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Trust and Risk Aversion in the Aftermath of the Great Recession

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Abstract
The financial crisis has impacted enormously on two features that are critical for investors' decisions: their beliefs and their preferences. It has brought to light diffuse opportunistic behaviour and some serious frauds. Because of this, trust in banks, bankers and brokers and the stock market has collapsed to unprecedented levels. The fear following the crisis, and the symptoms of panic that went with it, have led investors to become much more risk averse than they used to be in the past. We argue that failing trust and risk tolerance have a major effect on the working of financial markets and the economy. We show evidence that suggests that the drop in trust and the increase in risk aversion are likely to be enduring and very slow to recover. This is one reason, perhaps among others, why the consequences of the financial crisis will probably be lasting.

Keywords: financial crisis, investors' trust, risk aversion.

1. INTRODUCTION

This paper documents the unprecedented drop in people's trust in financial markets and financial intermediaries and the massive increase in investors' risk aversion during the crisis. Both, we argue, have played a crucial role in the crisis, as it led

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those who lost trust to a bank run. The role of distrust is distinct from that played by the drop in confidence in the solvency of financial institutions and their ability to repay their obligations – this being the other factor that froze up financial markets and led to a bank run among investors. The collapse in trust was in fact provoked by the opportunistic behaviour brought to light by the unfolding crisis, of which the Bernard Madoff fraud is emblematic, and has contributed to shedding a dark light on the whole financial industry.

The destruction of trust resulting from the crisis has important implications for the future of financial markets, including the demand for financial products, investors' portfolio choices, their reliance on financial intermediaries when making financial decisions, and the demand for regulation. It will be argued that unless remedies are adopted to rebuild trust, these consequences will most likely be long-lasting since the reconstruction of trust is a slow process. Accordingly, this paper discusses possible policies to rebuild trust, some involving non-imposed changes in behaviour in the financial industry, others concerning specific regulatory interventions.

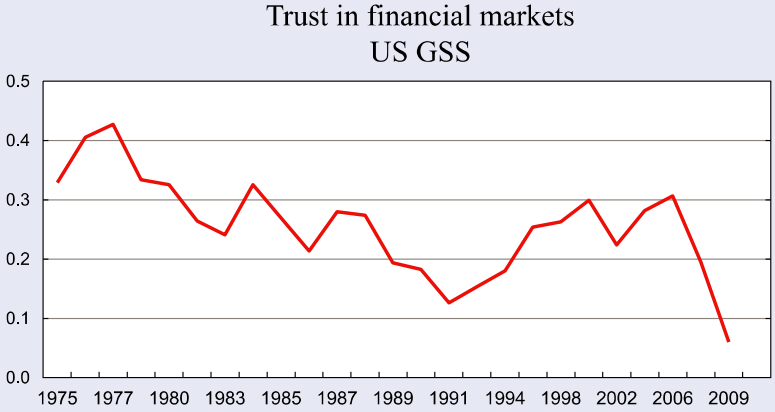
2. THE DRAMATIC DROP IN TRUST

To document the fall in trust during this financial crisis, we use data from the US Financial Trust Index Survey (FTIS) – a telephone survey conducted after the emergence of the crisis on a representative sample of about 1,000 American households. The first survey was launched in December 2008, three months after the collapse of Lehman Brothers; nine other surveys were fielded subsequently at a quarterly frequency. In the FTIS, one adult respondent in each household was randomly contacted and asked whether s/he was in charge of household finances, either alone or together with a spouse. Only individuals who claimed such responsibility were included in the survey. A first set of questions asked how much the respondent trusted certain types of people or institutions, with a focus on financial institutions such as the stock market, banks and bankers, brokers and pension funds. Answers were provided on a scale ranging from 1 to 5, with 1 meaning 'I do not trust them at all' and 5 'I trust them completely'. Since the survey was launched after the crisis, we lack the level of trust in financial intermediaries and markets before the crisis so as to compare and document how trust in these different institutions has evolved as a consequence of the crisis. To deal with this issue, we combine the trust responses from the FTIS with comparable data from the General Social Survey (GSS), which, for many years, has asked people whether they have much confidence in banks and financial institutions.[1] Since the GSS question concerns both banks and

[1] The wording of the question asked is 'I am going to name some institutions in this country. As far the people running these institutions (banks and financial institutions in this case) are concerned, would you say you have a great deal of confidence, only some confidence or hardly any confidence in them?'

