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### The Influence of Affective Reactions on Investment Decisions

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# The Influence of Affective Reactions on Investment Decisions

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The present research aims to show how investors' affective reactions toward a fund influence their decision to sell the investment. Participants were presented with either a socially responsible or a traditional fund. After completing a mental images task, participants were asked to state the price at which they were willing to sell the fund and their confidence in future positive performance. Participants were willing to sell the fund at different prices depending on their affective reactions. The affective reactions also influenced participants' confidence. Furthermore, we found that the socially responsible fund induced a more positive reaction than the ordinary fund.

**Keywords:** Decision making, Affect, Socially responsible investing, Disposition effect

Making good investment decisions is very difficult since there are hundreds of potential alternatives and primary information on past performance is available for each investment. Expected results are vague, since when making a forecast it is not easy to understand the reliability of the available objective data (e.g., fundamentals). In addition, it is usually stated that investors should choose their strategies on the basis of a long horizon time. However, the longer the time window of an investment, the greater is the uncertainty about its expected results.

Imagine John, an investor who has chosen a fund investing mainly in stocks of companies involved in the development of renewable energies. He has a long-term strategy to provide him with a sufficient amount of money in retirement. In addition, John believes that renewable energies are a good choice since they should be the technology of the future and, therefore, should perform well in the next few decades. However, such stocks are less known, the technology is less established and no one can really state if it is reliable or if it is going to fail in its mission. On the other hand, imagine Tom, an investor who has chosen a fund investing mainly in stocks of companies involved in traditional, polluting, industrial sectors such as oil, coal, and chemicals. Tom has the same goal as John, but Tom believes that traditional companies are more reliable since they are less risky and their performance are

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more stable than those of companies that are still developing their business.

Throughout the investment period, John and Tom will evaluate the performance of their stocks and decide if it is still worth pursuing the original strategy or if they might be better off by switching to a different investment (e.g., Tom may decide to sell the stocks of traditional companies to buy those of companies involved in renewable energy if the latter are doing better than the former). However, such a decision is particularly difficult, and research shows that John and Tom, as well as the majority of investors, are unlikely to face it in an analytical fashion (Shefrin [2002]). In fact, instead of computing the expected value of their investments, individuals tend to make their decisions in an intuitive way (Tversky and Kahneman [1974], Shefrin [2002]).

In particular, there is increasing evidence that affective reactions play a central role in investors' use of the heuristic, intuitive, processing system (as opposed to the slower, conscious, analytical system; Epstein [1994], Lowenstein, Weber, Hsee and Welch [2001], Slovic, Finucane, Peters and MacGregor [2002]). Therefore, John's decision to invest in companies involved with renewable energy might depend on his affective reactions more than on an analytic assessment of the potential of these companies. He might have a positive affective reaction toward companies involved in the development of new sources of energy because he considers the effort to counteract a climate change as highly relevant and valuable. Companies that contribute to this goal may induce John to generate positive mental images that may relate with a better life style and a nicer environment. In turn, John will attach a feeling to the mental images that pop up in his mind. Since these images are all communicating something he regards as a good outcome, his affective reactions will be positive and will motivate him to invest in stocks of companies involved with renewable energy (e.g., solar energy) rather than stocks involved in the old polluting energy sources (e.g., coal companies). On the other hand, if Tom is skeptical about climate change, then this reasoning should intuitively lead him to generate mental images inducing less positive affective reactions toward companies involved with renewable energy than toward traditional companies. Alternatively, he might look at the traditional industries involved with energy production and have more positive affective reactions because they look safer investments. For instance, these companies have already developed their business and already proved that they can have a good performance. In this particular circumstance, Tom's mental images and his affective reactions toward these images might be driven by how easily he recalls previous times in which stocks of companies involved with traditional sources of energy had a positive performance.

