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Delegated Investment Decisions and Rankings*

Michael Kirchler, Florian Lindner, and Utz Weitzel†

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Abstract

Two aspects of social context are central to the finance industry. First, financial professionals usually make investment decisions on behalf of third parties. Second, social competition, in the form of performance rankings, is pervasive. Therefore, we investigate professionals' risk-taking behavior under social competition when investing for others. We run online and lab-in-the-field experiments with 805 financial professionals and show that professionals increase their risk taking for others when they lag behind. Additional survey evidence from 1,349 respondents reveals that professionals' preferences for high rankings are significantly stronger than those of the general population.

JEL: G02, G11, D03, C93

Keywords: Experimental finance, social competition, rankings, financial professionals, delegated decision making.

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There is a long-standing debate whether and how payment schemes with bonus or tournament components drive excessive risk taking in developed financial markets (Jensen and Meckling, 1976; Rajan, 2006; Diamond and Rajan, 2009; Bebchuk and Spamann, 2010; Kleinlercher et al., 2014). However, it is not just these incentives' monetary aspect that influence risk taking. It can also be fueled by a second component: non-monetary social competition or rank incentives that promise utility to those at the top of the ranking and disutility to those at the bottom (Barankay, 2015).[1] Recently, Kirchler et al. (2018) have shown that finance professionals care for high rank in investment decisions among peers. The authors report that the display of a non-incentivized ranking triggers increased risk taking among underperformers when they take investment decisions on behalf of themselves.[2] However, while professionals in the study of Kirchler et al. (2018) invest solely for themselves, a major part of finance professionals take decisions on behalf of third parties— for example in the role of financial adviser and investment manager (Gennaioli et al., 2015; Andersson et al., 2016).[3]

Recent empirical studies highlight the relevance of investigating professionals' behavior when taking decisions for customers. Foerster et al. (2017) and Linnainmaa et al. (2019) show that financial advisers typically invest personally just as they advise their clients. This indicates that advisers' individual preferences and attitudes play a crucial role for the final composition of customers' portfolios. Empirical studies also highlight the relevance of rank preferences for professionals. Brown et al. (1996) and Elton et al. (2003) report that fund managers are influenced by peer performance, as mid-year losers increase fund volatility compared to mid-year winners. Taken together, this suggests that not only mutual fund customers but also other clients are vulnerable to professionals' rank preferences when they invest on behalf of others. Causal inference is difficult, however, as both rank incentives and monetary incentives play a role in delegated decision making simultaneously.

In experiments, causal inference in situations of delegated decision making is more straightforward. Several experimental studies with students and general population samples report a

[1] There is a growing experimental literature documenting that rank incentives, on average, increase individuals' effort and performance in labor markets and educational settings (Azmat and Iriberri, 2010; Blanes-i-Vidal and Nossol, 2011; Tran and Zeckhauser, 2012; Bandiera et al., 2013; Delfgaauw et al., 2013; Gill et al., 2018); although rank incentives can also promote unethical behavior (Charness et al., 2014). See also Veblen (1899) and Festinger (1954) for two classic papers and Roussanov (2010) for one application in finance.

[2] The authors also show that the rank effect is robust to the experimental frame (investment frame versus abstract frame), to the underlying incentives (non-incentivized ranking versus tournament incentives), to social identity priming (private identity versus professional identity), and to professionals' gender (no gender differences among professionals).

[3] In 2017, for example, over 215,000 professionals were employed in the financial advice industry in the US, indicating the importance and prominence of delegated decision making, both on behalf of and together with others (https://www.ibisworld.com/industry-trends/market-research-reports/finance-insurance/securities-commodity-contracts-other-financial-investments-related-activities/financial-planning-advice.html).

"risky shift", indicating that decision makers take more risks or show less loss-averse behavior for others than for themselves (e.g., Sutter, 2009; Chakravarty et al., 2011; Andersson et al., 2016). A substantial number of studies also find a "cautious shift", showing that decision makers take less risk when the money of third parties is invested (e.g., Bolton and Ockenfels, 2010; Eriksen and Kvaloy, 2010). Although these experiments offer first causal evidence on determinants in delegated decision making, they lack external validity for the world of financial professionals, because of subject pools that are limited to students and samples of the general population. Moreover, these studies are mute on the role of rankings in delegated decision making.

Taken together, it is surprising that no causal evidence exists whether professionals' rank-driven behavior affects their investment decisions on behalf of customers. Following the literature outlined above, the answer is far from clear. On the one hand, professionals may be very competitive and care a lot about rankings, due to, for example, career concerns. Consequently, they may increase risk taking when lagging behind, as shown in Kirchler et al. (2018), no matter whether they invest on behalf of themselves or on behalf of others. On the other hand, professionals may feel responsible for customers and/or have strong social preferences. Here they may suppress their competitiveness and social status concerns, in line with evidence on the "cautious shift", and thus react less strongly to rankings when they invest on behalf of others compared to investments for themselves.

In this paper we therefore investigate experimentally the impact of rank incentives on financial professionals' risk-taking behavior when they take investment decisions for third parties. Our study builds on the online experiment in Kirchler et al. (2018) and extends it with treatments focusing on professionals who invest for real clients. The main result and contribution is that, when investing for clients, professionals' reveal a rank-driven behavior that is not very different from their rank driven behavior when they invest for themselves.

Specifically, we conducted an online experiment with 805 financial professionals from the United States, and an offline experiment as a robustness check with 160 professionals (outlined in the online appendix). In addition, we administered an online survey to 1,349 respondents from the general population, the finance industry, and other competitive professions in order to identify differences in competitive attitudes. We recruited financial professionals who are directly or indirectly involved in investment decisions for others or in the planning and advice of decisions by others. This includes, for example, fund managers as well as financial advisors, but also analysts or risk managers. Some participants may be more directly involved in investment decisions that affect others, either by taking the decisions for others (fund manager) or by advising others (financial advisor and planner), others may affect decisions for third parties more indirectly, by, for example, influencing the decision of an advisor or fund manager (e.g., an analyst). Throughout the paper we refer to all participants from the financial industry as "professionals". We would like to emphasize that we have to differentiate between the role a professional has in the experiment and the role the participants have as their job description.

As indicated above, in real life participants may differ in the degree with which they are involved in investment decisions that affect others. In the experiment, however, all professionals take on the role of an investment manager, who directly invests money of and for third parties. By exposing a broader set of professionals to a clearly defined and controlled investment task we are able to analyze fundamental behavioral aspects of professionals deciding on behalf of third parties without restricting our study to a very narrow sub-field of the finance industry.

In our main experiment the baseline investment task was a modified version of Kuziemko et al. (2014), which was first used as online experiment in Kirchler et al. (2018). We extended this task with treatments focusing on professionals investing for real clients. In the baseline treatment, the computer randomly assigned each professional a rank in the distribution of initial wealth in US dollars {54.0, 49.5, 45.0, 40.5, 36.0, 31.5} in a group of six. Subsequently, professionals had to choose between a risk-free alternative and a risky asset for themselves. The ranking itself was not relevant for the monetary payout. In three additional treatments, we kept everything identical to the baseline, except that we let professionals invest for customers, which we recruited separately. The customers used their own money to participate in the experiment. The payoff of the customers depended solely on professionals' investment decisions and performance. This also applied to the downside, which the clients agreed to cover personally, in written consent, should the allocated professional incur losses. With this novel experimental construction we set up three treatments, (i) we varied the visibility of the customer (Bordalo et al., 2013) during the investment task (low versus high customer salience), and (ii) we varied professionals' monetary incentives (either incentives that are linear/aligned with the customers' incentives or flat/non-aligned incentives).

We show that rankings drive professionals' behavior on behalf of their customers. In particular, we find that professionals who are lagging in the ranking increase their risk-taking in comparison to their peers. Importantly, we show that this rank-driven behavior is not different from professionals' behavior when they are investing for themselves (with the same, linear incentive structure). Even when customers are made more salient, the rank-driven behavior of professionals remains intact. This finding is remarkable, because in our setting the participant with the worst rank should be the least likely to increase risk.[4] Moreover, we find some tentative evidence that rank-driven behavior when investing for others gets weaker when professionals are exposed to flat and hence non-aligned incentives. We also report that professionals' perceptions of customers' risk attitudes do not influence their investment behavior. Professionals' behavior is mainly driven by their own risk attitudes and their level of loss aversion when making decisions for others.

Our results complement the findings from Kirchler et al. (2018) by showing that rank-driven

[4]Participants in the lab usually exhibit diminishing absolute risk aversion and risk taking increases at initial wealth levels (see, among others, Levy, 1994; Holt and Laury, 2002). Hence, our design takes a conservative position, because the observed rank-driven behavior works against a possible increase of risk taking in wealth (Kuziemko et al., 2014).

risk-taking behavior of financial professionals extends to investment decisions on behalf of others. This finding raises the question to what extent professionals differ in their rank-driven behavior from other groups, such as their customers. If customers are equally rank driven, it is possible that they enjoy monetary and non-monetary benefits from the fact that their chosen private banker or financial advisor tries to outperform his or her peers. Therefore, in a final, exploratory step, we investigated whether professionals differ in their preferences for relative performance and competition from a representative sample of the general population (as a proxy for a wide variety of bank customers) and from other competitive professions. Specifically, we administered an online survey to another sample of 125 financial professionals, a representative sample of 1,000 respondents from the general population, as well as 120 professional athletes and 104 academics (1,349 respondents in total). The results show that financial professionals stand out in the survey, as their self-reported preference for relative performance is more pronounced compared to the general population and to academics, coming close to the high level of professional athletes. Financial professionals also differ from the general population in other aspects, for example, in higher status concerns and risk attitudes.

