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The Role of Social Capital in Financial Development

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To identify the effect of social capital on financial development, we exploit social capital differences within Italy. In high-social-capital areas, households are more likely to use checks, invest less in cash and more in stock, have higher access to institutional credit, and make less use of informal credit. The effect of social capital is stronger where legal enforcement is weaker and among less educated people. These results are not driven by omitted environmental variables, since we show that the behavior of movers is still affected by the level of social capital of the province where they were born. (JEL Z13, G10, O16)

In 1958 when Edward C. Banfield wrote "The Moral Basis of a Backward Society" few economists, with the exception of Kenneth Arrow, noticed.[1] His thesis that the underdevelopment of southern Italy was due to the lack of social trust outside the strict family circle (which he labeled "amoral familism") was hard to reconcile with the economic models prevailing at that time. Forty years later, however,

developments in economic theory allow us to appreciate the intrinsic limitations agents face in contracting and the potential role social capital, and the trust it engenders, can play in reducing the deadweight loss generated by these limitations.

For this reason, the work of Robert D. Putnam (1993) and Francis Fukuyama (1995) has captured the attention of several economists. Rafael La Porta et al. (1997a), for example, document a strong correlation between the trust prevailing in a country and the presence of large organizations. Similarly, Stephen Knack and Philip Keefer (1997) find a correlation between a country's level of trust and its rate of growth. This correlation persists even after controlling for quality of law enforcement (Knack and Paul Zack, 2001).

The skeptics, however, could still object. First, people's trust may be the result not only of the social capital present in their community, but also of prompt law enforcement. Second, the theoretical link between social capital and growth is very indirect (e.g., Robert M. Solow, 1995). Even Putnam (1993) admits that the mechanisms through which "the norms and network of the civic community contribute to economic prosperity" should be investigated further.

In this paper we investigate the link between the level of social capital and one important factor underlying economic prosperity, financial development. One of the mechanisms through which social capital impacts economic efficiency is by enhancing the prevailing level of trust. In high-social-capital communities, peo-

[1] Arrow (1972) wrote: "It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence. See Banfield's remarkable study of a small community in southern Italy."

ple may trust each other more because the networks in their community provide better opportunities to punish deviants (James S. Coleman, 1990; Giancarlo Spagnolo, 1999). At the same time, in these communities people may rely more on others' keeping their promises because of the moral attitude imprinted with education (Banfield, 1958).

Since financial contracts are the ultimate trust-intensive contracts, social capital should have major effects on the development of financial markets. Financing is nothing but an exchange of a sum of money today for a promise to return more money in the future. Whether such an exchange can take place depends not only on the legal enforceability of contracts, but also on the extent to which the financier trusts the financee.

Since social capital is an important determinant of the level of trust, it should also affect the level of financial development. Documenting this link can not only shed light on the mechanism through which social capital contributes to economic prosperity, but also provide a new explanation for the widely different levels of financial development across countries.

The use and availability of financial contracts across countries is affected by many other institutional factors, and thus is difficult to control for in a regression. Therefore, we exploit within-country variations to identify the effects of social capital on the use and availability of financial contracts. We use Italy as our sample country, both for the availability of detailed microeconomic data and for its historical importance in the social capital debate: Italy is the country where sociologists first turned to study the effects of trust and social capital (Banfield, 1958; Putnam, 1993).

The most contentious issue is how to measure social capital. Since the concept itself is complex, most of the measures used in the literature are outcome based, e.g., the level of trust or level of economic cooperation. One problem with these measures is that they are contaminated by other factors. For example, is the level of trust a New Yorker exhibits in her daily economic behavior the result of good law enforcement or the product of a high level of social capital? We focus on two outcome-based measures that are free from this criticism: electoral participation and blood donation. There

are neither legal nor economic incentives to donate blood or to vote. Both decisions are driven only by social pressure and internal norms, i.e., the fundamental components of social capital.

We study the effect of social capital on a variety of households' financial choices: use of checks, portfolio allocation, availability of loans, and reliance on informal lending. Consistent with social capital being important, we find that in areas characterized by high levels of social capital, households invest a smaller proportion of their financial wealth in cash and a bigger proportion in stock. This result holds even after we control for a large set of households' characteristics and some other environmental variables, such as quality of legal enforcement, the average level of education, and the per capita gross domestic product (GDP). In social-capital-intensive areas, households are also more likely to use personal checks and to obtain credit when they demand it. These results are not driven by omitted environmental variables, since we show that the behavior of those people who move is still affected by the level of social capital present in the province in which they were born.

We find that the likelihood of receiving a loan from a relative or a close friend decreases with the level of social capital that prevails in the area. This finding is consistent with Banfield's (1958) and Fukuyama's (1995) claims that low-social-capital areas are often characterized by more intense reliance on transactions within narrow subgroups, such as families and friends.

To examine the causal nature of these correlations, we explore whether the magnitude of the impact of social capital varies as theory predicts. Consistent with theory, we find that the effect of social capital is stronger when legal enforcement is weaker. We also find that the effect of social capital is more pronounced among less educated people, who need to rely more on trust because of their limited understanding of contracting mechanisms.

We also examine the mechanism by which social capital generates the trust needed for financial transactions. Is trust simply an equilibrium outcome of a society in which nonlegal mechanisms force people to behave cooperatively (e.g., Coleman, 1990; Spagnolo, 1999) or

is there an inherited component imprinted during education? We distinguish between these two interpretations by focusing on households that have moved from one province to another. For these households we can separately identify the effect of the environment they grew up in and the environment where they live. Although most of the effect is due to the level of social capital prevailing in the area where an individual lives, a significant fraction (roughly a third) is due to the level of social capital prevailing in the area where he was born.

Besides the literature on trust and social capital, our work is mostly related to a growing number of studies on the effect of social interaction, peer monitoring, and peer pressure on criminal behavior (Ann Case and Larry Katz, 1991), on shirking in the workplace (Andrea Ichino and Giovanni Maggi, 2000), on group lending programs (Timothy Besley and Stephen Coate, 1995), and on stock market participation (Harrison Hong et al., 2004). This literature studies the effect of the social structure of small groups on economic outcomes. Because we are interested in explaining different patterns of economic development, we instead look at social characteristics of the whole community (electoral participation, the incidence of blood donation) where individuals live and grow up. We investigate whether the use and availability of financial instruments is affected by the social characteristics of the community.

The paper proceeds as follows. Section I discusses the notion of social capital and its measures. Section II describes the data and the hypotheses that we test. Section III presents the results of the effect of social capital on the use and availability of financial contracts. Section IV explores situations when social capital is more important. Section V asks if there is an inherited component of social capital, imprinted with education. Section VI assesses the relative importance of the inherited versus environmental component of social capital. Section VII concludes.

I. The Concept of Social Capital

A. What Is Social Capital?

In sociology, social capital is broadly defined as the advantages and opportunities ac-cruing to people through membership in certain communities (Pierre Bourdieu, 1986). Coleman (1990) describes social capital as a resource of individuals that emerges from social ties. Thus, the source of this capital lies with the people a person is related to. But why are some people willing to make resources available to others without any explicit compensation?

Sociologists identify two main motivations (Alejandro Portes, 1998). First, people may do it because of strongly internalized norms (what sociologists call consummatory behavior). They donate to charity, obey traffic rules, and pay their debts on time because they feel obligated to do so. Alternatively, people might be willing to make resources available for instrumental reasons. In this case, social capital affects the behavior of individuals because it enhances the level of social punishment of a society.

For most of the paper we do not distinguish between these two theories. Instead, we focus on a common prediction of both, that high levels of social capital generate higher levels of trust toward others. At the end of the paper we try to distinguish whether social capital is purely driven by environmental variables or if there is also an inherited component.

B. Social Capital and Financial Development

Whether individuals are willing to sign financial contracts depends not only on the enforceability of contracts, but also on the extent to which they trust the counterpart.

Trust within a specific group may have ambiguous effects on the use of financial contracts. In New York, diamond traders all belong to a Jewish orthodox sect and they do not use contracts: the within-group trust is sufficient. By contrast, trust across groups or generalized trust can only benefit the workings of organized markets and the development of finance.

Since we focus on social capital at the community level, we characterize high-social-capital areas as those with high levels of generalized trust, which has an unambiguously positive effect on the use and availability of financial contracts. Thus, we expect financial development to be positively correlated with our measures of social capital.

C. A Simple Framework

To determine our choice of the right proxies of social capital and the empirical tests, we sketch a simple model of the link between social capital, trust, and financial decisions. We construct the model in terms of a household decision of how much to invest in stock, but we note that our model can be easily extended to other financial decisions.

Let investor i's demand for stock be represented by

$$(1) \qquad S_i = f(ER, \varphi_i)$$

where S_i is the amount of money principal i invests in stock, ER the expected return from the investment, and φ_i her individual characteristics, such as risk aversion, that affect portfolio choice. To introduce an element of trust we assume that the broker will abscond with the money with some probability.[2] If the investor fears that the broker will abscond with her money, the expected return of her investment will not simply be R, the expected return on the stock, but $\pi \times 0 + (1 - \pi) \times R$ where π is the probability the broker will abscond with the money.

How much an investor will trust her broker depends on her expectation about the broker's behavior. To derive this expectation we analyze the broker's decision.

A broker i's utility of absconding can be written as $V_i = V(a_i, X^J, N^J, \theta_i, k_i)$ where $a_i \in \{0, 1\}$ is the action (abscond or not), X^J the quality of legal enforcement in area J where the investor is located, N^J the extent of social networks in area J, θ_i is the set of social norms of agent i, and k_i an individual-specific fixed cost of absconding drawn from the cumulative distribution $F(k)$, which is the same across areas. We assume that higher legal enforcement (X), broader social networks (N), stronger norms (θ),

and higher costs (k) reduce the utility from absconding.[3]

Given these assumptions, there is a cost threshold $\bar{k}_i = \bar{k}(X^J, N^J, \theta_i)$ below which broker i will find it optimal to abscond,

$$(2) \qquad a_i^* = \begin{cases} 1 & \text{if } k_i < \bar{k}_i \\ 0 & \text{otherwise} \end{cases}.$$

Since it can be shown that $\bar{k}$ is decreasing in X, N, and θ_i, fewer brokers will abscond in areas with high value of X^J, N^J, and θ_i.

We assume for simplicity there are only two types of agents $\theta_i \in (\theta_L, \theta_H)$, where $\theta_H > \theta_L$ denotes a type who is less willing to abscond with the money. The distribution of broker types can differ across areas. Let p^J denote the frequency of θ_L types in the population of agents living in area J. In equilibrium, the probability a broker in area J absconds is given by[4]

$$(3) \qquad \pi^J = h(p^J, X^J, N^J).$$

This equation represents the probability that an investor in area J will use to compute her expected return. Then, her demand for stock in region J will be

$$(4) \qquad S_i = f((1 - \pi^J) \times R, \varphi_i)$$
$$= l(X^J, N^J, p^J, \varphi_i).$$

It follows, then, that the demand for stock in area J will be increasing in the level of legal enforcement (X), in the extent of social network (N), and in the relative strength of norms (p).[5]

D. How Do We Measure Social Capital?

Because we do not observe individual norms, θ_i, and hence p^J, and since it is difficult to

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[2] The risk of the broker absconding is meant to capture the various ways trust affects investment decisions. For instance, in the case of stocks, an investor should not only trust the broker or financial intermediary that buys and holds the stock for him, but also trust the accounting numbers the firm reports, the managers running the firm, etc. The same reasoning applies to any other financial instrument.

[3] So that $V_X < 0$; $V_N < 0$; $V_\theta < 0$, $V_k < 0$ with V_z indicating the partial derivative of V with respect to z.

[4] This comes from $\pi^J = p^J F(\bar{k}(X^J, N^J, \theta_L)) + (1 - p^J)F(\bar{k}(X^J, N^J, \theta_H)) = h(p^J, X^J, N^J)$.

[5] To derive it is sufficient to notice that sign $\partial S/\partial X = $ sign $\partial S/\partial N > 0$, since sign $\partial \pi/\partial X = $ sign $\partial \pi/\partial N < 0$; and $\partial S/\partial p < 0$ since $\partial \pi/\partial p > 0$.

observe all the formal and informal social networks, N^J, we follow earlier studies in using some outcome-based measures of social capital. However, to do so we must ensure that these measures are not affected by other environmental variables, such as legal enforcement, that are uncorrelated with social capital, but which might have a direct impact on our variable of interest (e.g., investment in equity), as equation (4) shows. Therefore, we focus on the choice of electoral participation and blood donation.