Consistent with the previous example, recent studies showed that people attach an affective value to the stimuli or mental images of the stimuli they are presented with and that these feelings are then used to choose which alternative is the most favorable and which is the least appealing

(such a heuristic strategy has been labeled affect heuristic; see Slovic et al. [2002]). It is important to consider that such feelings are very simple (e.g., a general affective reaction on a good versus bad continuum) and usually not particularly intense (Slovic et al. [2002]). However, these feelings may be experienced at an unconscious level, are faster than conscious thought, and, therefore, feelings can influence conscious thought. As a consequence, once people start to think about a decision, they may already have attached an affective reaction to the alternatives that are available (Slovic et al. [2002], Peters [2006]).

## THE ROLE OF AFFECT ON INVESTMENT BEHAVIOR

In the financial markets, individuals need to predict future events that are influenced by a large number of variables (e.g., economical, political, social events) that are not under their control. In addition, there are different ways to build a portfolio, and none shows consistent superior results. Finally, despite the amount of data available, investors do not have complete information and seldom have a clear picture of what is really going on with their investments.

Therefore, financial markets have most of the characteristics that induce people to rely on their affective reactions (Lucey and Dowling [2005]). This kind of feedback is mostly used in complex contexts in which an analytic assessment of the situation is particularly difficult and cognitively demanding.

A recent study provided a compelling demonstration of the influence that the investors' affective reactions exert over the stocks performance. This study showed that investors' feelings toward a particular company drive their investment decisions (Statman, Fisher and Anginer [2008]). In addition, the authors found that investors have a tendency to expect high returns and low perceived risk from companies that induce positive affective reactions and expect low returns and high risk from companies inducing negative feelings. Consistent with this, the results showed that the stocks of admired companies are outperformed by the stocks of spurned companies.

In addition, there is already some evidence linking affect to specific investment behaviors such as herding (Shiller [2000]), the home bias (Strong and Xu [2003]), initial public offerings (IPOs) (MacGregor, Slovic, Dreman and Berry [2000]), and the disposition effect (Shefrin and Statman [1985], Shefrin [2002]).

Herding behavior is investors' tendency to follow what others do. In particular, many investors look at those more expert to figure out whether the market is bullish or not, that is whether it is time to enter the market or not. Such a behavior is certainly advantageous for the single investor who can avoid losing time and money, looking for information he may not be able to fully understand. However, it is an irrational behavior from the point of view of the efficient markets

hypothesis (Fama [1998]), since investors are not behaving in the market as a group of independent agents (Shiller [2000]). For single investors, it is also a relief to know that they are doing the same as the majority of the other people involved in the financial market, since for most individuals it is painful to go against the crowd and then discovering they were wrong (Prechter [2001]). This would make the investors feel responsible for their errors. In addition, they would feel judged as less able by the majority of investors who have made the right decisions (Shiller [2000]). All such reactions are induced by investors anticipated emotions, that is, by people's ability to anticipate how they would feel if a particular outcome of their decisions is going to happen (Mellers, Schwartz and Ritov [1999]). In other words, investors are able to anticipate the feelings of regret and guilt they might experience if they decide to go against the crowd and are then proved wrong (Zeelenberg and Beattie [1997]).

Investors are also prone to choose more often to invest in the so-called domestic stocks, that is, stocks of companies from their region or country rather than stocks of foreign companies (home bias; Uppal [1992]). Such a behavior seems to be linked to people's perception that they have a better knowledge about domestic companies rather than companies from other countries. Kilka and Weber [2000] compared a group of Germans and a group of Americans who were asked to judge the same list of American and German stocks. Participants were asked to judge how competent they felt in forecasting domestic versus foreign stock prices. Results showed that the German group felt significantly more competent about German stocks than American stocks whereas the American group felt more competent about American stocks. In addition, these results were consistent with the participants' tendency to provide subjective probability judgments of stock returns which were on average more dispersed for stocks associated with low competence levels (foreign stocks) than for stocks associated with high competence levels (domestic stocks; Kilka and Weber [2000]). There is evidence suggesting that people have more positive attitudes toward familiar stocks rather than unfamiliar stocks (Ganzach [2000]). Therefore, it is likely that the home bias could depend on investors' affective reactions toward domestic stocks that they perceive familiar and more predictable than foreign stocks that are perceived as having ambiguous and unpredictable performance. In partial support to this explanation comes a study that found that fund managers feel significantly more optimistic toward their home equity market, inducing, in turn, a bias toward domestic equities and against foreign equities (Strong and Xu [2003]).

