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WHY ITALIANS DO NOT INVEST

IN THE EQUITY MARKET?

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Abstract

Italy exhibits three lack-of-participation puzzles: i) the average level of stock market participation is one of the lowest among developed countries, ii) this low average is particularly pronounced even among the wealthiest fraction of the population, iii) mutual funds increase stock market participation only of the very top of the wealth distribution. In this paper we argue that these phenomena cannot be explained by high participation costs or poor performance of the Italian market. The most likely explanation is lack of trust in the stock market. This lack of trust has both an objective component and a subjective, cultural-based component. We propose some tentative strategies to try to alleviate this problem.

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Introduction

Italian invests much less in the stock market than people from most other European countries. Only 4% of households invest in the stock market directly, with another 4% investing through mutual funds. This compares with a European average of 17% directly and an additional 10% indirectly. This unusual behavior cannot simply be explained by high participation costs (Vissing-Jorgenson 2003). Even among the richest fraction of the Italian population only 31% of the households in the top 5% of the distribution of financial wealth invest directly in the stock market versus a European average of 50%.

In this paper we explore three possible explanations for this phenomenon. The first, more traditional, one is that the Italian equity market has a lower average return and a higher volatility than the other markets. This fact alone would not lead to lack of participation, but only to a reduced portfolio share invested in equity (assuming some home-bias in stock investments). In conjunction with significant participation cost , however, a lower risk-return trade off could lead to a higher degree of non participation. This explanation, however, does not seem to be supported by the data. As Dimson, Marsh and Staunton (2002) show during the 20th century Italy exhibits an equity premium in line with other developed countries. While its volatility has been higher than most developed countries, it is mostly due to the World War II period. Excluding that, Italy is very much in line with other developed countries. Hence, a lower risk-return trade off cannot be the cause of such low level of participation.

The second explanation is lack of education. Among the developed countries Italy has one of the lowest levels of literacy and of average years of schooling. In addition, the regular school curriculum does not include any economics or financial education. Not surprisingly, thus, 35% of Italians are not even aware of the existence of stock as a potential investment vehicle. While such lack of education does not help, it is hardly the cause of Italian low stock market participation. The people who are not aware of stocks are generally the poorest fraction of the population, a segment unlikely to invest in stock anyway. In fact, Guiso and Jappelli (2005) estimates that financial education would only increase the proportion of households that directly invest in stock to 7.5% (from the current 5.6).

To explain Italians reluctance to participate in the stock market we need to resort to individuals beliefs and culture. As Guiso, Sapienza and Zingales (2007) show, lack of trust in the stock market (or in fundamental working of the financial system) decreases the perceived expected return of an equity investment and can easily prevent households to invest in stocks. Consistent with this result, they find that trust is correlated with stock market participation both within a country and across countries. This explanation is particularly appealing in the Italian case for at least three reasons. First, the low level of Italians generalized trust is perfectly consistent with their low level of stock market participation. Second, unlike most other countries, Italy exhibits a low level of trust not only among the poorest section of the population, but even among the wealthiest one. This can explain, thus, the surprising lack of participation in the top deciles of the wealth distribution. Finally, an explanation based on trust can account for the lower level of stock market participation (even controlling for differences in income) in the South, a region poor in social capital and trust.

As Guiso, Sapienza and Zingales (2005) show, trust is based both on objective considerations (the unbiased forecast of a bad event occurring) and on subjective ones (the perception that a bad even might occur). To improve stock market participation, thus, one could act along several dimensions.

To improve the objective view of the risk an equity investment involves we should ameliorate the protection offered to investors. In the United States, for example, the Sarbanes and Oxley legislation was promptly enacted after the Enron and the WorldComm scandals, to reassure investors. By contrast, in Italy it took two years after the Parmalat scandal to approve a very mild reform.

The second avenue to improve trust is to build it through long term relationships and individualized attention. We provide evidence that the top clients of a large Italian bank exhibit a higher level of trust than the average client, suggesting that high personalized service can build higher trust. This method, however, is very expensive and can pay off only for the wealthiest segment of the population.

A third avenue is to leverage the trust investors have toward other institutions. Italians seem to trust the Church or the school five times more than they trust the stock market. And they trust local institutions much more than national ones. Hence, one possibility would be to market equity products through some of these most trusted organizations.

Finally, populations that exhibit low levels of generalized trust seem to compensate with high levels of personalized trust. Hence, one way to overcome this trust gap is by personal contact, especially if the intermediary shares some cultural and physical characteristics with the potential investors, elements that have been shown to enhance trust (DeBruine (2002)).

Not only improving the level of trust will increase stock market participation directly, but it will also increase the payoff of any educational or advertising campaign aimed at improving Italians' awareness of equity as an investment vehicle. In fact, as long as the trust remains low, these campaigns are doomed to fail.

Improving stock market participation would have important effects on the size of the Italian stock market and thus, indirectly, on the economy. If Italian trusted the equity investment as much as the Swedes (and thus invested in equity in the same proportion), the size of the Italian stock market would increase by 60% to reach one trillion euros and the number of listed companies to almost 400 from the current 253.

1. The Italian Stock Market Participation Puzzle

1.1 Italy's extreme lack of participation

The data on stock market participation are limited and often contradictory. They are also difficult to compare across countries, because collected with different methodologies. The largest sample has been gathered by Giannetti and Koskinen (2005).¹ We report it in Figure 1. With only 7% of the households investing in stock, Italy is towards the bottom of the distribution, below Greece and below recently developed countries such as Taiwan, Singapore and Hong Kong.

Probably the best and most comparable data can be obtained from the Survey of Health, Age, and Retirement in Europe (SHARE). The 2004 wave, which refers to year 2003, reports information on stock financial investments which we have used to compute the proportion of households owning stock in each quartile of gross financial wealth. These data are reported in Table 1. Unfortunately, SHARE provides information only about continental European countries. For comparability purposes, we integrate the table by adding U.K. data drawn from the 1997-98 Financial Research Survey and U.S. data from the 1998 Survey of Consumer Finances.²

In Panel A we report the percentage of households in each quartile of the financial wealth distribution who owns equity directly. Of the twelve nations for which we have data, only Spain has a lower overall stock market participation than Italy. Italian participation is one tenth of the Swedish one and one fifth of the U.S. and U.K. ones. Italian inferior participation rate is homogenous across the fourth quartile of the financial wealth distribution. Only in the top 5% of financial wealth distribution do we see a significant higher rate of participation (30.8%), higher than in the other three laggard countries (Spain, Greece and Austria). Even in this group, however, Italian stock market participation is less than a half the U.S. and U.K. one and almost one third of the Swedish one.

In Panel B we report the same figure relative to total participation: both direct and indirect through mutual funds and pension funds. The picture is very similar. Only

¹ The main source of their data is the 1999 Share Ownership Survey conducted by the World Federation of Exchanges, which provides data on the fraction of households who directly hold stocks in 1999 for Australia, Austria, Canada, Denmark, Finland, Hong Kong, Japan, New Zealand, Norway, Sri Lanka, the UK, and the US. The data on France, Italy, the Netherlands, and Sweden are taken from Guiso, Haliassos and Jappelli (2003), which in turn use the national household surveys. The data for Belgium, Germany, Greece, India, Singapore, Taiwan, and Turkey are from the June 2002 Factbook published by the Deutsches Aktieninstitut. Finally, the data on Switzerland, Portugal and Ireland are from national private investment reports, which are respectively: a report of the Marktforschungsinstitut Demoscope, which surveyed a representative sample of 3,242 people on their shareholdings activities in 1998, the "Survey into the profile of the Portuguese private investor" from the Comissão do Mercado de Valores Mobilliáros, and the report "Private share ownership in Ireland", published in 2000 by Goodbody Stockbrokers.