Our paper contributes to two emerging areas in the literature. First, we contribute to the expanding literature on delegated decision making for third parties in financial frameworks. Similar to Foerster et al. (2017) and Linnainmaa et al. (2019) we find that professionals investing on behalf of third parties, invest personally just as they do for their clients. As mentioned earlier, the experimental studies exploring drivers of risk taking in delegated investment decisions with student or general population samples offer a wide range of approaches and show rather mixed results, indicating both a risky and a cautious shift.[5] Our work contributes to this field with three innovations: (i) we study financial professionals in their role of investment managers, who (ii) invest real money from clients, and who (iii) are exposed to competition for rank. Finally, Kirchler et al. (2018), who mainly focus on investment decisions for oneself, also administered one side treatment (with only 48 subjects) where professionals invested jointly for themselves and for a family member (endowed with windfall money). The authors find a marginally significant rank effect. Our paper provides a much deeper analysis by recruiting third parties that are real clients (instead of family members), who invest their own money (instead of windfall money), under different regimes of professionals' incentives (linear vs flat), and with different levels of third party salience (low vs high).

Second, we contribute to the small but growing corpus analyzing the behavior of financial professionals. Across studies, one major result is that professionals' behavior can substantially differ from standard (student) subjects' and representative general population samples'. For instance, compared to student subjects, professionals exhibit a higher degree of myopic loss aversion (Haigh and List, 2005), are less prone to anchoring (Kaustia et al., 2008), can better

[5]See Füllbrunn and Luhan (2015) and Eriksen et al. (2017) for excellent overviews of the designs, results, and implications of associated studies.

discern the quality of public signals in information cascades (Alevy et al., 2007), and are responsible for less frequent and less severe bubbles in lab asset markets (Weitzel et al., 2020). However, professionals apparently also show herd behavior similar to student subjects' (Cipriani and Guarino, 2009), are similarly prone to framing effects in investment decisions (Schwaiger et al., 2020), and apply behavior in line with prospect theory (Abdellaoui et al., 2013). We contribute by learning more about the behavior of professionals as agents for their customers, which is central to modern economies.

1 Experiment OPM – Professionals Investing for Clients

1.1 Setup of the Experiment OPM

In this online experiment, we divided each session into two parts. Subjects played an investment game in the first and major part and participated in additional tasks and survey questions eliciting loss aversion, attitudes towards risk, and personal characteristics in the second part.

For the first part of the experiment—the investment game—we designed a modified version of Kuziemko et al. (2014). Our baseline treatment OWN was identical to Treatment $\text{TRANK}^{\text{FIN}}$ of the online experiment in Kirchler et al. (2018).[6] Below, we outline details on Treatment OWN first and add differences in the three treatments, in which professionals invest real third parties' money.

In each group of six, the computer randomly assigned each player a rank in the distribution of initial wealth in US dollars {54.0, 49.5, 45.0, 40.5, 36.0, 31.5}. The ranking itself was not relevant for the payout. All of this was common knowledge. Professionals decided between two alternatives: they either selected \$2.25 euros with 100% probability or a lottery paying out \$9 with 75% probability or \$–18 with 25% probability. After each period, all random draws were independently and separately drawn for each player, and the league table with the final wealth of this period was displayed. The final wealth was computed by adding \$2.25 to the initial wealth, in case the safe option was chosen, and by either adding \$9 or subtracting \$18 if the lottery was chosen. For the next period, the professionals were randomly selected into another group of six and re-randomized to the same {54.0, ..., 31.5} distribution of initial wealth levels. Each online session consisted of three independent periods. The final wealth of one randomly selected period (including the loss aversion task, which ran as additional control task after the investment experiment) was paid out with 20% probability. One important feature of this design was that the safe payment always equaled half the difference between ranks (\$2.25) and, therefore, ceteris paribus, did not improve one's position. The positive lottery outcome equaled the difference of two ranks above the decision maker (\$9), and the negative lottery outcome, the difference of four ranks below her (\$–18). Note that the final wealth was always above zero and that both

[6] We recruited 51 additional professionals from the same professional subject pool for Treatment OWN (N=202 in total). Importantly, there was only little time delay of a few weeks between both recruitment waves.

alternatives (safe and lottery) had the same expected value, assuming risk neutrality. According to the literature, participants in the lab have been shown to exhibit diminishing absolute risk aversion, and risk taking is believed to increase with initial wealth levels (see, among others, Levy, 1994; Holt and Laury, 2002). This means that, purely based on wealth levels, the player with the worst rank (rank 6) would be the least likely to choose the lottery (Kuziemko et al., 2014). Hence, our design adopted a conservative position, because rank-driven behavior would have to work against a possible increase of risk taking in wealth.

In all treatments of Experiment OPM, we first made subjects' professional identity salient before the investment task, according to the protocol of Cohn et al. (2014, 2017) and Kirchler et al. (2018).[7] Second, we let them play against other professionals and displayed depersonalized information on their job function, years of experience in the finance industry, and what professionals considered the most important personality characteristic for an employee in the finance industry. This information was extracted from the initial priming questions and displayed alongside each subject's rank and initial (final) wealth on the decision (results) screen, thereby making the professional identity of the other players in the group salient.[8]

Treatment SAL_LO (salience low) was identical to the baseline treatment, except that professionals invested for real customers with linear (and thus aligned) incentives and low customer salience on the computer interface. In all treatments with customers, we raised real funds from third parties amounting to the distribution of initial wealth in US dollars {54.0, 49.5, 45.0, 40.5, 36.0, 31.5}. In each period, professionals decided whether to invest their clients' portfolio wealth either in the risky lottery or to take the fixed payment. Importantly, professionals' incentives were aligned so they received the same payout as their customers (although their initial level of wealth was a windfall gain, which diverged from customers' incentives, as they brought money in). With this design choice, we aimed to approximate professionals' real-world decision making. In our design, professionals knew that negative returns because of their investment decisions represented real monetary losses for customers.

We recruited customers with the following characteristics: male, 30-50 years of age, academic degree, and no financial troubles. All customers received instructions for the experiment and signed a declaration of consent. This information was given to the professionals as well. We did not forward any other customer information to the professionals to allow sufficiently large free-

[7] We asked the following seven priming questions in each treatment: "At which financial institution are you presently employed?"; "What is your function at this financial institution?"; "For how many years have you been working in the financial sector? (Please enter full years; can be in different organizations and/or functions)"; "Why did you decide to become an employee in the financial sector? Please describe your answer in two to three sentences."; "What are, in your opinion, the three major advantages of your occupation as an employee in the financial sector?"; "Which three characteristics of your personality do you think are typical for an employee in the financial sector?"; "What are the three most important things you learned in your occupation as an employee in the financial sector?".

[8] Like Cohn et al. (2014), we collected data on the other players in a pilot group ex ante and imported the data into both treatments. Only the characteristics of the pilot group were shown to others (anonymized) after their explicit consent.

dom of choice among the professionals. The salience of the assigned customer was low, meaning that we mentioned the customer in the general instructions in two paragraphs, but only once at the beginning of the experiment and without any reminders on subsequent decision screens. Compared to the baseline treatment, we added the following information: "*Your decisions in the following rounds also affect the payout of a client, whom we randomly assigned to you and who will receive a payout according to your decisions. The client is not part of the group of the five other experimental participants with whom you will play the game on the next screens, but another person whom we approached separately. The client is a male, between 30 and 50 years old, holds a university degree, is in no financial trouble, and knows the rules of this game. (That is, the client has read the instructions and agreed to them by signing a declaration of consent). The client does not receive the initial wealth from us, but pays it out of his own pocket. At the end of all the rounds, we will randomly draw one round and then pay the client his new wealth (the initial wealth plus the outcome of your choice). At the end of this experiment, you can indicate whether you want to receive depersonalized information about the amount earned by everyone in this research project (including the clients).*" This information was displayed on a separate page to increase awareness about the existence of the customer, and professionals had to click a button to proceed. With this treatment, we could investigate whether making investment decisions for third parties changed investment behavior compared to making decisions for oneself like in Treatment OWN.[9]

Treatment SAL_HI (salience high) was identical to Treatment SAL_LO, except that we increased customer salience by adding the following reminder above the decision entry field on the decision screen: "*Keep in mind that your decision below also affects the payoff of the client, whom we matched with you. The client does <u>not</u> receive the initial wealth of $54 from us, but pays it out of his <u>own pocket</u>.*"[10] This strategy allowed us to identify whether increasing customers' salience (Bordalo et al., 2013) substantially moderated rank-driven behavior compared to Treatment SAL_LO. Following this line of the literature, decision makers could potentially weight more heavily certain decision attributes that influenced their behavior in favor of these salient attributes. According to this logic, professionals' behavior could be less focused on relative performance and competition with an explicit level of customers' salience.

Finally, Treatment FLAT was identical to Treatment SAL_HI, except that incentives were no longer linear and aligned with the customers' performance. Here, professionals received a fixed payment of $45 from the experiment, irrespective of performance. With this treatment, we tested whether flat and non-aligned incentives moderated rank-driven behavior (Eriksen and Kvaloy, 2010; Andersson et al., 2013, 2016). Table A1 in the online appendix outlines the details of all the treatments used in this paper.