Another context in which investors' affective reactions should play an important role is that of IPOs. In such a context, investors' have little information about the company that is about to go public, and the information does not cover a long time span. Therefore, it is difficult to discover whether or not the company represents a good deal. As a consequence,

the decision to buy stocks of IPOs is made in a context that is, if possible, even less clear than the usual investment environment; therefore, investors should rely strongly on their feelings. Accordingly, MacGregor, Slovic, Dreman and Berry [2000] showed that a decision to invest in an IPO may depend on investors' affective reactions toward the company industrial sector. If the mental image of the industrial sector induced a positive affective reaction, then individuals were more willing to buy stocks of an IPO; if the mental image induced by the industrial sector was negative, then they were less willing to choose an IPO belonging to that industry. Therefore, MacGregor et al. showed that in a condition characterized by low levels of information, investors might rely more heavily on their subjective reactions since little objective data were available (e.g., changes in the company fundamentals over time).

On the other hand, there is information overload in the financial markets, and individuals need a strategy to select only those pieces of information relevant to make a good decision. Even a similar selection of the relevant information is likely to depend on subjective evaluations such as those driven by feelings (e.g., an investor might take some data into consideration because they just look consistent with one's previous hypotheses or because the information is drawn out from a set of data that in the past helped making a good choice).

A study by Solt and Statman [1989] confirms the above speculation. They found that investors' choices about which stocks to invest in are biased by their opinion/feeling toward a company. That is, under conditions in which investors have a lot of information at their disposal, they still tend to use their affective reaction to decide which company is the best investment. Consistently, as shown by Solt and Statman, investors are more confident in future positive returns and more often choose stocks of companies they regard as good companies rather than stocks from companies they judge as bad ones. However, in many occasions the correspondence between good/bad companies and positive/negative performance by their stocks does not hold. In fact, stocks of bad companies have often outperformed stocks of good companies. Therefore, affective reactions seem to play a relevant role in providing investors with feedback that drives their decision about whether to invest in a specific company.

Finally, affective reactions are also likely to play a role in the disposition effect, that is, individuals' tendency to hold losing investments too long and sell winning investments too early (Shefrin and Statman [1985]). Such a pattern of behavior has been replicated in many countries and has proved to be highly consistent (Odean [1998], Shefrin [2002]). Among the different accounts proposed to understand this bias, the explanation receiving most support is based on the concept of loss aversion (Kahneman and Tversky [1979], Kahneman, Knetsch and Thaler [1990], Grinblatt and Han [2002]). In other words, investors are not willing to sell an investment when its value is decreasing because they do not like to make

the loss conclusive and prefer to take the risk of higher loss by holding the investment and waiting for a recovery. However, people usually wait until the value of the investment is so low that they have no other choice but selling it and coping with a larger loss (Weber and Camerer [1998]). It is likely that investors are not willing to sell the investment because they can anticipate the negative affective reactions once the investment is sold and they are obliged to cope with a loss. In addition, incurring a loss might induce investors to think they made a mistake picking the wrong investment and to feel responsible for the negative outcome. In addition, it is possible that the decision to wait before selling an investment that is losing value depends on people's initial affective reactions about the investment: if their initial affective reactions were positive, they should tend to wait more before selling. In turn, the affective reactions might have an influence on people's confidence in the investment bouncing back and recovering the previous loss.

In the present study, we investigated the role of affective reactions in the decision to sell a fund that is losing value. In particular, we were interested in understanding whether individuals' initial feelings toward the industrial sectors in which the fund is investing have an impact on whether they decide to sell it quickly once they realized that it is losing value. The main hypothesis was that the affective reactions toward the characteristics of the fund have an influence on both the price at which individuals decide to sell and their confidence in future good performance by the fund. We also hypothesized opposite patterns of results for selling prices and confidence ratings. That is, we expected to find that people setting a higher selling price were also those having the lowest confidence in the chances of the fund recovering.

