What Do Investors Learn from Advertisements?[1]

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Abstract

Firms spend substantial resources on regulatory disclosure and advertising to issue securities to investors, while investors do not always rely on regulatory disclosure for information. We create a survey-experiment to demonstrate that persuasive content in an advertisement increases investors' knowledge about fundamental investment characteristics, while increasing the saliency of risk-disclosure increases investor's knowledge of risk factors. Learning by investors is also driven by financial literacy, but is unaffected by investment-experience. Furthermore, we show that persuasive content affects investor's evaluation of the offer by increasing average amounts invested by 16 percent, while salient risk disclosure reduces investor's usage of other information sources. Our findings indicate that affective stimuli do affect decision making, but potentially also contribute to better informed investors. The results provide insights into the behavioral effect of marketing on investors and which elements contribute to effective regulatory disclosure.

Keywords: investor behavior, marketing of financial products, information presentation, limited attention

JEL-codes: G11, G18, D91, M37

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Introduction

Firms incur substantial costs to raise money in the capital market and spend millions to comply with regulatory requirements and successfully market securities to investors.[4] Regulatory disclosure such as the prospectus contains extensive information regarding the offering, but the complexity and amount of information renders them unpopular among retail investors. Instead, retail investors rely on more accessible marketing and road show materials to become informed (Securities and Exchange Commission, 2009; Authority for the Financial Markets, 2015).

Investment marketing serves a dual purpose. First, it attracts investor attention in a competitive market and second it (partially) informs investors about offering characteristics such as expected returns and risk factors. Advertising space being scarce, issuers want to appear attractive to potential investors (Dyck and Zingales, 2003) and use persuasive and non-informative content to attract investor attention (Bordalo, Gennaioli and Shleifer, 2013; Bertrand *et al.*, 2010) and create a favorable impression about the offering (Cialdini, 2016). However, if investors refrain from consulting statutory information then the content of marketing material determines their evaluation of the offer and level of information prior to making an investment decision.

We examine the impact of marketing content on these issues using a between-subjects survey experiment. Randomly confronting investors with different versions of an investment advertisement, we change the salience of persuasive and fundamental content in the advertisement. The first manipulation involves the inclusion of an affective cover-image of a young happy looking couple instead of a more neutral image. This treatment aims to induce positive emotions on the investor and is found to be effective in influencing an individual's

[4] Industry reports suggest that 2.5 percent of the expenses in an IPO are devoted to marketing (Strategy&, 2012). This suggests that in 2014 1.8 billion USD was spend on marketing in the U.S. alone. Note that this figure excludes indirect marketing costs such as underwriting discounts.

mood and subsequent judgments and decisions (Bertrand *et al.*, 2010; Winkielman, Berridge and Willbarger, 2005; Forgas, 1995) including those related to trading and investing (Andrade, Odean and Lin, 2016; Lucey and Dowling, 2005; Hirshleifer and Shumway, 2003). However, it is unknown how persuasive content in advertisements affects investors learning about fundamental characteristics of an asset (Ackert, Chuch and Deaves, 2003). Understanding these mechanisms is important because theoretical models posit that investors base decisions on a complete understanding of an asset's fundamental characteristics, while advertisements might divert investor attention primarily to salient persuasive but non-informative content.

Moreover, research by Gabaix and Laibson (2006) and Dyck and Zingales (2003) indicates that sellers have incentives to 'shroud' information on unfavorable product attributes in order to improve the appeal of a product. For example, if investors perceive a securities offering as less risky, it does likely increase the attractiveness of the offering and the likelihood it succeeds. Therefore our second treatment increases the salience of risk disclosure. Since this is fundamental information about the offering, those that are perceived as more risky are likely to be less attractive to investors. Shrouding risks in an advertisement benefits the issuer if it contributes to a more favorable impression and an increase in the likelihood that investors will invest in the offering.

Our results show that persuasive content *positively* affects investors learning, measured as the number of correctly answered knowledge questions on fundamental characteristics of the offering such as risk factors, investment duration, dividend frequency, fiscal benefits and annual costs. Respondents complete these questions *after* they review the advertisement that contains this information. Further, we find that salient disclosure of risk factors increases the amount of correctly identified risks by 16.8 percent. With regard to investor characteristics, we find that financial literacy and analysis time are strongly contributing towards knowledge of offer characteristics irrespective of the advertisement's design.

Next, we examine the evaluation of the offering and document that advertisements with affective-images attract higher average investment amounts. However, no impact on other evaluation criteria such as willingness to invest or perceived risks is found. Salient risk disclosure also decreases the respondents' intentions to search for other information although it has no effect on willingness to invest or risk perceptions. Persuasive content in advertisements thus seems to have limited impact on the subsequent evaluation of the offering.

Finally, we examine whether certain investor characteristics mediate the treatment-effects by documenting that financial literacy increases the likelihood that other information is consulted, while risk aversion decreases willingness to invest and amounts invested. Inclusion of a measure for primary market investment experience and other robustness checks do not alter our main findings.

This paper extends the existing literature in several directions. First, we contribute by examining on a micro-economic scale how advertising impacts investor behavior. Although the impact of advertising has received academic attention (Madsen and Niessner, 2016; Sirri and Tufano, 1998), evidence on an individual level is relatively scarce (see Sicherman *et al.*, 2015 for a recent example). Moreover, existing evidence is sometimes based on convenience samples which are unrepresentative for the relevant investor population (Andrade *et al.*, 2016). We extend this work by creating a unique dataset of investors with heterogeneous investment experiences which is representative for the Dutch investor population. Further, we use small manipulations of real investment advertisements to ensure that the experiment closely mimics real-life conditions.

Next, we contribute to the literature by demonstrating how well investors are informed based on investment marketing materials. Retail investors are unlikely to fully read statutory disclosure (SEC, 2009) and are prone to suboptimal investment behavior (see Barber and Odean, 2000). However, it is ill understood how investors actually learn from disclosure and

the effects it has on subsequent decision making (Beshears *et al.*, 2011). Existing work investigates the impact of language-use (Elliott, Rennekamp and White, 2015), language-complexity (Hwang and Kim, 2017; Lawrence, 2013) and risk communication (Kaufman, Weber and Haisley, 2013) in regulatory disclosure on decision making. However, our focus is on marketing materials and we are interested how the mix of persuasive and fundamental content affects decision making. Our approach is similar to Elliott *et al.* (2015), although we base our treatments on the incentives outlined in Gabaix and Laibson, (2006) and Dyck and Zingales (2003).

We also shed light on the risk that investment decisions do not fully reflect all fundamental information. Our setting features limited competing sources of information, such as analyst reports, from which investors can obtain offering information. Given low prospectus usage, the likelihood that investors base investment decisions on advertisements is therefore high (AFM, 2015; DellaVigna and Gentzkow, 2009).

Finally, regulators devote substantial resources to effectively protect investors by supervising regulatory disclosure. Since advertisements play a non-negligible role in investor decision making (Focke, Ruenze and Ungeheur, 2016; Madsen and Niessner, 2016), we contribute to the development of effective capital market governance by deepening our understanding how investment decisions are affected by advertisements. Note that we do not assume that investors *use* all available information on fundamental characteristics to make an investment decision, but only that the *likelihood* increases if they are properly informed about such characteristics.

We continue this paper with a short overview of the literature and the development of our research hypotheses. Next, we discuss the design of our experiment and the data collection process. The fourth section presents our analyses while the fifth section presents our conclusions.