Unlike economic cooperation, legal variables and individual characteristics other than norms do not enter in the utility of donating blood or donating time to vote, D_i. By contrast, the utility function might depend on the aggregate (community) level of donation (or voting), $\bar{D}^J$. Hence, the utility from donating blood can be represented as $U_i = F(D_i, \bar{D}^J, N^J, \theta_i)$.

In equilibrium $\bar{D}^J = f(N^J, p^J)$. Thus, the local level of blood donation (or electoral participation) is a function of only the two components of social capital, networks and norms. If we do not want to distinguish between these two sources of social capital, $\bar{D}^J$ is a legitimate proxy for the level of social capital in area J. Hence, we can rewrite (4) as $S_i = l(X^J, \bar{D}^J, \varphi_i)$. We use this specification in our empirical analysis.

II. The Data

A. Measures of Social Capital

As noted, our primary measures of social capital are electoral turnout and blood donation. We measure both these factors at the province level.[6]

Since in general elections Italian citizens are required to vote by the law, we measure voter turnout in referenda, where voting is not mandatory. We measure voter turnout for all the referenda that occurred in Italy between 1946 and 1989. These referenda cover a very broad set of issues, ranging from the choice between republic and monarchy (1946), divorce (1974), abortion (1981), from hunting regulation (1987), to the use of nuclear power

(1987), to public order measures (1978, 1981).

Table 1 shows that Italy has a very high average voter turnout (80 percent). However, what is relevant for this study is the cross-sectional variability, which is substantial. Turnout goes from 62 percent to 92 percent, with one-quarter of the observations below 72 percent and one-quarter above 86 percent. Figure 1 shows how this measure of social capital varies within Italy. Social capital is higher in the North of Italy (north of the Apennines), weaker in the center (from the Apennines to Rome), and very weak in the South (south of Rome). However, even within these areas there is some variation.

In Italy 90 percent of the whole blood donations and 100 percent of anonymous blood donations are collected by AVIS, the Italian association of voluntary blood donors (see the Appendix for more details on AVIS). Since the collection procedures are set nationally and administered by AVIS, these data control for possible differences in the quality of medical infrastructure. Hence, our second measure of social capital is the number of 16-ounce blood bags collected per inhabitant in the province in 1995, the only year for which we have complete data at the province level.

As Table 1 shows, the average level of donation is three bags per hundred people, but there is high cross-sectional variability. Some provinces have no donations, others go as high as 11 bags per hundred people.

Table 1, Panel B, reports the cross-correlations between these two measures of social capital. Despite the different nature of these variables, their correlation is high (0.64). However, it is not perfect. Hence, we can gain some insights by looking at common components.

B. Measures of Use and Availability of Financial Instruments

Our data on households is drawn from the Survey of Household Income and Wealth (SHIW). This survey is conducted by the Bank of Italy on a representative sample of about 8,000 households. The survey collects detailed information on Italian household income, consumption, and wealth as well as households' portfolio allocation across financial instruments

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[6] In our classification Italy is divided in 95 provinces, which are similar to U.S. counties.

TABLE 1—SUMMARY STATISTICS AND CORRELATIONS

Panel A: Summary Statistics						
	Mean	Median	Standard deviation	Minimum	Maximum	Observations
Social capital 1	0.8	0.83	0.08	0.62	0.92	32,665
Social capital 1 origin	0.79	0.8	0.09	0.6	0.92	32,184
Participation in referendum on divorce	0.88	0.9	0.07	0.68	0.97	32,583
Social capital 2	0.03	0.02	0.02	0	0.11	32,665
Trust (WVS)	0.33	0.32	0.14	0	0.75	24,674
Use of checks	0.49	0	0.5	0	1	32,665
Percent wealth in cash	0.24	0.06	0.35	0	1	32,332
Percent wealth in stocks	0.03	0	0.12	0	1	32,332
Discouraged or turned down	0.03	0	0.16	0	1	32,665
Loans from friends and family	0.03	0	0.18	0	1	32,665
Judicial inefficiency	3.63	3.5	1.25	1.44	8.32	32,665
Squared judicial inefficiency	14.75	12.26	11.1	2.08	69.28	32,665
North	0.43	0	0.49	0	1	32,665
South	0.36	0	0.48	0	1	32,665
Per capita GDP (in thousands dollars)	14.15	12.86	7	5.21	40.33	32,665
Average years of education	7.54	7.59	0.86	5.75	10.29	32,665
Income (in thousands dollars)	25.3	20.92	18.43	0	428.38	32,665
Wealth (in thousands dollars)	136.38	81.35	233.07	−104.02	9,905.83	32,442
Age	53.1	53	15.17	17	114	32,665
Education	8.2	8	4.67	0	18	32,665
Married	0.74	1	0.44	0	1	32,665
Male	0.78	1	0.42	0	1	32,665
Number of people living in house	3	3	1.37	1	9	32,665

Panel B: Correlations								
	Social capital 1	Social capital 1-origin	Participation in divorce referendum	Social capital 2	Trust (WVS)	Judicial inefficiency	Per capita GDP	Average years of education
Social capital 1	1							
Social capital 1-origin	0.0963 (0.0004)	1						
Participation in divorce referendum	0.9711 (0.0000)	0.1037 (0.0002)	1					
Social capital 2	0.6366 (0.0000)	0.0580 (0.0339)	0.5864 (0.0000)	1				
Trust (WVS)	0.3821 (0.0037)	0.1063 (0.0015)	0.3876 (0.0032)	0.2448 (0.0690)	1			
Judicial inefficiency	−0.6363 (0.0000)	−0.0570 (0.0371)	−0.6688 (0.0000)	−0.4253 (0.0000)	−0.2138 (0.1136)	1		
Per capita GDP	0.5466 (0.0000)	0.0685 (0.0001)	0.5386 (0.0000)	0.3686 (0.0000)	0.2154 (0.0012)	−0.3699 (0.0000)	1	
Average years of education	0.6349 (0.0000)	0.1081 (0.0001)	0.6635 (0.0000)	0.2555 (0.014)	0.3644 (0.0058)	−0.5405 (0.0000)	0.5416 (0.0000)	1

Notes: The description of the variables is in the Appendix. Panel A contains summary statistics. Panel B shows correlation among the social capital indicators and other environmental variables. The number in parentheses is the significance level of each correlation coefficient.

and their access to formal and informal credit. For each household, the data also contain information on characteristics of the households' head, such as education, age, place of birth, and residence.

One of the unique features of the SHIW is its ability to distinguish between households that did not want a loan from those households that did not succeed in obtaining a loan because they were turned down or did not apply because they

Participation in referenda
in Italian provinces: percentage rates (number of provinces)

	88 or more	(17)
	86 to 88	(17)
	81 to 86	(25)
	72 to 81	(21)
	62 to 72	(22)

FIGURE 1. TRUST ACROSS ITALIAN PROVINCES: PARTICIPATION IN REFERENDA

Note: Darker areas correspond to provinces with a higher participation in referenda.

expected to be turned down. The survey also reveals the existence of informal credit (i.e., credit extended by friends and family). The Appendix contains a more detailed description of the data set, with the actual interview questions.

The SHIW is conducted every two years. Since the last four surveys (1989–1995) have maintained the same structure, we pool them, obtaining a sample of 32,686 observations. The survey has a rotating panel component, so 9,287 of these observations come from reinterviewing the same household in a different year. In our analysis we check the robustness of our results to eliminate these repeated observations. After excluding a few households that report negative consumption and/or income (17 observations), our final sample contains 32,665 households if we include repeat observations, and 23,330 households if we exclude repeat observations.

Table 1 reports summary statistics for all the measures of use and availability of financial instruments: these measures are the dependent variables in our regressions. The first measure is an indicator variable of whether a household uses checks. Half of the households interviewed do not use checks. The second measure is the proportion of financial wealth that a household retains in cash. All observations are equally weighted, thus the mean (24 percent) is distorted by the fact that poorer people retain 100 percent of their financial wealth in cash. A value-weighted average gives a more reasonable 2.4 percent. This feature highlights the importance of controlling for the level of wealth (and its square to capture possible nonlinearities) in any regression. The third measure is the fraction of financial wealth retained in stock. The low mean (3 percent) is consistent with the limited role played by the stock market in Italy (e.g., Marco Pagano et al., 1998).

The next variable pertains to a household's ability to access the credit market. "Discouraged or turned down" is an indicator variable equal to one if a household responds positively to at least one of the following questions: "During the year did you or a member of the household think of applying for a loan or a mortgage to a bank or other financial intermediary, but then changed your mind on the expectation that the application would have been turned down?" "During the year did you or a member of the household apply for a loan or a mortgage from a bank or other financial intermediary and your application was totally or partially turned down?" Two percent of the sample households were discouraged from borrowing (i.e., answered "yes" to the first question), while 1 percent of the sample households were turned down (i.e., answered "yes" to the second question).

"Family loan" is an indicator variable equal to one if a household responds positively to the question "As of the end of the year did you have debts outstanding towards friends or relatives not living with you?" Three percent of the sample households received such loans.

C. Environmental Variables

We augment our household-level data with several other variables. The first is a measure of economic development, measured by GDP per capita in the province. This measure is released by the National Institute of Statistics (ISTAT). It averages 14,000 dollars and exhibits wide variations (standard deviation 7,000 dollars per capita).

The second variable is a measure of the inefficiency of law enforcement, the average number of years it takes to complete a first-degree trial in the courts located in the province. We compute this measure using data released by the Ministry of Justice on the length of trials. As Table 1 indicates, there is wide variation in this measure, ranging from 1.4 to 8.3 years, with a mean of 3.6 and a standard deviation of 1.25.

The third variable is a measure of the average level of education in the province. Although our regression controls for the individual level of education, the average level of education may have important externalities in households' behavior. Therefore, we use the average years of schooling in the province in 1981 (from ISTAT).

We know the province where the household currently resides. Accordingly, we merge the household data set with our measures of social capital and attach to each household the measures of social capital in the province where it is located. We also know the province where the household head was born. We use this as a proxy for the area in which an individual was raised, and for the level of social capital prevailing there. We label this variable social capital of origin.

Table 1, Panel B, reports the cross-correlations between the various measures of social capital and the other environmental variables. As we expected, social capital measures are positively correlated with income per capita and average education.

D. Theoretical Predictions

All financial contracts could be reduced to a principal who entrusts some money to an agent. The expected return of this activity depends (among other things) on the probability that the agent will abscond.

For instance, in accepting a check, the principal trusts the agent to have the necessary funds in the bank. The expected return on the check depends on the level of trust in the agent,

which is a function of the level of social capital. Thus, ceteris paribus, households living in low-social-capital areas are less likely to use checks.

In a portfolio choice, assets differ not only in their intrinsic riskiness, but also in the probability of being expropriated, and thus in the amount of trust they require. Where social capital (and hence trust) is very low, households will invest a larger fraction of their assets in the least trust-intensive form of investment, i.e., holding cash. Similarly, households will invest a smaller fraction of their assets in the most trust-intensive form of investment, i.e., stock.

Lending is also a trust-intensive activity. The lender must trust that the borrower will not run away with the money. Thus, using the same logic, we expect that the supply of loans to households is positively affected by the average level of social capital in the province. Fortunately, the data allow us to separate demand and supply. We have the information on whether the respondent requested a loan and whether he was turned down or was discouraged from applying. Thus, a higher level of social capital should decrease the probability that a household is either denied credit or discouraged from applying.

Our data set also contains information on informal lending, those loans that are made by relatives and friends. How do we expect them to vary with the degree of social capital? As for any type of lending, a higher level of trust should lead to more lending. However, in this case there are three forces pushing in the opposite direction. First, informal lending is a substitute for formal lending when the latter is either unavailable or too expensive. As we note above, the access to formal lending is jeopardized by lack of social capital. Thus, the demand for loans from friends and family increases in areas with low social capital. Since for these informal loans we cannot separately observe the demand and supply, but only their existence, it is possible that the demand effect dominates and that the likelihood of loans by friends and family is higher in areas with low social capital.

Second, there might be a substitution effect on the supply of loans. In low-social-capital areas, the group with the highest comparative advantage in undertaking trust-intensive activities (such as lending) is the group with a comparatively high level of trust (such as friends and family).