In addition, we hypothesized that funds investing in different industries might induce significantly different affective reactions, leading investors to set different selling prices. For this reason, half of the sample was presented with a socially responsible fund and the other half with a traditional, nonsocially responsible fund, which was expected to induce significantly less positive affective reactions.

Therefore, we tested the impact of affective reactions in two different ways. A first analysis looked at the whole sample to assess if higher selling prices and lower confidence ratings correspond to more negative initial affective reactions. A second analysis compared the pattern of results found for the two groups of individuals presented with either one or the other kind of fund.

## METHOD

### Participants

A total of 63 students (82% females; mean age 21 years) from an Italian university took part in the study. They answered the questionnaire during class hours. Half of the participants

were presented with a socially responsible fund and the other half with a nonsocially responsible fund.

### Materials and Procedure

Participants were asked to answer a 6-page questionnaire. On the first page, they were told to imagine they had invested in a stock fund. On the same page, participants were told the hypothetical amount of money they had invested in the fund, the industries in which the fund was investing, and some data about the fundamentals of those industries (for the specific industries in which the two funds were investing as well as the fundamental data see the Appendix; fundamental data were the same for both funds). On the second page of the questionnaire, participants were presented with instructions for a mental images task. On pages 3 and 4, they were asked to complete the mental images task as shown in Table 1 and, subsequently, to rate each thought on a 5-point scale ranging from - 2 (very bad) to 2 (very good).

Finally, on the last page, participants were asked to judge at which price they would have been willing to sell the fund if it were losing value. In addition, participants were asked to rate their confidence in the chance of the fund to bounce back and recover the loss (see Table 2). These two measures should help determine whether the affective reactions induce the participants in the two experimental conditions to set different selling prices. In addition, by measuring people's confidence in the future performance of the fund, we should be able to show that the affective reactions influence the selling prices by reducing people's confidence that the funds will recover the loss.

## RESULTS

A first regression analysis was run to assess if affective reactions influence selling prices independently from the fund participants were presented. Results support a quadratic specification:

$$price = \beta_0 + \beta_1 Affect + \beta_2 (Affect^2) + u \quad (1)$$

Both  $\beta_1$  and  $\beta_2$  were significant (see Table 3, column 1). Therefore, results indicated that the selling prices were influenced by participants' affective reactions toward the funds.

We now turn our attention toward the role of the type of fund on the relation between affect and selling price. A first chance is that the relation outlined in Equation 1 remains the same across funds, but the average level of the selling price changes. From a modeling point of view this boils down to augment the Equation 1 with a dummy variable (Cond) equal to 1 if the presented fund was socially responsible and 0 if the presented fund was nonsocially responsible. Estimation results reported in column 2 of Table 3 did not show any significant difference on the average selling price across funds.

TABLE 1  
Instruction and Answer Form for the Mental Imagery Task.

On each of the following pages of this booklet is the name of a sector or characteristic of the companies in which the fund invests, printed at the top in bold letters. We want to know the *images and associations* that you have for each sector or characteristic.

For example, if someone mentions the word *soccer*, you might think of the *World Cup, Roberto Baggio, the Milan-Inter derby*, or even *green grass*. We are interested in the first three thoughts or images that come to mind when you think about a particular characteristic of the fund you are considering. Look at the name of the characteristic and write the **first** thought or image that comes to mind in the space provided. Then, look back at the name of the characteristic and give us the **second** thought or image that comes to mind. Look back at the name of the characteristic again and write down your **third** thought or image. Do not spend too much time trying to come up with a thought or image. We want your initial reactions. If you cannot come up with a second or third thought or image, go on to the next characteristic.

Work through all of the pages in this section of the booklet in the order given.

(On the following page)

<b>Oil companies</b> (subjects presented with the non-socially responsible fund)		<b>Renewable energies</b> (subjects presented with the socially responsible fund)			
<b>First thought</b> _____	- 2	-1	0	+ 1	+2
<b>Second thought</b> _____	- 2	-1	0	+ 1	+2
<b>Third thought</b> _____	- 2	-1	0	+ 1	+2

... the same procedure was followed for all other industrial sectors. . .