financial institutions, to make the FTIS answers as comparable as possible to the GSS, we pool together the answers people provided regarding trust in banks, brokers, mutual funds and the stock market, and the fraction of people that trust these institutions completely are computed. We then append these figures to the GSS series that refer to the pre-crisis years. Figure 1 shows the dramatic drop in trust vis-à-vis banks and financial markets in the last part of 2008 and beginning of 2009. Although the index shows swings that reflect the business cycles, since 1975 the fraction of people who trust banks and financial markets has never been as low as during the 2008-2009 crisis. Only 5 per cent report having full trust in banks, brokers, mutual funds or the stock market, while the figure was as high as 40 per cent in the late 1970s and around 30 per cent just before the crisis.

Figure 1: The collapse of trust



Note: Fraction that answer they have a great deal of confidence in banks and financial markets. The figure for 1985 is interpolated taking the mean of the two adjacent years. The value for 2009 is imputed using the fraction that trust completely banks, brokers, mutual funds or the stock market in the first three waves of the trust index survey and taking the mean. "I am going to name some institutions in this country. As far the people running these institutions are concerned would you say you have a great deal of confidence, only some confidence or hardly any confidence in them?".
Source: US General Social Survey.

As an alternative way of highlighting the drop in trust in financial markets and intermediaries, we compute, from the GSS, the average trust people had in banks and financial markets relative to their trust in other people in general (what is known as generalised trust) in the years prior to the crisis covered by the GSS (1977-2007). This figure is around 1.5, meaning that Americans used to trust banks and financial markets 50 per cent more than they trusted a generic member of the US population. This conforms with intuition and common sense: after all, we rely on banks and other financial institutions as custodians of our savings, rather than on a random member of the population.

Since the FTIS also asks people how much they trust a generic American (that is, it measures generalised trust in unknown people), we compute relative trust in banks, bankers, brokers, mutual funds and the stock market respectively for the three waves

of the FTIS and report it in Table 1. Interestingly, after the crisis, people trust banks as much as they trust a random citizen, and they trust mutual funds and the stock market much less than they do a random individual. This is in sharp contrast with the higher trust they had in banks and financial markets relative to unknown people before the crisis, which suggests that even if trust fell in general, it is trust in finance that has collapsed. Furthermore, the Table shows that investors distinguish between trust in financial institutions and trust in the people who manage those institutions. In fact, trust in bankers is much lower, relative to trust in people in general, than trust in banks.

Table 1: Relative trust levels over time
The table shows the level of trust in the specified entity relative to the level of trust in people in general.

	Wave I	Wave II	Wave III
Banks	0.99	0.94	1.00
Bankers	0.88	0.84	0.92
Brokers	0.71	0.69	0.72
Mutual funds	0.86	0.87	0.88
Stock market	0.70	0.71	0.71
Government	0.77	0.78	0.83
Large corporations	0.71	0.67	0.73
The Fed	0.77	0.78	0.84

Source: Elaborations on the FTIS.

Why is trust in bankers much lower than trust in banks? One reason is that bankers are considered to be less reliable than the institution they work for since they may damage people more than the institution. In addition, the incentive structure within banks is believed to reduce the trustworthiness of bankers, making the banks more reliable than the bankers. At any rate, this suggests that the fall in trust during the crisis does not simply reflect the fear arising in autumn 2008 that banks could become insolvent: if that were all that was measured, we would see the opposite pattern, with trust in banks falling more than trust in bankers, which does not seem to be the case, judging by Table 1.

Guiso, Sapienza and Zingales (2009) conducted a telephone survey similar to the FTIS on a sample of customers of a large Italian bank (UniCredit), taking place in June 2009. As in the US, also according to this survey, trust in financial markets decreased substantially. When asked how people's trust had changed since the emergence of the crisis, 46 per cent reported that their trust in banks in general had become much or substantially lower, 47 per cent stated their trust in bankers had decreased, and 52 per cent said their trust in the stock market had reduced. These patterns are qualitatively very similar to those in the US, confirming that the drop in trust is very likely universal. Of the same sign but more contained in terms of

magnitude are the changes in trust in banks reported in a survey of Austrian investors before and after the crisis (Knell and Stix, 2009).

