1" is the voter turnout at the province level for all referenda before 1989. All regression are clustered at province level.

* significant at 10%; ** significant at 5%; *** significant at 1%.

5.2 The Epidemiological Approach

The previous checks do not rule out the possibility that the above findings are driven by non observable environmental variables. Of course, since the used measures of social capital do not vary across time, province fixed effects can not be included in the regression. However, given that as shown in Table 1 about 30 percent of the individuals of the sample are movers, I can use the so-called epidemiological approach: I test whether controlling for province fixed effects social capital of origin does affect the use of the family in the labor market.⁶ The latter measure turns out to be important either if there is an inherited and persistent component in social capital or if individuals form subjective estimate of trustworthiness according to their past experiences.

The basic advantage of this approach is clear: the presence of province dummies rule out the possibility that our findings are due to omitted variables at the province (of residence) level.

To be sure, movers are not a random sample. First, they may be subject to worse employment opportunity or different shocks with respect to stayers. Moreover, generalized trust, similarly to others cultural traits, is socially constructed and may change in other contexts. Finally, movers are often different from the province average. All but the first considerations make our test very demanding. Moreover, in our case, movers are precisely the ones that lack the right connections and it is unlikely that relatives in different provinces are able to refer them to an employer. Therefore, to investigate whether social capital of origin still affect the probability of using the family, we consider here only those forms of family help different from referrals. Conversely, we use the standard indicator as far as non family help is concerned.

The first column of Table 7 depicts coefficients of a linear probability model whose dependent variable assumes value 1 if a given individual has been helped by a relative to find her job with any method but a referral. The regression includes

⁶See Fernandez (2007) for a very clear explanation for the intuition and the name of this approach.

Table 7: **Social Capital of origin and non referral family help**

	<i>Family non Referral Help</i>	<i>non Family Help</i>
Social Capital 1 origin	-0.059 *	0.129 ***
	(0.035)	(0.052)

Notes: "Social Capital 1 origin" is the voter turnout in the province of residence before attending university. Robust Standard Errors in parenthesis. All regression are clustered at province level.
* significant at 10%; ** significant at 5%; *** significant at 1%.

together with usual individual controls province of residence dummies and the level of social capital of the province before university attendance. Also in this specification, the impact of social capital is negative, though is only marginally statically significant.

The second column display results of the same regression but the dependent variable, which assumes value 1 if a given individual has been helped by someone who is not a family member. Even if the coefficient is smaller with respect to the one depicted in Table 6, it is statistically different from zero at the 1 percent level.

6 Conclusions

Results presented in this paper show that social capital and the generalized trust it engenders are important in explaining how pervasive is the use of the family in the labor market across different Italian provinces. These findings are robust to a number of different specifications and measures of social capital. The causal nature of the relationship is investigated using different environmental indicators and applying the so-called epidemiological approach.

It is also found that social capital is more crucial in those regions where legal enforcement is weak and education levels low. This result suggests that better legal institutions and education systems may possibly eliminate the negative effects of the lack of social capital.

Appendix

This section reports the translated key-section of the questionnaire used in the survey and gives detailed explanation on how we define our main dependent variables.

58. How did you get your job?

☐ Through a referral made to my employer by relatives/friends/acquaintances

(Pass to question 60)

- ☐ Through direct knowledge of my employer
- ☐ Through a referral made by University, training centers, or Faculties
- ☐ After an internship
- ☐ By a direct call of my employer
- ☐ Through newspaper ads.
- ☐ Sending my CV to my employer
- ☐ Public exam
- ☐ By starting a job as self employed
- ☐ Through application to schools or education institutes
- ☐ Through Public Employment agency
- ☐ Through private employment agencies

59. Do you believe a single person has been very useful or crucial in helping you?

- ☐ NO, nobody
- ☐ YES, somebody who:
 - ☐ Helped me to prepare the exam
 - ☐ Borrowed me money
 - ☐ Gave me tools/machineries
 - ☐ Was the intermediary with my employer
 - ☐ Gave me information which has been crucial to get the job.

60. Was he/she:

- ☐ A parent
- ☐ Your brother or sister
- ☐ Another relative
- ☐ Someone else

The variable Family Help assumes value 1. if the answer to question 60. is "A parent", "Your brother or sister", or "Another relative"; 0 otherwise. The variable Family Referral takes value 1 if Family Help is equal to 1 and either the answer to question 58. is "Through a referral made to my employer by relatives/friends/acquaintances" or answer to question 59. is "Was the intermediary with my employer". Similarly, Non-Family Help takes value 1 if the answer to question 60. is "Someone else" and the variable Non-Family Referral takes value 1 if Non-Family Help is equal to 1 and either the answer to question 58. is "Through a referral made to my employer by relatives/friends/acquaintances" or answer to question 59. is "Was the intermediary with my employer".

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