Third, many authors (Banfield, 1958; Fukuyama, 1995) emphasize that low levels of trust toward others are generally associated with high levels of trust within subgroups, such as the family. Banfield's term "amoral familism" signifies the existence of very high levels of trust within the family and very low levels outside of it. This phenomenon naturally leads to moving transactions from the marketplace to the restricted family circle.

Given the importance of these three factors, in low-social-capital areas we expect a higher incidence of loans by friends and family and thus a negative correlation between the likelihood of informal loans and the level of social capital.

III. Empirical Results

A. Use of Checks

One indicator of the use of financial instruments is the reliance on checks to settle transactions. Table 2 reports the probit estimates of the effect of social capital on the probability that a household uses checks. We regress the indicator of use of checks on the level of social capital, the level of judicial efficiency (linear and squared), the GDP per capita, the average level of education, several household characteristics, and three calendar-year dummies. When we measure social capital at the provincial level we correct the standard errors for the nonindependence of the observations within the same province.

The household characteristics we use are household income (linear and squared), household wealth (linear and squared), household head's age (linear and squared), his/her education (number of years of schooling), the number of people in the household, and indicator variables for whether the head is married, is a male, for the industry in which he/she works, and for the level of job he/she has.

Table 2 shows that social capital increases the probability of using checks. This effect is statistically significant at the 1-percent level. The reported coefficients are the effect of a marginal change in the corresponding regressor on the probability of writing checks. Thus, we can

TABLE 2—EFFECT OF SOCIAL CAPITAL ON THE USE OF CHECKS

	I	II	III	IV	V	VI	VII
Social capital 1	0.5710***	0.4265*	0.5552**				1.2584***
	(0.1790)	(0.2436)	(0.2224)				(0.3614)
Social capital 1— origin				0.2078*** (0.0481)			
Social capital 2					1.8614*** (0.3719)		
Trust WVS						0.2196*** (0.0817)	
North		0.0941*** (0.0295)					
South		−0.0078 (0.0397)					
Judicial inefficiency	−0.0802 (0.0573)	−0.0406 (0.0472)	−0.0295 (0.0462)		−0.0311 (0.0492)	−0.0391 (0.0415)	−0.0182 (0.0342)
Judicial inefficiency squared	0.0084 (0.0054)	0.0048 (0.0046)	0.0042 (0.0044)		0.0041 (0.0048)	0.0047 (0.0044)	0.0037 (0.0033)
Per capita GDP	0.0056*** (0.0012)	0.0052*** (0.0011)	0.0045*** (0.0012)		0.0049*** (0.0012)	0.0041*** (0.0010)	0.0019* (0.0011)
Average years of education	0.0570*** (0.0174)	0.0385*** (0.0139)	0.0446*** (0.0139)		0.0656*** (0.0140)	0.0437*** (0.0132)	0.0518*** (0.0142)
Income	0.0119*** (0.0006)	0.0117*** (0.0006)	0.0116*** (0.0006)	0.0087*** (0.0003)	0.0117*** (0.0006)	0.0117*** (0.0007)	0.0088*** (0.0006)
Income squared	−0.0000*** (0.0000)	−0.0000*** (0.0000)	−0.0000*** (0.0000)	−0.0000*** (0.0000)	−0.0000*** (0.0000)	−0.0000*** (0.0000)	−0.0000*** (0.0000)
Wealth	0.2762*** (0.0442)	0.2853*** (0.0449)	0.2915*** (0.0438)	0.1349*** (0.0185)	0.2929*** (0.0447)	0.2864*** (0.0456)	0.1479*** (0.0300)
Wealth squared	−0.0363*** (0.0125)	−0.0374*** (0.0126)	−0.0378*** (0.0124)	−0.0160*** (0.0040)	−0.0389*** (0.0122)	−0.0372*** (0.0130)	−0.0187* (0.0109)
Age	0.0138*** (0.0019)	0.0137*** (0.0019)	0.0136*** (0.0019)	0.0077*** (0.0011)	0.0133*** (0.0019)	0.0135*** (0.0021)	0.0079*** (0.0014)
Age squared	−0.0002*** (0.0000)	−0.0002*** (0.0000)	−0.0002*** (0.0000)	−0.0001*** (0.0000)	−0.0002*** (0.0000)	−0.0002*** (0.0000)	−0.0001*** (0.0000)
Education	0.0268*** (0.0017)	0.0268*** (0.0017)	0.0269*** (0.0017)	0.0196*** (0.0007)	0.0267*** (0.0017)	0.0269*** (0.0020)	0.0197*** (0.0012)
Observations	32,442	32,442	32,442	31,961	31,366	32,442	31,366
Pseudo-R^2 or R^2	0.274	0.276	0.278	0.332	0.278	0.278	0.320

Notes: The dependent variable is an indicator variable that takes a value one if the interviewed household responds positively to the question "Did you or some other member of the household issue checks in the course of the year to settle transactions?" For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. Columns III, V, VI, and VII include as controls four macro-regional dummies (North East, North West, Center, and South). For all columns except IV and VII the reported coefficients are probit estimates of the effect of a marginal change in the corresponding regressor on the probability of using a check, computed at the sample mean of the independent variables. The coefficients reported in column IV are from a linear probability model with fixed province effects. Column VII is estimated by IV, with social capital 2 as the instrument. The standard errors reported in parentheses are corrected for the potential clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

compute the impact of social capital for an individual that moves from the lowest-social-capital province to the highest-social-capital provinces. The probability of using a check increases by 17 percentage points, about a third of the sample mean.

The level of per capita GDP has a positive and statistically significant effect on the probability of using checks. Since other studies (Knack and Keefer, 1997; Knack and Zack, 2001) show that the level of social capital is positively correlated with economic development, the level of per capita GDP might absorb some of the effect of social capital. Nevertheless,

we think it is necessary to insert it into the regression to control for those factors that are associated with financial development, but which have nothing to do with social capital. Excluding per capita GDP from the regression (not reported) increases both the size of the coefficient of social capital and its statistical significance. The average level of education also has a positive impact on the probability of using a check.

To rule out the possibility that social capital is capturing the efficiency of the legal system, in all the regressions we control for a measure of the quality of the court system. As we expected, in areas where courts are more inefficient, households use fewer checks, but this effect is not statistically significant. Given the average length of a trial (3.6 years), legal procedures are simply too lengthy to make a difference. All other control variables have the expected sign: age and education increase the probability of using checks, so do income and wealth.

In studies by Banfield (1958) and Putnam (1993), the South of Italy is the prototypical area deficient in social capital, while the North is richer. Ichino and Maggi (2000) support this view by showing that the degree of shirking by employees of the same bank is significantly higher in the South even after controlling for several characteristics of the employees and those of the individual branches.

Consistent with these findings, our North–South indicator variables turn out to be highly correlated with social capital. The correlation between the North indicator and our measure of social capital is 60 percent, and there is a negative correlation of 88 percent between the South indicator and social capital. This correlation might generate the suspicion that the effect we are capturing is due to some other differences between the North and the South of Italy, that just happen to be correlated with our measure of social capital. Controlling for North and South indicators (column II of Table 2), social capital still has a positive effect on the probability of writing a check, and the effect is statistically significant. However, the effect is somewhat smaller: moving from an area with the lowest social capital to an area with the highest social capital increases the probability of using checks by 13 percentage points. In column III, we reestimate our baseline regres-

sion using a finer partition of the territory into five macroareas: North East, North West, Center, South, and Islands, according to Italian National Statistics geographical classification. The results confirm the previous findings.

All these attempts do not completely eliminate the suspicion that some environmental variables other than social capital might be driving the results. The only way to rule this out would be to estimate a model with fixed provincial effects that can absorb all the factors that vary only at provincial level. Unfortunately, these fixed effects would also absorb our measure of social capital.

To solve this problem, we resort to the presence of movers in the data. Movers are likely to be affected not only by the social capital of the place where they live, but also by the social capital of the place where they grew up. This effect is present if there is an inherited component in social capital, or if people form a subjective estimate of trustworthiness based on their past experience. Regardless of the reason, the social capital of origin will have an impact on the use and availability of financial contract which enables us to separate the effect of social capital from the effect of other environmental variables.[7] Therefore, we estimate a linear probability model with province fixed effects and the social capital of origin (plus the usual control variables). In this specification (column IV), the social capital of origin is positive and highly statistically significant. This effect cannot be attributed to omitted variables at the local level.

Thus far, we have checked the robustness of our results by using different controls for environmental variables. We now check the robustness using different definitions of social capital, keeping as geographical controls dummies for the five macro regions. Social capital measured by blood donation has a positive and statistically significant effect on the probability of using checks (column V). The magnitude of the effect is similar to the one found using electoral participation; the probability of using checks increases by 20 percent when moving from the lowest-social-capital province to the highest-social-capital provinces.

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[7] We will distinguish among these two different explanations in Section V.

In our framework the importance of social capital on financial development is mediated by the level of trust. An obvious way to check our results is to see if there is a direct relation between the level of interpersonal trust within a community and the use and availability of financial instruments. We do this in column VI. To measure the level of interpersonal trust, we rely on the World Values Survey (WVS), which interviewed varying-sized samples of people across 40 countries, including Italy, in 1990 and 1999. In each of those surveys, roughly 2,000 individuals were asked the question "Generally speaking, would you say that you trust other Italians?"

The WVS is not stratified at the province level, thus several provinces are not present and others are severely underrepresented. To address this problem, we pool the two surveys and we group data at the regional level, by attributing to each family the average response in the region where it is located (the 95 Italian provinces are organized in 20 regions). Using this measure of trust we reestimate our basic regression.[8] The effect of trust has the predicted sign and is statistically significant, though the economic impact is roughly 30 percent lower than the estimates we obtain by using our primary measure of social capital.

We also take our basic measure of social capital (electoral participation) and instrument it with the blood donation. This method allows us to pool whatever is common to these two measures. The estimated coefficient (column VII) doubles, suggesting that the effect is driven by the common element in all these three measures.

We are also concerned that our sample contains some repeated observations. Although the use of checks changes over time, the residuals might be correlated across observations of the same individual. Since the cross-sectional correlation in the residuals is confined to only a subset of the observations, and among these to pairs of observations, this correlation is unlikely to be a problem. But rather than speculate, we reestimate (not reported) all the regressions by restricting the sample to the first observation of every household. As we expected, the standard errors are slightly bigger. All the results remain the same.

B. Investment in Cash

We use the same specification to estimate the effects of social capital on portfolio allocation. The only difference is that we use a two-limit tobit model, since the dependent variable is constrained between zero and one. As before, we correct the standard errors for possible dependence of observations within the same province.[9]

Panel A of Table 3 reports the estimated effects of social capital on the amount of cash held by a household. Social capital has a negative and highly statistically significant effect on the proportion of wealth a household invests in cash. A one-standard-deviation increase in social capital reduces the amount of cash by 7 percentage points, a reduction of almost a third in the average amount of cash held. Moving from the lowest-social-capital province to the highest-social-capital provinces decreases the percentage of wealth held in cash by 27 percentage points.

The degree of judicial inefficiency has a nonlinear effect on the amount of money that households retain in cash. This nonlinearity, which is present in most specifications, is consistent with the role played by courts. At low levels of inefficiency, small variations can have a large impact on portfolio choices, but beyond a certain point, legal enforcement becomes inframarginal. A further increase in the degree of judicial inefficiency has very little impact.

The level of per capita GDP has a negative effect on the amount retained in cash. This effect, which is highly significant, also captures some of the relation between social capital and amount retained in cash.

All other control variables have the expected sign and most of them are statistically significant. Age and education reduce the fraction of financial wealth held in cash, as do income and wealth, but at a decreasing rate (the coefficient

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[8] In this regression we correct standard errors for possible clustering at the regional level.

[9] When we use trust, we correct the standard errors for possible dependence of observations within a region.