[9] See the online appendix A3 and A6 for instructions regarding all the experiments of this paper.

[10] $54 are mentioned for illustrative purposes. Of course, the five other initial endowments were mentioned conditional on the initial rank.

In the second part of the experiment, we ran additional tasks and asked our survey questions. We measured risk attitudes (on a Likert scale from 1 to 7) with two survey questions from the German Socio-Economic Panel (SOEP) inquiring about subjects' general willingness to take risks and their willingness to take risks in financial matters (SOEP; Dohmen et al., 2011). Professionals answered the questions: (1) "*How do you see yourself: Are you willing to take risks or try to avoid risks?*" (2) "*People can behave differently in different situations. How would you rate your willingness to take risks in the following areas: ... in financial matters?*" The answers were provided on a Likert scale from 1 (not at all willing to take risks) to 7 (very willing to take risks). In addition, we measured professionals' perceived risk attitudes of third parties on a 7- point Likert scale by slightly adapting the first SOEP question from above. In particular, we asked the following question: "*How do you see the client: Is he generally a person who is fully prepared to take risks or does he try to avoid taking risks? (The client is a male, between 30 and 50 years old, holds a university degree, and is in no financial trouble).*" In the second task, we measured loss aversion using the procedure of Gächter et al. (2007), which was also applied in Kirchler et al. (2018).[11]

In addition, we administered a survey and measured participants' attitudes toward social comparison with three questions on social status, financial success, and relative performance, taken from Cohn et al. (2014, 2017). Moreover, we added the five-item competition subscale of the Work and Family Orientation (WOFO) questionnaire of Helmreich and Spence (1978) to measure professionals' willingness to compete.[12] Questions on demographics concluded the experiment.

For Experiment OPM, we recruited 805 professionals from the US in collaboration with an internationally operating market research agency. In particular, we only recruited professionals who regularly engage directly or indirectly in investment decisions in their professional life.[13] Out of the entire sample, 45.5% were men, and the average age was 41.9 years, with 12.8 years of working experience in the finance industry. We consciously recruited a similar number of male and female professionals to potentially address questions about gender differences among financial professionals. Moreover, we randomly allocated subjects into treatments, thereby ensuring

[11]Subjects earned $18 for participating in the experiment, which covered their potential maximum loss in the loss aversion task. In particular, professionals had to decide whether to play the lottery. If they decided to play the lottery, participants either received, with equal probability, $15 or incurred a loss of X, which varied from $3 to $18 in increments of $3. If participants decided not to play a specific lottery, they received a payout of zero. At the end of the experiment, one lottery and its associated decisions were paid out with 20% probability with the payout of the investment experiment.

[12]The five questions, answered on 5-point Likert scales, were: "*I enjoy working in situations involving competition with others*"; "*It is important to me to perform better than others on a task*"; "*I feel that winning is important in both work and games"; "It annoys me when other people perform better than I do*"; and "*I try harder when I'm in competition with other people.*"

[13]Only professionals who worked in at least one of the following positions in real life were allowed to participate in our experiment: asset liability management, acquisitions, client advisor, fund management, fund placement, investment advisor, investment banking, portfolio management, private equity/banking, risk management, sales, trading/brokerage, treasury, wealth management, customer support, compliance, relationship manager.

randomization of gender and job functions across treatments.[14]

In total, professionals received an average payout of \$12.50 for both parts of Experiment OPM for an average duration of 10 minutes, which is equal to an average hourly salary of \$75.[15] For those professionals who were paid out, the average payout was \$62.90, ensuring salient incentives for professionals. Therefore, we considered our monetary incentives to be substantial and were confident that they induced sincere behavior. Customers allocated, in total, \$25,789.50 to 604 professionals, who invested the funds across all OPM treatments (i.e., excluding the baseline treatment OWN where professionals invested for themselves). After the experiment, customers received \$27,121.50. Hence, professionals generated a total dollar return of \$1,332 for all customers, which amounted to an average dollar return of \$41.63 per customer (minimum \$–36 and maximum \$126).[16] The payout was administered via PayPal to the professionals and via bank transfer to the customers. Moreover, all professionals received an anonymous summary of all payouts to the clients by e-mail after all data for this experiment was collected. This was announced ex ante and it was done for transparency reasons. As we recruited customers that were never directly in touch with their agents, we considered this an important issue in further improving the credibility of our study among the participating professionals.

1.2 Results of Experiment OPM

In Figure 1, we present a first overview of professionals' choices for the risk lottery as a function of initial rank across treatments. In Table 1, we show probit estimations of professionals' likelihood to invest in the lottery ($RISK$) conditional on rank. In addition to variable $UNDERPERFORM$, indicating professionals at below-average ranks 4 to 6, and variable $RANK$, showing subject i's rank according to initial wealth, we include controls for professionals' self-assessed risk attitudes in financial matters ($RISKFIN$), professionals' beliefs about customers' willingness to take risks ($RISKCUST$), professionals' loss attitudes ($LOSSTOL$: normalized from 0 to 1; higher values indicate lower loss aversion and thus higher loss tolerance), AGE, gender ($FEMALE$), and professionals' willingness to enter competitions and to compete ($COMPETE$, measured with the five-item competition subscale of the Work and Family Ori-

[14] Randomization checks (available on request) confirm this.

[15] This is comparable to other studies with financial professionals. For instance, Haigh and List (2005) reported in footnote 6 that their average traders' payment for a 25-minute task was \$40, which translated to an hourly payout of \$96.

[16] We allowed customers to allocate money to more than one professional. In particular, each customer could select between 1 and 20 randomly allocated professionals to invest for him/her independently by simply indicating the number on the declaration of consent and by providing the associated amount to invest. In total, we recruited 32 customers according to the above mentioned characteristics and they selected, on average, 18.87 professionals to invest for them (604 professionals in total). This was done for two reasons: first, like in reality customers can spread their money also across different professionals (for instance, customers select different mutual funds and/or split their wealth across different wealth managers without professionals' knowledge (e.g., pensions funds, private investment advisers, etc.)); second, operationally it was easier to recruit a sufficient number of customers by allowing them to invest more money.

entation (WOFO) questionnaire). Moreover, the interaction terms (e.g., $RANK$*SAL_LO) measure treatment differences in the rank-effect w.r.t. variable $RANK$ (column ALL). Here, OWN serves as the reference category for the rank-effect and is captured with variable $RANK$.

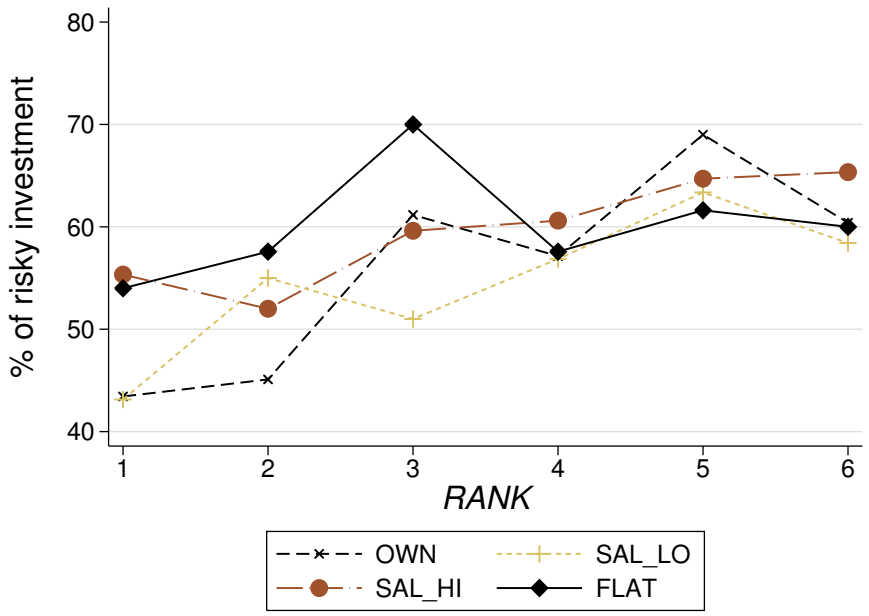

Figure 1: **Ranks and Risk-Taking across Treatments in Experiment OPM**

This figure shows the fraction of choices for investments in the risk lottery ($RISK$) conditional on professionals' rank at the beginning of a period, separated by treatments. $RANK$ indicates the position in a ranking at the beginning of a period, with higher numbers pointing at lower initial wealth levels. In Treatment OWN, professionals invest for themselves and face linear incentives. In treatments SAL_LO and SAL_HI, professionals invest for real customers with linear (aligned) incentives and low or high customer salience, respectively. In Treatment FLAT, customer salience is also high, but professionals earn a fixed payment.