(On the following page)

As you have probably noticed there was a scale ranging from - 2 to + 2, to the right of each image line. Please go back and rate each image or thought that you have listed using the scales provided as shown in the example below:

**Now rate your feelings about the image that you gave for this characteristic of the fund; make your rating by making an “x” on one of the points of the scale:**

Highly negative	Somewhat negative	Neutral	Somewhat positive	Highly positive
-2	- 1	0	+ 1	+ 2

The absence of a significant effect played by the dummy variable does not necessarily lead to reject a role for the type of fund (socially responsible vs. nonsocially responsible); the type of fund participants were presented with could influence directly the structure of the relation between affect and sell-

ing price by changing the functional form of model (1). To check this hypothesis, we first ran a test on the equality of the means between the two groups. We found that participants had a significantly more positive affective reaction toward the socially responsible fund, as measured through the mental

TABLE 2  
Questions Presented to Participants to Test for the Selling Price and the Confidence in the Future Positive Performance of the Fund

1 - Imagine that the average value of the stocks in which the fund invests was €9.00 at the time you decided to invest.

Now imagine that the average value of the stocks in which the fund invests is starting to decrease. Which price does the fund have to reach before you decide to sell your investment to avoid facing the risk of losing even more?

Please, provide your answer using the scale below where are presented the prices in intervals of €0.50:

€ 9.00	€ 8.50	€ 8.00	€ 7.50	€ 7.00	€ 6.50	€ 6.00	€ 5.50	€ 5.00	€ 4.50	€ 4.00	€ 3.50	€ 3.00	€ 2.50	€ 2.00	€ 1.50	€ 1.00	€ 0.50	€ 0.00
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2 – How confident are you that the fund in which you have invested will be able to gain value in the future?

① <i>Not confident at all</i>	①	②	③	④	⑤	⑥ <i>Completely confident</i>
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TABLE 3  
Regression of the Selling Price on the Affective Reaction Toward the Fund for the Whole Sample of Subjects.

Price	(1)	(2)
Affect	-1.005** (0.411)	-1.039** (0.433)
Affect <sup>2</sup>	0.811** (0.405)	0.810* (0.411)
Cond		-0.078 (0.430)
Constant	6.060*** (0.245)	6.191*** (0.798)

Note. \* is significant at .10 level, \*\* at .05, \*\*\* at .01. Standard errors are robust to heteroskedasticity.

images task, than toward the nonsocially responsible fund ( $M_{socially} = .71$  vs.  $M_{non-socially} = .05$ ):  $t(2, 63) = 5.18$ ;  $p < .01$ . Such a result confirms that people have a different reaction depending on the type of investment; therefore, it is plausible that the model specification explaining the relation between affect and selling price changes according to it.

A natural way to assess the validity of this claim is to run a Chow test for structural stability. This kind of analysis tests the null hypothesis ( $H_0$ ) stating that parameters do not change between subsamples. As hypothesized, the test rejects  $H_0$ ,  $F(3, 57) = 2.13$ ;  $p > .10$ . We concluded that the affective reactions toward each fund had a direct impact on the parameters of the model, and consequently two different model structures are required to explain the results for the two funds.

We also performed a test of significance for the marginal effect of affect on the selling prices. The aim was to assess for which values of the affective reactions toward the fund caused a significant effect on the selling prices. We were especially interested in testing if the effect of the feelings toward the specific fund was significant for both positive and negative affective reactions.

In the socially responsible fund condition, results showed that affect had a significant effect on the selling prices only when the valence of the affective reactions was either clearly positive (affect equal to .90 or higher) or quite negative (affect equal to .41 or lower) but not when the valence was moderately positive. That means that people's affective reactions toward the socially responsible fund had a significant effect on their decision to sell it only when the valence was approaching either negative or extremely positive values (see Figure 1a). On the other hand, individuals' feelings toward the nonsocially responsible fund always had a significant, albeit less strong, effect on the selling prices ( $p < .05$  for all valences of the affective reactions toward this fund). In this condition there was a linear relationship between the affective reactions toward the nonsocially responsible fund and the selling prices such that for increasingly more positive affective reactions toward the fund participants set lower and lower selling prices (see Figure 1b).