TABLE 3—EFFECT OF SOCIAL CAPITAL ON PORTFOLIO SHARES

Panel A: Percentage of Wealth Invested in Cash						
	I	II	III	IV	V	VI	VII
Social capital 1	−0.8854***	−0.5007***	−0.5733***				−0.4999*
	(0.1582)	(0.1824)	(0.1755)				(0.2764)
Social capital 1—origin				−0.1961***			
				(0.0350)			
Social capital 2					−0.6112*		
					(0.3544)		
Trust WVS						−0.2036***	
						(0.0720)	
North		−0.0506***					
		(0.0146)					
South		0.0849**					
		(0.0371)					
Judicial inefficiency	0.1185***	0.0860***	0.0787***		0.0833***	0.0864***	0.0639***
	(0.0266)	(0.0240)	(0.0239)		(0.0257)	(0.0316)	(0.0200)
Judicial inefficiency squared	−0.0134***	−0.0102***	−0.0096***		−0.0095***	−0.0099	−0.0077***
	(0.0029)	(0.0027)	(0.0027)		(0.0029)	(0.0000)	(0.0022)
Per capita GDP	−0.0006	−0.0003	0.0003		−0.0006	0.0006	0.0001
	(0.0007)	(0.0008)	(0.0009)		(0.0011)	(0.0000)	(0.0009)
Average years of education	−0.0220*	0.0033	0.0024		0.0037	0.0044	0.0019
	(0.0133)	(0.0136)	(0.0132)		(0.0168)	(0.0000)	(0.0134)
Income	−0.0081***	−0.0079***	−0.0079***	−0.0068***	−0.0078***	−0.0079	−0.0069***
	(0.0009)	(0.0008)	(0.0009)	(0.0002)	(0.0009)	(0.0000)	(0.0007)
Income squared	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	−0.0875***	−0.0926***	−0.0972***	−0.0872***	−0.0989***	−0.0929***	−0.0940***
	(0.0292)	(0.0291)	(0.0296)	(0.0135)	(0.0294)	(0.0345)	(0.0257)
Wealth squared	0.0083	0.0091	0.0097	0.0091***	0.0100	0.0091	0.0099
	(0.0100)	(0.0099)	(0.0100)	(0.0029)	(0.0098)	(0.0110)	(0.0088)
Age	−0.0067***	−0.0066***	−0.0065***	−0.0053***	−0.0068***	−0.0065	−0.0053***
	(0.0013)	(0.0012)	(0.0012)	(0.0008)	(0.0013)	(0.0000)	(0.0011)
Age squared	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***	0.0001	0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	−0.0103***	−0.0103***	−0.0103***	−0.0091***	−0.0099***	−0.0102	−0.0085***
	(0.0015)	(0.0015)	(0.0015)	(0.0005)	(0.0015)	(0.0000)	(0.0011)
Observations	32,332	32,332	32,332	31,851	31,259	32,332	31,259
Pseudo-R^2 or R^2	0.200	0.204	0.204	0.260	0.204	0.204	0.241

Panel B: Percentage of Wealth Invested in Stocks						
	I	II	III	IV	V	VI	VII
Social capital 1	1.7380***	0.6515	0.9106*				0.2303***
	(0.3595)	(0.5476)	(0.5265)				(0.0785)
Social capital 1—origin				0.0473***			
				(0.0129)			
Social capital 2					2.5325***		
					(0.7879)		
Trust WVS						0.4061***	
						(0.1505)	
North		0.2267***					
		(0.0430)					
South		−0.1890*					
		(0.1060)					
Judicial inefficiency	−0.0608	0.0447	0.0707		0.0611	0.0499	0.0069
	(0.0959)	(0.0774)	(0.0757)		(0.0820)	(0.0693)	(0.0045)
Judicial inefficiency squared	0.0059	−0.0030	−0.0053		−0.0048	−0.0035	−0.0003
	(0.0105)	(0.0100)	(0.0097)		(0.0107)	(0.0000)	(0.0004)

TABLE 3—Continued.

		Panel B: Percentage of Wealth Invested in Stocks—Continued.					
	I	II	III	IV	V	VI	VII
Per capita GDP	0.0001	0.0001	−0.0013		−0.0004	−0.0020	−0.0003
	(0.0032)	(0.0015)	(0.0020)		(0.0018)	(0.0000)	(0.0003)
Average years of	0.0280	−0.0506**	−0.0462*		−0.0234	−0.0469	−0.0019
education	(0.0346)	(0.0256)	(0.0259)		(0.0265)	(0.0000)	(0.0025)
Income	0.0149***	0.0144***	0.0142***	0.0010***	0.0141***	0.0143	0.0011***
	(0.0013)	(0.0013)	(0.0012)	(0.0001)	(0.0012)	(0.0000)	(0.0002)
Income squared	−0.0000***	−0.0000***	−0.0000***	0.0000***	−0.0000***	−0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	0.3643***	0.3767***	0.3847***	0.0896***	0.3775***	0.3799***	0.0870***
	(0.0547)	(0.0527)	(0.0533)	(0.0050)	(0.0530)	(0.0630)	(0.0125)
Wealth squared	−0.0389**	−0.0408***	−0.0419***	−0.0091***	−0.0408***	−0.0414	−0.0090***
	(0.0152)	(0.0149)	(0.0149)	(0.0011)	(0.0146)	(0.0000)	(0.0031)
Age	0.0162***	0.0156***	0.0155***	−0.0001	0.0152***	0.0154	0.0002
	(0.0050)	(0.0049)	(0.0048)	(0.0003)	(0.0048)	(0.0000)	(0.0003)
Age squared	−0.0002***	−0.0002***	−0.0002***	−0.0000	−0.0002***	−0.0002	−0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	0.0251***	0.0252***	0.0253***	0.0008***	0.0253***	0.0250	0.0010***
	(0.0020)	(0.0020)	(0.0020)	(0.0002)	(0.0020)	(0.0000)	(0.0003)
Observations	32,332	32,332	32,332	31,851	31,259	32,332	31,259
Pseudo-R^2 or R^2	0.258	0.267	0.268	0.141	0.269	0.268	0.133

Notes: In Panel A the dependent variable is the proportion of financial wealth a household retains in cash; in Panel B it is the proportion of financial wealth a household retains in stocks or mutual funds. For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. Columns III, V, VI, and VII include as controls four macro-regional dummies (North East, North West, Center, and South). For all columns except IV and VII the reported coefficients are tobit estimates. The coefficients in column IV are from a linear probability model with fixed province effects. Column VI is estimated by IV, with social capital 2 as instrument. The standard errors reported in parentheses are corrected for clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

of income squared and wealth squared is positive).

The correlation between low social capital and high cash holdings might be due to the higher presence of organized crime in areas with low social capital. To be less visible, individuals involved in criminal activities prefer to retain wealth in cash. However, this objection ignores the fact that the data come from personal interviews conducted by the Bank of Italy. Thus, it is highly unlikely that an organized crime participant would agree to answer these questions. However, to rule out this possibility we control for the level of crime in a separate regression. We measure crime as the number of violent crimes divided by the population. This robustness check also deals with the possible concern that our measure of judicial inefficiency is an imperfect proxy for law enforcement. The estimated effect of social capital (not reported)

is 30 percent lower, but still highly statistically significant.

Another possibility is that households retain their financial wealth in cash to hide it from tax investigations. Even in this case it would be surprising that the same people would be willing to reveal this information to the Bank of Italy, which is a government institution. They would probably refuse to participate in the survey or, if they participate, they would underreport the amount of cash holdings. However, to rule out this possibility, we run the same regressions by excluding self-employed workers (income underreporting is easier and thus more widespread among self-employed workers). The results (not reported) are unchanged.

After controlling for the North and South indicator variables and finer geographical classifications (column II and III), social capital still has a negative and statistically significant effect

on the proportion of wealth retained in cash. Thus, the effect of social capital is not perfectly collinear with the North–South divide. The economic significance is somewhat lower but still substantial: moving from the lowest-social-capital province to the highest-social-capital provinces decreases the percentage of wealth held in cash by 15 percentage points.

The social capital of origin has a negative and statistically significant effect on the level of wealth invested in cash (column IV). This result confirms that the effect of social capital cannot be attributed to omitted variables at the local level.

The results are robust to changes in the proxy for social capital. Even when measured with blood donation (column V of Table 3, Panel A), social capital has a negative and statistically significant effect on the level of cash holdings. A one-standard-deviation increase in the level of blood donation decreases the level of cash holdings by 3.7 percentage points, which corresponds to 15 percent of the sample average. Results are similar if we use the WVS trust measure (column VI), or if we instrument our basic measure of social capital with blood donation (column VII).

C. Investment in Stock

Panel B of Table 3 estimates the effect of social capital on the proportion of financial wealth invested in stock. As predicted, the effect is positive and statistically significant. This result holds when we control for North and South (column II), for macro-regional dummies (column III), when we use blood donation (column V) or trust (column VI) as a measure of social capital, or if we instrument our basic measure of social capital with blood donation (column VII).

Also, we find that even after controlling for fixed province effects (column IV), the social capital of origin has a strong positive effect on the proportion of financial wealth invested in stock. The impact is also economically meaningful. Moving from the lowest-social-capital province to the highest-social-capital provinces leads to an increase of 52 percentage points in the proportion of wealth invested in stock.

We have two concerns with our specification. The first is that portfolio allocations are affected by the individual level of risk aversion and it could be that our social capital measures are in fact capturing it. Fortunately, the 1995 survey attempts to elicit attitudes towards risk. Each survey participant is offered a hypothetical lottery and is asked to report the maximum price that he would be willing to pay to participate. By using the responses to the question, we are able to construct an Arrow-Pratt measure of absolute risk aversion for 4,301 households. We thus reestimate (not reported) our basic regressions for cash and stocks on this subsample, including among the regressors the inverse of a measure of relative risk aversion, as implied by the solution of a standard portfolio problem (Robert Merton, 1971). We compute the relative risk aversion by multiplying the absolute risk aversion and the level of the household's consumption. In both regressions, in spite of the smaller sample, the coefficients of social capital preserve the same signs and are still statistically significant.

Our second concern is that social capital may be capturing differences in consumers' exposure to uninsurable sources of uncertainty (background risk), which makes them less willing to buy risky assets. To address this potential problem we use a section of the survey that collects data on the subjective probability distribution of future earning. In the 1995 survey, for half of the sampled households each household member of working age is asked to give a subjective assessment of the probability that he/she will lose his/her job (if employed) or find one (if unemployed) in the following 12 months. Conditional on being employed, he/she is then asked to report the minimum and maximum earnings and the probability that earnings will fall below the midpoint of this range.

Following Guiso et al. (2002) we use this information, available for 1,916 households, to compute a measure of expected earnings and their variance. We then reestimate our regressions for cash and stocks now adding these variables scaled by total financial assets (not reported). As predicted by theory, earnings variance has a negative effect on the demand for stock. More important to our analysis, in all cases the sign and significance of the coefficient of social capital is unaffected, indicating that it does not reflect omitted measures of background risk.

TABLE 4—EFFECT OF SOCIAL CAPITAL ON THE AVAILABILITY OF CONSUMER CREDIT

	I	II	III	IV	V	VI	VII
Social capital 1	−0.0588***	−0.0896***	−0.0986***				−0.1957***
	(0.0192)	(0.0264)	(0.0268)				(0.0688)
Social capital 1— origin				−0.0365*			
				(0.0189)			
Social capital 2					−0.1956***		
					(0.0690)		
Trust WVS						−0.0094	
						(0.0113)	
North		−0.0046					
		(0.0030)					
South		−0.0091					
		(0.0055)					
Judicial inefficiency	0.0107***	0.0097**	0.0086**		0.0086**	0.0089	0.0093*
	(0.0040)	(0.0042)	(0.0043)		(0.0042)	(0.0056)	(0.0052)
Judicial inefficiency squared	−0.0011**	−0.0010**	−0.0010**		−0.0009*	−0.0009	−0.0011*
	(0.0004)	(0.0005)	(0.0005)		(0.0005)	(0.0006)	(0.0006)
Per capita GDP	0.0005***	0.0005***	0.0006***		0.0005***	0.0005***	0.0009***
	(0.0002)	(0.0001)	(0.0001)		(0.0001)	(0.0002)	(0.0002)
Average years of education	0.0001	−0.0010	−0.0013		−0.0028	−0.0000	−0.0040
	(0.0019)	(0.0021)	(0.0021)		(0.0024)	(0.0027)	(0.0031)
Income	−0.0001	−0.0000	−0.0000	−0.0002	−0.0000	−0.0001	−0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Income squared	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000*	0.0000*
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	−0.0207***	−0.0212***	−0.0218***	−0.0209***	−0.0234***	−0.0214***	−0.0221***
	(0.0059)	(0.0060)	(0.0061)	(0.0073)	(0.0061)	(0.0061)	(0.0062)
Wealth squared	0.0018***	0.0019***	0.0019***	0.0020	0.0021***	0.0019***	0.0022**
	(0.0006)	(0.0006)	(0.0006)	(0.0016)	(0.0006)	(0.0006)	(0.0008)
Age	0.0002	0.0002	0.0002	−0.0013***	0.0000	0.0002	−0.0014***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0005)	(0.0004)
Age squared	−0.0000*	−0.0000*	−0.0000*	0.0000*	−0.0000	−0.0000	0.0000**
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	−0.0000	−0.0000	−0.0000	−0.0000	0.0000	0.0000	0.0000
	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0004)
Observations	32,442	32,442	32,442	31,961	31,366	32,442	31,366
Pseudo-R^2 or R^2	0.068	0.069	0.070	0.023	0.071	0.067	0.017

Notes: The dependent variable is an indicator variable taking value one if a household that applied for a loan or a mortgage to a financial intermediary has been totally or partially turned down for credit or did not apply on the expectation that the application would have been turned down; it is zero otherwise. For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. Columns III, V, VI, and VII include as controls four macro-regional dummies (North East, North West, Center, and South). For all columns except IV and VII the reported coefficients are probit estimates of the effect of a marginal change in the corresponding regressor on the probability of being discouraged or turned down, computed at the sample mean of the independent variables. The coefficients reported in column IV are from a linear probability model with fixed province effects. Column VII is estimated by IV, with social capital 2 as the instrument. The standard errors reported in parentheses are corrected for the potential clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

D. Availability of Credit to Consumers

Table 4 reports the results of the effect of social capital on the availability of loans to households. We estimate a probit model of the effect of social capital on the probability of an individual being a discouraged or turned-down borrower, conditional on applying for a loan.[10]

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[10] We also estimate two separate probit models on the probability of being a discouraged borrower and on the probability of being turned down. The results (not reported) confirm those in Table 4.