We find clear and significant evidence for rank-driven behavior when professionals invest for themselves. In particular, variables $UNDERPERFORM$ and $RANK$ are significantly positive at the 1% level in Treatment OWN (columns (1) and (5)).[17] This is in line with the results in Kirchler et al. (2018), demonstrating that underperforming professionals increase their risk taking markedly compared to their high-ranked peers. Once professionals invest for customers and still face linear incentives in treatments SAL_LO and SAL_HI, rank-driven behavior remains relatively strong as underperformers also increase their risk taking significantly compared to high-ranked peers (columns (2), (6) and (3), (7), respectively). Note that, in SAL_HI, both the effect size and the statistical significance of the coefficients $UNDERPERFORM$ and $RANK$ are slightly weaker than in SAL_LO. However, only the introduction of flat incen-

[17]Throughout the paper we do not report statistically significant results at the 10% level to reduce the likelihood of false positive results.

tives for professionals moderates rank-driven behavior in Treatment FLAT, rendering variables $UNDERPERFORM$ and $RANK$ insignificant (columns (4) and (8)). This is further supported by the significant interaction term $RANK$*FLAT (see column (13) ALL). Hence, rank-driven behavior is significantly reduced with flat incentives compared to professionals investing on behalf of their own (Treatment OWN). Importantly, rank-driven behavior in Treatment FLAT is indifferent to the equivalent treatment with linear incentives, i.e., Treatment SAL_HI (Wald coefficient test of the corresponding interaction terms in column ALL; p=0.296). This indicates only weak and tentative evidence that rank-driven behavior when investing for others gets reduced when professionals are exposed to flat incentives.[18]

Focusing on the control variables of professionals' risk taking, we find that professionals' beliefs about customers' willingness to take risks ($RISKCUST$) do not explain risk taking. The most significant control variable explaining risk taking in the investment game is professionals' self-assessed risk attitude in financial matters. Here, $RISKFIN$ exhibits positive effect sizes in all treatments, significant coefficients in two treatments and on aggregate (column (13) ALL of Table 1).[19] Taken together, this finding is in line with the empirical observations of Foerster et al. (2017). They report results from Canadian households and financial advisers and show that advisor fixed effects explain considerably more variation in household portfolio risk than a broad set of investor attributes, including risk attitudes, age, investment horizon, and financial sophistication. Our finding is also in line with Linnainmaa et al. (2019) who report from a large sample of Canadian financial advisors and their clients. The authors show that most advisors invest their personal portfolios just like they advise their clients. In particular, they trade too much, chase returns, prefer expensive, actively managed funds, and underdiversify.

Loss tolerance ($LOSSTOL$) also explains risk taking in the investment game, but to a smaller degree, with significant coefficients only for Treatment FLAT and on aggregate. All other variables, including age, gender, and professionals' willingness to compete, do not systematically explain professionals' risk taking in the investment game.[20]

In addition, we only find a significant risky shift when deciding on behalf of a third party in Treatment FLAT compared to deciding on one's own behalf in Treatment OWN (column (13) ALL). For the comparison of Treatment FLAT with treatments SAL_LO and SAL_HI, we run Wald coefficient tests. We find significant higher risk taking in Treatment FLAT than in SAL_LO (pairwise Wald coefficient test of the coefficients in column ALL; p=0.041 for FLAT vs SAL_LO and p=0.296 for FLAT vs SAL_HI). We also show in a joint analysis, testing for differences across all three treatments, insignificant results (Wald coefficient test for equality of

[18]Because of no observations for Treatment OWN we dropped variable $RISKCUST$ in analysis ALL. This variable is insignificant in all other treatments and hence we do not lose explanatory power by dropping it.

[19]The coefficients of $RISKFIN$ for treatments SAL_LO and SAL_HI are insignificant on a 5%-level. However, both coefficients are relatively close to the 5%-level with z-values of 1.92 and 1.41, respectively.

[20]Note that participants' attitudes toward social comparison using the three questions from Cohn et al. (2014, 2017) also do not explain risk taking.

all three treatments; p=0.124). Following previous studies by Füllbrunn and Luhan (2017), we thus conjecture that potentially risk aversion and loss aversion decrease because of less emotional engagement when investing other peoples' money and when incentives are not aligned (compared to deciding on one's own behalf). However, note that we only report a mild effect.

Importantly, variable $FEMALE$ mainly exhibits insignificant coefficients in Table 1, indicating that gender differences play no role. We consciously recruited about 50% female professionals in each treatment, letting us investigate gender differences in detail. In Table A2 in the online appendix, we add $RANK * FEM$ as an additional explanatory variable. This variable is an interaction term of $RANK$ and the female dummy, measuring women's rank-driven behavior compared to men's (measured with $RANK$). We find no significant coefficients, implying that the rank-driven behavior of female professionals is indistinguishable from male professionals', as already outlined by Kirchler et al. (2018).[21]

In addition, we investigate whether there is a difference in behavior between professionals who are in direct contact with customers and those that are not. In particular, we run the regression of Table 1 (column (13) ALL) only with those professionals with direct customer contact (i.e., compliance, client advisor, customer support, fund placement, investment advisor, investment banking, private equity/banking, relationship manager, sales) in one specification and with those professionals without direct customer contact in another specification. As outlined in columns 3 and 4 of Table A3 in the online appendix, we find that coefficients are very similar across both sub-pools of professionals with slightly lowered significance levels due to lowered sample sizes. Thus, we infer that the effects observed in our study are a general finding, applying to professionals with and without direct customer contact in their daily job. In addition, we added fixed effects for each job function as outlined in column 2 of Table A3 in the online appendix. We show that results do not change when adding job function fixed effects, indicating that job functions do not necessarily drive our main result.

[21]Moreover, we ran the regressions of Table 1 with the subsample of female professionals and found very similar results overall with respect to the full sample. Results can be provided upon request.

Table 1: **Ranks and Risk Taking in Experiment OPM**

This table shows probit regressions of professionals choosing the risky lottery (*RISK*), conditional on rank. *UNDERPERFORM* is a binary dummy variable marking professionals at below-average ranks 4 to 6. *RANK* indicates subject *i*'s rank at the beginning of a period according to initial wealth. *RISKFIN* is the self-reported willingness to take risks in financial matters (7-point Likert scale; taken from the GSOEP), *RISKCUST* is professionals' belief about the customer's willingness to take risks (7-point Likert scale; adapted from the GSOEP), and *LOSSTOL* measures loss attitudes (from 0 to 1: higher values indicate lower loss aversion and, thus, higher loss tolerance). *COMPETE* is the five-item competition subscale of the Work and Family Orientation (WOFO) questionnaire and *AGE* and *FEMALE* indicate professionals' age and gender, respectively. In Treatment OWN, professionals invested for themselves and faced linear incentives. In treatments SAL_LO and SAL_HI, professionals invested money of customers with linear (aligned) incentives and low or high customer salience, respectively. In Treatment FLAT, customer salience was high, but professionals received a fixed payment. The interaction terms (e.g., *RANK**SAL_LO) measure treatment differences in the rank-effect w.r.t. *RANK* (column ALL). Here, OWN serves as the reference category and is captured with *RANK*. Clustered standard errors on a subject level are given in parentheses. ** and * represent significance at the 1% and 5% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
RISK	OWN	SAL_LO	SAL_HI	FLAT	OWN	SAL_LO	SAL_HI	FLAT	OWN	SAL_LO	SAL_HI	FLAT	ALL
UNDERPERFORM	0.311**	0.250*	0.204*	-0.021									
	(0.101)	(0.100)	(0.103)	(0.098)									
RANK					0.111**	0.078**	0.066*	0.022	0.114**	0.077**	0.067*	0.025	0.113**
					(0.028)	(0.030)	(0.029)	(0.028)	(0.029)	(0.030)	(0.029)	(0.029)	(0.028)
RISKFIN									0.157**	0.086	0.068	0.146**	0.111**
									(0.046)	(0.045)	(0.048)	(0.052)	(0.023)
RISKCUST										0.004	-0.046	0.044	
										(0.046)	(0.052)	(0.053)	
LOSSTOL									0.061	0.100	0.271	0.663*	0.263*
									(0.230)	(0.245)	(0.249)	(0.261)	(0.123)
COMPETE									-0.038	-0.021	-0.030	0.087	-0.016
									(0.085)	(0.087)	(0.079)	(0.085)	(0.042)
AGE									0.006	0.002	0.003	0.002	0.003
									(0.006)	(0.006)	(0.006)	(0.006)	(0.003)
FEMALE									0.196	0.100	-0.011	0.251	0.114
									(0.135)	(0.137)	(0.127)	(0.139)	(0.067)
*RANK**SAL_LO													-0.036
													(0.041)
*RANK**SAL_HI													-0.046
													(0.041)
*RANK**FLAT													-0.089*
													(0.040)
SAL_LO													0.096
													(0.163)
SAL_HI													0.260
													(0.164)
FLAT													0.433**
													(0.161)
α	-0.000	-0.008	0.143	0.267**	-0.234*	-0.156	0.015	0.180	-1.165*	-0.654	-0.208	-1.493**	-0.974**
	(0.078)	(0.078)	(0.079)	(0.078)	(0.112)	(0.118)	(0.117)	(0.114)	(0.463)	(0.508)	(0.434)	(0.470)	(0.244)
N	603	606	609	597	603	606	609	597	603	606	609	597	2415
N Cluster	201	202	203	199	201	202	203	199	201	202	203	199	805
Chi^2	9.570	6.196	3.931	0.045	16.011	6.922	5.101	0.612	28.717	11.058	9.861	26.677	66.212

As a robustness check for Experiment OPM we recruited another 160 financial professionals and administered a second experiment, OPMLAB, with a mobile laboratory in the field (see online appendix A2 for details on the design and results). This experiment is a modified setting of the lab-in-the-field investment experiment in Kirchler et al. (2018) with the focus on professionals' decision making for real customers. The results from the lab-in-the-field experiment OPMLAB corroborate our findings from the online experiment OPM by showing that rank-driven behavior is activated once professionals' incentives are no longer flat. Here, underperforming professionals increase their risk taking when investing customers' funds compared to their outperforming peers. Again, we also find a null result in the treatment with professionals' flat incentives, providing tentative evidence that rank-driven behavior could be moderated when incentives are flat.