 $^{^2}$ Share samples individuals more than 50 years old. This may introduce some distortions in the figures on participation in so far as it follows a systematic life-cycle pattern. Comparisons with some datasets for other countries that collect information on participation on samples representative of the whole population suggest that these biases are small.

8% of the households invest in stock. Only Greece and Spain do worse. In the top quartile of the of financial wealth distribution, where participation is almost universal in Sweden and the United States, it reaches only slightly more of a quarter of the households in Italy. Even in the top 5%, one third of the Italians do not own any stock, directly and indirectly.

One interesting phenomenon we observe by comparing Panel B with Panel A is the role of mutual funds across the wealth quartiles. Mutual funds do not contribute at all to the stock market participation of Italian households in the first two quartiles of the financial wealth distribution. Even in the third quartile, they contribute only marginally (2%). It is only in the top quartile were they contribute significantly (15%), and especially in the top 5% (34%, the highest contribution in the entire sample). We are going to come back to this phenomenon.

So the puzzle of the Italian lack of stock market participation is threefold. Not only the average level is very low, but this low average is very pronounced even among the wealthiest fraction of the population. Finally, mutual funds help stock market participation only of the very top of the wealth distribution.

1.2 Participation costs alone cannot explain the data

Lack of stock market participation is not just an Italian phenomenon. The puzzle has been documented in several papers (e.g., Mankiw and Zeldes, 1991; Poterba and Samwick, 1995, for the US, and Guiso et. al., 2001, for various other countries). This phenomenon is generally explained with the presence of fixed participation costs (e.g. Haliassos and Bertaut, 1995; Vissing-Jorgensen, 2003). The finding that wealth is highly correlated with participation rates in cross-section data supports this explanation. Can this explanation account for the extreme lack of participation of Italian households? In other terms, are Italian participation costs so extremely high to discourage even wealthy people from investing in equity?

Table 2 tries to answer this question. The first column reports equity trading costs from Pagano et al. (2004). Italy is in the middle of the pack with a trading cost slightly lower than Sweden, where participation is ten times as high. Hence, it is difficult to explain all in terms of participation costs. Furthermore, "participation costs are unlikely to be the explanation for nonparticipation among high-wealth households." (Vissing-Jorgensen, 2003 p. 188), and Italian lack of participation is particularly pronounced at the top of the wealth distribution.

The second column reports the average management fees in mutual funds. In this small sample, Italy has the highest cost. This could explain why only the wealthiest households use mutual funds. But it cannot explain the lack of direct stock market participation. Hence, we need to resort to some other causes.

2. Italian Stock Market Performance

The first, most natural, explanation for the Italian lack of participation in the stock market is an economic one. May be on the basis of their past experience people expect the Italian equity market to have a lower return and a higher volatility than other markets. Even if true, alone these lower-return and higher-volatility expectations cannot explain lack of participation. They would only lead to a reduced fraction of wealth invested in equity. In conjunction with significant participation cost, however, a lower risk-return trade off could lead to a higher degree of non participation.

To explore this hypothesis we look at the past return data. Dimson, Marsh and Staunton (2002) collect the stock market performance during the 20th century for several countries. In Table 3 we report their figures. Over the last century Italy exhibits a high average equity premium (the difference between the geometric mean real return on stocks and the real return on t-bills). In fact, it is the second highest among the countries studied.

The flip side of that is that this equity premium exhibits also a relatively high volatility. The ratio between the equity premium and its standard deviation (also known as the Sharpe ratio) is a measure of the attractiveness of an investment. In this respect, Italy does not do so well, positioning itself toward the bottom of the distribution.

Differences in the Sharpe ratio alone, however, cannot explain Italy's extreme lack of participation. The Italian Sharpe ratio is virtually identical to the Swiss one, but Switzerland has a participation rate six times as big as the Italian one.

In addition, as Figure 2 makes it clear, the high volatility of the Italian stock market is mainly due to the World War II period. Not surprisingly, the three countries that lost the world (Germany, Japan and Italy) exhibit the highest overall volatility. But in the post World War II period, the volatility of the Italian stock exchange has not been significantly higher than that of other countries like France (Figure 2). Since it is hard to imagine that today Italian investors factor into their expectations the probability of a disastrous war like World War II, it is even harder to understand how these expectations can keep Italians away from equity.

To have a quantitative sense of how much these past data can explain Italian lack of participation, we follow Vissing-Jorgensen (2003) and compute the implicit annual participation cost that would justify the average actual participation rates in the different countries, given the past stock market performance. As Table 2 column III shows, to justify the current level of equity investment in Italy the participation cost should be 980 euros, almost twice as much as France. This is hard to imagine, given that the trading costs are very similar (28 vs. 30 basis points). Furthermore, even such an elevated participation cost would not explain the lack of participation among the wealthiest segment of the population, for which 980 euros are trivial with respect to the opportunity cost of not investing in the stock market. To wit, even the excess return from a Euro 50,000 stock investment (Euro 3500) would be large enough to more than compensate for the 980 euro participation cost.

3. Is Lack of Awareness the Cause?

If disappointing performance is not the culprit, what can explain the lack of participation? One possibility is lack of information.

The Survey of Households Income and Wealth (SHIW) conducted by the Bank of Italy on a representative sample of about 8,000 Italian households contains also some questions regarding the knowledge that people have about different financial instruments.

Table 4 reports the level of awareness that Italian households have regarding different investment instruments. Not surprisingly, almost everybody knows the existence of a checking and saving account. BOT and CCT follows shortly. In 1995 90% of the interviewed people knew about the existence of BOTs and 76% of CCT, a reflection of the huge marketing campaign done by the Government to place its debt. Only 65% of the households are aware of the existence of stocks and even less (48%) of the existence of mutual funds. This latter number, however, is increasing rapidly. Only three years after (i.e. in 1998), the percentage of people who knew of the mutual funds was 56%.

While it is pretty obvious that people who are not aware of the existence of stocks will never invest in it, it is not necessarily the case that making somebody aware of the existence of the stock market will change the situation. Guiso and Jappelli (2005) examine this question. They study what is the conditional level of participation of the income groups who are not aware of the stock markets. Not surprisingly, they find that the people who are not aware of the existence of stock are among the poorest segments of the population, i.e. are people that even when they became aware would be very unlikely to invest in stock anyway. Based on their estimates, Table 5 reports how direct stock market participation would change if everybody became aware of the existence of stock. The proportion would move from 5.6% to only 7.5%.

In no way, thus, the Italian lack of participation puzzle can be explained by lack of knowledge of these instruments. Clearly, this lack of knowledge does not help, but it cannot be the ultimate source for the failure of the vast majority of Italians to hold stock.