Table 4 shows that social capital has a negative effect on the probability of not having access to credit. This effect is statistically significant at the 1-percent level. The reported coefficients in Table 4 show that a one-standard-deviation increase in social capital leads to a 0.47-percent decrease in the probability of being discouraged or turned down. The probability that an individual is shut off from the credit market decreases by 2 percentage points when he moves from the lowest to the highest social capital area.

To isolate the impact of social capital from other geographical differences, we estimate the same regression by controlling for the North and South indicators (column II) and macro-regional indicators (column III). The coefficient of social capital is even larger than the one obtained in column I, suggesting that the importance of social capital goes beyond geographical differences.

We test the robustness of our results for other measures of economic development (not reported) and for other measures of judicial inefficiency (not reported).[11] In all cases the effect remains statistically significant.

Column IV of Table 4 shows that in the linear probability model, the social capital of origin coefficient is negative and highly statistically significant.

Social capital measured by blood donation has a negative and statistically significant effect on the probability of being shut down from credit (column V), after controlling for macro-regional dummies. The magnitude of the effect is similar to the one we obtain when we use electoral participation. Moving from the lowest-to the highest-social-capital province decreases the probability of not having access to credit by 2 percentage points. The results are similar when we use the WVS measure of trust (column VI), or when we instrument our basic measure of social capital with blood donation (column VII).

E. Informal Credit Market

Thus far, we have restricted our analysis to institutional forms of investment and credit.

However, our data set provides us with information on the presence of informal loans, i.e., loans extended by friends or family members not living in the same household. As discussed in subsection D, we expect that informal credit might partially substitute for formal credit wherever the latter is unavailable. Table 5 tests this prediction.

We estimate a probit model in which we regress the likelihood a household has a loan outstanding with friends or relatives on our measures of social capital and the usual control variables (income, wealth, their squares, demographic characteristics, etc.). We find that households that come from areas with low social capital are more likely to receive loans from friends or relatives. This result is consistent with Banfield's (1958) and Fukuyama's (1995) claims that low-social-capital societies rely more heavily on naturally high-trust relationships such as those with friends and family. This finding is also consistent with individuals absorbing these attitudes in the early years of their lives.

This effect is statistically significant and economically nonnegligible: moving from the lowest- to the highest-social-capital province decreases the probability that an individual has loans from friends and family by 3 percentage points, about the same order of magnitude of the sample average probability.

Once we control for North and South, and for macro-regional dummies, the effect of social capital is virtually unchanged and still highly significant (column II and III). The same is true when we control for other measures of economic development (not reported), and for other measures of judicial inefficiency (not reported).

These results are fully supported by the linear probability model that controls for province fixed effects (column IV). Social capital measured by blood donation has a negative and statistically significant effect on the probability of borrowing from friends and relatives (column V). Moving from areas of the country with the lowest blood donation to areas with the highest blood donation decreases the probability that an individual borrows from friends or relatives by 2 percent. The results are similar when we use trust (column VI), or when we instrument our basic measure of social capital with blood donation (column VII).

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[11] In addition to per capita GDP, as proxies for economic development we have used the proportion of households that own a dishwasher and a personal computer; as an alternative measure of court inefficiency we have used the number of pending trials per capita in a province.

TABLE 5—EFFECT OF SOCIAL CAPITAL ON THE INFORMAL CREDIT MARKET

	I	II	III	IV	V	VI	VII
Social capital 1	−0.0968***	−0.1196***	−0.1157***				−0.1644
	(0.0261)	(0.0401)	(0.0433)				(0.1108)
Social capital 1— origin				−0.0617***			
				(0.0207)			
Social capital 2					−0.1682		
					(0.1195)		
Trust WVS						−0.0046	
						(0.0170)	
North		0.0044					
		(0.0055)					
South		−0.0046					
		(0.0070)					
Judicial inefficiency	−0.0010	0.0018	0.0021		0.0035	0.0021	0.0021
	(0.0074)	(0.0074)	(0.0078)		(0.0077)	(0.0080)	(0.0091)
Judicial inefficiency squared	0.0001	−0.0002	−0.0002		−0.0003	−0.0001	−0.0002
	(0.0008)	(0.0008)	(0.0008)		(0.0008)	(0.0008)	(0.0011)
Per capita GDP	0.0003	0.0003	0.0002		0.0000	0.0000	0.0002
	(0.0002)	(0.0003)	(0.0003)		(0.0003)	(0.0004)	(0.0005)
Average years of education	0.0013	−0.0002	−0.0005		−0.0008	0.0018	−0.0012
	(0.0026)	(0.0027)	(0.0027)		(0.0034)	(0.0034)	(0.0044)
Income	−0.0008***	−0.0008***	−0.0008***	−0.0012***	−0.0008***	−0.0008***	−0.0010***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Income squared	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	0.0072	0.0076	0.0084	0.0181**	0.0083	0.0086	0.0156**
	(0.0070)	(0.0069)	(0.0067)	(0.0080)	(0.0070)	(0.0057)	(0.0067)
Wealth squared	−0.0012	−0.0012	−0.0014	−0.0036**	−0.0014	−0.0014*	−0.0033***
	(0.0008)	(0.0008)	(0.0009)	(0.0017)	(0.0009)	(0.0008)	(0.0012)
Age	0.0003	0.0003	0.0003	−0.0026***	0.0001	0.0003	−0.0022***
	(0.0006)	(0.0006)	(0.0006)	(0.0005)	(0.0006)	(0.0007)	(0.0005)
Age squared	−0.0000**	−0.0000**	−0.0000**	0.0000**	−0.0000**	−0.0000*	0.0000*
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	−0.0001	−0.0001	−0.0001	0.0001	−0.0001	−0.0000	−0.0001
	(0.0002)	(0.0002)	(0.0002)	(0.0003)	(0.0002)	(0.0002)	(0.0003)
Observations	32,442	32,442	32,442	31,961	31,366	32,442	31,366
Pseudo-R^2 or R^2	0.082	0.082	0.083	0.034	0.082	0.081	0.026

Notes: The dependent variable is an indicator variable that takes a value one if a household responds positively to the question "As of the end of the year did you have debts outstanding towards friends or relatives not living with you?" For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. Columns III, V, VI, and VII include as controls four macro-regional dummies (North East, North West, Center, and South). For all columns except IV and VII the reported coefficients are probit estimates of the effect of a marginal change in the corresponding regressor on the probability of being indebted with a relative or friend, computed at the sample mean of the independent variables. The coefficients reported in column IV are from a linear probability model with fixed province effects. Column VII is estimated by IV, with social capital 2 as instrument. The standard errors reported in parentheses are corrected for the potential clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

IV. When Does Social Capital Matter More?

Our results so far have shown a remarkable and pervasive correlation between the level of social capital in an area and the use and availability of financial contracts. To gain more confidence on the causal nature of this correlation, we explore whether the magnitude of this effect varies according to what theory predicts.

A. Social Capital and Legal Enforcement

The importance of social capital in enhancing trust is likely to be larger in areas where law

enforcement is not prompt. If it takes more than three years to enforce a contract (as is the case in Italy), the willingness to finance a person will depend even more crucially on the possibility of imposing moral sanctions and/or the existence of moral norms in a given community. This suggests that on average, we should expect a bigger effect of social capital in Italy, where law enforcement is slow, than in countries like Sweden or the United States, where law enforcement is more efficient. More importantly, this reasoning suggests that cross-sectionally, we should expect a higher effect of social capital in parts of Italy where law enforcement is comparatively worse. This prediction is unique to trust being the channel through which social capital affects financial variables.

To test this predication, in Table 6 we reestimate our basic specifications, splitting the sample between provinces with relatively efficient judicial systems (judicial inefficiency below the median of 3.5 years) and provinces with relatively inefficient judicial systems (judicial inefficiency above the median).[12]

The first two columns of Table 6, Panel A, present the probit estimates of the likelihood of using checks. In areas with better legal enforcement, social capital does not have a statistically significant impact on the probability of using checks. By contrast, in areas with weaker legal enforcement the effect is three times as large and statistically significant. The difference is also statistically significant at the 1-percent level.

The remaining columns of Table 6, Panel A, report the tobit estimates of the effect of social capital on the fraction of financial wealth invested in cash and stocks. The effect of social capital on the fraction of wealth invested in stock is three times as large in areas with weak law enforcement, and this difference is statistically significant at the 1-percent level. Also, for wealth invested in cash, the impact of social capital is lower (only two-thirds) where the courts work better, albeit the difference is not statistically significant.

A similar picture emerges if we look at the effect of social capital on access to credit (Table 6, Panel B). In areas with weak law enforcement, the effect of social capital on the probability of being turned down after applying for a loan or discouraged from borrowing has the expected sign, is large (in absolute terms), and is statistically significant. By contrast, the effect is not significant (and quantitatively very small) in areas with better law enforcement (Table 6, Panel B, last two columns).

Consistently, we find that the effect of social capital on informal credit is not statistically significant in areas with better law enforcement, but that it is three times as big and statistically significant in areas with weak legal enforcement.

From a policy point of view, this result suggests that countries that lack social capital should compensate for it with better legal enforcement. However, that they should does not necessarily mean that they do. In fact, countries deficient in social capital also have weak legal enforcement. For example, in the sample of 28 countries in Knack and Keefer (1997), we find a correlation of 0.83 between trust and judicial efficiency; this is true also in our sample where our measure of social capital and judicial *inefficiency* across Italian provinces are negatively correlated (correlation coefficient −0.63, Table 1). This correlation might not be a simple coincidence. Putnam (1993) and La Porta et al. (1997a) suggest that the lack of social capital may negatively affect the working of institutions, thus also the quality of law enforcement. If this were the case, our estimates would grossly underestimate the overall impact of social capital.

B. *Social Capital and Education*

The extent to which a financial transaction requires trust should also depend on the level of education of the individuals involved in the transaction. For example, we compare two investors, an educated one, who can read and understand the fine print of a financial prospectus, and an unsophisticated one, who cannot understand most of the terms. The inability to fully grasp all the details of the contract involved makes it harder for the unsophisticated investor to discriminate between legitimate in-

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[12] We have also tried to insert the product of social capital and legal enforcement in our basic regressions, with similar results.

vestments and frauds. Ceteris paribus, the unsophisticated investor will require greater trust to make the same investment. Furthermore, an investor who does not have the necessary ability or information to make sophisticated financial decisions (e.g., managing his portfolio) often delegates this function to somebody else. Facing an additional delegation risk, the unsophisticated investor will require more trust to part with his money. Our prediction is that the marginal impact of social capital on the use of financial contracts is higher among uneducated people than among educated people.