2 Online Survey Evidence for Preferences Regarding Relative Performance, Competitiveness, and Risk

Our results in this paper so far and the findings in Kirchler et al. (2018) reveal that the rank-driven behavior of financial professionals is robust across various settings, including investment decisions for others. This raises the question to what extent financial professionals differ in their rank-driven behavior compared to other groups, such as their customers. If customers are equally rank driven as professionals, it is possible that customers not only enjoy the monetary, but also the non-monetary benefits from their investment manager's (or private banker's), outperforming their peers. Hence, if customers benefit from the higher ranking, the rank-driven behavior of professionals could be in the interests of customers, as it directly translates into non-monetary customer benefits. If, however, preferences for relative performance are stronger for professionals than the average customer, then any increased risk-taking due to social competition among peers is at least partly violating customer interests. Given the performance-oriented business culture in the financial industry and the possibility that very competitive individuals self-select into this sector and are shaped by it, financial professionals might differ from other groups in their preferences for relative performance, competitiveness, and risk.

To shed more light on the role that professionals' individual characteristics might play, we administered an online survey to financial professionals, a representative general population sample, and individuals from other competitive professions like professional sports and academia (the survey questions are outlined in the online appendix A5). In particular, we asked survey questions measuring risk attitudes according to the German SOEP (Dohmen et al., 2011) and attitudes toward social status, financial success, and relative performance like in Cohn et al. (2014, 2017).[22] In addition, we asked for preferences regarding social status and relative per-

[22] Q1 (*SOCIAL_STATUS*): "*How important is it for you what others think about you?*"; Q2 (*FINANCIAL_SUCCESS*): "*Social status is primarily defined by financial success.*" Q3 (*RELA-*

formance in specific domains (job, hobbies, family, friends) and how self-perceived attitudes towards social status and relative performance developed during childhood and adolescence.[23]

Finally, alongside general demographic questions such as age, gender, income, profession, and hierarchy level, we added the five-item competition subscale of the Work and Family Orientation (WOFO) questionnaire of Helmreich and Spence (1978), as in Experiment OPM. The WOFO subscale, which is a widely used psychometric measure of individuals' competitiveness, serves as a robustness check for the single-item question on relative performance (see online appendix A5 for the exact wording of the survey). In further analyses, we have rescaled the WOFO score to a 7-point Likert scale to make it comparable with other variables.

In total, we recruited 1,000 respondents from two general population samples, 120 professional athletes from individual and team sports, 104 academics (from PhD candidates to full professors), and 125 financial professionals that share the same characteristics as the professionals in our experiment. For the professional athletes, the major selection criterion was that sports had to be their major or sole income source. All of the athletes in this sample competed regularly on an international level. Notably, all the non-financial professional samples were selected from the same countries as the sample of financial professionals in Experiment OPMLAB and the survey.

Figure 2 outlines the most relevant results. In addition, Table 2 adds pairwise Mann-Whitney U-tests, to which we refer in all the comparisons that follow.[24] For our main variable, *RELATIVE_PERFORMANCE*, we find a clear pattern. Being the best is the most important for professional athletes, followed by financial professionals, and then—with a clear margin—by academics and respondents from the general population. These results are supported by the aggregate outcome of the *COMPETITIVENESS_INDEX* (five-item WOFO competitiveness subscale), showing the same ordinal ranking across subject pools regarding the importance of being competitive and winning in competitions (in our data, the internal reliability of the WOFO subscale is high with a Cronbach's α of 0.839). Moreover, relative performance is significantly more important on the job than in any other area of life. This pattern holds for all subject pools, but is particularly pronounced for financial professionals and athletes. The general question on relative performance and the job domain are the only domains where financial professionals have significantly stronger concerns for relative performance than both academics and the general population. Interestingly, differences across subject pools are less pronounced regarding

TIVE_PERFORMANCE): "*How important is it for you to be the best at what you do?*" Answers to all questions were given on a 7-point Likert scale ranging from 1 (not important) to 7 (very important).

[23]Survey participants had to self-report their attitudes at ages 4-10, 11-18, and 19-25. The wording was as follows (e.g., for 19-25): "*Think about your time as a young adult from age 19 to 25. How important was it for you what others thought about you?*" We readily acknowledge that the answers to questions about earlier periods should be treated with great care, because looking back can deliver consistency—or elicit hindsight-biased responses.

[24]Importantly, when we mention distinctions between groups, we only refer to statistically significant differences, as reported in Table 2.

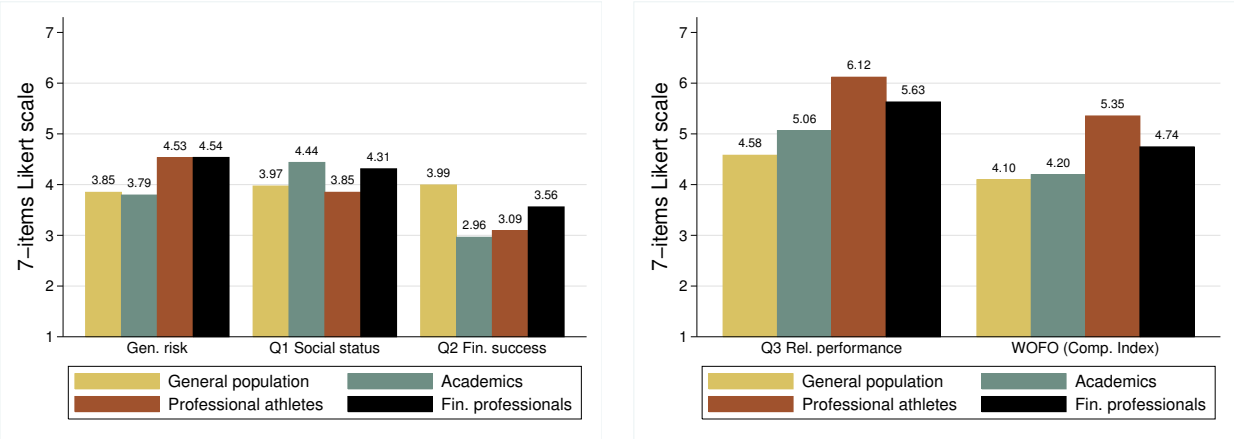

Figure 2: **Online Survey: Evidence of Preferences for Risk, Social Status, Financial Success, Relative Performance, and Competitiveness for Different Subject Pools**

This figure shows the average survey responses of samples of the general population (N=1000), academics (N=104), professional athletes (N=120), and financial professionals (N=125) for general risk taking (*GENERAL_RISK*, the self-reported willingness to take risks from the GSOEP (scaled to a 7-point Likert)), *SOCIAL_STATUS*, *FINANCIAL_SUCCESS*, and *RELATIVE_PERFORMANCE* (representing the answers to corresponding survey questions on a 7-point Likert scale taken from Cohn et al. (2014, 2017), with higher values indicating stronger preferences). The WOFO (*COMPETITIVENESS_INDEX*) is the aggregate outcome of the five-item WOFO test on competitiveness (scaled to a 7-point Likert).

social status. Here, financial professionals share the top position with academics. Financial success is considered important by financial professionals and the general population. The role of financial success is considered significantly less important by professional athletes and academics. Particularly financial professionals and professional athletes stand out in their general level of risk taking and show significantly higher values compared to all other subject pools.

We also compared financial professionals with the sub-sample of the general population with an annual gross household income of $\$60,000$ to $\$79,999$ or higher—i.e., households with an income at or above the median household income of $63,179 in 2018 (according to the U.S. Census Bureau statistics).[25] Our sub-sample therefore includes the richer part of the population, which may be more likely to use the services of financial professionals. In line with the results above, we find that financial professionals have significantly higher values than respondents from richer households for all variables shown in Figure 2: general risk ($p = 0.002$), social status (p=0.022), financial success (p=0.000), relative performance (p=0.000), and competitiveness (p=0.004).[26]

[25]This variable was optional and 467 of the 1000 survey respondents self-reported their income (at the time of the survey). All analyses are available upon request.

[26]Another robustness check with respondents with an above median annual *personal* income (gross) provides similar results, albeit with marginal significance of *SOCIAL_STATUS* (p=0.054).

Table 2: **Online Survey: Univariate Analysis of Preferences for Relative Performance, Status, Financial Success, and Risk Attitudes for Different Subject Pools**

This table shows a univariate analysis of samples of the general population (N=1000), academics (N=104), professional athletes (N=120), and financial professionals (N=125) for the following variables: *SOCIAL_STATUS*, *FINANCIAL_SUCCESS*, and *RELATIVE_PERFORMANCE* represent the answers to corresponding survey questions on a 7-point Likert scale (higher values indicate stronger preferences). For all three questions, the preferences were also elicited for different areas such as one's job, hobbies, family, and friends. *GENERAL_RISK* is the self-reported willingness to take risks (11-point Likert scale from 0 to 10; higher values indicate stronger preferences). *COMPETITIVENESS_INDEX* is the aggregate outcome of the five-item WOFO test on competitiveness by Helmreich and Spence (1978) (five-point Likert scales; higher values indicate stronger preferences). In addition, ** and * represent significance at the 1% and 5% levels of double-sided Mann-Whitney U-tests, respectively. Headers of pairwise tests involving financial professionals are written in **bold**.