4. Lack of Trust³

4.1 Why should trust matter?

To explain the lack of stock market participation around the world Guiso, Sapienza and Zingales (2007) focus on the role played by trust. The decision to invest in stocks requires not only an assessment of the risk-return trade-off given the existing data, but also an act of faith (trust) that the data in our possession are reliable, that the overall system is fair. Episodes like Parmalat may change not only the distribution of expected payoffs, but the fundamental trust in the system that delivers those payoffs. Most of us will not enter a three-card game played on the street, even after observing a lot of rounds (and thus getting an estimate of the ``true" distribution of payoffs). The reason is that they do not trust the fairness of the game (and the person playing it). Guiso, Sapienza and Zingales (2007) claim that for many people (especially people unfamiliar with finance), the stock market is not intrinsically different from the three-card game. They need to have trust in the fairness of the game and in the reliability of the numbers to invest in it.

They define trust as the subjective probability individuals attribute to the possibility of being cheated. This subjective probability is partly based on objective characteristics of the financial system (the quality of investor protection, its enforcement, etc.) that determine the likelihood of fraud such as Parmalat. But trust reflects also the subjective characteristics of the person trusting. Differences in educational background rooted in past history (Guiso, Sapienza, and Zingales , 2004) or in religious upbringing (Guiso, Sapienza, and Zingales, 2003) can create considerable differences in levels of trust across individuals, regions, and countries.

These individual priors play a bigger role when investors are unfamiliar with the stock market or lack data to assess it. These conditions fit well the Italian case as the widespread un-awareness of stocks documented earlier suggests. But investors mistrust is unlikely to fade away even with experience and data. In their paper, they show that it takes 81 years of data to convince an individual who has a 4 percent probability of being cheated to invest in the stock market. Without considering the fact that when mistrust is deeply rooted, people may be doubtful about any information they obtain and disregard it in revising their priors. For example, data from a 2002 Gallup poll show that roughly 80 percent of respondents from some Muslim countries (Pakistan, Iran, Indonesia, Turkey, Lebanon, Morocco, Kuwait, Jordan, and Saudi Arabia) do not believe that Arabs committed the September 11 attacks (Gentzkow and Shapiro, 2004).

To assess the explanatory power of a trust-based explanation Guiso, Sapienza, and Zingales (2007) model the impact of trust on portfolio decisions. Not only does the model provide testable implications, but it also gives us a sense of the economic importance of this phenomenon. In the absence of any cost of participation, a low level

³ This section is taken from Guiso, Sapienza, and Zingales (2007).

of trust can explain why a large fraction of individuals do not invest in the stock market. In addition, the model shows that lack of trust amplifies the effect of costly participation. For example, if an investor thinks that there is a 2% probability that he will be cheated, the threshold level of wealth beyond which he invests in the stock market will increase five folds.

4.2 Within country evidence

To test the model's predictions, Guiso, Sapienza, and Zingales (2007) use a sample of Dutch households. In the Fall of 2003 they included some specific questions on trust, attitudes towards risk, ambiguity aversion, and optimism to a sample of 1,943 Dutch households as part of the annual Dutch National Bank (DNB) Household Survey. These data were then matched with the 2003 wave of the DNB Household Survey, which has detailed information on households' financial assets, income, and demographics. They measured the level of generalized trust by asking our sample the same question asked in the World Values Survey (a well-established cross country survey): "Generally speaking, would you say that most people can be trusted or that you have to be very careful in dealing with people?".

Table 6 reports Table 4 in Guiso, Sapienza, and Zingales (2007). The left-hand side variable is a dummy equal to 1 if a household invests directly (i.e. not through a mutual fund) in stocks of listed or unlisted companies and zero otherwise. Here and in the subsequent definitions investment in stock does not include investment in equity of own business for those who have one, since trust issues should obviously be irrelevant for equity investment in an individual own business. In this as well as the subsequent regressions they control for a number of variables. First, since the literature on fixed costs emphasizes the importance of wealth, they include both the value of household financial wealth and income. Then, they include various demographic characteristics to account for possible differences in participation costs. They insert a male dummy, the number of adults and the number of children in the household, two dummies for middle and high education, and a dummy for being an employee. They also control for the household head's age (both linear and linear and squared), to capture changes over the life cycle.⁴

The first column reports the estimates of the basic specification, where they insert both trust and risk aversion. While risk aversion turns out to have little predictive power, the effect of trust is positive and highly statistically significant. Trusting others increases the probability of direct participation in the stock market by 6.5 percentage

⁴ These variables may also capture differences across individuals that affect their attitude toward investment in stocks - such as variation in exposure to uninsurable risks (Kimball, 1993) - or that act as a barrier to participation in the stock market regardless of any participation cost, such as lack of awareness of stock as an asset (Guiso and Jappelli, 2005).

points. This is a remarkable effect as it corresponds to a 50% increase in the unconditional probability of participation.

The second column includes a measure of ambiguity aversion, that is aversion investors have to uncertainty about the probabilities of the events they face. Ambiguity aversion has the expected sign, but it is not statistically significant. In spite of the fact that ambiguity aversion and trust are negatively correlated, the coefficient of trust is hardly affected.

An alternative interpretation of these finding is that trust, rather than reflecting an individual fear of being cheated, captures investor's optimism. Optimistic investors may be induced to participate by their inflated expectations of returns. This possibility is strengthened by the results of Puri and Robinson (2005), who find that people who overestimate their life expectancy (and thus are optimistic) invest more in stock.

Guiso, Sapienza, and Zingales (2007) address this concern in two ways. First, in column (3) they insert a dummy variable equal to one for all those individuals who answer that they normally expect more good things to happen to them than bad things (a measure of optimism). Consistent with Puri and Robinson (2005), this variable has a positive effect on stock market participation, albeit this effect is not statistically significant. More importantly from our point of view, controlling for optimism leaves the effect of trust nearly unchanged.

Second, in column (4) they control for the household's head expectations about the stock market for the following year. The question asked to 495 individuals is whether they expect the stock market to go up the following year. If all individuals had the same expectations about the underlying distribution of returns, then this measure should absorb the effect of trust. In reality, however, this is unlikely to be the case. Hence, per given level of trust they may interpret their answer as a measure of their optimism about the underlying distribution of returns.

Unfortunately, this question was asked to only 495 individuals and when they merge them with their sample they are left with only 255 observations. Not surprisingly, the effect of trust loses precision. It is interesting to note, however, that it has the same magnitude (in fact, slightly bigger) than before, suggesting their results on trust are not driven by different expectations about the future performance of the stock market.

Finally, in the last column they show that the effect of trust does not fade away with wealth. When they restrict the sample to those with above median financial assets, the effect of trust is of the same order of magnitude and actually somewhat larger than in the overall sample. This implies that trust has a chance to explain why *even the rich* may choose to keep themselves out of the stock market, even if they can afford to pay the fixed participation cost.

Though it is reasonable to expect the effect of trust to be particularly important for direct participation in the stock market, it is neither limited to direct participation

nor just to equity investment. An investor needs some trust even when he buys a stock indirectly, through a mutual fund, a broker, or a bank. While the presence of an intermediary reduces the need for information (and thus for trust), it also increases exposure to opportunistic behavior of the intermediary.

Hence, the effect of trust should generalize to investments in all risky assets, defined as the sum of directly and indirectly owned stocks, corporate bonds, and put and call options. Table 5 of Guiso, Sapienza, and Zingales (2007) (not reported here) shows this to be the case.

4.3 Across country evidence

Can a trust-based explanation accounts for the cross country differences in stock market participation? If entrepreneurs are reluctant to float their companies and investors are reluctant to invest, countries with low levels of trust should exhibit low levels of stock market participation. To test this implication Guiso, Sapienza, and Zingales (2007) look at the proportion of population that invests in the stock market. In Table 7 (which reproduces Table 10.A from Guiso, Sapienza, and Zingales (2007)) we report the results.