One interesting feature of the UniCredit survey on Italian investors is that it had a panel component, since people in the sample had been interviewed also in 2007 when the financial crisis was not yet in sight. Since certain questions were asked in both surveys, it is possible to compare how the responses evolved over the crisis. In particular, participants in the survey were asked how much trust they had in their own bank or financial adviser, and answers, as before, were given on a 1 (no trust) to 5 (full trust) scale. Not surprisingly, the level of trust in one's own bank was higher than trust in banks in general – a feature consistent with the idea that trust is a key feature in selecting a bank or financial adviser, and that, as these people reported, not all banks are equally reliable. Yet, compared to 2007, 34 per cent of these people had revised their trust levels in their bank/adviser downwards. This clearly provides a lower bound of the actual fraction of those who lost trust in their bank/adviser since it was only possible to re-interview customers that had stayed with the bank/adviser, not those who had left because they had lost confidence.

In sum, data from both sides of the Atlantic show that during the financial crisis there has been a dramatic drop in trust in all segments of the financial system, though the fall has been stronger for some segments, particularly those involved in trading less familiar and ambiguous instruments such as mutual funds and stocks. The drop is considerable but more contained for banks. Besides the level of trust in financial markets and institutions, trust in people in general has also fallen, implying that mistrust in finance has spilled over and has generated mistrust in general. This feature can help explain the sudden drop in economic activity following the Lehman collapse: the fall in trust not only froze financial exchanges but, due to the said spill-over, also stopped any other types of exchange requiring trust. Remarkably, the fall in trust has been so strong that after the crisis people show more trust in a generic unknown individual than in a bank or banker, that is, in those institutions and people that ought to be trusted the most in light of the role they play as custodians of our savings.

3. WHY DID TRUST FALL?

Trust is the belief that the other party in a relationship behaves according to what he promised and does not take advantage of the person he is trading with. In other words, it is the probability that person A trading with person B attaches to the possibility that B will behave opportunistically and take advantage of him. Trust is thus A's probability that B will not 'cheat'. Obviously, when the business partner deviates from the promised behaviour, trust attitudes are revised downwards. The financial crisis brought to light, among other things widespread opportunistic behaviour and some serious frauds. Following the collapse of Lehman Brothers many felt 'cheated'. People had been advised to invest in Lehman securities because

they were remarkably safe; in fact, up until a few months before the collapse, Lehman securities were highly rated by S&P.

Guiso (2010a) argues that what was causing the dramatic drop in trust was the revelation of opportunistic behaviour that was taking place in the financial industry and that was brought to light by the crisis. One of the effects of the financial crisis, the argument goes, has been the revelation of the existence of pervasive opportunistic behaviour in the financial industry and the uncovering of several cases of outright financial fraud which, without the crisis, investors would probably have discovered much later, if at all. The Madoff fraud is the one that has received the greatest attention from the media and that will likely remain lodged in the minds of investors for many years to come. Many have focused on the unprecedented size of this fraud – half of a percentage point of GDP – often ignoring a much more important feature of this fraud because of the effect it may have had on investors' trust in financial markets and intermediaries: the fact that Bernard Madoff was an insider to the industry! An important professional market player and former chairman of the NASDAQ Stock Exchange who had been running his Ponzi scheme for almost 20 years! It should not be surprising then that if such an insider and professional player can trick even quite expert investors (not only individuals but also institutions invested in Madoff 's fund), non-professional investors will legitimately tend to think that other players in the financial industry play similar games, though perhaps not as extreme as a Ponzi scheme and perhaps on a smaller scale.

But the crisis uncovered many other cases where the intermediary failed to act in the investor's best interest: for instance, the holding by many investors in many countries of poorly diversified portfolios often recommended by their financial adviser exposed them to excessive risks that resulted in effective losses during the crisis. The crisis has made those risks manifest, leading investors to hold those who recommended the investments responsible for the losses. In all these cases, it is very likely that investors have revised their trust in intermediaries and financial markets downwards.

4. A SHARP INCREASE IN RISK AVERSION

Though measuring preferences is a daunting task, substantial progress has been made in obtaining informative measures of people's risk attitudes at individual level. Following a strand of literature that has developed over the past decade, we have obtained measures of people's willingness to bear risk from questions asked in a general survey. In particular, we use the two waves of the UniCredit survey which were run before and after the crisis and thus make it possible to focus on the possible variation in risk aversion around the 2008 financial crisis.