	Subject pools				MW U-tests (|Z-values|)					
Variable	GEN POP	ACA-DEMICS	PROF ATHL	FIN PROF	GEN vs ACAD	GEN vs ATHL	**GEN vs FIN**	ACAD vs ATHL	**ACAD vs FIN**	**ATHL vs FIN**
SOCIAL_STATUS	3.97	4.44	3.85	4.31	2.315*	0.882	2.021*	2.712**	0.548	2.431*
SOCIAL_STATUS_JOB	4.84	5.13	4.66	5.34	0.944	1.640	2.618**	2.070*	1.107	3.603**
SOCIAL_STATUS_HOBBIES	3.73	3.41	2.91	3.06	1.727	4.823**	4.067**	1.846	1.345	0.519
SOCIAL_STATUS_FAMILY	4.72	4.80	4.59	4.73	0.069	0.712	0.242	0.594	0.277	0.370
SOCIAL_STATUS_FRIENDS	4.74	4.51	4.37	4.62	1.745	2.573*	1.484	0.590	0.492	1.155
FINANCIAL_SUCCESS	3.99	2.96	3.09	3.56	4.793**	5.455**	2.767**	0.828	2.667**	2.296*
RELATIVE_PERFORMANCE	4.58	5.06	6.12	5.63	2.713**	10.443**	7.427**	5.493**	2.846**	3.816**
RELATIVE_PERFORMANCE_JOB	5.01	5.46	6.51	5.98	2.688**	11.311**	7.285**	6.143**	2.643**	4.717**
RELATIVE_PERFORMANCE_HOBBIES	4.15	3.90	4.23	3.86	1.119	0.219	1.744	1.208	0.106	1.717
RELATIVE_PERFORMANCE_FAMILY	4.51	3.91	3.74	4.53	2.528*	3.998**	0.892	0.608	2.101*	3.069**
RELATIVE_PERFORMANCE_FRIENDS	4.45	3.78	4.01	4.46	3.185**	3.022**	0.012	0.892	2.694**	2.428*
GENERAL_RISK	6.05	5.96	7.12	7.13	0.342	4.613**	4.815**	3.281**	3.330**	0.085
COMPETITIVENESS_INDEX	2.93	3.00	3.82	3.39	0.876	10.685**	6.137**	6.582**	3.158**	4.973**
N	1,000	104	120	125						
Percentage *FEMALE*	49.90	19.23	17.50	12.80						

These survey results point out that financial professionals share similar preferences in crucial professional characteristics with professional athletes. Both groups consider competition and being the best in competitions very important, particularly in their professional life, and thereby differ from the general population and academics. In addition, they both report taking more risks than the other subject pools. These findings further support our results from the experiments in this paper and in Kirchler et al. (2018), showing that professionals react to rankings and show concern for their relative performance in a broad range of investment tasks.[27]

3 Conclusion and Discussion

In this paper, we provided causal evidence of how rank incentives affect professionals' risk taking when investing real money for third parties (customers). Despite the emerging literature on rank incentives (e.g., Roussanov, 2010; Kirchler et al., 2018) and on delegated decision making in finance (e.g., Agranov et al., 2013; Andersson et al., 2013, 2016), this paper's innovation is that (i) financial professionals acted as investment managers by (ii) investing real money from clients, when (iii) rank incentives were in place. We conducted an online experiment with 805 financial professionals, a lab-in-the-field experiment with another 160 professionals as robustness check, and an online survey with 1,349 respondents from the general population, the finance industry, and other competitive professions.

First, we showed that rankings drove professionals' behavior on behalf of customers, especially when professionals' incentives were linear and thus aligned with the ones of the customers. In particular, we found that professionals that were lagging in the ranking increased their risk taking (compared to their peers) when investing other people's money, and this rank-driven behavior did not differ from professionals' behavior when they were investing for themselves (i.e., identical (linear) incentives in both settings). Moreover, we reported tentative evidence that rank-driven risk taking on behalf of others got weaker as soon as professionals' incentives were flat. We acknowledge that, of course, the absence of a significant effect size does not mean that there is no effect. This indicates that larger sample sizes could potentially turn the effect sizes in the treatments with flat incentives to become significant as well. Hence, we conservatively interpret the absence of a rank effect in these treatments as a tentative result. More research in

[27] Figure A1 in the online appendix depicts participants' self-reported development of preferences for social status and relative performance since childhood. We found that the importance of relative performance varied significantly between most subject pools at a very young age (4-10 years). At the ages of 11-18, most groups have reached current levels. However, financial professionals' preference for relative performance steadily increases over all age groups (a Cuzick trend test shows a significantly increasing trend for financial professionals with p=0.000). Although these analyses should be treated with great care for the aforementioned reasons, they indicate that general differences in competitiveness and in relative performance across groups may already vary at a young age. Moreover, this is a hint that the profession and the business culture in the financial industry further shapes and accentuates professionals' concerns for relative performance. This contrasts with preferences for social status, which declines after the age of 18 and where professionals do not differ from other groups (a Cuzick trend test shows that all groups have a declining trend after age 18 with p=0.003).

this area is needed to find out whether these results will hold in light of larger sample sizes.

Second, we found that professionals' perceived risk attitudes of customers did not drive their behavior in the online experiment. In contrast, professionals mainly focused on their own individual risk attitudes and their own level of loss aversion when making decisions for clients. In the light of regulatory efforts to increase the transparency and awareness about clients' preferences and risk attitudes, this is a worrying finding, which calls for further investigation.

Finally, we reported that professionals stood out in their self-reported importance of relative performance compared to the general population and to academics, nearing the high level of professional athletes. Professionals also differed from the general population in other aspects, like higher status concerns and elevated risk preferences. These findings indicate that rank-driven behavior is rooted in special attitudes among financial professionals, including strong concerns about relative performance compared to their peers.

In general, this paper addresses an important feature of the finance industry—i.e., professionals primarily manage funds from third parties. However, in some areas of the finance industry, like in trading, customers are less salient in professionals' daily activities. Although professionals invest other people's money, individual incentives—be it non-monetary rankings or convex tournament and bonus schemes—are likely to be more salient and important. In this case, the results of Kirchler et al. (2018), showing robust rank-driven behavior when professionals invest for themselves by solely focusing on their rank incentives or tournament incentives, are probably more relevant. For areas like private banking and financial advise, customers are more salient in everyday decisions. Here, professionals interact regularly with customers and frequently face incentives that are flat or moderately aligned with customers' portfolio performance. Thus, the results of this paper, which cover situations with more salient clients, are probably more relevant for these particular areas in the finance industry. However, one limitation of our study could still be that, although professionals are aware that they invest for others and that there is real client money on the table, the identity of the customers is still anonymous. Hence, some effects could vary in light of lifting the anonymity of the customers. However, we leave this issue for future research.

Our findings provide implications for professionals' investment decisions outside the laboratory. Underperforming professionals' increased appetite for risk implies that regulating bonus incentives might be ineffective as long as social competition also drives behavior. In addition, the fact that professionals mainly invested according to their individual attitudes for risk and loss and did not account for their perceived customers' risk attitudes is a potentially worrying finding. As Foerster et al. (2017) and Linnainmaa et al. (2019) point out empirically, financial advisors typically invest personally just as they advise their clients. These findings could loosely be related to the well-documented "false consensus effect", indicating the tendency to believe that others' preferences are closer to ours than they actually are (e.g., Mullen et al., 1985).

However, it seems interesting that professionals' detrimental competition for rank could be

moderated—according to our tentative evidence—by decoupling their incentives from customers' portfolio performance. Based on our study, we could conservatively conclude that, together with increasing customer salience and with an even stronger focus on the client, this combination could lead to better portfolio management, accounting less for the advisers' preferences and their idiosyncratic competitive and status concerns. However, we also acknowledge that pure rank incentives might trigger rank-driven behavior even with non-aligned incentives on real financial markets, as career concerns could promote rank-driven behavior—i.e., a feature which is impossible to model in the lab. Moreover, when investment goals take the trade-off between risk and return into account, the salience of raw returns (that determine the rank) may be reduced.

Nevertheless, decoupling professionals' incentives from performance in general could be detrimental in some sectors of the finance industry (e.g., investment banking, mergers and acquisitions), as professionals' efforts might decrease in quality and/or quantity (e.g., Blanes-i-Vidal and Nossol, 2011). Hence, future research should focus more on the effects of rank and tournament incentives and the joint changes in risk taking and effort provision for different sector-specific tasks within the finance industry. Our study also suggests that more lab-in-the-field experiments with industry professionals are useful and needed, particularly when specific features of the business culture are under causal investigation.

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Online Appendix

A1 Additional Figures and Tables

Table A1: **Treatment Overview**

This table outlines the details of all the treatments. In Treatment OWN, professionals invested for themselves and faced linear incentives. In treatments SAL_LO and SAL_HI, professionals invested for real customers with linear (aligned) incentives and low or high customer salience, respectively. In Treatment FLAT, customer salience was high as well, but professionals received a fixed payment.