The first three columns regress the share of stockholders in each country on the World Values Survey measure of trust. As predicted, trust has a positive effect on stock ownership and this effect is statistically significant. This result is unchanged if we control for the quality of legal enforcement (column 5) and for the fact a country has a common law system (6). In all these cases the effect is very economically significant. If Turkey had the same level of trust as Ireland (the median country) the share of stockholders would increase to 8 percentage points, more than a six-fold increase in the level of participation in that country.

The advantage of a trust-based explanation is that it can explain lack of participation even among wealthy individuals. Unfortunately, we have data on stock market participation by wealth level only for the subset of 12 countries in Table 1. Figure 3 plots the relation between the level of total stock market participation of the top 5% of the wealth distribution and the prevailing level of trust in the country. It shows a remarkable positive correlation which is statistically significant at the 2 percent level in spite of the paucity of observations.

In the second three columns of Table 7 the dependent variable is the percentage of the stock market capitalization that is closely held. As expected, trust has a negative effect on this variable and the effect is both statistically and economically significant. If Turkey had the same level of trust as Belgium (the median country) the fraction of the stock market closely held would be 11 percentage points lower.

When we control (column 2) for legal enforcement as done by Giannetti and

Koskinen (2005), the coefficient of trust becomes even larger in absolute value. Further controlling for Common Law, leaves the effect of trust positive and significant and its coefficient unchanged suggesting that trust plays an independent and additive role with

respect to the quality of formal institutions in explaining worldwide differences in ownership concentration.

5. Lack of Trust in the Italian Contest

In the Italian context an explanation for lack of stock market participation based on trust is very appealing because it enables us to understand a lot of the peculiarities of the Italian case. We now explain why.

First, the low level of generalized trust in Italy is consistent with the low level of stock market participation. Of the countries for which we have data on participation Italy has a level of trust below the mean and the median: only 33% of the interviewed people respond that most people can be trusted, versus a mean of 38% and a level of 66% in Sweden, the country with the highest participation rate. Nevertheless, Italians' lower average level of trust is not sufficient to explain the lower level of participation in the stock market. As Figure 4A shows, Italy is well below the regression line and outside of the 95% confidence interval.

One possibility is that Italians distrust the stock market more than they distrust other people in general. Unfortunately, we do not have comparable statistics across countries about the level of trust people put into the stock market. But we do have these numbers for Italy. Table 8 reports the fraction of people who reports to trust various different institutions. While 33% of Italians say that most other people can be trusted, only 21% say that they can trust insurance companies and 20% banks. The stock market does even worse, with only 12% of Italians trusting it, at the same level as political parties.

Another (non alternative) explanation for the extraordinary low level of Italian participation appeals to another Italian peculiarity: the low level of trust among the more wealthy. In Table 9 we report the average level of trust by income deciles. In Italy the two lowest deciles of income are the ones that trust the least (respectively 19% and 17%). After that, the level jumps to 32% and it reaches its maximum in the fourth decile of the income distribution. From that decile, the level of trust is monotonically declining to 26%.

This pattern is rather unusual. In all the other major countries, which we report in Table 9, trust tends to increase with income. From the third decile of the income distribution onward, all the other countries have it that more wealthy people trust more. In Italy, quite the contrary, wealthier people trust less. So the average level of trust in a country tends to hide the differences in the level of trust of the wealthy. While France, for example, has a lower level of trust than Italy, it has a much higher level of trust in the top two deciles of income. Since the pattern of stock market participation is mainly driven by the behavior of the wealthiest, we should use the trust of the two top deciles of the income distribution to see whether the trust of this subgroup can explain stock market participation better. This is indeed the case. By using the level of trust of the two top deciles of the income distribution instead that the average level of trust of the all population, the R-squared of the regression of stock market participation on trust increases from 18% to 40%. As Figure 4B shows, Italy is less of an outlier. In fact, it falls in the 95% confidence interval of the regression. In other words, the Italian stock market participation puzzle is "explained" by the lack of trust of more wealthy people.

Finally, an explanation of lack of stock market participation based on trust has the additional benefit of accounting for the lower level of stock market participation (even controlling for differences in income) in the South of Italy, a region poor in social capital and trust. Figure 5 shows that the level of stock market participation declines monotonically as we move toward the South of Italy. This pattern cannot be explained only on the basis of differences in income and wealth.

This point emerges clearly in Table 10 from Guiso, Sapienza, and Zingales (2004). By using Italian household data, GSZ regress the proportion of financial wealth a household detains in stock on several individual characteristics (including income, wealth, and education). Even controlling for these variables, the North detains more stock than the South (column II). This pattern is due, at least in part, to differences in social capital/trust. As a measure of social capital/trust, GSZ use average voter turnout in referenda, average blood donation, and average responses to the WVS question. They find a strong and consistent correlation between the investment in stock of the household in a certain province and the level of trust or social capital of that province. Even when they insert a dummy variable for every province (column IV), social capital is a significant determinant of stock market participation. Notice that when they insert a dummy variable for every province, the social capital variable is identified only for people who moved during their life (and thus have a social capital of origin different from the current place of residence). That this variable is significant also suggests that the level of trust/social capital of an individual is a persistent feature that people carry with them during their lifetime. In fact, Guiso, Sapienza, and Zingales (2006) show that this measure is even persistent across generations. They find that the trust of the U.S. population is positively correlated with the average level of trust of the country where the ancestors of these people came from. In other words, an Italian American trusts other much less than a Swedish American.

6. What Can We Do?

Our analysis on the causes of Italians' lack of interest for the stock market suggests that stock market participation in Italy cannot be increased through simple marketing policies aimed at increasing the awareness of this form of investment. Albeit 36% of the Italians do not know of the existence of stocks and 45% of the existence of mutual funds, the situation would not change dramatically if they were to become informed, because those unaware tend to be those who do not invest in stock anyway.

Hence, to increase Italian participation in the stock market we need to increase the trust Italians have in general, and in particular the trust they have toward financial institutions and the stock market.

As Guiso, Sapienza and Zingales (2005) show, trust is based both on objective considerations (the unbiased forecast of a bad event occurring) and on subjective ones (the perception that a bad even might occur). To improve stock market participation, thus, one could act along several dimensions.

To improve the objective view of the risk an equity investment involves we should ameliorate the protection offered to investors. In the United States, for example, the Sarbanes and Oxley legislation was promptly enacted after the Enron and the

WorldComm scandals, to reassure investors. These measures are not only important for their actual effects, but also for their perceived ones. The Sarbanes and Oxley Act was approved only a month after the emergence of the WorldComm scandal with an enormous majority (423 vs. 3 at the House and 99-0 at the Senate).

Unfortunately, the situation in Italy is very different. After the explosion of the Cirio and the Parmalat scandals it took more than two years and infinite bickering among numerous political factions to approve a very mild reform.

The second avenue to improve trust is to build it through long term relationships and individualized attention. As Table 12 from Guiso, Sapienza, Zingales (2007) shows, the level of trust toward an institution (in this case a bank) can affect the level of stock market participation. A bank client who trusts his bank officer a lot is 16% more likely to invest in stock than a similar client who does not trust him. Hence, trust toward an intermediary can overcome the natural mistrust and facilitate the investment in stock. But what can an intermediary do to increase this trust level?