Related research

Advertisements are designed to attract attention and inform investors, but restrictions on advertising bandwidth limit the amount of information sellers can provide on their product (Mayzlin and Shin, 2011). Usage of affective material in advertisements such as imagery is a successful strategy to attract consumer attention and influence their moods (Cialdini, 2016). The mood of the decision maker is found to affect the demand for luxuries (Mandel, Petrova and Cialdini, 2006) cigarettes (Blanton, Snyder, Strauts and Larson, 2014) securities (Andrade *et al.,* 2016; Hirshleifer and Shumway, 2003) and contributes to the assimilation of information (Ackert *et al.,* 2003). This mechanism where non-informative stimuli affect an evaluation task is known as evaluative-conditioning and has received widespread support in the psychology and marketing literature (Sweldens, Van Osselaer and Janiszewski, 2010; Gibson, 2008; Mandel and Johnson, 2002; De Houwer, Thomas and Baeyens, 2001).

Both theoretical and empirical work (Bordalo, Gennaioli and Shleifer, 2016 and 2013; Sicherman *et al.,* 2015; Mullainathan, Schwartzstein and Shleifer, 2008; Bertrand *et al.,* 2010; Landry *et al.,* 2006) demonstrates that non-informative (persuasive) content can carry heavy weight in subsequent decisions despite traditional models assuming that such information should be ignored. Bertrand *et al*. (2010) find for example that inclusion of a picture of a visually attractive woman in loan advertisements increases demand by an amount equivalent to a 25 percent reduction in interest rates. Obviously, the picture is uninformative about the conditions of the loan, but nonetheless it has great effect on consumer decision making. Similarly, exhibit sensitivity to past return information (Sirri and Tufano, 1998), despite this being uninformative about future returns in semi-strong efficient markets. Since investors do not always search for additional information after reading an advertisement, investment decisions based on non-fundamental information might lead to inefficiently priced securities (Lucey and Dowling, 2005) and a suboptimal allocation of capital.

Combining these two streams of literature gives us the following predictions. If persuasive content positively affects the mood of a decision maker, than it both contributes to the information they acquire from the advertisement (Ackert *et al.,* 2003) as well as the positive evaluation of the offer (Bertrand *et al.,* 2010). Our first set of hypotheses is thus as follows:

Hypothesis 1: Affective imagery positively effects investor knowledge of the offer,

Hypothesis 2: Affective imagery has an ambiguous effect on risk perception,

Hypothesis 3: Affective imagery increases willingness to invest,

Hypothesis 4: Affective imagery increases amount invested,

Hypothesis 5: Affective imagery has an ambiguous effect on willingness to consult additional information.

Next, we posit that a reduction in the saliency of unfavorable product attributes also contributes to attract attention of and persuade investors. Shrouding information attributes (Gabaix and Laibson, 2006; Dyck and Zingales, 2003) can lead to ill-informed decisions because investors do not adequately incorporate all fundamental information into their decisions. Vaguely described or even omitted fundamental characteristics (Elliott *et al.,* 2015; Mullainathan *et al*., 2008) from marketing materials are likely to influence the appeal of the offering.

Regulators acknowledge this risk and try to increase the saliency of fundamental information by simplifying disclosure (Choi *et al.,* 2010). Attracting attention to fundamental characteristics by increasing its saliency is a low-cost strategy to correct product perceptions and increase likelihood that such information is incorporated in the ultimate decision. However, little is known about the effectiveness of this strategy in achieving investor protection. It is also unknown whether increasing investors' awareness about the presence of risks and fees alters

their search for additional information. Our second set of hypotheses is therefore formulated as follows:

Hypothesis 6: Salient risk disclosure increases investor knowledge of the offer,

Hypothesis 7: Salient risk disclosure increases risk perceptions,

Hypothesis 8: Salient risk disclosure decreases willingness to invest,

Hypothesis 9: Salient risk disclosure decreases amount invested,

Hypothesis 10: Salient risk disclosure has an ambiguous effect on the willingness to consult additional information.

Having defined our research hypotheses, we proceed with discussing the design of our experiment and the data collection process in the next section.

Study design and data collection

The empirical part of this study is based on a between-subjects survey-experiment. Respondents are randomly assigned to one of four versions of a three-page advertisements containing an equity offering by a Dutch real-estate fund.[5] We start by obtaining the original brochure from the offeror and anonymizing it to serve as the reference brochure in the experiment (see Figure 1a in the internet appendix). To test how persuasive content affects investors, we replace the (original) neutral image on the front page with an emotionally-laden image of a young happily-smiling couple (Figure 1b). Next, we create a version based on the 'shrouding' incentive, changing the disclosure of risk information from fine print (see Figure

[5] One question is whether the offering we consider is representative for the universe of investments available to retail investors or whether they are distributed to a (non-random) subset of investors. Note that this and similar offerings are advertised on popular investor websites and major (Dutch) financial newspapers which attract a broad and diverse finance-minded audience. Therefore we believe that marketing-related selection-effects are not the primary driver of our results.

1c) to a salient box-format (see Figure 1d). Finally, we create a brochure that combines both treatments. Note that all other information is kept equal across conditions.

During the experiment, we keep track of the time that respondents use to analyze the brochure before they start answering the accompanying questionnaire. Further, we disallow them to go back to the advertisement to prevent 'look-up' behavior.

The questionnaire is divided into four sets of questions (see the Appendix) which includes measures for the evaluation of the offer (Questions 3 to 6) and knowledge of fundamental characteristics such as risks, fiscal benefits, dividend frequency and costs (Questions 11 to 16). We extend the empirical analysis with variables for primary-market investment experience (Question 7), risk aversion (Question 1, 2a and 2b), and financial literacy (Question 8 to 10) and base the latter on Van Rooij *et al.* (2011) and Mitchell and Lusardi (2007).

The experiment itself is created in collaboration with the Dutch securities market regulatory (AFM) and administered online by a specialized marketing research bureau in May 2016. We use a heterogeneous panel of Dutch (non) investors with heterogeneous levels of investment experience. The panel is composed of individuals who previously contacted AFM, henceforth referred to as 'AFM-panel', participants who voluntary chose to enroll in the panel, and a sample obtained from a large panel run by the marketing research bureau. The latter group is more representative for the Dutch population. Except for respondents sourced from the marketing research bureau, study-participants receive no (monetary) compensation for participating in the study. However, the AFM-contact and voluntary enrolment-group do participate in a semi-annual lottery where they can win a lunch with AFM's CEO.

Due to the heterogeneous composition of our sample, motivations to participate in the study, awareness of regulatory duties and incentives to provide socially desirable answers are likely to differ across respondents. Therefore we include dummies for the respondent's origin

in all regressions. Furthermore, respondents might forget details about the proposition whilst filling out the evaluation-questions or filling out the knowledge-questions might affect their evaluation. To control for this effect, we randomly alter the order in which the evaluation- and knowledge-questions are presented. This results in half our sample first completing the knowledge-questions and the other half first completing the evaluation-questions.

Out of 1,643 distributed invitations, 811 individuals completed the entire survey corresponding to a response-rate of 49 percent. From these 811 respondents, 216 belong to the AFM-sample, 500 are from the external marketing research bureau and 95 voluntary enrolled in the panel.

Table 1 contains demographic characteristics and shows that the average respondent is male (81.9 percent), aged 60 or above (58.7 percent), highly risk averse (74.4 percent) and retired (42.9 percent). Respondents possess relatively high levels of financial literacy (47.0 percent answers all literacy-questions correct). Commensurate with the age of our sample, we find that the majority of the respondents is no longer taking care for home-living children (57.0 percent). Finally, average income in our sample exceeds the Dutch median income in more than half of the cases (58.1 percent), while respondents have on average 80,000 euro available for investments in financial assets. Although our sample is not representative for the Dutch population as a whole, the characteristics do match those of other studies on individual investors (see for example Kirsche, 2014). We therefore believe that this dataset is reasonably representative for the Dutch investor population.