	Experiment OPM			
Treatment feature	OWN	SAL_LO	SAL_HI	FLAT
Incentives professionals (receive windfall money)	linear	linear	linear	flat
Incentives customers (cover losses personally with their own money)	linear	linear	linear	linear
Salience of customer	NO	WEAK	HIGH	HIGH
Number of independent periods	3	3	3	3
Number of professionals	201	202	203	199
Number of professionals in each ranking	6	6	6	6

Table A2: **Ranks and Risk-Taking in Experiment OPM Controlling for Gender Effects in** $RANK$

This table outlines probit regressions of professionals choosing the risky lottery ($RISK$), conditional on rank. $RANK$ indicates subject i's rank at the beginning of a period according to initial wealth, and $RANK * FEM$ is an interaction term of $RANK$ and a dummy for female professionals, measuring women's rank-driven behavior compared to men's (measured with $RANK$). $RISKFIN$ is the self-reported willingness to take risks in financial matters (7-point Likert scale; taken from the German SOEP), $RISKCUST$ is professionals' beliefs about the customer's willingness to take risks (7-point Likert scale; adapted from the German SOEP), and $LOSSTOL$ is a measure of loss attitudes (from 0 to 1: higher values indicate lower loss aversion and, thus, higher loss tolerance). AGE indicates professionals' age and $COMPETE$ is the five-item competition subscale of the Work and Family Orientation (WOFO) questionnaire. In Treatment OWN, professionals invested for themselves and faced linear incentives. In treatments SAL_LO and SAL_HI, professionals invested invested money of customers with linear (aligned) incentives and low or high customer salience, respectively. In Treatment FLAT, customer salience was high as well, but professionals received a fixed payment. In the far-right column, all treatments are included, with OWN serving as the base category. Standard errors are clustered on a subject level and provided in parentheses. ** and * represent significance at the 1% and 5% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$RISK$	OWN	SAL_LO	SAL_HI	FLAT	OWN	SAL_LO	SAL_HI	FLAT	ALL
$RANK$	0.110**	0.076*	0.077*	0.013	0.130**	0.078	0.081	0.055	0.086**
	(0.032)	(0.035)	(0.034)	(0.033)	(0.037)	(0.047)	(0.042)	(0.042)	(0.021)
$RANK * FEM$	0.003	0.004	-0.021	0.016	-0.032	-0.002	-0.027	-0.051	-0.029
	(0.031)	(0.032)	(0.030)	(0.033)	(0.057)	(0.061)	(0.059)	(0.058)	(0.029)
$RISKFIN$					0.157**	0.086	0.068	0.147**	0.111**
					(0.046)	(0.045)	(0.048)	(0.052)	(0.023)
$RISKCUST$						0.004	-0.046	0.044	
						(0.046)	(0.052)	(0.053)	
$LOSSTOL$					0.058	0.100	0.272	0.661*	0.263*
					(0.230)	(0.245)	(0.249)	(0.261)	(0.123)
$COMPETE$					-0.038	-0.021	-0.031	0.087	-0.015
					(0.085)	(0.087)	(0.079)	(0.085)	(0.041)
AGE					0.006	0.002	0.003	0.002	0.003
					(0.006)	(0.006)	(0.006)	(0.006)	(0.003)
$FEMALE$					0.307	0.106	0.080	0.431	0.215
					(0.234)	(0.248)	(0.242)	(0.248)	(0.119)
SAL_LO									-0.029
									(0.086)
SAL_HI									0.100
									(0.086)
FLAT									0.124
									(0.088)
α	-0.234*	-0.156	0.014	0.180	-1.219*	-0.658	-0.254	-1.595**	-0.882**
	(0.112)	(0.118)	(0.117)	(0.114)	(0.475)	(0.519)	(0.442)	(0.487)	(0.237)
N	603	606	609	597	603	606	609	597	2415
N Cluster	201	202	203	199	201	202	203	199	805
Chi^2	16.008	6.924	5.469	0.829	29.345	11.058	10.098	27.777	62.347
p-value	0.000	0.031	0.065	0.661	0.000	0.198	0.258	0.001	0.000

Table A3: **Ranks and Risk-Taking in Experiment OPM Controlling for Job Functions of Professionals**

This table outlines probit regressions of professionals choosing the risky lottery ($RISK$), conditional on rank. $RANK$ indicates subject i's rank at the beginning of a period according to initial wealth. $RISKFIN$ is the self-reported willingness to take risks in financial matters (7-point Likert scale; taken from the German SOEP) and $LOSSTOL$ is a measure of loss attitudes (from 0 to 1: higher values indicate lower loss aversion and, thus, higher loss tolerance). $COMPETE$ is the five-item competition subscale of the Work and Family Orientation (WOFO) questionnaire, AGE indicates professionals' age, and $FEMALE$ is a gender dummy. In Treatment OWN, professionals invested for themselves and faced linear incentives. In treatments SAL_LO and SAL_HI, professionals invested invested money of customers with linear (aligned) incentives and low or high customer salience, respectively. In Treatment FLAT, customer salience was high as well, but professionals received a fixed payment. The interaction terms (e.g., $RANK$*SAL_LO) measure treatment differences in the rank-effect w.r.t. $RANK$. Here, OWN serves as the reference category and is captured with $RANK$. Columns (1) and (2) represent the full sample. In column (3) data of professionals with direct customer contact (e.g., sales, financial advice) is pooled. In column (4) data of professionals without direct customer contact is used. Standard errors are clustered on a subject level and provided in parentheses. ** and * represent significance at the 1% and 5% levels, respectively.

	(1)	(2)	(3)	(4)
	(ALL)	(ALL)	(ALL)	(ALL)
$RANK$	0.113**	0.114**	0.115**	0.108*
	(0.028)	(0.028)	(0.035)	(0.046)
$RISKFIN$	0.111**	0.106**	0.106**	0.128**
	(0.023)	(0.024)	(0.028)	(0.043)
$LOSSTOL$	0.263*	0.273*	0.239	0.322
	(0.123)	(0.123)	(0.146)	(0.232)
$COMPETE$	-0.016	-0.013	-0.020	-0.014
	(0.042)	(0.042)	(0.049)	(0.079)
AGE	0.003	0.003	-0.000	0.010
	(0.003)	(0.003)	(0.003)	(0.006)
$FEMALE$	0.114	0.113	0.111	0.074
	(0.067)	(0.069)	(0.083)	(0.116)
$RANK$*SAL_LO	-0.036	-0.037	-0.034	-0.040
	(0.041)	(0.041)	(0.052)	(0.066)
$RANK$*SAL_HI	-0.046	-0.046	-0.031	-0.085
	(0.041)	(0.041)	(0.049)	(0.074)
$RANK$*FLAT	-0.089*	-0.089*	-0.073	-0.122
	(0.040)	(0.040)	(0.049)	(0.068)
SAL_LO	0.096	0.093	0.097	0.088
	(0.163)	(0.164)	(0.202)	(0.273)
SAL_HI	0.260	0.250	0.221	0.330
	(0.164)	(0.164)	(0.195)	(0.305)
FLAT	0.433**	0.431**	0.382	0.511
	(0.161)	(0.162)	(0.197)	(0.276)
α	-0.974**	-0.820**	-0.810**	-1.346**
	(0.244)	(0.292)	(0.297)	(0.435)
Job Function FE	NO	YES	NO	NO
N	2415	2415	1620	795
N Cluster	805	805	540	265
Chi^2	66.212	84.139	45.976	24.888
p-value	0.000	0.000	0.000	0.015

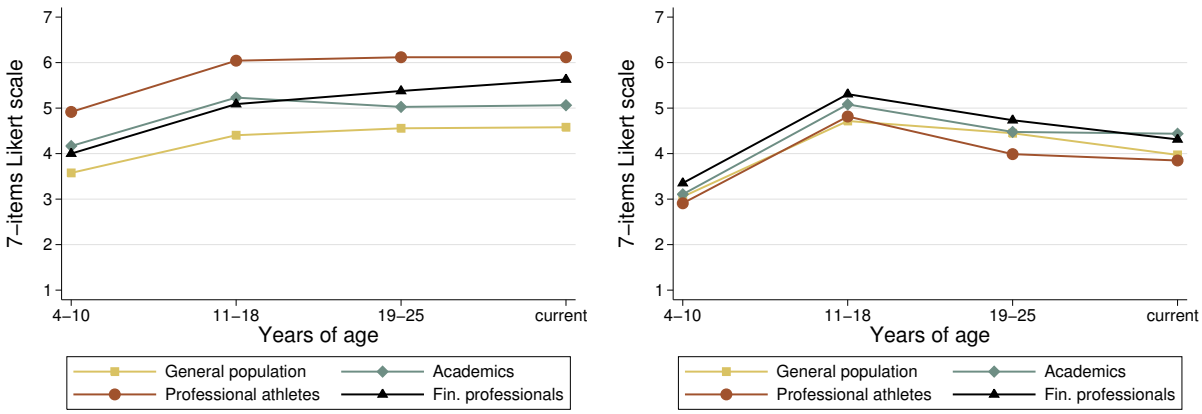

Figure A1: **Online Survey: Self-Reported Development of Preferences for Relative Performance (Left) and Social Status (Right) Since Childhood**

This figure shows the average survey responses of samples of the general population (N=1,000), academics (N=104), professional athletes (N=120), and financial professionals (N=125) for relative performance and social status (representing the answers to corresponding survey questions on a 7-point Likert scale taken from Cohn et al. (2014, 2017), with higher values indicating stronger preferences).