To test this predication, we split the sample at the median level of education of the household head (eight years, corresponding to the end of junior high school).[13]

Table 7 presents the results. The first two columns report the estimates for the two subsamples of the impact of social capital on the probability of using a check. The impact of social capital among less educated people is eight times as big as the impact of social capital among highly educated people. This difference is statistically significant at the 1-percent level. In fact, social capital has no statistically significant impact among highly educated people.

As we can see in the third and fourth columns, the impact of social capital on the proportion of wealth invested in cash is three times larger for low-educated households than for highly educated households. The difference is statistically significant at the 1-percent level.

Also, the proportion of wealth invested in stock (last two columns) is more sensitive to social capital among less educated people. However, the difference is quantitatively small (only 20 percent) and is not statistically significant. This result is surprising, because we expected the effect to be stronger for equity investments, which require much more knowledge to be analyzed. This weak result might be due to the small number of less educated families who own stock (3.6 percent versus 15 percent of the well-educated families and a population average of 7 percent).

The extreme infrequency of the phenomenon makes it more subject to confounding effects. For example, widows may retain the portfolio allocation of their deceased spouses, even though they do not have the same level of education. To see whether this effect plays any role we reestimate the two regressions restricting the sample to male household heads. The difference (not reported) almost doubles, albeit its statistical significance is still below conventional levels.

Overall, our results suggest that social capital matters more for less educated people.

V. Does Social Capital Have an Inherited Component?

Is trust simply an equilibrium outcome of a society where nonlegal mechanisms force people to behave cooperatively (e.g., Coleman, 1990; Spagnolo, 1999), or is there an inherited component, imprinted with education? Our fixed-effects results already suggest the existence of an inherited component. Given the importance of this aspect we explore it in greater depth.

One possible objection to our fixed-effect estimates is that movers differ from nonmovers in many dimensions. We are particularly concerned that the social capital of origin might act as a proxy for some other (unobservable) individual characteristics that affect an individual's level of trust. After all, movers are not randomly distributed. As Table 8, Panel A, shows, 25 percent of the movers move from the South to the North, but only 4 percent move in the opposite direction. Since the South of Italy is poorer, migration from South to North might be less "voluntary," than from North to South. In other terms, if a person is "starving," she might decide to move even if she is very risk averse. By contrast, in less desperate conditions, only the least risk-averse people will choose to move. If this story holds, conditional on being a mover one is more risk averse if she moves from the South than if she moves from the North. Since the South tends to have lower social capital, movers with a lower social capital of origin might be more risk averse. If we do not fully control for individual risk aversion, this correlation might explain our results on portfolio holdings and possibly on use of checks.

Unfortunately, we do not have enough

[13] Since for many years this was the mandatory level of schooling, there are many people at that level, which we include in the low-education group. Hence, the higher number of observations in this subsample.

TABLE 6—SOCIAL CAPITAL AND LAW ENFORCEMENT

Panel A

	I	II	III	IV	V	VI
	Use of checks		Percent cash in portfolio		Percent stock in portfolio	
	Efficient	Inefficient	Efficient	Inefficient	Efficient	Inefficient
Social capital 1	0.4022	0.8537***	−0.7593***	−1.0525***	0.8600**	2.8714***
	(0.2555)	(0.1699)	(0.1783)	(0.3300)	(0.4011)	(0.6548)
Judicial inefficiency	0.5341	−0.0552	−0.3363**	−0.0304	1.6656***	−0.2872
	(0.4055)	(0.0870)	(0.1713)	(0.0641)	(0.5861)	(0.2335)
Judicial inefficiency squared	−0.1020	0.0070	0.0729**	−0.0006	−0.3189***	0.0288
	(0.0724)	(0.0074)	(0.0338)	(0.0056)	(0.1063)	(0.0208)
Per capita GDP	2.9108***	2.1576***	−0.1631	−0.3703	1.8944	−5.5639***
	(0.9678)	(0.6529)	(0.5226)	(0.7208)	(1.8612)	(1.9456)
Average years of education	0.0513***	0.0172	−0.0273**	0.0040	−0.0193	0.0026
	(0.0187)	(0.0197)	(0.0128)	(0.0319)	(0.0266)	(0.0514)
Percentage of households with mobile phone	0.4434	0.5868*	−0.3234	−0.0590	0.9311	0.0018
	(0.6209)	(0.3153)	(0.4877)	(0.3405)	(1.4442)	(0.7650)
Income	0.0109***	0.0133***	−0.0060***	−0.0134***	0.0129***	0.0241***
	(0.0006)	(0.0011)	(0.0006)	(0.0017)	(0.0012)	(0.0021)
Income squared	−0.0000***	−0.0001***	0.0000***	0.0001***	−0.0000***	−0.0001***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	0.2550***	0.3960***	−0.0443*	−0.2609***	0.3810***	0.4736***
	(0.0568)	(0.0524)	(0.0244)	(0.0545)	(0.0510)	(0.1140)
Wealth squared	−0.0235***	−0.0794***	0.0027	0.0432***	−0.0356***	−0.0684***
	(0.0081)	(0.0149)	(0.0075)	(0.0144)	(0.0132)	(0.0232)
Age	0.0137***	0.0107***	−0.0063***	−0.0053**	0.0153**	0.0124
	(0.0028)	(0.0023)	(0.0015)	(0.0022)	(0.0060)	(0.0083)
Age squared	−0.0002***	−0.0001***	0.0001***	0.0001***	−0.0002***	−0.0002*
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0001)
Education	0.0236***	0.0273***	−0.0068***	−0.0126***	0.0259***	0.0209***
	(0.0023)	(0.0019)	(0.0016)	(0.0022)	(0.0019)	(0.0050)
Observations	17,198	15,198	17,144	15,142	17,144	15,142
Pseudo-R^2	0.2424	0.2839	0.2641	0.1558	0.2424	0.2777

Panel B

	I	II	III	IV
	Discouraged or turned down		Loans from family and friends	
	Efficient	Inefficient	Efficient	Inefficient
Social capital 1	−0.0010	−0.1338***	−0.0374	−0.1543***
	(0.0276)	(0.0243)	(0.0337)	(0.0582)
Judicial inefficiency	−0.0491**	0.0037	0.0689	−0.0414**
	(0.0199)	(0.0144)	(0.0565)	(0.0199)
Judicial inefficiency squared	0.0110***	−0.0005	−0.0113	0.0035*
	(0.0037)	(0.0013)	(0.0104)	(0.0018)
Per capita GDP	0.0807	0.4497***	0.0381	0.1292
	(0.1296)	(0.1237)	(0.1454)	(0.2587)
Average years of education	−0.0013	0.0056**	−0.0005	0.0054
	(0.0016)	(0.0026)	(0.0022)	(0.0060)
Percentage of households with mobile phone	−0.0428	0.0992	0.0818	−0.0640
	(0.0588)	(0.0619)	(0.1097)	(0.0797)
Income	0.0000	−0.0002	−0.0005***	−0.0013***
	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Income squared	0.0000	0.0000	0.0000***	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	−0.0189***	−0.0267**	0.0023	0.0183
	(0.0067)	(0.0114)	(0.0079)	(0.0127)
Wealth squared	0.0016**	0.0035**	−0.0006	−0.0032
	(0.0006)	(0.0017)	(0.0008)	(0.0022)

TABLE 6—*Continued.*

	Panel B—*Continued.*			
	I	II	III	IV
	Discouraged or turned down		Loans from family and friends	
	Efficient	Inefficient	Efficient	Inefficient
Age	0.0000	0.0005	−0.0002	0.0009
	(0.0006)	(0.0006)	(0.0009)	(0.0007)
Age squared	−0.0000	−0.0000*	−0.0000	−0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	−0.0001	0.0001	0.0000	−0.0001
	(0.0005)	(0.0003)	(0.0003)	(0.0004)
Observations	17,198	15,198	17,198	15,198
Pseudo-R^2	0.0671	0.0757	0.0795	0.0922

Notes: This table reestimates the basic regressions, splitting the sample between provinces with relatively efficient judicial systems (judicial inefficiency below the median) and provinces with relatively inefficient judicial systems (judicial inefficiency above the median). Judicial inefficiency is measured by the number of years it takes to complete a first-degree trial in the local courts. The left-hand-side variables in Panels A and B are defined in Tables 2, 3, 4, and 5. For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. Columns I and II of Panel A and Panel B report probit, while columns III, IV, V, and VI of Panel A report tobit estimates. In probit estimates the reported coefficients are estimates of the effect of a marginal change in the corresponding regressor on the probability of using a check, being denied credit (the sum of the probability of being discouraged or turned down from borrowing) and receiving loans from friends and family, computed at the sample mean of the independent variables. The standard errors reported in parentheses are corrected for the potential clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

information to undertake a full analysis of what causes people to move. We only know that these people were born in a different province than the one they are living in now. We have also no way of knowing how long they have been living in a province different than the one of birth, or what their characteristics were before they moved. Nevertheless, we can make some inferences on the cause of their move on the basis of where they are coming from and where they are going. If the unobserved characteristics behind the decision to move drive our results, we should observe very different estimates in the two groups of movers.

For these reasons, in Table 8, Panel B, not only do we insert a dummy for movers, but also we decompose the effect of social capital of origin on the basis of where an individual is moving from. The results show that on average, movers do not behave differently from nonmovers. More importantly, the effect of social capital of origin for the movers from the South is no different from that of movers from the North. Hence, unobserved individual hetero-

geneity is unlikely to explain our results and there seems to be an inherited component in social capital.

VI. Why Does Social Capital Matter?

Having addressed this problem, we try to disentangle the relative magnitude of the "environmental" component of social capital versus the "inherited" component. To do so, we create two separate measures of social capital. One is our measure of social capital for the province of birth (referenda turnout in the province of birth), the other is the measure of social capital for the province of residence (referenda turnout in the province of residence). To allow for possible differences between movers and nonmovers, we introduce a separate measure of social capital for the households that did not move. This measure is referenda turnout for the province of residence, which by construction coincides with the province of birth.

In Table 9 we reestimate all the households' regressions by introducing these three variables.

TABLE 7—SOCIAL CAPITAL AND EDUCATION

	I	II	III	IV	V	VI
	Use of checks		Percent cash in portfolio		Percent stock in portfolio	
	Low education	High education	Low education	High education	Low education	High education
Social capital 1	0.7131***	0.0135	−1.0348***	−0.3442***	1.8479***	1.5451***
	(0.1678)	(0.1512)	(0.2088)	(0.0716)	(0.4988)	(0.3412)
Judicial inefficiency	−0.0830	−0.0494	0.1456***	0.0518***	0.1385	−0.1401
	(0.0507)	(0.0546)	(0.0341)	(0.0161)	(0.1202)	(0.0998)
Judicial inefficiency squared	0.0091*	0.0048	−0.0166***	−0.0056***	−0.0190	0.0147
	(0.0048)	(0.0053)	(0.0038)	(0.0017)	(0.0144)	(0.0109)
Per capita GDP	3.4802***	0.8719	−0.3212	−0.2020	−2.1051	0.9984
	(1.0105)	(0.5968)	(0.5405)	(0.2723)	(2.3360)	(1.5415)
Average years of education	0.0525***	0.0348**	−0.0236	−0.0105	0.0474	0.0097
	(0.0182)	(0.0147)	(0.0160)	(0.0077)	(0.0422)	(0.0287)
Percentage of households with mobile phone	0.0537	0.4062	0.0539	−0.0299	0.2372	−0.9531
	(0.4075)	(0.3222)	(0.4167)	(0.1808)	(1.2070)	(1.0645)
Income	0.0132***	0.0073***	−0.0132***	−0.0041***	0.0273***	0.0116***
	(0.0010)	(0.0007)	(0.0018)	(0.0005)	(0.0021)	(0.0011)
Income squared	−0.0001***	−0.0000***	0.0001***	0.0000***	−0.0001***	−0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	0.4680***	0.0957**	−0.3275***	−0.0200	0.7698***	0.2395***
	(0.0612)	(0.0391)	(0.0595)	(0.0149)	(0.1222)	(0.0584)
Wealth squared	−0.1021***	−0.0150**	0.0792***	0.0021	−0.1452**	−0.0243**
	(0.0290)	(0.0059)	(0.0293)	(0.0038)	(0.0564)	(0.0109)
Age	0.0105***	0.0128***	−0.0050***	−0.0050***	0.0129*	0.0152**
	(0.0017)	(0.0025)	(0.0017)	(0.0013)	(0.0073)	(0.0062)
Age squared	−0.0001***	−0.0001***	0.0000***	0.0000***	−0.0001**	−0.0002**
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0001)
Education	0.0388***	0.0055*	−0.0188***	−0.0011	0.0480***	0.0068*
	(0.0022)	(0.0031)	(0.0023)	(0.0011)	(0.0086)	(0.0040)
Observations	22,433	9,963	22,353	9,933	22,353	9,933
Pseudo-R^2	0.2494	0.1148	0.1725	0.9937	0.1827	0.2478

Notes: This table reestimates the basic regressions for the use of financial instruments, splitting the sample on the basis of the level of education of the household's head. A household is defined low educated if the head has no more than eight years of education. Correspondingly, a household is defined as highly educated if the head has more than eight years of education. The left-hand-side variables are as defined in Tables 2 and 3. For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. The first two columns' reported coefficients are estimates of the effect of a marginal change in the corresponding regressor on the probability of using checks, computed at the sample mean of the independent variable. The remaining columns report tobit estimates. The standard errors reported in parentheses are corrected for the potential clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

The pattern of all the results is similar. In all the specifications, the social capital of origin has the same sign as the social capital of residence. In four out of seven cases it is statistically significant at conventional levels. With only one exception, the social capital of residence is always more important, representing between 63 percent and 98 percent of the overall effect of social capital (i.e., the sum of the effect of the social capital of origin and the social capital of residence). We think that this decomposition may hold in general, since the overall effect of social capital for movers is almost identical to the effect of social capital for nonmovers in all regressions.