< INSERT Table 1 ABOUT HERE>

Empirical Results

Investor knowledge

Our first analysis concerns the amount of knowledge that investors acquire from reading investment advertisements. Although knowledge of fundamental characteristics does not necessarily imply that investors actually *use* this when making a decision, the *likelihood* that they do likely increases if they are more knowledgeable. Obviously, investors have the opportunity to search for additional information after encountering advertisements in order to further familiarize themselves with an offering. Moreover, advertisements can even be deliberately vague to trigger such a search for additional information (Mayzlin and Shin, 2011). However, we defer this discussion until the next section where the evaluation of the offer is analyzed and focus here on the knowledge acquired absent information gathered from other sources.

< INSERT Table 2 ABOUT HERE >

Table 2 contains descriptive statistics on the knowledge question responses and is grouped by treatment. The variables are constructed as follows: (i) *Risks* is the amount of correctly identified risks ranging from 0 [none correct] to 5 [all correct]), (ii) *Fiscal benefits* is the amount of correctly identified benefits ranging from 0 [none correct] to 3 [all correct]) (iii) *Duration*, (iv) *Dividend frequency* and (v) *Annual costs* are measured as dummies equal to 1 if respondents identified the correct value, and (vi) *Deviation of return* is measured as the difference between the (expected) return and the return included in the advertisement.

Variations in responses are primarily concentrated in the subgroup that saw the neutrally-imaged advertisement (N-group). Individuals in the affective treatment group (A-group) score higher on average on correctly identifying duration (+18 percent), dividend frequency (+ 42 percent) and costs (+ 38 percent) relative to the group receiving the neutral-image brochure (N-group). This seems to support the hypothesis that positively induced moods

contribute to the assimilation of information (Ackert *et al.*, 2003). Similarly, we find that salient disclosure of risk factors (S-group) increases the amount of correctly identified risks by 58 percent relative to the non-salient group (NS-group), consistent with our saliency-hypothesis (hypothesis 6). However, salient risk-disclosure has no significant effect on other knowledge question responses. Finally, average analysis time increases when affective-imagery or salient risk disclosure are included in the advertisement, indicating that these features seem to increase the amount of attention devoted to the advertisement.

We perform regression analysis using the knowledge questions as our dependent variables and include income, wealth, education, employment status and household composition and indicators for risk aversion and financial literacy (Van Rooij *et al.*, 2011) as controls. As mentioned before, we also take the origin of the respondent into account and correct for 'don't know'-answer options by including dummy-variables. Since experimental data is used, variations in investor characteristics across treatment conditions is largely random, so we focus on the treatment-results and only report certain selected coefficients for other factors. We comment upon the unreported variables where appropriate.

< INSERT Table 3 ABOUT HERE >

The odds-ratios presented in Table 3 confirm that inclusion of affective-imagery in advertisements increases the likelihood that respondents correctly remember fundamental characteristics of the offering. The effect is marginally significant at the 10 percent level. The likelihood that respondents correctly identify the investment duration increases by 58 percent (computed as 1.393/[1+1.393]) in the presence of affective imagery, while effects are even larger for the dividend frequency (+ 59 percent) and annual cost (+ 61 percent) question. Similarly, we find that salient risk disclosure increases the likelihood that risk factors are

correctly identified by 70 percentage points which is both statistically and economically significant. Unsurprisingly, we find that respondents with higher financial literacy perform on average better on the knowledge-questions compared to their less literate counterparts by the likelihood that the knowledge questions are correctly answered by 63 percent on average. Similarly, we find that higher educated respondents are also more likely to correctly answer knowledge questions, although the correlation with financial literacy is low (r = 0.22). Performance on the knowledge-questionnaire decreases with age which might indicate that cognitive aging hampers respondents to effectively absorb investment characteristics similar to Korniotis and Kumar's (2011) findings for the application of investment knowledge by older investors. However the significance of the age-effect is varying across knowledge-questions. Finally, return deviations are 0.7 percent higher for male respondents indicating that they on average tend to overestimate advertised returns compared to female respondents (Barber and Odean, 2001).

Since responses on the knowledge questions can be affected through the ordering of the questionnaire, we show descriptive statistics on the ordering-effect in Table 4. Although question-ordering does not seem to be a major disturbance for the responses, we note that the correct answering of the tax-question is 22 percent higher when respondents first complete the knowledge questions (Panel A). We provide detailed analysis of the responses on evaluation questions (Panel B) in the next section, but note here that participants who first answer knowledge-questions have on average a lower willingness to invest (- 14 percent), are less inclined to consult other information (- 9 percent) and have lower risk perceptions (- 13 percent).

< INSERT Table 4 HERE >

We repeat the analysis of Table 3 by adding a dummy for the ordering-effect and investment experience in Table 5 to test robustness of the previous findings. *Question order* is a dummy equal to one if respondents first completed the evaluation questions and shows that the correct identification of fiscal benefits decreases by 41 percent while also the deviation between expected and advertised returns increases. This result can be interpreted as a decay in investor knowledge, although our main findings continue to hold with similar coefficient-sizes and significance. Investment experience does not seem to affect the performance on the knowledge questions or the effect of financial literacy.

Next, we investigate how performance on the knowledge-questions is driven by the time that respondents spent on reviewing the brochure. Panel B of Table 5 includes an additional variable *Analysis time* measured as the respondent's viewing-time in seconds. The regressions indicate that the more time respondents spend on reviewing the brochure, the better they perform on the knowledge questions. The effect of the treatments and financial literacy remains similar. Affective imagery increases the likelihood that the investment duration (+ 57 percent), dividend (+ 59 percent) and cost-question (+ 60 percent) are answered correctly, while salient risk disclosure increases the amount of correctly identified risk factors (+ 69 percent). Salient risk disclosure also *decreases* the chance that respondents correctly identify the annual costs associated with the investment which might indicate that salient risk disclosure diverts investor attention (Kahnemann, 1973) to risk factors and away from other fundamental information. Increasing the saliency of one fundamental characteristic might thus impede in investor knowledge if they simultaneously have to pay attention to multiple characteristics.

<INSERT Table 5 HERE>

In conclusion, we show that the design of investment advertisements does affect investor learning. However, knowledge of fundamentals such as risks and costs remains low after reading brochures. We also find that our treatments are mediated by the literacy level of the respondent and the time spent on reading the brochure. Taking these factors into account, affective-imagery increases knowledge of costs, dividend frequency and investment duration, while salient risk disclosure continues to increase knowledge of risk factors. Finally, we do not find that the ordering of the questionnaire or prior investment experience affects our results.

Evaluation of the proposition

In this section, we examine how advertisement design affects respondent's evaluation of the offer. Descriptive statistics across treatment conditions are presented in Table 6 and show that the group receiving the neutral-image brochure (N-group) has somewhat lower willingness to invest (- 3.5 percent), risk perception (- 2.8 percent) and willingness to search for other information (- 3.2 percent) compared to the group reading the affective-image brochure (A-group). Note that these differences are in line with hypothesis 2, 3 and 5, but that none of them is statistically significant. However, A-group respondents invest on average 1200 euro (+ 18.5 percent) more than N-group respondents, the difference being highly significant ($p = 0.01$) and consistent with hypothesis 4. Surprisingly, salient risk disclosure (S-group) *increases* the average amount invested to 7,449 euros which is higher than the non-salient group (NS-group) but opposite to what we hypothesized (see hypothesis 9). Salient risk disclosure also decreases the willingness to consult information by 6 percent compared to the NS-group.