Table 12 tries to answer this question. The dependent variable is the level of personalized trust Unicredit customers have toward their bank officials, as measured in the 2003 Unicredit Survey on a sample of about 2,000 customers. This measure is regressed on several individual characteristics (education, age, level of financial wealth, risk aversion, etc.) and on characteristics of the relation. In the first column, as characteristic of the relation we use the length of the relationship, measured as the number of years the customer is with the bank. In spite of the obvious endogeneity (clients with lower trust are more likely to terminate a relationship) that biases the coefficient upward, we find no effect of the length of the relationship on trust.

By contrast, in column 2 we find that the number of other relationship a client has is negatively correlated with the level of trust. In this case, the relationship is likely to go in the opposite direction. Clients with low trust are likely to diversify their bank business among several intermediaries to benchmark one against the other.

Finally, in column 3 we look whether customers who belong to the "private" segment have more trust. The "private" segment is composed of the more wealthy customers, who receive a special level of attention and services from the bank.

Interestingly, we find that private clients have more trust in the bank. Since we have seen that richer people on average are not more trusting, we can interpret this as an effect of the higher quality of service. Better (and more personalized) service leads to higher level of trust. This method, however, is very expensive and can pay off only for the wealthiest segment of the population.

A third avenue to increase trust is to leverage the trust investors have toward other institutions. As Table 13 shows, Italians trust the Church and the school five times more than they trust the stock market. And they trust local institutions much more than national ones. Hence, one possibility is to use one of these channels to market equity products or mutual funds.

Finally, populations that exhibit low levels of generalized trust seem to compensate with high levels of personalized trust (Fukuyama, 1996). This is, for example, typical of the South of Italy, where lack of generalized trust is compensated by a strong level of family and personal trust.

With a fascinating experiment, DeBruine (2002) has shown that people trust more people who look like themselves. He made people play the McCabe et al (1996) trust game. Subjects were shown faces of playing partners that had been manipulated to resemble either themselves or an unknown person. DeBruine shows that resemblance to the subject's own face raised the incidence of trusting a partner. Control subjects playing with identical pictures failed to show such an effect. Hence, physical similarity enhances trust.

These psychological attitudes carry important economic consequences. Guiso, Sapienza, Zingales (2005) show that ceteris paribus countries whose populations are more genetically and physically similar are more likely to trust each other. They also show that this enhanced trust translates into higher trade, more portfolio investments, and more direct investments. Hence, similarity breeds trust and trusts breeds more investment.

How can these results be used to promote equity investments? To induce a client to invest in equity a broker has to infuse trust. The evidence suggests that one factor enhancing trust is the physical similarity between the broker and the client. Hence, one strategy is to do targeted marketing. Women broker should market to women clients, non European brokers should market to non European investors, and even a broker from Veneto should market to people living or originally coming from the Veneto area.

Not only improving the level of trust will increase stock market participation directly, but it will also increase the payoff of any educational or advertising campaign aimed at improving Italians' awareness of equity as an investment vehicle. In fact, as long as the trust remains low, these campaigns are doomed to fail.

7. Conclusions

This paper is an attempt to explain why so few Italians invest in equity. We argue that high participation costs or poor performance of the Italian market cannot explain this phenomenon. Lack of awareness of this type of investment does not seem to explain the evidence either. The most likely explanation is a generalized lack of trust present in Italy, especially among the wealthy. This lack of trust has both an objective component and a subjective, cultural-based component.

In the last section we have advanced some very prelimary strategies to try to deal with this problem. Besides changing the objective characteristics of the system, these strategies consist in piggybacking on the trust of an institution or an individual.

The upside is almost endless. If Italians were to trust the stock market as much as the Swedes, their equity investment could easily quintuple. This would have enormous effect on the size of the equity market. In Table 14 we estimate the impact that such change would have on the Italian market. In Panel A we present the proportion of financial wealth invested in stocks by decile of financial wealth in Italy and Sweden. These data are from the 2003 wave of the Survey of Health and Retirement in Europe (SHARE). These proportions reflect both the stock market participation rate as well as the fraction invested by those who participate in the stock market. The remaining two columns report the share of total financial assets controlled by individuals in different deciles of the distribution of financial assets.

Panel B computes the predicted size of the stock market capitalization in Italy if Italians were to invest in equity as the Swedes and the increased demand only affected quantities and not prices. To compute this number we first multiply the fraction of wealth each decile of the wealth distribution in Sweden invests in stock by the amount of financial wealth controlled by that decile in Italy. The result gives us the total amount of stock Italian households would hold if they were to follow the Swedish standards. This predicted value represents 156% of the value of the equity owned by Italian households today. If we apply this same rate of change to the total capitalization of the Italian market we obtain that the capitalization of the Italian market would become slightly above 1 trillion euros, representing 75% of GDP. If the average market capitalization of the companies traded were not to change, this would imply 143 new companies listed. Since the average capitalization would probably drop (because there are not so many huge companies that are private), this implies that the number of companies listed will expand even more.

This forecast is based on the idea that the supply of stock is infinitely elastic. At least in the short term, the supply of stock is not perfectly elastic. Hence, at least some of the effect would manifest itself as an increase in prices. If there is no supply response whatsoever, the increase in price would be 56%. The most likely response would be something in between, with a significant increase in prices, but also a significant increase in the size of the market.

Figure 1 Stock market participation around the world: how does Italy fare?

The figure shows the fraction of individuals that invest directly in stocks across countries. Data are from Giannetti and Koskinen (2005).



Figure 2 Stock market volatility across countries

The figure shows annualized percent stock market volatility across countries; the red line marks 20% volatility. To easy comparison across countries, a red line at volatility equal to 20% is drawn in each panel. The figure is taken from the Bank of International Settlements (2006).



Long-term stock return volatilities¹

Monthly data; percentages

Figure 3 Trust and stock market participation of the wealthy

The figure plots the stock market participation (direct and through mutual funds) for individuals in the top 5% of the wealth distribution in the countries in Table 1 against the average level of trust in these countries. The participation data are those shown in the second panel of Table 1, column "Top 5%"; data. The data on trust are from the World Values Survey. Source Guiso, Sapienza, Zingales (2006).



Figure 4 Can Trust Explain Italy Low Stock Market Participation?

Figure A plots direct stock market participation (as in Figure 1 from Giannetti and Koskinen (2005)) against the average level of trust (from the World Values Survey. Source Guiso, Sapienza, Zingales (2006)). Figure B plots the same direct stock market participation against the average level of trust of people in the two top deciles of income (from the World Values Survey).





Figure 4B:



Figure 5 Social capital and stock market participation across Italian provinces

The figure plots the fraction of direct and indirect stockholders across Italian provinces. Low province codes correspond to provinces in the North while high province codes correspond to provinces in the South. Source: Guiso, Sapienza, Zingales (2004).



Proportion of Households Investing in Risky Assets, by Asset Quartiles

The first panel shows the proportion of households in each quartile of gross financial wealth who own stock directly. The second panel shows the same proportion when we include also indirect ownership, via mutual funds or pension funds. Data for European countries are computed from the 2004 wave of the Survey for Health, Age, and Retirement in Europe (Share), and refer to year 2003. Data for the U.S. are drawn from the 1998 Survey of Consumer Finances. Data for the U.K. are drawn from the 1997-98 Financial Research Survey. Source: Guiso, Sapienza and Zingales (2007).