To measure risk aversion, we rely on the answers to two questions: one, which we label the quantitative question, tries to elicit the certainty equivalent for a gamble that delivers either 10,000 or zero euros with equal probability. This has been designed to resemble a game popular in Italy, which has been analysed by Bombardini and

Trebbi (2010). When looking at the actual responses in the game, they find that people exhibit a Von Neumann and Morgenstern utility function with a constant relative risk aversion close to 1. Thus, the framing of the question does not seem to create any distortion.

Specifically, respondents were asked: 'Imagine being in a room. To get out you have two doors. If you choose one door you win 10,000 euros. If you choose the other you get zero. Alternatively, you can get out through the service door and win a known amount. If you were offered 100 euros, would you choose the service door?'

If the respondent accepted 100 euros, the interviewer moved on to the next question, if not, he asked whether the investor would accept 500 euros to exit by the service door, and if not 1,500, and if not … 3,000, 4,000, 5,000, 5,500, 7,000, 9,000, more than 9,000 euros.

We code answers to this question both as the certainty equivalent value required by the investor to give up the risky prospect and as integers from 1 to 10 where 1 corresponds to a certainty equivalent of 100 euros and 10 to a certainty equivalent higher than 9,000 euros: the first decreases risk aversion, the second increases it.

We refer to the measure based on preferences for risk-return combinations as the qualitative indicator and the one based on the lottery as the quantitative indicator.

The second question, which we label the qualitative one, tries to elicit the investment objective of the respondent, offering him the choice between 'Very high returns, even at the risk of a high probability of losing part of the principal', 'A good return, but with an OK degree of safety on the principal', 'An OK return, with a good degree of safety on the principal', 'Low returns, but no chance of losing the principal'. This question follows the approach patterned on the Survey of Consumer Finances and is inspired by a standard portfolio model based on the risk and return trade-off. Under the assumptions of the standard two-asset Mertonian portfolio model of portfolio choice, the portfolio return and risk combination chosen by an investor fully reveals his (relative) risk aversion: more risk-averse investors opt for safer/low return portfolios and vice versa. Notice that while the quantitative measure is obtained in a domain of choice unrelated to financial investments, the qualitative one is not.

The same questions were asked to the same set of people in January 2007 and June 2009. The first survey, on a sample of 1,686 random clients of UniCredit, was conducted for internal purposes. We financed a follow-up in June 2009; one third of the participants in the initial survey responded. Fortunately, since nearly all depositors remained with the bank, we have administrative data for both dates and thus can check that the attrition is random.

To gain some confidence in these measures, we validate them across measures, over time and taking into account actual behaviour. We find that the two measures are correlated both in 2007 and in 2009. We also find that in 2007 both the qualitative and the quantitative measure are positively and statistically significantly correlated with the same measures in 2009. The same is true when we correlate the changes in the two measures. Most importantly, both these measures are correlated with actual portfolio decisions, in the cross-section as well as in the time series.

Having gained some confidence in the reliability of these measures, we look at their changes from before to after the crisis. Figure 2A compares the distribution of the qualitative measure of risk aversion before and after the crisis. While before the crisis the average response was 2.85, after the crisis it jumped to 3.28 (note that a higher number indicates higher risk aversion). This change is statistically different from zero at the 1 per cent level. In 2007, only 16 per cent of the respondents chose the most conservative option, 'Low return and no risk', and in 2009 this was 46 per cent. The data show a homogenous shift towards more conservative combinations of risk and return. Although the numbers are low, 83 per cent of the people who had chosen the most aggressive option, 'Very high returns, even at the risk of a high probability of losing part of the principal', changed to a more conservative one. 74 per cent of those who had chosen the second more risky combination ('High return and high risk') moved to more conservative options, while only 2 per cent chose the more aggressive one. 44 per cent of those who had chosen 'Moderate return and moderate risk' changed to 'Low return and no risk,' while only 9.5 per cent chose more aggressive options. Looking at the sample distribution of changes in the qualitative measure of risk aversion reveals that 46 per cent exhibit an increase in risk aversion, while only 10 per cent show a decrease. This distribution underestimates the actual change due to truncation: people who were already in category 4 ('Low return and no risk') cannot go any higher. When we disregard this group, 63 per cent of the sample exhibit an increase in risk aversion.