< INSERT Table 6 ABOUT HERE>

Our multivariate analysis consists of five regressions that each use one of the evaluation-questions as dependent variable. Once again we include all covariates of Table 1 as control variables as well as dummies for respondent origin, question order and primary market investment experience.

< INSERT Table 7 ABOUT HERE>

Results for the image treatment (Table 7 Panel A) indicate that respondents invest on average 1,037 euros more if affective imagery is included in the brochure. These results are in line with the 'attractive woman'-finding in Bertrand *et al.* (2010) and support the hypothesis that affective stimuli positively affect product demand (Mandel *et al.,* 2006; Hirshleifer and Shumway, 2003). Note that we are cautious in interpreting this result as only a subset of respondents completed the amount invested-question. This reduces the sample size and the power of statistical tests. Moreover, the insignificance of affective-imagery on willingness to invest (hypothesis 4) is surprising given the amount invested effect. In unreported analysis, we constrain this analysis to the subsample for which both willingness and amounts are observed but no new insights emerge from this analysis.

Furthermore, we find that risk aversion decreases willingness to invest and consultation of other information, which is in line with common intuition that more risk-averse respondents are less likely to invest. Respondents in the highest literacy group are also 57 percent more likely to consult other information relative to less-literate individuals and willingness to invest and search for additional information are significantly higher if respondents first complete the evaluation-questions. This latter finding is in line with Stango and Zinman (2014) who document that consumers presented with a survey on overdraft fees *prior* to obtaining an overdraft are subsequently incurring significantly lower fees and more conservative in their

borrowing behavior. Finally, we document again that primary market investment experience has no effect on the evaluation of the offering.

When we turn our attention to the salient risk-disclosure treatment in Panel B of Table 7, we find that it decreases the willingness to consult other information by 60 percent, although the other measures remain unaffected. This result seems to be the counterfactual of Mayzlin and Shin's (2011) theory that uninformative advertisements act as an invitation to search for additional information. In this case, the *more informative* advertisements do *decrease* the need for respondents to consult other information. Moreover, note that the absence of an effect of salient risk disclosure on risk perceptions does not necessarily mean it does not affect investment decisions. Risk perceptions can be unchanged because all brochures contain the same risk factors, but the *weight* attached to the saliently disclosed risk factors might actually increase in subsequent decisions (Bordalo *et al.,* 2013) leading to different investment behavior. Unfortunately, we lack the data to rigorously test how these decision-weights vary as a result of variations in the saliency of risk disclosure. *Financial literacy* once again increases the consultation of additional information, while decreasing the amount invested by on average 983 euro. The ordering effect (*Question-order*) suggests that respondents perceive the offering more favorable if they first complete evaluation-questions and then the knowledge-questions.

Finally, we combine both treatments in Panel C of Table 7. Although our results stay similar as before, inspection of the control variables reveals that responses to the evaluation-questions are positively affected by the wealth-level and negatively affected by the age of the respondent. One surprising finding is that the size of the coefficients for low wealth-dummies is larger than for high-wealth respondents, suggesting that low-wealth respondents evaluate the offering more favorable.

We also conduct several robustness-tests on the affective-imagery effect. First, we add willingness-to-invest as an additional control variable to the amount invested model. Since willingness to invest likely precedes an investment decision, omission of this variable can introduce bias in the model. Although inclusion of willingness to invest does affect the amount invested, the magnitude of the effect remains similar although it is no longer significant at the 10 percent level. Furthermore, the imagery-effect does not seem to vary significantly if different functional model specifications are estimated (Table A.1 of the Internet Appendix).

Second, we correct for response selection in the amount invested-variable by estimating a two-stage Heckman model (Table A.2 of the Internet Appendix). Unfortunately, limitations in the dataset makes that the model in only identified from the non-linearity of the inverse Mills-ratio. Although this introduces noise in the estimates, the coefficients on the treatment-effects remain similar in sign and magnitude. Note that the answers on the willingness-to-invest and the amount invested questions are independent from each other, such that the design of our study strictly speaking prevents selection-effects from occurring. Respondents are unaware of the question-order and therefore unable to preselect based on anticipating the question. The Heckman-results confirm this reasoning as the inverse Mills-ratio is insignificant.

Finally, we abstain from including *Analysis-time* in Table 7 because it is endogenous to the dependent variables. Respondents who are more interested in the proposition are also likely to spend more time on reading the brochure, leading to reverse-causality and problematic inferences. An unreported robustness test where we add analysis time to the model yields similar results.

We conclude this section by noting that our results, although limited, are in line with our hypotheses and with prior studies (Bertrand *et al.*, 2010). Moreover, respondents who first complete the knowledge-questions are significantly less likely to invest in the offering and consult other information, which confirms earlier research by Stango and Zinman (2014). Non-

informative content increases the appeal of the proposition although our evidence is relatively weak. Stronger results are found for the effect of salient risk disclosure although this primarily decreases the willingness to consult other information. We can only speculate why we obtain this result, but it might be caused by respondents who lose interest in the proposition and hence have lower willingness to search for other information. Note that the length of the brochure (3-pages) and the relatively small sample size reduces statistical power. Because we use an actual brochure with relatively minor changes across conditions, the concern that our results are solely driven by experimental saliency is reduced (Loewenstein *et al.,* 2014).

Conclusion

We investigate how advertisements for investments assets affects investor knowledge about investment characteristics and their evaluation of a securities offering. Since investor attention is scarce and financial markets are competitive, attracting the attention of potential investors is challenging. Firms attract investor attention by saliently advertising (persuasive) product attributes (Bordalo *et al.* 2016; Mullainathan *et al.*, 2008), but these attributes tend to become overweighed in subsequent decision-making (Bordalo *et al.,* 2013). Complex regulatory disclosure is unpopular among retail investors and contributes to the likelihood that their investment decisions are to a significant extend based on information contained in marketing materials. Since advertisements do typically not contain all fundamental information, this creates a risk that investment decisions do no longer reflect all fundamental information.

Using a between-subjects experiment with manipulations of an actual investment advertisement, we document that persuasive content through inclusion of an affective image positively affects investor knowledge regarding fundamental characteristics of the offering such as dividend-frequency and annual costs. Increasing the saliency of risk disclosure on the

other hand, contributes to the amount of correctly identified risk factors. The time spent on reviewing the brochure and respondent's literacy level also have strong positive effects their performance on the knowledge questions, while prior investment experience is insignificant. Finally, inclusion of affective imagery also affects the evaluation of the offer by increasing the average amount invested by 16 percent. Other evaluation questions such as willingness to invest, consultation of other information and perceived risks remain unaffected. Salient risk disclosure strongly decreases the willingness to consult other information, which might reflect the fact that investors lose interest in the offering or feel to be sufficiently informed based on the advertisements.

Our results are in line with our hypothesis and Bertrand *et al.* (2010) and we find that persuasive content might contribute positively to investor's learning about fundamental investment attributes such risks, fees and expected returns (Ackert *et al.*, 2003). Future research could focus on determining the optimal balance between persuasive and informative content and whether increasing the saliency of fundamental information is beneficial to effectively inform investors. Although this is a low-cost strategy to make disclosure more effective, additional insights are needed to advance our understanding of investor behavior and the way they obtain and process multiple pieces of information from multiple sources.

Next, the amount of advertising space competes with the responsiveness of decision makers to the content included in the advertisement. Salient disclosure of fundamental information is ineffective if it results in advertisements becoming longer. An interesting question is how strong informative content is 'diluted' by persuasive content included in the advertisement while keeping advertising space fixed.

Finally, we acknowledge only having a partial measure for investor knowledge, since we cannot measure the knowledge that investors acquire from the consultation of other

disclosure such as the prospectus. This is a limitation to the setup of our study and an avenue for future research.