Panel A: Direct Stockholding										
	Quartile I	Quartile II	Quartile III	Quartile IV	Тор 5 %	Average				
Sweden	12.9	30.7	46.9	72.8	80.6	40.8				
Denmark	6.3	25.9	36.4	55.6	68.4	31				
Switzerland	2.8	12.2	30.3	54.2	63.2	24.9				
U.K.	0	4.4	28.3	53.6	67.9	21.6				
U.S.	1.4	6.9	20.6	47.9	70.1	19.2				
Netherlands	1.5	7.4	20	40.3	60.2	17.2				
France	0.7	9.9	14.6	33.3	44.2	14.4				
Germany	0.6	4.1	16.1	36.1	50.5	14				
Austria	0	1.7	2.8	15.6	25.7	5				
Greece	0	0.7	3.2	17.3	23.5	4.9				
Italy	0	0.8	3.1	12.8	30.8	4				
Spain	0	0.3	1.8	13.2	14.4	3.5				

Panel B: Direct and Indirect Stockholding									
	Quartile I	Quartile II	Quartile III	Quartile IV	Тор 5 %	Average			
Sweden	25.8	63.4	82.7	92.9	95.8	66.2			
U.S.	4.4	38.3	66	86.7	93.7	48.9			
Denmark	6.6	30.8	44.8	65.7	75.4	37			
U.K.	4.9	11.9	37.8	71.1	83.9	31.5			
Switzerland	2.8	20	38.2	63.7	65.8	31.4			
France	1.1	17.6	29.9	57.6	67.3	26.2			
Netherlands	1.7	11	31.3	52.8	72	24.1			
Germany	1.5	11.8	28.7	51.4	61.2	22.9			
Austria	0	1.9	8.1	25.5	33.8	8.8			
Italy	0	0.8	5.2	27.5	64.8	8.2			
Greece	0	0.7	4	22.2	32.9	6.3			
Spain	0	1.1	3	19.1	24.6	5.4			

Table 2Trading and participation costs

Stock market trading costs is the sum of commission, fees and market impact in a given market based on global trading data of 135 institutional investors. It refers to the 3rd quarter of 1998 and is expressed in basis points. Source: Pagano et al. (2001), Table 4 (drawn from Elkins/McSherry Co., Inc.). *Management fees* are percentages charged by the individual mutual funds in 1997. Source: FEFSI and Otten and Schweitzer (2002). Estimated participation costs are obtained using the 2003 wave of the Survey of Health and Retirement in Europe data and applying Vissing-Jorgensen (2003) methodology. The figure for the US is the one computed by Vissing-Jorgensen (2003): it refers to 1994 and is expressed in 2003 US dollars.

	Stock market trading costs (basis points)	Management fees (%)	Estimated fixed cost of stock market participation (2003 Euros per year)
France	27.63	1.2	499
United States	24.57 / 30.64		630*
Germany	29.7	0.8	800
Italy	29.84	2	980
Sweden	32.26		78
Netherlands	34.56	0.5	1,783
United Kingdom	51.88	1.2	-

Stock market average return and volatility: Italy vs. the rest of the world

The equity premium is the percent average stock market excess return. The stock market excess return is the differences between the geometric mean real return on stocks and the real return on Treasury Bills computed by Dimson, Marsh and Staunton (2002) over the period 1900-2000. Volatility is the annual standard deviation of the stock excess return. Sharpe ratio is the equity premium in the second column divided by its volatility in the third column and multiplied by 100. Minimum and Maximum returns are over the 101 years in the sample. Data are taken from Table 12.1, p. 167, in Dimson, Marsh and Staunton (2002). The countries are ordered in descending level of Sharpe ratio.

	Equity	Equity	Sharpe ratio	Minimum	Maximum
	premium	premium		return	return
	(average)	(volatility)			
France	7.4	23.8	31.1	-33.4	78.7
World	4.9	16.4	29.9	-39.8	70.9
U.S.	5.8	19.6	29.6	-44.5	57.1
Sweden	5.5	21.9	25.1	-38.3	84.8
U.K.	4.8	19.9	24.1	-54.6	121.8
Japan	6.7	27.9	24	-48.3	108.6
Netherlands	5.1	22.2	23	-31.3	126.7
Switzerland	4.3	19.4	22.2	-37	54.8
Italy	7	32.5	21.5	-48.6	150.3
Spain	3.2	21.5	14.9	-38.6	98.1
Germany	4.9	35.3	13.9	-87.2	165.3
Denmark	1.8	19.4	9.3	-32.7	87
Austria	-	-	-	-	-
Greece	-	-		-	-

Table 4Financial awareness in Italy

The table is based on questions asked in the 1995 and 1998 SHIW about awareness of financial assets, participation over the life cycle and current participation. BOT are Treasury Bills up to one-year maturity. CCT are floating-rates Treasury credit certificates, 2-4 years in maturity indexed to BOT. BTP are long-term, fixed interest rates government bonds. CTZ are zero-coupon Treasury credit certificates. Statistics are computed using population weights. All values are expressed in percentages. The data are taken from Guiso and Jappelli (2005).

Financial asset	Proportion of individuals aware of the asset		Share of wealth owned by people aware of the asset		Has invested in the asset at least once		Currently investing in the asset	
	1995	1998	1995	1998	1995	1998	1995	1998
Checking accounts	94.6	93.3	99.2	98.5	74.7	76.9	68.9	73.2
Saving accounts	92.1	88.6	96.7	93.4	49.2	47.2	26.7	28.0
Postal accounts	87.6	82.7	94.5	90.0	17.6	18.2	9.6	11.5
Certificates of deposit	57.9	61.8	83.2	82.2	10.5	11.5	5.3	3.7
Government bonds: BOT	89.6	86.3	97.9	95.7	38.2	30.1	22.4	8.7
Government bonds: CCT	77.5	73.7	93.7	91.1	13.9	14.2	7.8	4.4
Government bonds: BTP	52.9	54.5	81.9	81.1	6.9	6.9	4.4	2.5
Government bonds: CTZ	24.9	30.3	53.1	57.6	1.5	2.3	0.9	0.6
Postal bonds	82.9	76.8	92.7	86.2	15.5	13.4	7.4	5.9
Corporate bonds	49.4	55.8	80.0	82.2	4.7	8.9	2.6	5.1
Mutual funds	48.4	55.5	79.2	83.1	7.0	13.7	4.2	9.6
Investment accounts	31.5	37.1	60.4	67.4	1.5	3.4	1.0	2.7
Stocks	64.9	63.7	87.9	85.9	7.3	11.1	5.0	7.8
Saving in cooperative societies	34.9	35.1	54.5	52.2	1.8	1.9	1.4	1.3

Can lack of awareness explain the lack of participation puzzle in Italy?

The first column reports the proportion of households with stocks, mutual funds, investment accounts, and corporate bonds. The second column reports the same proportions in the sample of informed investors. The third column uses selectivity-adjusted estimates for the probability of having stocks, mutual funds, investment accounts and corporate bonds in the sample of aware investors to predict the probability of participation in the total sample (including aware and unaware investors). The selectivity adjustment takes into account that the probit is estimated on the sample of aware investors. All statistics are computed using population weights. The table is taken from Guiso and Jappelli (2005)

	Proportion in the total sample	Proportion in the sample of aware investors	Proportion if all investors were aware (estimated from probit with sample selection)
Stocks	5.6	8.7	7.5
Mutual funds	7.6	14.4	12.0
Investment accounts	1.8	5.2	3.1
Corporate bonds	3.8	7.3	5.5
Total	12.6	27.6	23.1

The effect of trust on direct stock market participation

The dependent variable is a dummy equal to 1 if the household directly owns shares in a company (be it listed or not) except in his own company. The table reports the probit estimates, calculated as the effect on the LHS of a marginal change in the RHS variable computed at the average value of the RHS variables. All household characteristics, which are defined in Table 1, are assumed to be those of the household head. Standard errors are reported in parenthesis. *** indicate the coefficient is different from zero at the 1% level, ** at the 5% level, and * at the 10 % level. The table is taken from Guiso, Sapienza and Zingales (2007).