Figure 2B compares the distribution of the quantitative measure of risk aversion before and after the crisis. A closer look at the values of the certainty equivalent of this lottery reveals that before the crisis the average certainty equivalent to avoid a gamble offering 10,000 or zero euros with equal probability was 4,164 euros. In 2009, the same certainty equivalent for the same group of people dropped to 2,785 euros. The median dropped from 4,000 to 1,500. Given that the expected value of the lottery is 5,000 euros, this implies an increase in the average risk premium from 1,000 to around 2,200 euros and in median from 1,000 to 3,500 euros. Since the risk premium is proportional to the investor's risk aversion, these estimates imply that the average risk aversion increased by a factor of 2 and that of the median investor by a factor of 3.5! Needless to say, all these changes are statistically different from zero.

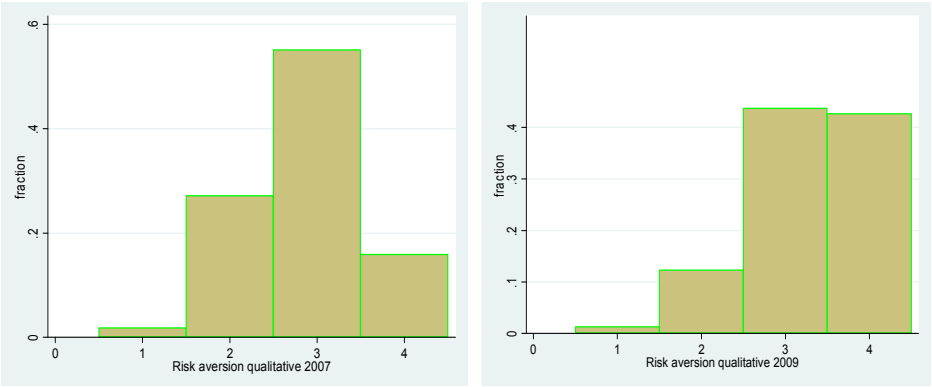
If we look at the distribution of changes in the quantitative measure of risk aversion, 55 per cent of the investors exhibit an increase in risk aversion, while only 27 per cent show a decrease. When we disregard the 16.8 per cent of the sample that was in category 10 in 2007 (and thus could not increase their measure of risk aversion) 64.4 per cent of the sample exhibit an increase in risk aversion.

Overall, there is a clear, sharp increase in individual risk aversion. This increase cannot be attributed solely to a worsening of expectations about the distribution of future investments, since it manifests itself also in the quantitative measure, which is unrelated to the stock market. In fact, the probability distribution underlying the gamble in the qualitative measure is objective, not subjective. These results beg the question of why aversion to risk has changed.

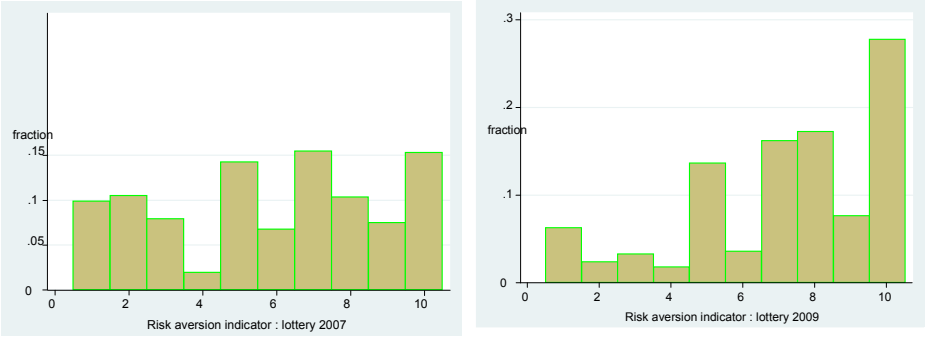
Figure 2: Frequency distribution of the level of risk aversion indicators in 2007 and 2009

Panel A reports the frequency distribution of the qualitative measure of risk aversion in 2007 and 2009. The qualitative indicator tries to elicit the investment objective of the respondents, offering them the choice between 'Very high returns, even at the risk of a high probability of losing part of my principal', 'A good return, but with an OK degree of safety of my principal', 'An OK return, with a good degree of safety of my principal' and 'Low returns, but no chance of losing my principal'. Responses are coded with integers from 1 and 4, with a higher score indicating a higher aversion to risk. Panel B reports the frequency distribution of the quantitative measure of risk aversion in 2007 and 2009. This measure tries to elicit the certainty equivalent for a gamble that delivers either 10,000 or zero euros with equal probability.