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*****Tables*****

Table 1: Descriptive Statistics on Demographics

This table contains sample descriptive statistics. All variables are reported as dummy-variables. Percentages might not end up due to rounding or because only a selection of answer categories is reported.

Most risk averse	74.4%	Retired	42.9%
Financial Experience	14.7%	Entrepreneur	9.2%
High financial knowledge	47.0%		
		Income < 26.5K	10.4%
Male	81.9%	Income 26.5K - 39.5K	19.7%
Age <45	7.9%	Income 39.5K - 78.5K	37.4%
Age 46-60	33.4%	Income 78.5K or above	20.7%
Age 61-75	52.5%	Income unknown	11.8%
Age 76 or above	6.2%		
		Wealth <10K	16.5%
Married with Children	20.3%	Wealth 10K-25K	9.9%
Married w/o Children	57.0%	Wealth 25K-50K	15.0%
Single with Children	2.1%	Wealth 50K-80K	8.3%
Single w/o Children	19.6%	Wealth 80K-150K	11.6%
		Wealth 150K or above	23.8%
Lower education	0.4%	Wealth Unknown	14.9%
Middle education	38.2%		
High education	61.4%		
Number of observations	811	Number of observations	811

Table 2: Descriptive Statistics and Investor Knowledge

This table presents descriptives statistics for knowledge-questions and analysis time accross testing conditions. P-values for t-tests between Neutral- and Affect-laden and Salient- and Non-salient risk disclosure groups are shown in the final column. T-test are conducted conditional on a variance ratio-test. The questionnaire is contained in the Appendix.

	Neutral (N)	**Affective image (A)**	**H1: N≠A**
Duration correct	0.22	0.26	**0.06**
Dividend distribution correct	0.12	0.17	**0.03**
Costs correct	0.16	0.22	**0.03**
Risks correct (min = 0, max = 5)	1.58	1.53	0.33
Fiscal advantages correct (min = 0, max= 3)	0.55	0.56	0.48
Analysis time (in seconds)	119.2	131.7	**0.06**
Number of observations	407	404	

	Non-salient (NS)	**Salient risk disclosure (S)**	**H1: S≠NS**
Duration correct	0.24	0.23	0.44
Dividend distribution correct	0.14	0.15	0.33
Costs correct	0.21	0.17	0.11
Risks correct (min = 0, max = 5)	1.20	1.90	**0.00**
Fiscal advantages correct (min = 0, max= 3)	0.53	0.58	0.22
Analysis time (in seconds)	119.8	131.1	**0.07**
Number of observations	406	405	

Table 3: Disclosure Design and Investor Literacy

This table presents odds-ratio estimates for (Ordered) Logit and OLS-regressions of performance on knowledge questions on treatment conditions in the brochures. *Risks* (Question 13) is measured on a 0 (none correct) to 5 (all correct) scale and estimated by Ordered Logit-model. *Duration* (Question 11), *Dividend frequency* (Question 14), *Fiscal benefits* (Question 15) and *Annual Costs* (Question 16) are measured by dummies and estimated by a Logit-model. *Deviation of returns* is measured as the difference between expected returns (Question 12) and disclosed returns and estimated by OLS. *Financial literacy* (Question 8-10) is a dummy equal to 1 if respondents answered all literacy questions correctly and zero otherwise. The questionnaire is contained in the Appendix. Robust t-statistics are reported in parentheses. ***, **, * indicates significance at the 1, 5 and 10 percent level respectively.

	Risks	Duration	Dividend frequency	Fiscal benefits	Annual costs	Deviation of return
Affective image	0.902	1.393*	1.463*	1.033	1.571**	0.892
	[-0.77]	[1.89]	[1.83]	[0.22]	[2.31]	[-0.75]
Salient risk disclosure	2.333***	0.927	1.033	1.026	0.747	1.048
	[6.18]	[-0.44]	[0.15]	[0.17]	[-1.52]	[0.32]
Financial literacy	1.769***	1.765***	1.090	1.609***	1.763**	1.063
	[3.77]	[2.96]	[0.36]	[2.93]	[2.54]	[0.37]
Controls (see table 1)	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	811	811	811	811	811	489
MacFadden Pseudo R2/Adjusted R2	0.05	0.07	0.05	0.04	0.10	0.07
Log Likelihood/F-statistic	-1148.4	-415.7	-316.3	-745.9	-354.7	-909.4

Table 4: Descriptive Statistics on Question Ordering

This table presents descriptive statistics for our evaluation and knowledge questions across the ordering condition. Respondents either first completed evaluation-questions followed by knowledge-questions (order 1) or vice versa (order 2). T-tests take the equality of variances into account. The questionnaire is contained in the Appendix.

	Order 1: (i) evaluation, (ii) knowledge				**Order 2: (i) knowledge, (ii) evaluation**				**t-test: H1: O1 ≠ O2**	
Panel A: knowledge-questions										
	Mean	Std. dev.	Min	Max	Mean	Std. dev.	Min	Max	p-value	N
# of risks correct	1.56	1.61	0	5	1.55	1.57	0	5	0.94	811
Duration correct	0.23	0.42	0	1	0.25	0.43	0	1	0.63	811
Dividend correct	0.13	0.34	0	1	0.15	0.36	0	1	0.43	811
Fiscal benefits correct	0.50	0.78	0	3	0.61	0.82	0	3	**0.06**	811
Costs correct	0.20	0.39	0	1	0.18	0.39	0	1	0.71	811
Panel B: evaluation-questions										
	Mean	Std. dev.	Min	Max	Mean	Std. dev.	Min	Max	p-value	N
Willingness to invest	3.03	1.77	1	7	2.61	1.66	1	6	**0.00**	811
Consult other information	4.98	2.34	1	7	4.54	2.39	1	7	**0.00**	811
Risk perception	2.34	1.64	0	7	2.05	1.70	0	7	**0.01**	811
Amount invested	7,203.3	4,707.1	1	25,000	7,514.4	5,083.4	1	25,000	0.57	316
Log(1+amount inv.)	8.0	2.40	0.69	10.12	8.0	2.50	0.69	10.12	0.83	316

Table 5: Analysis of Question Ordering and Analysis Time

This table presents odds-ratio estimates for knowledge-questions on treatment conditions and selected control variables. *Risks* (Question 13) is measured on a 0 (none correct) to 5 (all correct) scale and estimated in an Ordered Logit-model. *Duration* (Question 11), *Dividend frequency* (Question 14), *Fiscal benefits* (Question 15) and *Annual Costs* (Question 16) are measured by dummies and estimated in a Logit-model. *Deviation of returns* is measured as the difference between expected returns (Question 12) and disclosed returns and estimated by OLS. *Financial literacy* (Question 8-10) is a dummy equal to 1 if respondents answered all literacy questions correctly and zero otherwise. *Question-order* is a dummy equal to 1 if respondents' first complete investment-evaluation questions and zero otherwise. *Primary market experience* (Question 7) is a dummy equal to 1 if the respondent has recent experience with primary market investing and zero otherwise. Panel B includes *Analysis time* measured as the time in seconds that respondent spent on analyzing the advertisement. The questionnaire is contained in the Appendix. Robust t-statistics are reported in parentheses. ***, **, * indicates significance at the 1, 5 and 10 percent level respectively.