The only exception in which the social capital of origin matters more than that of residence is the likelihood of receiving a loan from relatives and friends. This result is not surprising, since the network of friends and family may remain in the area where an individual grew up, and not where she currently lives.

TABLE 8—MOVERS

Panel A				
	Area of residence			
Area of origin	North	Center	South	Total
North	2,428	446	327	3,201
	27.9	5.12	3.76	36.78
Center	852	848	97	1,797
	9.79	9.74	1.11	20.65
South	2,093	699	914	3,706
	24.05	8.03	10.5	42.58
Total	5,373	1,993	1,338	8,704
	61.73	22.9	15.37	100

Panel B				
	I	II	III	IV	V
	Checks	Cash	Stocks	Discouraged or turned down	Loans from family and friends
Social capital 1—origin	0.1797**	−0.1750***	0.0273	−0.0321	−0.0606
	(0.0863)	(0.0629)	(0.0233)	(0.0340)	(0.0371)
Social capital— origin*South	−0.0085	0.0059	−0.0040	−0.0006	−0.0026
	(0.0223)	(0.0162)	(0.0060)	(0.0088)	(0.0096)
Movers	0.0001	0.0007	−0.0026	0.0025	0.0038
	(0.0063)	(0.0046)	(0.0017)	(0.0025)	(0.0027)
Income	0.0087***	−0.0068***	0.0010***	−0.0002	−0.0012***
	(0.0003)	(0.0002)	(0.0001)	(0.0001)	(0.0001)
Income squared	−0.0000***	0.0000***	0.0000***	0.0000	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	0.1348***	−0.0870***	0.0893***	−0.0208***	0.0183**
	(0.0185)	(0.0135)	(0.0050)	(0.0073)	(0.0080)
Wealth squared	−0.0160***	0.0090***	−0.0091***	0.0020	−0.0036**
	(0.0040)	(0.0029)	(0.0011)	(0.0016)	(0.0017)
Age	0.0077***	−0.0053***	−0.0001	−0.0013***	−0.0026***
	(0.0011)	(0.0008)	(0.0003)	(0.0004)	(0.0005)
Age squared	−0.0001***	0.0001***	−0.0000	0.0000*	0.0000**
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	0.0196***	−0.0091***	0.0008***	−0.0000	0.0001
	(0.0007)	(0.0005)	(0.0002)	(0.0003)	(0.0003)
Observations	31,961	31,851	31,851	31,961	31,961
R^2	0.332	0.260	0.141	0.023	0.034

Notes: In this table we analyze the behavior of the movers. For the families that moved across provinces, Panel A shows the transition matrix between different areas in the country. Panel B reports coefficients from a linear probability model with fixed province effects. The left-hand-side variables are as defined in Tables 2, 3, 4, and 5. For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. The standard errors reported in parentheses are corrected for the potential clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

In this analysis we assume that people move for reasons that have nothing to do with the level of social capital in the area. However, we cannot exclude that people prefer to move to areas where the community's level of social capital is similar to their own. If this is the case,

TABLE 9—WHY DOES SOCIAL CAPITAL MATTER?

Panel A

	I Checks	II Cash	III Stocks	IV Discouraged or turned down	V Loans from family and friends
Social capital 1 for	0.4418***	−0.7603***	0.0902***	−0.0785***	−0.1327***
nonmovers	(0.1302)	(0.1268)	(0.0259)	(0.0240)	(0.0340)
Social capital 1 of origin	0.1778***	−0.1912***	0.0379***	−0.0273	−0.0755**
for movers	(0.0527)	(0.0706)	(0.0122)	(0.0183)	(0.0315)
Social capital 1 of	0.2857**	−0.5784***	0.0492*	−0.0485	−0.0517
residence for movers	(0.1313)	(0.1332)	(0.0260)	(0.0309)	(0.0434)
Judicial inefficiency	−0.0616	0.0977***	−0.0022	0.0098**	−0.0019
	(0.0430)	(0.0235)	(0.0068)	(0.0046)	(0.0093)
Judicial inefficiency	0.0065	−0.0109***	0.0003	−0.0010*	0.0002
squared	(0.0041)	(0.0026)	(0.0006)	(0.0005)	(0.0011)
Per capita GDP	2.2724***	−0.4388	0.0940	0.3532**	0.1944
	(0.5079)	(0.3715)	(0.2192)	(0.1452)	(0.1675)
Average years of education	0.0424***	−0.0195	−0.0010	−0.0009	0.0011
	(0.0140)	(0.0123)	(0.0025)	(0.0020)	(0.0034)
Percentage of households	0.1040	0.0058	−0.0357	0.0915*	−0.0484
with mobile phone	(0.2944)	(0.2735)	(0.0641)	(0.0491)	(0.0813)
Income	0.0091***	−0.0072***	0.0011***	−0.0002*	−0.0012***
	(0.0006)	(0.0007)	(0.0002)	(0.0001)	(0.0002)
Income squared	−0.0000***	0.0000***	0.0000	0.0000*	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	0.1361***	−0.0792***	0.0868***	−0.0181***	0.0195***
	(0.0309)	(0.0255)	(0.0126)	(0.0061)	(0.0065)
Wealth squared	−0.0165	0.0074	−0.0088***	0.0016*	−0.0038***
	(0.0110)	(0.0089)	(0.0030)	(0.0008)	(0.0012)
Age	0.0078***	−0.0054***	−0.0001	−0.0014***	−0.0026***
	(0.0013)	(0.0011)	(0.0003)	(0.0004)	(0.0005)
Age squared	−0.0001***	0.0001***	−0.0000	0.0000**	0.0000**
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	0.0196***	−0.0087***	0.0008***	0.0000	0.0000
	(0.0011)	(0.0011)	(0.0003)	(0.0003)	(0.0003)
Observations	31,961	31,851	31,851	31,961	31,961
R^2	0.319	0.238	0.130	0.016	0.025

Panel B

	I Checks	II Cash	III Stocks	IV Discouraged or turned down	V Loans from family and friends
Social capital 1 for	0.4833***	−0.7431***	0.1246***	−0.0964***	−0.1400***
nonmovers	(0.1526)	(0.1199)	(0.0341)	(0.0326)	(0.0412)
Social capital 1 of origin	0.2634*	−0.1694	0.0938**	−0.1292	−0.1830***
for movers	(0.1370)	(0.1742)	(0.0395)	(0.0832)	(0.0625)
Social capital 1 of	0.2570	−0.5855***	0.0317	0.0318	0.0426
residence for movers	(0.1749)	(0.1910)	(0.0486)	(0.0776)	(0.0615)
Judicial inefficiency	−0.0725	0.0904***	−0.0016	0.0132**	−0.0024
	(0.0476)	(0.0233)	(0.0083)	(0.0060)	(0.0102)
Judicial inefficiency	0.0076*	−0.0104***	0.0003	−0.0013*	0.0001
squared	(0.0045)	(0.0026)	(0.0008)	(0.0007)	(0.0012)
Per capita GDP	2.3066***	−0.6369	0.0650	0.4073***	0.1142
	(0.5661)	(0.4739)	(0.2770)	(0.1452)	(0.1718)
Average years of education	0.0462***	−0.0213*	−0.0020	−0.0018	0.0008
	(0.0158)	(0.0123)	(0.0031)	(0.0024)	(0.0036)
Percentage of households	0.1110	−0.0418	−0.0574	0.1031	−0.0757
with mobile phone	(0.3116)	(0.2669)	(0.0757)	(0.0662)	(0.0891)

TABLE 9—*Continued.*

Panel B—*Continued.*

	I Checks	II Cash	III Stocks	IV Discouraged or turned down	V Loans from family and friends
Income	0.0083***	−0.0064***	0.0010***	−0.0001	−0.0011***
	(0.0007)	(0.0007)	(0.0002)	(0.0001)	(0.0002)
Income squared	−0.0000***	0.0000***	0.0000	0.0000	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Wealth	0.1426***	−0.0647***	0.0929***	−0.0169**	0.0285***
	(0.0334)	(0.0231)	(0.0134)	(0.0071)	(0.0083)
Wealth squared	−0.0156	0.0047	−0.0081***	0.0014	−0.0042***
	(0.0117)	(0.0079)	(0.0027)	(0.0009)	(0.0013)
Age	0.0114***	−0.0035**	0.0002	−0.0018***	−0.0026***
	(0.0017)	(0.0015)	(0.0004)	(0.0005)	(0.0006)
Age squared	−0.0001***	0.0000***	−0.0000	0.0000**	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	0.0204***	−0.0078***	0.0009***	0.0001	0.0002
	(0.0013)	(0.0013)	(0.0003)	(0.0004)	(0.0003)
Observations	23,223	23,141	23,141	23,223	23,223
R^2	0.291	0.233	0.138	0.015	0.023

Notes: In this table we modify the way in which social capital enters all the basic regressions for households. For the families that moved across provinces, we differentiate between the social capital of the province of birth and the social capital of the province of residence. Then, we have the social capital of people who did not move. The left-hand-side variables are as defined in Tables 2, 3, 4, and 5. For a description of all the other variables see the Appendix. All regressions include as controls family size, dummies for whether the household head is male, married, for his/her type of job and industry, and calendar-year dummies. In Panel A all the columns report ordinary least-squares coefficients. In Panel B all the regressions are estimated by instrumental variables, with the social capital of origin of the spouse as instrument. The standard errors reported in parentheses are corrected for the potential clustering of the residual at the provincial level. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

our results will underestimate the effect of social capital of origin relative to that of residence.

A bias will arise only if people have a preference for living with others who share the same set of values. Under this hypothesis, people also tend to choose a spouse with a similar set of values. Hence, we can use the social capital of origin of the spouse as an instrument for the unobservable component of values of each head of household. The instrumental variable estimates are reported in Table 9, Panel B. As expected, the IV estimates of the social capital of origin tend to be higher in absolute value than are those of the social capital of residence, albeit noisier.

One possible objection to our interpretation that the social capital of origin affects the use and availability of financial contracts is that the estimated coefficients might be capturing the effects of discrimination. Although we cannot

rule out that discrimination might play a role, we can rule out that discrimination is the only source of this effect. In fact, it would be hard to argue that individuals born in areas with low social capital hold more cash and less stock as a result of discrimination, as columns I and III of Table 9 indicate.

Furthermore, if discrimination plays a very big role in the relation between social capital and the use of financial contracts, the overall effect of social capital for movers should be much bigger than the effect of social capital for nonmovers who do not face discrimination. This conjecture is not confirmed by our results. The sum of the effects of the two social capital measures for movers is almost identical to the total effect for nonmovers.