					Above
		Whole	sample		median
					wealth
	(1)	(2)	(3)	(4)	(5)
Trust	0.065***	0.059***	0.057***	0.064	0.072**
	(0.023)	(0.022)	(0.022)	(0.051)	(0.036)
Risk aversion	0.055	0.061	0.061	0.012	0.113
	(0.052)	(0.047)	(0.047)	(0.122)	(0.085)
Ambiguity		-0.002	-0.002	-0.001	-0.003
aversion		(0.002)	(0.002)	(0.004)	(0.003)
Optimism			0.005	0.047*	0.023
			(0.010)	(0.025)	(0.019)
Stock market				-0.020	
expected to go up				(0.043)	
Financial wealth	0.001***	0.001***	0.001***	0.001**	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Income	0.994	0.837	0.824	-7.001	3.831
	(1.325)	(1.190)	(1.189)	(20.720)	(3.662)
Male	0.039	0.036	0.036	0.025	0.047
	(0.027)	(0.024)	(0.024)	(0.069)	(0.045)
Age	-0.005**	-0.004*	-0.005*	-0.010*	-0.006
	(0.002)	(0.002)	(0.002)	(0.005)	(0.004)
Age square	0.000**	0.000**	0.000**	0.000*	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Household size	-0.015	-0.014	-0.014	0.041	-0.075*
	(0.026)	(0.023)	(0.023)	(0.060)	(0.045)
Number of	0.040	0.037	0.037	0.009	0.121**
children	(0.030)	(0.028)	(0.028)	(0.065)	(0.054)
College education	0.072**	0.066**	0.063*	0.357***	0.072
	(0.036)	(0.033)	(0.033)	(0.133)	(0.053)
High school	0.041	0.038	0.036	0.169*	0.055
Education	(0.029)	(0.027)	(0.027)	(0.091)	(0.047)
Employee	-0.002	-0.000	-0.002	-0.139**	-0.058
	(0.030)	(0.027)	(0.027)	(0.067)	(0.053)
Observations	1156	1156	1156	255	618

Trust, stock market participation and ownership concentration around the world

This table shows the effect of trust on the share of stock market capitalization that is closely held and on the percent of the population that participates directly in the stock market in a cross section of countries. Information on the fraction of stockholders across countries is obtained from Giannetti and Koskinen (2005), the data on trust from the World Values Survey and the remaining data from La Porta et al. (1998). Standard errors are reported in parenthesis. *** indicate the coefficient is different from zero at the 1% level, ** at the 5% level, and * at the 10 % level. The table is from Guiso, Sapienza, and Zingales (2007).

	% population participating in the stock market			% stocl	% stock market capitalization closely held		
	(1)	(2)	(3)	(4)	(5)	(6)	
Trust (WVS)	0.272 ^{**} (0.041)	0.399 ^{***} (0.001)	0.390 *** (0.000)	-42.65 ^{**} (0.023)	-46.80 ^{***} (0.01)	-46.84 *** (0.01)	
Legal Enforcement		0.246 ^{***} (0.003)	0.143* (0.08)		-23.95* (0.074)	-21.68 (0.20)	
Common Law			0.091** (0.02)			-1.92 (0.82)	
Observations	24	23	23	33	33	33	
R-squared	0.18	0.50	0.62	0.15	0.24	0.25	

Table 8Trust toward institutions in Italy

This table shows the fraction of individuals who report they have some or a lot of trust in the specified institution. Data are from "Rapporto sugli Italiani e lo Stato, Demos survey for "La Repubblica" – years 2003, 2004, 2005 and 2006. The survey is based on a sample of about 1,500 participants in each wave, representative of the Italian population

	Fraction	of individuals	that report the	y trust the
		specified	institution	
Institution	2006	2005	2004	2003
Insurance companies	20.6	-	-	
Banks	20.4	23.1	16.49	21.45
Stock market	11.8	11.7	6.47	7.92
Political parties	11.7	8.7	10.06	9.53

Table 9 Trust and income

This table reports data from the World Values Survey on people's trust as a function of the income decile they report to be in. To compute these values we pool the 1981-1984, 1990-1993 and 1995-1997 waves of the WVS.

Income decile	Italy	USA	France	Germany	Netherlands	Sweden
1th	0.19	0.32	0.16	0.26	0.49	0.59
2th	0.17	0.35	0.16	0.28	0.39	0.47
3th	0.32	0.39	0.15	0.31	0.38	0.47
4^{th}	0.38	0.39	0.18	0.30	0.38	0.43
5 th	0.32	0.44	0.18	0.31	0.40	0.58
$6^{ ext{th}}$	0.31	0.39	0.18	0.35	0.40	0.59
$7^{\rm th}$	0.29	0.47	0.27	0.34	0.46	0.60
8^{th}	0.28	0.34	0.20	0.35	0.44	0.68
9 th	0.26	0.42	0.30	0.40	0.50	0.67
10th	NA	0.49	0.43	0.44	0.62	0.71

Table 10Effect of social capital on stock portfolio shares

The dependent variable is the proportion of financial wealth a household retains in stocks or mutual funds. Social capital 1= Average voter turnout in referenda between 1946 and 1987. Social capital 2 = Number of blood bags donated per million in a province in 1995. Trust (WVS) = an index of the level of trust based on the WVS question for Italy run among 2,000 individuals in years 1990 and 1999. Judicial inefficiency = average number of years it takes to complete a first-degree trial by the courts located in a ISTAT province. All regressions include as controls family size, dummies for whether the household head is male, married, and for its type of job and industry. For all columns except III and VI the reported coefficients are tobit estimates. Columns III, V, VI, and VII include as controls 4 macro-regional dummies (North East, North West, Center, and South). For all columns except IV and VII the reported coefficients are tobit estimated 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

	1	2	3	4	5	6	7
Social capital 1	1.7380***	0.6515	0.9106*				0.2303***
L L	(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	0.0059	-0.0030	-0.0053		-0.0048	-0.0035	-0.0003
Squared	(0.0105)	(0.0100)	(0.0097)		(0.0107)	(0.0000)	(0.0004)
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 education	0.0280	-0.0506**	-0.0462*		-0.0234	-0.0469	-0.0019
	(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	32332	32332	32332	31851	31259	32332	31259
Pseudo-R2 or R2	0.258	0.267	0.268	0.141	0.269	0.268	0.133

Table 11Personalized trust in institution and stockholding

The table shows the effect of personalized trust on the participation in risky assets and the share invested in risky assets. Personalized trust is the trust a person has towards his bank official. In the first column the left-hand side variable is a dummy equal to 1 if the person invests in risky assets (directly held stocks, stock mutual funds, corporate bonds, derivatives); in the second and third is the share of financial wealth invested in these assets. "Risk averse" is a dummy variable equal to 1 if the interviewed answered (2) Risk is an uncertain event from which one should seek protection" instead of (1) Risk is an uncertain event from which one can extract a profit to the question of the individual chooses (2). All characteristics are those of the respondent. Standard errors are reported in parenthesis. *** indicate the coefficient is different from zero at the 1% level, ** at the 5% level, and * at the 10 % level.