Panel A: excluding analysis time

	Risks	Duration	Dividend frequency	Fiscal benefits	Annual costs	Deviation of return
Affective image	0.908	1.403*	1.485*	1.067	1.558**	0.875
	[-0.72]	[1.93]	[1.89]	[0.43]	[2.25]	[-0.88]
Salient risk disclosure	2.344***	0.930	1.042	1.042	0.744	1.038
	[6.20]	[-0.42]	[0.19]	[0.28]	[-1.53]	[0.26]
Financial literacy	1.769***	1.764***	1.094	1.620***	1.766**	1.072
	[3.76]	[2.96]	[0.38]	[2.97]	[2.54]	[0.43]
Question-order	0.921	0.919	0.837	0.702**	1.101	1.291*
	[-0.60]	[-0.48]	[-0.84]	[-2.31]	[0.50]	[1.66]
Primary market experience	0.833	0.924	1.010	0.800	0.921	1.065
	[-0.89]	[-0.32]	[0.03]	[-0.98]	[-0.31]	[0.35]
Controls (see table 1)	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	811	811	811	811	811	489
MacFadden Pseudo R2/Adjusted R2	0.05	0.07	0.05	0.04	0.10	0.08
Log Likelihood/F-statistic	-1148.2	-415.5	-316.0	-743.1	-354.6	1.43

Panel B: including analysis-time

	Risks	Duration	Dividend frequency	Fiscal benefits	Annual costs	Deviation of return
Analysis time	2.301***	1.802***	1.833***	1.421***	3.067***	0.995
	[10.67]	[7.84]	[7.28]	[4.92]	[11.36]	[-0.07]
Affective image	0.824	1.329	1.412	1.040	1.505*	0.876
	[-1.39]	[1.54]	[1.58]	[0.26]	[1.76]	[-0.86]
Salient risk disclosure	2.322***	0.875	0.970	1.012	0.587**	1.038
	[6.00]	[-0.73]	[-0.14]	[0.08]	[-2.32]	[0.26]
Financial literacy	1.461**	1.510**	0.881	1.437**	1.369	1.073
	[2.42]	[2.08]	[-0.52]	[2.12]	[1.21]	[0.43]
Question-order	0.854	0.899	0.801	0.682**	1.112	1.292*
	[-1.10]	[-0.57]	[-0.99]	[-2.47]	[0.48]	[1.66]
Primary market experience	0.959	1.039	1.117	0.845	1.184	1.064
	[-0.21]	[0.14]	[0.36]	[-0.74]	[0.56]	[0.34]
Controls (see table 1)	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	811	811	811	811	811	489
MacFadden Pseudo R2/Adjusted R2	0.05	0.07	0.05	0.04	0.10	0.08
Log Likelihood/F-statistic	-1148.2	-415.5	-316.0	-743.1	-354.6	1.39

Table 6: Descriptive Statistics of Evaluation Questions

This table presents descriptives statistics for evaluation questions accross treatment conditions. P-values for t-tests between Neutral- and Affect-laden and Salient- and Non-salient risk disclosure groups are shown in the final column. T-test are conducted conditional on a variance ratio-test. The questionnaire is contained in the Appendix.

	Neutral (N)	**Affective image (A)**	**H1: N≠A**
Willingness to invest	2.77	2.87	0.21
Risk perception	2.16	2.22	0.28
Consult other information	4.68	4.83	0.18
Number of observations	407	404	
Amount invested (in euros)	6716.3	7965.8	**0.01**
Number of observations	157	159	
	Non-salient (NS)	**Salient risk disclosure (S)**	**H1: S≠NS**
Willingness to invest	2.81	2.83	0.42
Risk perception	2.13	2.25	0.17
Consult other information	4.90	4.61	**0.04**
Number of observations	406	405	
Amount invested (in euros)	7239.3	7449.6	0.35
Number of observations	157	159	

Table 7: Analysis of Evaluation Questions

This table presents estimates for regressions of the evaluation questions on affective imagery (Panel A), salient risk disclosure (Panel B) and the combined (Panel C) treatment. *Willingness to invest* (Question 3, Ordered Logit), *Consult other information* (Question 4, Ordered Logit]), *Risk perception* (Question 6, Ordered Logit]), *Amount invested* (Question 5a, OLS) and the natural log-transformation of *Amount invested* (OLS). Odds-ratios are reported for the (Ordered) Logit models. *Risk aversion* (Question 1-2) is a dummy equal to 1 respondent answers Question 1 and 2a with 'no' and zero otherwise. We correct for don't know answers/refuses to respond. *Financial literacy* (Question 8-10) is a dummy equal to 1 if respondents answered all literacy questions correctly and zero otherwise. *Question-order* is a dummy equal to 1 if respondents' first complete investment-evaluation questions and zero otherwise. *Primary market experience* (Question 7) is a dummy equal to 1 if the respondent has recent experience with primary market investing and zero otherwise. The questionnaire is contained in the Appendix. Robust t-statistics are reported in parentheses. ***, **, * indicates significance at the 1, 5 and 10 percent level respectively.

Panel A: affective imagery

	Willingness to invest	Consult other information	Risk perception	Amount invested	log(1+amount invested)
Affective image	1.012	0.998	0.995	1037.3*	0.485*
	[0.09]	[-0.01]	[-0.03]	[1.80]	[1.71]
Risk aversion	0.661***	0.634***	0.917	-778.8	-0.527*
	[-2.81]	[-3.21]	[-0.57]	[-1.40]	[-1.93]
Financial literacy	1.113	1.328*	0.833	-811.8	0.403
	[0.72]	[1.85]	[-1.13]	[-1.43]	[1.48]
Question-order	1.552***	1.400**	1.111	53.56	0.176
	[3.26]	[2.48]	[0.73]	[0.10]	[0.55]
Primary market experience	0.987	1.264	0.983	-587.3	-0.344
	[-0.06]	[1.13]	[-0.08]	[-0.72]	[-0.88]
Controls (see table 1)	Yes	Yes	Yes	Yes	Yes
Number of observations	811	811	811	316	316
MacFadden Pseudo R2/Adjusted R2	0.05	0.06	0.24	0.15	0.13
Log Likelihood/F-statistic	-1305.6	-1255.6	-1116.4	2.18	1.38

Panel B: salient risk disclosure

	Willingness to invest	Consult other information	Risk perception	Amount invested	log(1+amount invested)
Salient risk disclosure	0.988	0.671***	1.142	12.79	0.001
	[-0.09]	[-2.97]	[0.92]	[0.02]	[0.00]
Risk aversion	0.661***	0.623***	0.915	-848.4	-0.560**
	[-2.81]	[-3.31]	[-0.59]	[-1.53]	[-2.00]
Financial literacy	1.112	1.320*	0.839	-983.3*	0.322
	[0.71]	[1.81]	[-1.08]	[-1.73]	[1.24]
Question-order	1.555***	1.427***	1.107	72.75	0.186
	[3.31]	[2.64]	[0.71]	[0.13]	[0.57]
Primary market experience	0.987	1.288	0.986	-544.8	-0.324
	[-0.06]	[1.19]	[-0.07]	[-0.68]	[-0.84]
Controls (see table 1)	Yes	Yes	Yes	Yes	Yes
Number of observations	811	811	811	316	316
MacFadden Pseudo R2/Adjusted R2	0.05	0.07	0.24	0.14	0.12
Log Likelihood/F-statistic	-1305.6	-1251.0	-1116.0	2.03	1.42

Panel C: combined effects

	Willingness to invest	Consult other information	Risk perception	Amount invested	log(1+amount invested)
Affective image	1.012	0.997	0.993	1037.3*	0.485*
	[0.09]	[-0.02]	[-0.05]	[1.79]	[1.70]
Salient risk disclosure	0.988	0.671***	1.142	-3.350	-0.007
	[-0.09]	[-2.97]	[0.92]	[-0.01]	[-0.02]
Risk aversion	0.661***	0.623***	0.916	-779.1	-0.528*
	[-2.81]	[-3.30]	[-0.58]	[-1.40]	[-1.90]
Financial literacy	1.112	1.320*	0.838	-811.8	0.403
	[0.71]	[1.81]	[-1.08]	[-1.43]	[1.47]
Question-order	1.553***	1.428***	1.108	53.93	0.177
	[3.26]	[2.62]	[0.71]	[0.10]	[0.54]
Primary market experience	0.987	1.288	0.986	-587.0	-0.343
	[-0.06]	[1.19]	[-0.07]	[-0.73]	[-0.89]
Controls (see table 1)	Yes	Yes	Yes	Yes	Yes
Number of observations	811	811	811	316	316
MacFadden Pseudo R2/Adjusted R2	0.05	0.07	0.24	0.15	0.13
Log Likelihood/F-statistic	-1305.6	-1251.0	-1116.0	2.11	1.33

*****Appendix*****

Figure 1a: Brochure containing Neutral Image (N)

FONDS DUURZAME BEBOUWING
INVESTMENT BEHEER B.V.