A. Qualitative measure of risk aversion



B. Quantitative measure of risk aversion



5. WHY HAS RISK AVERSION INCREASED?

Guiso, Sapienza and Zingales (2011) try to offer a comprehensive explanation of what has caused this marked increase in risk aversion. To this end, they look at classical factors that may shift people's willingness to bear risk. In the standard models (e.g., Constantinides (1990), Campbell and Cochrane (1999)) risk aversion varies because of changes in wealth, in habits and in background risk – that is, risks that an investor cannot insure against or cannot diversify and that he must bear – such as the risk arising from human capital. What is interesting is that neither changes in measured wealth, as available from the administrative records at UniCredit, nor changes in overall habits seem to have any effect on changes in risk aversion, whether using the qualitative or the quantitative measure.

But also changes in background risk do not seem enough to justify the increase in risk aversion; in fact, retirees (who in Italy enjoy a public pension) and public employees (who face little or no risk of being fired) do not exhibit different changes in risk aversion, which in this group varies as much as for the rest of the sample which is more exposed to background risk.

What then is driving the massive increase in risk aversion? There is some evidence that a measure of Knighting uncertainty – that is, uncertainty over the probability distributions of the stock market – has some explanatory power: people who have become less able to form an opinion about the future of stock prices during the crisis have become more risk averse. Similarly, changes in trust in the stock market are positively correlated with changes in risk aversion. Even these factors, however, explain very little of the changes in risk aversion.

Overall, existing models seem unable to account for the large changes in risk aversion occurring during the crisis. One possible explanation is that the proxies used to measure classical determinants are too noisy. Another is that these changes are due to other considerations which have nothing to do with the standard models. For example, we know from Kuhnen and Knutson (2011) that visual cues inducing anxiety (meant to increase activation in the anterior insula of the brain) make subjects less likely to invest in risky assets.

Can these neurological dimensions explain the large increase in risk aversion found in the data? To address this question, Guiso, Sapienza and Zingales (2011) conduct a laboratory experiment to test whether a scary experience (like the 2008 financial crisis) can induce an increase in risk aversion. They 'treat' a sample of students with a five-minute excerpt from the movie 'The Hostel' (2005, directed by Eli Roth), which is characterised by stark and graphic images and shows a young man inhumanly tortured in a dark basement. They find that treated students exhibit a 27 per cent lower certainty equivalent than untreated ones. While this does not prove that fear caused the increase in risk aversion after the crisis, it shows that fear can lead to an increase in risk aversion as large as that observed in the data. This is the only explanation not inconsistent with the data.

6. WILL TRUST RECOVER SOON AND WILL RISK AVERSION GET BACK TO NORMAL?

Limited trust and higher-than-average risk aversion have strong consequences for the operation of financial markets. Lack of trust is likely to affect investors' decisions on various margins that may have a strong impact on the working of financial markets in the coming years. One element that played an important role in amplifying the financial crisis is illustrated in ongoing research, e.g., by Guiso, Sapienza and Zingales (2009), who argue that differences in levels of trust across individuals can determine who starts a run on the bank in a period of financial distress. More generally, the drop in trust is likely to have pervasive effects on investors' reliance on financial markets across various dimensions – one of the most important legacies of the financial crisis. In particular the fall in trust is likely to affect people's willingness to enter into any type of financial contract. This should not be surprising since any financial transaction involves an exchange of money today against a promise of returning (more) money tomorrow. But the willingness to believe the promise and thus enter into the transaction crucially hinges on how much trust one has in the person that issues the promise. Below, some of the effects are examined in greater detail.

There is evidence that the level of trust affects investors' willingness to invest in stocks and, more generally, risky assets. Stocks and risky assets lend themselves more easily to opportunistic behaviour than simpler securities. For instance, Guiso et al. (2008) find that high-trust people are less likely to hold stocks in their portfolio and, if they hold stocks, their shares in the stocks are lower. This finding is consistent with the results of a recent Financial Times/Harris Poll that interviewed a sample of investors in the US and various European countries. It shows that in most countries, people today have a lower propensity to invest in stocks. For instance, in Germany, 41 per cent report that currently they are less ready to invest in stocks than before the crisis, and the percentages are similar in other countries.

Limited trust also affects investors' willingness to invest in ambiguous securities, i.e., securities that are ambiguous either because of the complex nature of the contract or because the probabilities of the returns are intrinsically uncertain (e.g., because they have a short history on which to estimate these probabilities) and investors are thus more exposed to the risk of fraud. Consequently, these securities are more easily placed among high-trust investors. When trust falls and becomes scarce, one should see a decline in the demand for these ambiguous securities and an increase in the demand for simpler and more familiar securities.