To provide further support for the main hypothesis of this study it is important to analyze the results found for

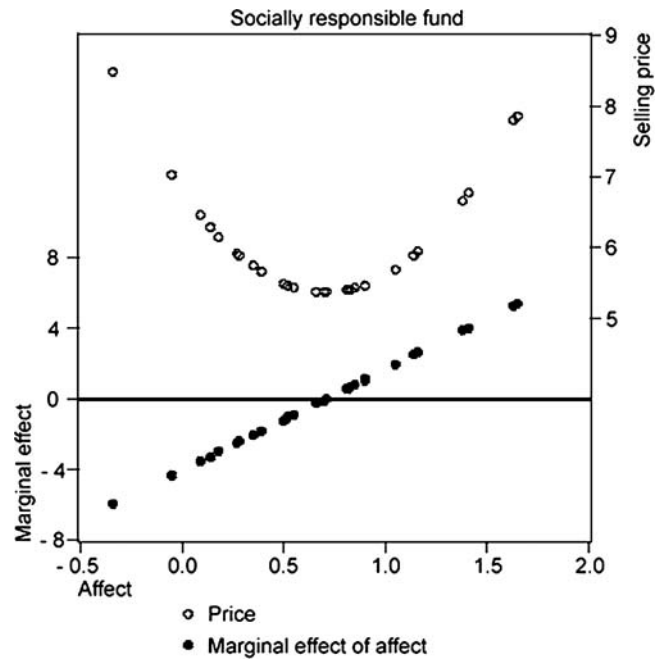


FIGURE 1A Marginal effect of affect on price for socially responsible fund.

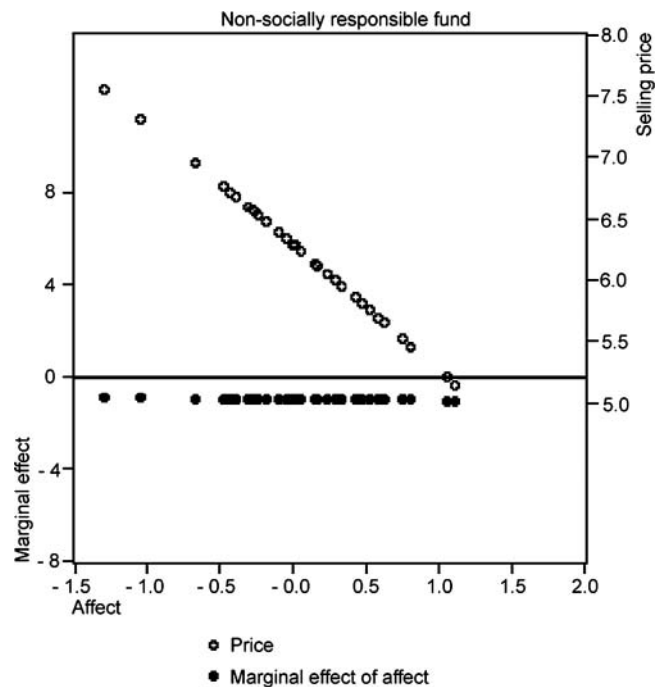


FIGURE 1B The non-socially responsible fund.

participants' confidence in the future positive performance of the fund. Therefore, we ran a second regression analysis to assess if affective reactions toward the fund influenced participants' confidence ratings:

$$confidence = \alpha_0 + \alpha_1 Affect + \alpha_2 (Affect^2) + u \quad (2)$$

TABLE 4  
Regression of the Confidence on the Affective  
Reaction Toward the Fund for the Whole Sample of  
Subjects.

Confidence	(1)	(2)
Affect	0.323 (0.275)	0.569** (0.275)
Affect <sup>2</sup>	-0.646** (0.251)	-0.638** (0.245)
Cond		0.560* (0.320)
Constant	3.237*** (0.207)	2.304*** (0.538)

Note. \* is significant at .10 level, \*\* at .05, \*\*\* at .01.  
Standard errors are robust to heteroskedasticity.