FONDS DUURZAME BEBOUWING

Het Fonds Duurzame Bebouwing is een fiscaal groenfonds, waarbij wordt belegd in duurzame nieuwbouw huurwoningen in Nederland. Startdividend 4,7% (exclusief belastingkorting).

maximaal 1,9%** belastingkorting (jaarlijks)

+

gemiddeld 6,1%* dividend (verwacht)

Figure 1b: Brochure containing Affective Image (A)

Figure 1c: Brochure without Salient Risk Disclosure (NS)

FONDS DUURZAME BEBOUWING
INVESTMENT BEHEER B.V.

KENMERKEN

- Door de overheid aangewezen fiscaal groenfonds.
- Het Fonds Duurzame Bebouwing belegt in duurzame energiezuinige huurwoningen.
- Jaarlijks maximaal 1,9%** belastingkorting en bijdrage aan de CO_2 reductie.
- Fiscaal transparant. Er wordt geen dividendbelasting, inkomstenbelasting of vennootschapsbelasting ingehouden.

Het algemeen verkrijgbare prospectus en de brochure vindt u op onze website. Of gebruik de antwoordkaart, zodat wij u de informatie kunnen toezenden.

Investment Beheer B.V.
Investment Beheer B.V. treedt op als beheerder van het Fonds Duurzame Bebouwing. De beheerder beschikt over een door de AFM verleende vergunning en valt onder het toezicht van de AFM. Er zijn kosten verbonden aan het beleggen in het Fonds Duurzame Bebouwing, deze kosten bedragen 1,0 % van het geïnvesteerde vermogen op jaarbasis.

Dit is een reclame-uiting van Investment Beheer B.V. Op deze reclame-uiting is slechts het Nederlandse recht van toepassing. Potentiële beleggers kunnen generlei recht aan deze reclame-uiting ontlenen. Slechts de inhoud van het prospectus en (evenutele) bijbehorende supplementen is bindend. Het prospectus is goedgekeurd door de AFM. Het betreft geen aanbod van enig financieel instrument of een uitnodiging tot het doen van een aanbod tot koop of tot het nemen van enig financieel instrument. De afbeeldingen van de woningen hebben slechts een indicatieve waarde. Beleggen in het Fond Duurzame Bebouwing brengt zoals bij elke belegging in vastgoed risico's met zich mee: Exploitatierisico, Marktrisico, Politieke risico's, Financieringsrisico en Ontwikkelrisico. Genoemde risico's kunnen leiden tot een lager dan verwacht rendement. Meer informatie over de risico's vindt u in het prospectus.

* De waarde van uw belegging kan fluctueren. In het verleden behaalde resultaten bieden geen garantie voor de toekomst. Het gemiddelde dividend is berekend over de prognose looptijd van het Fonds. Het startdividend is 4,7%.

** Het totale voordeel voor de Nederlandse particuliere belegger bedraagt jaarlijks maximaal 1,9% over zijn groene beleggingen. Wanneer een particuliere belegger groene beleggingen heeft die de vrijstellingsbedragen overstijgen, dan wordt geen voordeel ontvangen over het meerdere. Alleen particuliere beleggers waarbij (i) de groene vrijstelling al (deels) is gebruikt, (ii) de belegging wordt gerekend tot het ondernemersvermogen, (iii) waarbij sprake is van een aanmerkelijk belang of (iv) waarbij het resultaat van de belegging in het Groenwoningen Fonds valt onder "resultaat uit overige werkzaamheden" profiteren niet (geheel). De peildatum van de belastingdienst is 1 januari van het jaar van aangifte.

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Figure 1d: Brochure with Salient Risk Disclosure (S)

FONDS DUURZAME BEBOUWING
INVESTMENT BEHEER B.V.

KENMERKEN

- Door de overheid aangewezen fiscaal groenfonds.
- Het Fonds Duurzame Bebouwing belegt in duurzame energiezuinige huurwoningen.
- Jaarlijks maximaal 1,9%** belastingkorting en bijdrage aan de CO_2 reductie.
- Fiscaal transparant. Er wordt geen dividendbelasting, inkomstenbelasting of vennootschapsbelasting ingehouden.

Het algemeen verkrijgbare prospectus en de brochure vindt u op onze website. Of gebruik de antwoordkaart, zodat wij u de informatie kunnen toezenden.

Risico's

Beleggen in het Fonds Duurzame Bebouwing brengt zoals bij elke belegging in vastgoed risico's met zich mee:

Exploitatierisico	Hoger dan verwachte kosten of leegstand.
Marktrisico	Denk hierbij aan een tegenvallende ontwikkeling van de huizenprijzen.
Politieke risico's	**De fiscale behandeling van groene beleggingen kan in de toekomst wijzigen.**
Financieringsrisico	Omdat het fonds gebruik maakt van bancaire financiering zullen negatieve ontwikkelingen versterkt doorwerken in de resultaten van het fonds. Daarnaast kan de rente meer stijgen dan is geprognosticeerd.
Ontwikkelrisico	Vertraging bij de bouw of tegenvallende verhuurresultaten.

Bovenstaande risico's kunnen leiden tot een lager dan verwacht rendement. Meer informatie over de risico's vindt u in het prospectus.

Investment Beheer B.V.

Investment Beheer B.V. treedt op als beheerder van het Fonds Duurzame Bebouwing. De beheerder beschikt over een door de AFM verleende vergunning en valt onder het toezicht van de AFM. Er zijn kosten verbonden aan het beleggen in het Fonds Duurzame Bebouwing, deze kosten bedragen 1,0 % van het geïnvesteerde vermogen op jaarbasis.

Dit is een reclame-uiting van Investment Beheer B.V. Op deze reclame-uiting is slechts het Nederlandse recht van toepassing. Potentiële beleggers kunnen generlei recht aan deze reclame-uiting ontlenen. Slechts de inhoud van het prospectus en (evenutele) bijbehorende supplementen is bindend. Het prospectus is goedgekeurd door de AFM. Het betreft geen aanbod van enig financieel instrument of een uitnodiging tot het doen van een aanbod tot koop of tot het nemen van enig financieel instrument. De afbeeldingen van de woningen hebben slechts een indicatieve waarde.

* De waarde van uw belegging kan fluctueren. In het verleden behaalde resultaten bieden geen garantie voor de toekomst. Het gemiddelde dividend is berekend over de prognose looptijd van het Fonds. Het startdividend is 4,7%.