An additional implication of diminished trust is that investors will form less diversified portfolios because they will focus more on domestic assets. Guiso et al. (2008) show that this property is more general and that investors who invest in stocks tend to hold a more diversified stock portfolio when they have more trust. On the other hand, diminished trust in intermediaries leads an investor to entertain multiple relations to diversify the risk of opportunistic behaviour by reducing exposure to each one of them. Both effects are costly: the first because one loses the benefits of

diversification, the second because of the cost of establishing and maintaining multiple relations.

Furthermore, diminished trust leads to less reliance on outside information and advice. Besides selling financial products, financial intermediaries offer investors advice and information on how to allocate their financial wealth. Investors' willingness to heed this advice as well as their decision to lend their savings to the intermediary depend on the trust they have in this intermediary. One of the consequences of the fall in trust is a lower propensity among investors to delegate financial decisions to the intermediary and to use his advice. Thus, the fall in trust should result in a marked decrease in delegated investment. Since delegation is all the more necessary the more one invests in sophisticated securities, there should be a move towards simpler portfolios also through this channel. These portfolios, however, need not necessarily be better in the sense of providing a higher return per unit of risk. In fact, Guiso and Jappelli (2006) find that investors who have more trust and delegate more are better diversified and are able to attain more efficient portfolios.

Finally, though most of the literature has focused on the effects of trust on investors' portfolios, the fall in trust involves all operators in the financial industry, including insurance companies. In fact, since an insurance contract is itself a financial contract and as such prone to the opportunistic behaviour of the insurance company, the fall in trust should also affect the demand for insurance. Guiso (2010b) discuss how trust affects people's demand for insurance.

To sum up, given the importance of trust in all financial contracts, the fall in trust in all segments of the financial industry will give rise to a generalised flight from financial trades and particularly from those deals that are severely exposed to opportunistic behaviour.

Similar effects are to be expected as a consequence of the increased risk aversion of investors. Dislike of risk results in choosing a safer portfolio away from stocks and thus in increased cost of equity finance. In so far as this form of finance is particularly important for high-growth innovative firms, this channel may limit innovation and perpetuate the consequences of the crisis for the time being. There is evidence that financial crises have long-lasting effects: one reason for this persistence is that the lower trust and higher risk aversion resulting from a crisis are long-lasting. But how long do they last?

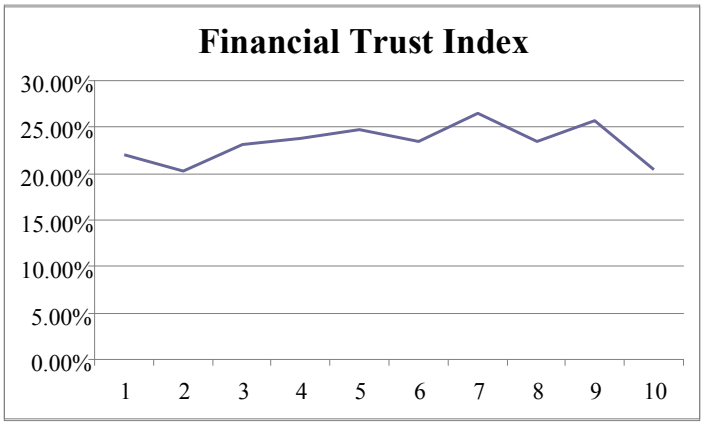
We do not have a sufficiently long time series of data to be able to answer this important question. However, we can draw some suggestive conclusions concerning the persistence of mistrust by examining Figure 1, where we can see that there was a prior episode when trust in finance dropped markedly: during the 1991-1992 crisis. This drop in trust was connected to the Savings and Loans crisis in the US and the resulting scandals and frauds (Akerlof and Romer, 1994). Trust collapsed quickly as the crisis erupted, from around 30 to around 10 per cent. It has since recovered, but it took about 10 years to revert to the pre-crisis level. Though it is difficult to extrapolate from the Savings and Loans episode to the current crisis, this evidence suggests that the process of trust recovery can be extremely slow. Furthermore, in so

far as the speed of recovery depends on the size of the shock, it may take much longer to rebuild trust after this crisis than it took after the S&L crisis. The pattern of trust evidenced by the 10 waves of the FTI shown in Figure 3 demonstrates that so far – that is, almost three years after the collapse of Lehman Brothers – there are no signs of recovery and that actually, during the last wave, trust reverted to the levels prevailing at the peak of the crisis.