Both  $\alpha_1$  and  $\alpha_2$  were significant (see Table 4). As expected, the confidence ratings follow an opposite pattern compared with selling prices. Again, the augmented specification suggested no role for the dummy variable (Cond) at 95%, but the Chow test showed again the need for a different model specification depending on the type of fund,  $F(3, 57) = 1.90$ ;  $p > .10$ .

As expected, we also found a significant negative correlation between selling prices and confidence ratings ( $r = -.33$ ;  $p < .01$ ) indicating that individuals setting higher selling prices are actually less confident in the chance of the fund to bounce back and recover the loss.

## DISCUSSION

In the present study we investigated how investors' affective reactions might influence their decisions to sell a fund that is losing value. Results confirmed the study hypotheses, showing that the affective reactions toward a fund have a significant influence on selling prices as well as on investors' confidence ratings. Therefore, results confirmed that selling prices are influenced by how people feel about their investments. The influence of feelings on selling prices was a further demonstration supporting the hypothesis that investment behavior is not driven by objective data, as usually suggested (e.g., a company fundamentals; Shefrin [2002], Statman et al. [2008]). In fact, investors use many different intuitive strategies when dealing with the degree of uncertainty and information load characterizing the financial market.

The present study also showed that people have a different perception of socially and nonsocially responsible funds. As expected, the socially responsible fund induced significantly more positive feelings than the nonsocially responsible fund. In addition, affective reactions toward the two types of funds influenced selling prices and confidence ratings under both conditions, but in different ways. The finding that the two different funds induced different affective reactions allows us to conclude that feelings played a more relevant influence than fundamentals data on people's investment decisions. By presenting two different funds with identical fundamentals, we should have expected to find no differences if individuals

were focusing on the objective data about the performance of the companies in which the funds were investing.

In other domains, people's tendency to rely on their feelings while making a decision has proven to be one of the most powerful strategies to reduce the complexity of the decision context (Peters [2006]). It is especially noteworthy that people with negative affective reactions toward their investments (both socially and nonsocially responsible ones) set the highest selling prices, since this result seems to show that only investors with initial negative expectations about an investment are prone to systematically counteract the disposition effect. This explanation is also supported by the negative correlation found between selling prices and confidence ratings. In other words, in the context of the present study, negative affective reactions toward an investment helped people to engage in a correct behavior they are usually unwilling to follow, that is, selling a losing fund. On the other hand, feelings may also prevent investors from making the correct decisions. For instance, in the present study people with positive reactions toward the nonsocially responsible fund were locked in by their initial impressions and were unable to sell the losing fund as quickly as people with negative feelings.

To some extent it might not be surprising that people with initial negative feelings decide to sell the fund earlier if it is losing value. In the end these individuals might also had a lower initial confidence in the potentially good performance of the fund. However, the pattern of behavior described in this study is potentially relevant for finance practitioners. Our findings suggest that it might be quite difficult to induce a client to follow a specific strategy if her attitude and affective reactions toward that particular investment are negative. She will probably decide to sell it as soon as the financial market hits a difficult period. On the other hand, a consultant should also be critical before backing clients who are extremely confident about a particular investment strategy, since in such situations it might be difficult to convince them to sell an investment that is clearly following a downside trend. These clients are likely to have a strong confidence in the ability of that investment strategy to bounce back and recover the loss.