** Het totale voordeel voor de Nederlandse particuliere belegger bedraagt jaarlijks maximaal 1,9% over zijn groene beleggingen. Wanneer een particuliere belegger groene beleggingen heeft die de vrijstellingsbedragen overstijgen, dan wordt geen voordeel ontvangen over het meerdere. Alleen particuliere beleggers waarbij (i) de groene vrijstelling al (deels) is gebruikt, (ii) de belegging wordt gerekend tot het ondernemersvermogen, (iii) waarbij sprake is van een aanmerkelijk belang of (iv) waarbij het resultaat van de belegging in het Groenwoningen Fonds valt onder "resultaat uit overige werkzaamheden" profiteren niet (geheel). De peildatum van de belastingdienst is 1 januari van het jaar van aangifte.

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Questionnaire

(1) Risk aversion

Question 1 (*Risk aversion*)
Imagine that you are the sole earner of the family that provides income. You have a good job that you can provide your family always with sufficient income. A new equivalent job is offered to you. However there is a **50% probability** that the income from the new job:
Doubles your current (family) income, or, your (family) income is reduced by **a third**.
Would you accept this new job?
Answer: 1) Yes; 2) No; 3) I don't know; 4) I reject to answer;

Question 2a (when answered question 1 = Yes)
Imagine that you are the sole earner of the family that provides income. You have a good job that you can provide your family always with sufficient income. A new equivalent job is offered to you. However there is a **50% probability** that the income from the new job:
Doubles your current (family) income, or, Your (family) income is reduced **by half**.
Would you accept this new job?
Answer: 1) Yes; 2) No; 3) I don't know; 4) I reject to answer;

Question 2b (when answered question 1 ≠ Yes)
Imagine that you are the sole earner of the family that provides income. You have a good job that you can provide your family always with sufficient income. A new equivalent job is offered to you. However there is a **50% probability** that the income from the new job:
Doubles your current (family) income, or, Your (family) income is reduced **by one fifth**.
Would you accept this new job?
Answer: 1) Yes; 2) No; 3) I don't know; 4) I reject to answer;

(2) Evaluation questions

Question 3 (*Willingness to invest*)
Would you consider investing in this fund?
Answer: 7-point scale: 1: certainly not – 7: certainly

Question 4 (*Consult other information*)
Would you still consult other sources of information before you decide to invest in this fund?
Answer: 7-point scale: 1: certainly not – 7: certainly

Question 5a if Question 3 >3 (*Amount invested*)
Suppose you have € 25,000 capital available to invest. How much would you invest in this fund?
Answer: amount between 0-25.000 euros

Question 5b if Question 3 <=3)
Why are you considering not to invest in this fund?
Answer: Open question

Question 6 (*Risk perception*)
Suppose you do invest it in the fund, how certain are you that the returns from the ad are actually achieved?
Answer: 7-point scale: 1: completely uncertain – 7: completely certain

Question 7 (*Primary market experience*)
This question is about the primary investment market. The investment market where financial products such as bonds, shares or participations are purchased directly from the company that issues these products as first is called the primary market. Think of bonds or shares of real estate funds, shares of an unlisted company or a share issue of a company to be listed on Euronext Amsterdam. So these bonds, shares or participations have not previously been owned by another investor, instead they are issued for the first time by the company and are directly purchased by investors.

Have you ever bought financial products such as bonds, stocks, shares, etc. from the company that they were first issued from in the past five years?
Answer:
1. Yes, I have financial product (s) purchased directly from the company that issued it.
2. No, I have no financial product (s) purchased directly from the company that issued it, but have it in mind.
3. No, I have never bought financial products directly from the company that issued it.
4. I do not know.

(3) Financial literacy (correct answers indicated in bold)

Question 8
What will happen to bond prices if interest rates fall?
Answer:
1. The prices of the bonds will fall.
2. The prices of the bonds will rise.
3. The prices of bonds will remain the same.
4. There is no relationship between bond prices and interest rates.
5. I do not know.

Question 9
Suppose you have € 100 in a savings account. The interest rate is 2 % per year. How many euros are in the savings account after three years? (Assume that you leave the money in the savings account during those three years).
Answer:
1. More than 102 euros

2. Exactly 102 euros
3. Less than 102 euros
4. I do not know

Question 10
Suppose you have € 100 in a savings account. The interest rate is 20 % per year. How many euros are in the savings account after five years? (Assume that you leave all the money during those five years in the savings account).
Answer:
1. More than 200 euros
2. Exactly 200 euros
3. Less than 200 euros
4. I do not know

(4) Knowledge questions (correct answers indicated in bold)

Question 11 (*Duration*)
What is the duration of the investment in this fund?
Answer: Number of years **[4 years]**

Question 12 (*Return*)
What is the return that was shown in the ad for this fund?
Answer: Percentage (rounded to one decimal place) **[6.1 percent]** or I do not know

Question 13 (*Risks*)
Which five risks are described in the brochure for this investment?
Answer:
1. Operational Risk
2. Market risk
3. Political risks
4. Financial Risk
5. Development Risk
6. Business Risk
7. Currency Risk
8. Exchange Rate Risk
9. Valuation Risk
10. Interest rate risk.

Question 14 (*Dividend frequency*)
How often does this fund distribute dividend?
Answer: 1. Annually 2. Half-yearly **3. Quarterly** 4. Monthly 5. I do not know

Question 15 (*Fiscal benefits*)
What type of fiscal benefits might you receive if you invest in this fund?
Answer:
1. Dividend tax
2. Income tax (Box 1)
3. Corporate income tax
4. Energy tax
5. Property tax (Box 3)
6. Transfer Tax
7. All fiscal benefits might be applicable.

Question 16 (*Annual costs*)
How high are the annual costs associated with this investment?
Answer: Percentage (rounded to one decimal place) **[1.0 percent]** or I do not know.

*****Robustness-analyses*****

Table A.1: Robustness Analysis of Amount Invested

This table presents regression estimates of amounts invested on the treatment conditions including willingness to invest as an additional control variable. *Amount invested* is measured in euros and *log(1+Amount invested)* is the natural log form and estimated by OLS. *Amount invested (truncated)* is estimated by a truncated regression model. All control variables of table 1 are included. Robust t-statistics are reported in parentheses. ***, **, * indicates significance at the 1, 5 and 10-percent level respectively.

	Amount invested		log(1+Amount invested)		Amount invested (truncated)	
Willingness to invest	2041.8***	2070.8***	0.866***	0.878***	2866.0***	2920.1***
	[5.88]	[5.88]	[6.12]	[6.11]	[6.29]	[6.35]
Affective image	837.6		0.368		1218.4	
	[1.54]		[1.40]		[1.59]	
Salient risk disclosure		134.0		0.041		173.1
		[0.26]		[0.15]		[0.23]
Controls (see table 1)	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	316	316	316	316	316	316
Adjusted R-squared	0.181	0.174	0.150	0.144	-	-
F-statistic/Wald Chi2	3.498	3.434	2.004	1.992	79.60	77.27

Table A.2: Two-stage Heckman Regression on Amount Invested

This table presents coefficient estimates for amounts invested on the treatment conditions. *Amount invested* is measured in euros and *log(1+Amount invested)* is the natural log form and estimated by a two-step Heckman-regression to account for respondent selection. Model identification is derived from non-linearity in the inverse Mills-ratio. ***, **, * indicates significance at the 1, 5 and 10 percent level.

	Amount invested	log(1+amount invested)
Affective image	1025.5	0.456
	[1.32]	[0.54]
Salient risk disclosure	-32.93	-0.044
	[-0.04]	[-0.05]
Inverse Mills-ratio	-11082.8	-11.97
	[-0.67]	[-0.67]
Control variables (see table 1)	Yes	Yes
Number of observations	811	811
Wald-Chi2	15.76	3.55