	Probit for ownership of	Share invested in	Conditional share
	risky assets	risky assets (Tobit	(second stage
		regression	Heckman)
High personalized trust	0.1610^{***}	0.0653^{***}	0.0156
	(0.000)	(0.002)	(0.280)
Medium personalized	0.0580	0.0226	0.0011
trust	(0.121)	(0.431)	(0.955)
Averse to risk	-0.04*	-0.0883***	-0.0730***
	(0.025)	(0.000)	(0.000)
Financial wealth	0.0010^{***}	0.0001^{***}	0.00002^{***}
	(0.000)	(0.000)	(0.000)
Male	0.1050^{***}	0.0753***	-
Age	0.0219***	0.0144^{***}	0.0073***
Age squared	-0.0002***	-0.0001***	-0.00006***
Education	0.0221***	0.0138***	
Observations	1,834	1,834	1,834

Table 12Raising trust

The table shows the effect of different features of the bank-customer relation on the level of personalized trust. Personalized trust is the trust a person has towards his bank official measured in the 2003 Unicredit Survey run on a sample of about 2000 Unicredit customers. Length of the relationship is the number of years the customer is with the bank; exclusive relation is a dummy equal to 1 if Unicredit is the only bank the customer has; quality service is a dummy equal to 1 if the customer belongs to the "private" segment. "Risk averse" is a dummy variable equal to 1 if the interviewed answered (2) Risk is an uncertain event from which one should seek protection" instead of (1) Risk is an uncertain event from which one can extract a profit to a risk attitude question. All characteristics are those of the respondent. Standard errors are reported in parenthesis. *** indicate the coefficient is different from zero at the 1% level, ** at the 5% level, and * at the 10 % level.

	Via repeated	Via exclusive	Via better quality
	relations	relations	service
Length of	0.043		
relationship with			
intermediary			
	(0.031)		
Number of relations		-0.083	
with intermediaries			
		(0.036)*	
Type of customers:			0.587
private			(0 107)**
Financial wealth	0.237	0.289	-0.097
i munorur wourth	(0.143)	$(0.144)^{*}$	(0.143)
Years of education	-0.000	0.003	-0.006
	(0.008)	(0.009)	(0.009)
Verv low risk	0.474	0.498	0.334
aversion			
	(0.217)*	(0.218)*	(0.220)
Low risk aversion	0.210	0.222	0.153
	(0.099)*	(0.099)*	(0.100)
Medium risk	0.306	0.314	0.280
aversion			
	(0.094)**	(0.094)**	(0.095)**
Male	-0.116	-0.108	-0.089
	(0.080)	(0.080)	(0.081)
Age	0.001	0.002	0.001
	(0.003)	(0.003)	(0.003)
Married	0.054	0.074	0.039
	(0.078)	(0.078)	(0.078)
Resident in a small	0.082	0.081	0.118
city			
	(0.071)	(0.071)	(0.072)
Observations	1,626	1,626	1,626

Table 13Marketing funds through trustworthy institutions

This table shows the fraction of individuals who report they have some or a lot of trust in the specified institution. Data are from "Rapporto sugli Italiani e lo Stato, Demos survey for "La Repubblica" – years 2003, 2004, 2005 and 2006. The survey is based on a sample of about 1,500 participants in each wave, representative of the Italian population; (*) trust either one of the two major trade unions (CGIL and CISL).

	Fraction of individuals that report they trust the specified				
	institution				
	2006	2005	2004	2003	
Police	72.40	69.8	74.56	81.15	
President of the	59.6	80.1	70.62	85.66	
republic					
Church	58.7	61.3	58.25	61.74	
School	55.9	59.8	57.15	62.73	
European Union	51.9	52.4	53.7	56.74	
Municipality	42.8	45.5	40.26	4.28	
Judicial	41.8	43.0	45.27	49.57	
National	-	18.5	20.44	25.64	
government					
Regional	37.6	41.4	34.94	37.84	
government					
State	35.0	37.0	35.16	38.12	
Trade Unions	26.0	-	28.87*	31.8*	
Firms association	25.9	26.0	21.54	21.30	
Parliament	23.7	22.5	-	-	
Insurance	20.6	-	-	-	
companies					
Banks	20.4	23.1	16.49	21.45	
Stock market	11.8	11.7	6.47	7.92	
Political parties	11.7	8.7	10.06	9.53	
-					

Table 14Predicting the size of Italy's stock market

Panel A, first two columns shows the unconditional share of financial wealth invested in stocks by decile of financial wealth in Italy and Sweden. The share reflects both the stock market participation rate as well as the share invested among participants. The remaining two columns report the share of total financial assets controlled by individuals in different deciles of the distribution of financial assets. Data are from the 2003 wave of the Survey of Health and Retirement in Europe (SHARE). Panel B reports actual and predicted stock market size in Italy. Stock market capitalization is the value of the stock of shares issued by listed residents companies as of the end of 2005 (Bank of Italy, financial accounts, Statistical Bullettin 2006, Table 3) held by households and by other residents and non-residents. Data are in million of 2005 euros. Data on number of listed companies are from Borsa Italiana, Sintesi Mensile, N. 12, December 2006. The predicted values of stock market capitalization are computed as follows: first, it is assumed that stockholding in Italy converge to the levels prevailing in Sweden, following the same pattern by wealth deciles shown in Panel A, first column. The Swedish shares of stocks are then multiplied by total financial assets of Italian households in each decile and then summed over across deciles. This gives an estimate of what total investment in stocks would be if Italian households behaved as Swedish households. We then compute the rate of change by dividing this predicted value by the value of actual financial wealth in stocks in the cross section of Italian households. Finally, this rate of change is multiplied by the financial accounts figure of households investment in stocks in 2005 and total market capitalization in stocks. The predicted number of listed firms is obtained by dividing predicted stock market capitalization by mean company capitalization at the end of 2005 (million euros 2,674)

	Uncondition	Unconditional share of		Share of total financial		
	investmen	investment in stocks		wealth held by decile		
	Sweden	Italy	Sweden	Italy		
1th.	0.124	0.013	0.0019	0.0022		
2th.	0.256	0.0	0.0069	0.0067		
3th	0.241	0.014	0.0137	0.0196		
4^{th}	0.328	0.046	0.0224	0.0144		
5^{th}	0.292	0.019	0.0338	0.0337		
6^{th}	0.347	0.081	0.0477	0.0465		
7^{th}	0.342	0.032	0.0665	0.0806		
8^{th}	0.364	0.095	0.0970	0.0988		
9^{th}	0.371	0.158	0.1527	0.1531		
10^{th}	0.331	0.345	0.5599	0.5458		

A. Shares of investments in stocks (direct and	indirect) b	y wealth	decile a	nd share	of total
wealth in decile in Sweden and Italy						

B. Predicted effect of increased stockholding on total households stockholding and stock market capitalization in Italy

-	Million of euros		As a % of GDP		
	Year 2005	Predicted	Year 2005	Predicted	
Stock market capitalization	202,804	317,795	14.31	22.42	
held by households, 2005.					
Total stock market	676,606	1,060245	47.74	74.81	
capitalization					
Number of Italian listed	253	396	-	-	
companies					

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