Furthermore, the differences found in the two fund conditions are likely to be influenced by how familiar people are with a particular type of investment instrument. In particular, it is likely that participants were less familiar with socially responsible than with traditional, nonsocially responsible funds. In such a situation, individuals facing a less familiar situation should change their mind more quickly as soon as they realize that their initial positive expectations are not going to be fulfilled. As a consequence, it should not be surprising that people presented with the socially responsible fund tend not only to sell it quickly when their affective reaction is negative but also to sell it earlier when their affective reactions are extremely positive. In the first case they perceive that their very favorable initial attitude is not going to be fulfilled whereas in the second case they feel



like their initial negative attitude is going to be confirmed. In both cases their reactions should lead to a decrease in the confidence toward the fund as the lower familiarity with this type of investment makes it more ambiguous and should induce people to have less consistent opinions about it. Such an explanation is also consistent with the results found for the nonsocially responsible fund condition and showing a constant influence of the affective reactions toward the fund on both selling prices and confidence ratings. Therefore, another difference between the two funds is that people presented with the socially-responsible one tend to delay the decision to sell it only when their feelings are neutral or slightly positive. Such results may depend on the fact that a neutral affective reaction toward a stimulus is likely to play little or even no role in driving people's behavior. Indeed, a neutral affective reaction cannot be a useful feedback for action, especially in an unfamiliar environment, as it does not help the individuals to understand in a clear way whether that stimulus is positive, and attractive, or negative, and unattractive. Consistent with this, when the affective reactions are neutral, participants presented with the socially responsible fund tend to wait more before selling it, suggesting that they do not have a clear idea about the best action to take.

However, an alternative explanation may account for the results found in the socially-responsible condition. Participants with positive feelings toward this fund may have had less positive expectations about its performance. That might happen if investors regard the socially responsible aims as a positive feature, but at the same time, they realize that socially responsible funds are investing in a subsample of companies quoted in the financial market, therefore having less chance for efficient portfolio diversification (Guerard [1997], Statman [2000], Schroder [2004]). This is a reasonable interpretation, since it is still uncertain whether the socially responsible investments are providing higher average returns than the traditional investment instruments. Therefore, investors might initially have positive feelings toward a socially responsible investment, but without experiencing positive expectations about its performance because they believe it is not going to outperform traditional funds. As a consequence, despite having positive reactions toward the characteristics and aims of the socially responsible fund these individuals might decide to sell it quickly. That is, there might be a confounding between the feelings perceived toward the assets in which the socially responsible fund is investing (e.g., renewable energy) and the expectations about its possible performance. However, such a condition should lead to a conflict between positive and negative feelings, inducing the respondents to have an overall neutral affective reaction whereas the average affective reaction toward the socially responsible fund had a clearly positive valence. In addition, looking at the images generated by our participants, they never mentioned thoughts like "poor investment" or "risky investment" in relation with the socially responsible fund, therefore suggesting that they

were probably not expecting negative performance from this particular fund.

Finally, people's affective reactions toward the characteristics of an investment are likely not only to have an effect on their decisions to sell but also to influence the decision to buy that stock. Future studies should test whether it is true that people choose investments inducing more positive affective reactions rather than investments characterized by positive fundamentals.

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## APPENDIX—MATERIALS: FUNDS INFORMATION AND FUNDAMENTAL DATA

Imagine you have invested €10000,00 in a stock fund and have followed the suggestion to invest in the following fund:

Nonsocially responsible fund:

Stock fund A is listed at the Milano stock exchange and invests in companies operating in the following industrial sectors:

- Oil companies
- Food products
- Coal companies
- Telecommunications
- Chemicals
- Financial services
- Nuclear energy

The fund is characterized by the following fundamental data:

*Riskiness rate:* the Beta value of this fund is .75.

*Past income:* In the year 2004, the average income of the firms in which the fund invests increased 8.76% in comparison with the average income of the previous year (2003).

*Past sales:* In the year 2004, the average sales of the firms in which the fund invests increased 7.87% in comparison with the average income of the previous year (2003).

*Expected income:* For the next year (2005), the average income for the firms in which the fund invests is expected to increase 7.54% in comparison with the average income of the previous year (2004).

*Expected sales:* For the next year (2005), the average sales for the firms in which the fund invests is expected to increase 9.87% in comparison with the average income of the previous year (2004).

Socially responsible fund:

Stock Fund A is listed at the Milano stock exchange and invests in companies operating in the following industrial sectors:

- Renewable energy
- Food products
- Reduction of toxic emissions
- Telecommunications
- Research on electric vehicles
- Financial services
- Reduction of air pollution.