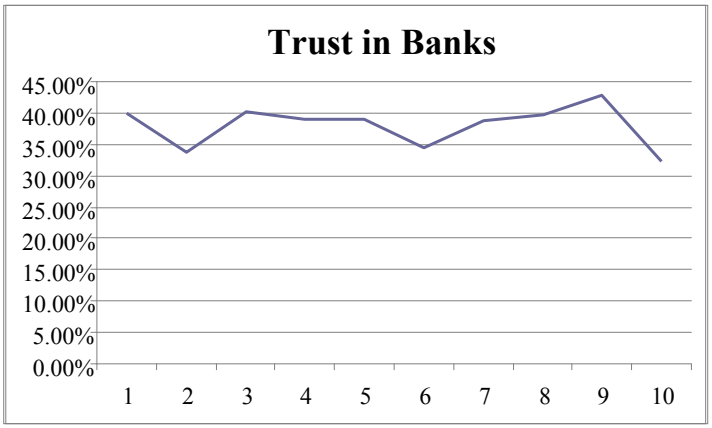
Figure 3: Evolution of the Financial Trust Index

This Figure plots the evolution of the Financial Trust Index (Panel A) and trust in banks (Panel B) over the 10 waves of the Financial Trust Survey; the first survey, denoted as 1, was run in December 2008, the last in March 2011.

A. General trust index



B. Trust in banks



Concerning patterns of recovery of risk tolerance a similar problem arises: we do not have long enough observations to be able to draw a reliable inference as to how persistent the increase in risk aversion will be. There is some evidence that big adverse financial episodes erode people's willingness to bear risk. For example, Malmendier and Nagel (2008) find that the Great Depression generation had become permanently less willing to invest in stocks than generations born (and grown up) in less troubled times. To shed some light on this issue, we use data from several waves of the US Survey of Consumer Finances, beginning in 1989. This survey uses a measure of risk aversion analogous to the one that was discussed earlier in connection with the UniCredit survey and which was called the qualitative indicator of risk aversion. Table 2 shows the distribution of this measure. It clearly shows a drift over time in people's willingness to bear risk. Since 1989, the fraction of people who were 'Not willing to take any financial risk and look for a small safe return' decreased continuously by about 10 percentage points. The data available to us stop in 2007, before the financial crisis. One interesting question is why risk aversion has decreased over time. A possible interpretation is that it was abnormally high in 1989, because people had become more risk averse following the 1987 Black Friday stock market collapse; the dynamics that we see thereafter is a slow recovery of risk tolerance.

Table 2: Evolution of the distribution of risk aversion in the US Survey of Consumer Finances

	How much financial risk are you willing to take?						
	1989	1992	1995	1998	2001	2004	2007
	%	%	%	%	%	%	%
1	4.91	5.08	5.15	6.09	5.8	5.12	5.17
2	12.24	16.09	18.64	23.34	23.17	20.25	21.42
3	42.27	39.69	41.88	40.26	40.1	41.5	42.2
4	40.58	39.14	34.33	30.31	30.93	33.13	31.2
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*

1. Take substantial financial risks expecting to earn substantial returns.
2. Take above average financial risks expecting to earn above average financial returns.
3. Take average financial risks expecting to earn average financial returns.
4. Not willing to take any financial risks.

7. CONCLUSION

There are many channels through which a financial crisis can affect economic outcomes and lead to persistence of its effects. In this paper, we focused on one particular channel: that operating through the effect that the crisis has had on individual tolerance to risk and the trust people have in the various components of the financial system. We documented an unprecedented fall in trust and in risk tolerance, arguing that the first was caused by the unveiling of diffuse opportunistic behaviour brought about by the crisis itself and the second by a feeling of fear provoked by the crisis. We argue that the fall in trust and risk tolerance have greatly aggravated the effects of the crisis, for instance, by reducing investors' appetite for risk and causing massive shifts in their portfolios. Based on past experiences, we argue that these effects are unlikely to be short-lived: indeed, the fall in trust and the risk aversion are likely to be enduring and will be very slow to recover, further slowing down the recovery of the Western countries during the Great Recession.

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