An alternative interpretation that would explain some of our results is that movers are unable to assess immediately the extent of local networks and norms in their new area of

TABLE 10—THE EFFECT OF TRUST ON FINANCIAL DEVELOPMENT AROUND THE WORLD

Dependent variable	External equity over GNP	Number of domestic firms over population	Number of IPOs over population	Debt over GNP	Percent of companies publicly held
Log per capita GNP	0.026	−1.486	0.049	0.994**	0.144***
	(0.475)	(1.856)	(0.174)	(0.040)	(0.041)
Trust	0.011*	0.470**	0.054***	0.003	0.012**
	(0.005)	(0.204)	(0.019)	(0.004)	(0.005)
Rule of law	−0.055	1.701	−0.201	0.029	−0.020
	(0.035)	(1.365)	(0.136)	(0.031)	(0.038)
Constant	0.115	7.523	−1.352	−0.958**	−1.751***
	(0.534)	(20.860)	(2.005)	(0.455)	(0.590)
R^2	0.14	0.47	0.4	0.44	0.48
Observations	30	30	27	28	30

Notes: The dependent variables are different indicators of financial development used by La Porta et al. (1997a). The first measure is the fraction of the capitalization of the equity not detained by outsiders (as estimated by La Porta et al., 1997a) divided by GNP. The second measure is the number of listed companies divided by million inhabitants. The third measure is the number of initial public offerings done in the period 1995–1996 divided by million inhabitants. The fourth measure is total debt outstanding divided by GNP. The last one is the proportion of largest companies that is not closely held, using 20 percent as a threshold. The data on trust come from Knack and Zack (2001), who integrate data from the World Values Survey with data from Eurobarometer. In both cases the survey asked "How much do you trust your fellow citizen in general?" Log per capita GNP is from La Porta et al. (1997a) and is the logarithm of the gross national product in 1994. Rule of law is the assessment of the law and order tradition in a country computed by *International Country Risk Guide* and is also from La Porta et al. (1997a). All the coefficients are estimated by ordinary least squares. The standard errors are reported in parentheses. The symbols ***, **, * mean that the coefficient is statistically different from zero, respectively, at the 1-, 5-, and 10-percent level.

residence. Hence, they may use the level of networks and norms in the area where they were born as initial prior and update it as they learn more. This hypothesis is consistent with most of our findings, but cannot explain why individuals coming from a low-social-capital area are denied credit more frequently, since the denial of credit does not depend on the applicant expectations, but on the loan's officer expectations about the trustworthiness of the applicant. To ascertain whether such a relation exists even excluding discouraged borrowers, we reestimate (not reported) the probability of being denied credit, excluding the households who were discouraged. We find that it is still true that the social capital of origin positively affects the probability of being denied credit. This result suggests that not only do movers expect other people to behave according to their initial prior, but also other people expect them to behave according to that prior. Thus, a slow adjustment in expectations alone is not sufficient to explain the results.

To fully explain these results we need to resort to some intrinsic differences in individual characteristics imprinted with education, which persist when people move. This result is consistent with Ichino and Maggi (2000), who find that the shirking behavior of southern employees persisted after they moved to the North.

VII. Conclusions

Our findings show that social capital plays an important role in the degree of financial development across different parts of Italy. Social capital seems to matter the most when education levels are low and law enforcement is weak. This is precisely the situation in many developing countries. The obvious question is how generalizable these results are. Is this just a feature of a country with inefficient legal enforcement? Is it an effect we can find only in a microeconomic analysis that does not have any aggregate consequences?

We cannot fully rule out the first possibility. In fact, our analysis of the interaction between trust and legal enforcement suggests that trust is much less important (sometimes not important at all) in areas where the court system is more

efficient or where people are more educated. As a result, we could certainly question the importance of social capital in highly developed countries, where there is good legal enforcement and a high level of education. However, most of the world does not fit this description. Hence, social capital is likely to be very important in explaining the success (or lack thereof) of developing countries.

Instead, we try to answer the second question. Unfortunately, we do not have cross-country measures of social capital to replicate our regressions. However, Knack and Zack (2001) report an aggregate measure of trust by country, which they derive from the World Values Survey. As Table 10 indicates, after controlling for the degree of law enforcement and the level of GNP per capita, we find a positive and statistically significant correlation between this measure of trust and several indicators of financial development used by La Porta et al. (1997b). These indicators are the ratio of stock market capitalization to GDP, the number of listed companies per million of population, the number of IPOs per million of population, and the diffusion of corporate ownership. Although this finding is far from a definitive proof, it suggests that our results may extend beyond a single country.

If they do, then the question of how to address deficiencies in social capital becomes of great policy relevance. Our analysis suggests that better law enforcement and greater education can possibly eliminate the negative effects of lack of social capital. Only future research, however, will be able to tell how to remove the ultimate causes of social capital deficiencies.

APPENDIX: DATA SOURCES AND VARIABLES DESCRIPTION

Our main data source is the Bank of Italy Survey of Household Income and Wealth (SHIW), which collects detailed data on demographics, household consumption, income, and balance sheets. We use four waves (1989, 1991, 1993, 1995) because sample size and design, sampling methodology, and questionnaire content are unchanged. Each survey covers more than 8,000 households for a total of 32,648 household-year observations. Each SHIW surveys a representative sample of the Italian resident population. Sampling is in two stages, first municipalities and then households. Households are randomly selected from registry office records. Households are defined as groups of individuals related by blood, marriage, or adoption, and sharing the same dwelling. The head of the household is conventionally identified with the husband, if present, otherwise with the person responsible for managing the household's resources. Andrea Brandolini and Luigi Cannari (1994) present a detailed discussion of sample design, attrition, and other measurement issues, and comparisons of the SHIW variables with the corresponding aggregates. Starting in 1989, each SHIW has reinterviewed some households from the previous surveys. The panel component has increased over time. The SHIW reinterviewed 15 percent of the previous survey sample in 1989, 27 percent in 1991, 43 percent in 1993, and 45 percent in 1995. In the panel component, the sampling procedure is also determined in two stages: selection of municipalities (among those sampled in the previous survey), and then selection of households reinterviewed. This implies that there is a fixed component in the panel (for instance, households interviewed five times between 1987 to 1995, or four times from 1991 to 1995) and a new component in every survey (for instance, households reinterviewed only in 1989). The SHIW has been supplemented with geographical data on social capital, judicial inefficiency, and economic development.

TABLE A1—VARIABLE DESCRIPTION AND DATA SOURCES

Variable	Description	Source
Social capital 1	Voter turnout at the province level for all the referenda before our household data start (1989). These include data referenda on the period between 1946 and 1987. For each province turnout data were averaged across time.	Ministry of Interior
Social capital 1 origin	The measure of social capital 1 in the province of birth of the household head.	Ministry of Interior
Participation in referendum on divorce	Voter turnout at the province level for the divorce referendum (June 1978).	Ministry of Interior
Social capital 2	Number of blood bags (each bag contains 16 ounces of blood) per million inhabitants in the province collected by AVIS, the Italian association of blood donors, in 1995 among its members. The association, which is completely private and nonprofit, was founded in the early 1920's and is present in all Italian regions and 91 provinces (out of 95) with 2,796 city branches. It groups about 875,000 donors and is the largest blood donors' association not only in Italy where it collects over 90 percent of the whole blood donation, but also in the world. Its members who work for it voluntarily run the association. Blood donations are completely anonymous. All the blood collected is handed over freely to the public hospitals. Beneficiaries remain anonymous both to the donors and to the association. The four provinces where there is no AVIS local branch have presumably very low or zero blood donations. In the reported regressions we exclude the four provinces that have no AVIS branch. However, our results are not affected by this exclusion.	AVIS
Trust (WVS)	An index of the level of trust based on the WVS for Italy run among 2,000 individuals in years 1990 and 1999. The question asked to the respondent was: "Using the responses on this card, could you tell me how much you trust other Italians in general?: (5) Trust them completely (4) Trust them a little (3) Neither trust them, nor distrust them (2) Do not trust them very much (1) Do not trust them at all." In the original survey the numerical code of the response was in the reverse order.	World Values Survey
Use of checks	The survey asked household heads "Did you or some other member of the household issue checks in the course of the year to settle transactions?"	SHIW
Percent wealth in cash	The survey asked household heads "What is the average amount of cash held in your family?"	SHIW
Percent wealth in stocks	In a typical survey, households are asked first to report ownership of the specific financial instrument and then to indicate the portfolio share, in 1989, or to report the asset bracket in a list of 14 possible brackets, in 1991, 1993, and 1995. In 1989 assets amounts are obtained combining knowledge of the shares, of the value of financial wealth held in cash and the fact that portfolio shares add up to 1. In 1991, 1993, and 1995, assets amounts are imputed assuming that the household holds the midpoint of the reported interval. It is clear from this procedure that while stocks and mutual funds ownership only suffers from nonreporting, their amounts is affected by imputation errors. For details on how financial assets values are computed in the SHIW see Guiso and Tullio Jappelli (2001).	SHIW
Discouraged or turned down	The survey asked the following questions "During the year did you or a member of the household think of applying for a loan or a mortgage to a bank or other financial intermediary, but then changed your mind on the expectation that the application would have been turned down?" We classify "yes" as "discouraged borrowers." The survey also asked "During the year did you or a member of the household apply for a loan or a mortgage to a bank or other financial intermediary and your application was totally or partially turned down?" We classify answers "yes totally" and "yes partially" as "turned down consumers."	SHIW
Loans from friends and family	The survey asked household heads "As of the end of the year did you have debts outstanding towards friends or relatives not living with you? If yes, what is their amount?" This information is used to compute the existence and value of informal loans.	SHIW

TABLE A1—*Continued.*

Variable	Description	Source
Judicial inefficiency	Mean number of years it takes to complete a first-degree trial by the courts located in a province. It has been computed using courts-level data on the length of trials and then averaging out across courts located in the same province.	ISTAT
North/Center/South	Geographically we divide Italy in three regions. Provinces north of Florence are located in the North, provinces between Florence and Rome are located in the center, and provinces south of Rome are in the South. We also use a finer partition of the territory into five macroareas: North East, North West, Center, South, and Islands, according to ISTAT definition.	Our elaboration
Per capita GDP	GDP in the province in thousands of dollars divided by population in the province.	ISTAT
Years of education	Average number of schooling years calculated at the provincial level in 1981.	ISTAT
Income/Wealth	Income is the sum of the earnings of all members of the households that worked for part or the whole year, pension income accruing to retired members, capital income, and transfers. Wealth is the total of financial and real assets net of household debt. The first is the sum of cash balances, checking accounts, savings accounts, postal deposits, government paper, corporate bonds, mutual funds, investment fund units, and stocks. In 1989 total financial wealth is readily available. For other years it must be estimated because the categories of financial assets (except cash holdings) were provided in 15 bands; the average value between the lower and the upper band was used in determining the level of each asset. Real assets include investment real estate, business wealth, primary residence, and the stock of durables. All the monetary variables are deflated using the Consumer Price Index and expressed in dollars.	SHIW
Age	Household head age.	SHIW
Education	This variable is originally coded as: no education (0); completed elementary school (5 years); completed junior high school (8 years); completed high school (13 years); completed college (18 years); graduate education (more than 20 years). The variable is coded according to the values given in parentheses. For the highest class we assume a value of 20 years. It refers to the household head.	SHIW
Married	Indicator variable equal to one if the household head is married.	SHIW
Male	Indicator variable equal to one if the household head is a male.	SHIW
Family size	It includes all the individuals living in the house (adults and children)	SHIW
Industry and job dummies	Industry dummies are a series of dummies for the industry where the household head works. Job dummies are a series of dummies for the type of job (employee, professional, self-employed) held by the household head.	SHIW
Relative risk aversion	Relative risk aversion is the product of the Arrow-Pratt measure of absolute risk aversion and household's consumption. The Arrow-Pratt measure of absolute risk aversion is obtained from a direct question to a survey lottery where individuals report their willingness to pay for a hypothetical risky security. Specifically, they are asked: "We would like to ask you a hypothetical question that we would like you to answer as if the situation was a real one. You are offered the opportunity of acquiring a security permitting you, with the same probability, either to gain 10 million lire or to lose all the capital invested. What is the most that you are prepared to pay for this security?" Ten million lire correspond to about USD 5,500. The respondent can answer in one of following three ways: (a) declare the maximum amount he is willing to pay to participate; (b) don't know; (c) unwilling to answer.	SHIW
Crime	Number of murders, robberies, and blackmails divided by population in 1996.	ISTAT

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