A2 Robustness Check Experiment: OPMLAB—Professionals Investing for Real Clients in the Laboratory

To obtain a comprehensive picture of how social competition influences professionals' risk taking on behalf of third parties, we additionally ran Experiment OPMLAB. This investment experiment modified the setting of the lab-in-the-field investment experiment in Kirchler et al. (2018). Compared to Experiment OPM, we innovated according to the following dimensions: (i) we let professionals invest high-stakes funds of two customers (at 1,000 euros each), (ii) we ran three treatments: a baseline treatment with flat incentives and without rank information, a ranking treatment with flat incentives, and a tournament treatment with convex tournament incentives, aligning professionals' incentives to customers' performance in a convex way, and (iii) we conducted the experiment in a laboratory, offering a high level of experimental control.

A2.1 Setup of Experiment OPMLAB

Again, we divided each session into two parts. Subjects played an investment game in the first part and participated in additional tasks eliciting risk attitudes, loss aversion, and personal characteristics in the second part.

In the first part, we set up a novel laboratory design and, again, raised real funds from third parties. We let each professional invest the total sum of 2,000 euros from two clients in an investment game. Professionals repeatedly made portfolio choices between a risk-free alternative and a risky asset over eight periods. In each period, they decided which fraction ($RISK$) of their clients' portfolio wealth to invest in the risky asset. Clients' portfolio wealth was carried from one period to the next, and professionals were allowed to invest up to 200 percent. We used historical index returns for the risky asset and drew one random sequence of eight quarters (two years) from a set of 10 major stock market indices from the period January 1989 to December 2014.[28] Professionals did not know the name of the index and the time period selected. They did know, however, about the average mean and standard deviation per quarter of a year for the entire sample period of 26 years of the selected index and about the risk-free rate of 0.3 percent per period.

The recruited clients received detailed instructions about the experiment, and they again signed declarations of consent. Like the first experiment, we only recruited clients according to the following characteristics: male, 30-50 years of age, academic degree, and no financial troubles. This information about the customers was given to the professionals, and we did not forward any other client information to the professionals.

[28]The 10 selected indices were the CAC 40, DAX, Dow Jones Industrial Average (INDU), EURO STOXX (SXXE), FTSE 100 Index (UKX), Hang Seng Index (HSI), NASDAQ-100 (NDX), Nikkei 225 (NKY), Swiss Market Index (SMI), and the S&P 500 (SPX). In particular, one index was picked randomly, and one quarter of a year within the 26-year period of this particular index was selected randomly as the starting point before the experiment began.

In a between-subjects design, we randomly assigned professionals to groups of four, which remained the same for the duration of the investment game. We opted for groups of four so we could run all three treatments simultaneously within each session and randomize subjects into treatments within sessions (i.e., 12 was the minimum number of participants for each session). With this procedure we ensured randomization of job functions and countries across treatments. Moreover, this procedure allows us controlling for idiosyncratic characteristics of index sequences across treatments.

In the baseline treatment, TBASE, professionals received a fixed payment of 40 euros, similar to some financial advisers whose pay is not directly related to their clients' performance. Like reality, clients' incentives were aligned to the performance of the managed fund. This means that clients were paid by the experimenter in case the professional's fund rose above the initial endowment, but also that clients had to cover the losses themselves in case the professional's final fund wealth dropped below the initial endowment. Hence, the payout to a client was half of the difference of the final wealth minus the initial endowment of 2,000 euros in case of a positive portfolio return. In contrast, a client had to pay half of the difference between 2,000 euros and the final wealth of the professionals' managed portfolio if the overall return was negative. This realistic feature was, of course, common knowledge for clients and professionals. Notably, the fact that the professionals invested for real clients was pointed out in the instructions and on the investment interface, mentioning terms like "your clients' current wealth." Because of the high stakes of the clients and the difficulty in recruiting them for this experiment, a coin flip for each professional determined whether his or her decisions were relevant to the clients. In particular, each pair of customers was matched to ten professionals (in different sessions), and one professional was drawn randomly for the payout for each pair. A growing number of studies indicate that these commonly used payment schemes with random components do not bias risk-taking behavior in experiments (Starmer and Sugden, 1991; Cubitt et al., 1998; Hey and Lee, 2005; March et al., 2015). Recently, Charness et al. (2016) indicated that the pay-one (or pay-a-subset) method is either equal or even superior to the pay-all method in the majority of cases. These payment schemes with random components are also frequently used in studies with financial professionals to facilitate high stakes (Cohn et al., 2014, 2017; Kirchler et al., 2018). Moreover, all professionals received an anonymous summary of all payouts to the clients (with the matched IDs of clients and professionals) by e-mail after all data for this experiment was collected. This feature was announced ex ante.

To measure the impact of social competition, we ran a ranking treatment, TRANK, which was identical to Treatment TBASE, with the exception that professionals received feedback on their position in an *anonymous and non-incentivized* ranking (like in Kirchler et al., 2018) after each period in their group of four. As in Treatment FLAT in the first experiment, the ranking itself was not relevant to the payoff, and professionals were paid with a fixed wage of 40 euros for their investment management. Hence, this treatment is comparable to Treatment FLAT in

the first experiment.

Finally, in the tournament treatment, TTOUR, we kept everything identical to Treatment TRANK, except that the ranking was relevant to the payout for the professionals. The professional with the highest clients' final wealth received 90 euros; the second-best performer, 50 euros; and the two underperformers, 10 euros each. Hence, this treatment is loosely comparable to treatments SAL_LO and SAL_HI in the first experiment, as in all three treatments professionals' performance is somewhat aligned with the underlying customers' performance. However, the big difference between these treatments is that here a tournament (and therefore solely the rank among peers) determines the payout, whereas in the above-mentioned treatments in the first experiment, peer performance is irrelevant for professionals' payout.

In the second part of Experiment OPMLAB, we administered three experimental tasks, one of which was paid out randomly, and survey questions. Part 2 of the instructions was distributed after all subjects had completed Part 1. In the first task, we measured risk attitudes with the BRET (bomb risk elicitation task) by Crosetto and Filippin (2013). We also investigated risk attitudes using the survey questions from the German Socio-Economic Panel (SOEP; Dohmen et al., 2011) like in the first experiment and in Kirchler et al. (2018). In the second task of Part 2, we measured loss aversion applying an identical procedure and stakes like in the first experiment, and in the third task, we elicited distributional preferences using the equality equivalence test of Kerschbamer (2015). In the survey, we also assessed subjects' attitudes toward social competition with the three questions used in Cohn et al. (2014, 2017) and Kirchler et al. (2018). Questions on demographics concluded the experiment.

For Experiment OPMLAB, we recruited another 160 professionals from several European OECD countries working in the same areas as the first experiment. Of these professionals, 89.4 percent were male, their average age was 38.2 years, and they had been working in the finance industry for 13.2 years on average. In total, 56, 52, and 52 professionals participated in treatments TBASE, TRANK, and TTOUR, respectively. All the professionals that took part in these treatments were regularly confronted with competitive rankings and bonus incentives—that is, professionals from private banking, trading, portfolio management, fund management, and wealth management.[29]

We booked a conference room on location, set up our mobile laboratory, and invited professionals to show up. Our mobile laboratory is similar to the EconLab at the University of Innsbruck. It consists of laptops and partitions surrounding each participant, ensuring the same conditions as in regular experimental laboratories (see pictures in the online appendix A4). We mainly recruited members of professional associations and societies, ensuring that most sessions were populated with professionals from different institutions. We programmed and conducted Experiment OPMLAB using z-Tree (Fischbacher, 2007). In total, professionals received an

[29] We signed non-disclosure agreements (NDA) for not disclosing the identity of the participating financial institutions.

average payout of 54 euros (minimum payout: 10 euros; maximum payout: 165 euros) for both parts of Experiment OPMLAB, at an average duration of 45 minutes. In turn, clients received on average 213 euros (minimum payout: –11 euros; maximum payout: 541 euros) for their passive role and taking the risk of investing their own money.

A2.2 Results of Experiment OPMLAB

In Table A4, we run fixed-effects panel regressions with an AR(1) disturbance, testing drivers of professionals' percentage invested in the risky asset ($RISK$).[30] As most important explanatory variables, we include either $RANK_{t-1}$, indicating subject i's rank at the end of the preceding period, or the binary dummy $UNDERPERFORM_{t-1}$, representing underperforming professionals at ranks 3 and 4. Moreover, RET_PF_{t-1} is the log return of subject i's portfolio since the start of the experiment, RET_ASSET_{t-1} is the preceding period's asset return, and the interaction terms (e.g., $UNDERPERFORM_{t-1} *$ TRANK; $RANK_{t-1} *$ TRANK) measure treatment differences in the rank-effect w.r.t. variable $RANK$ (columns ALL (1) and ALL (2)). Here, TBASE serves as the reference category and is captured in the variable $RANK$.

We observe similar results as in Experiment OPM. In particular, we find that underperformers do not increase their risk taking when they face flat incentives in Treatment TRANK. This is evident in columns 2 and 6, as neither the dummy for underperformers nor the rank variable is significantly positive. This is in line with the insignificant rank effect in Treatment FLAT in Experiment OPM. Rank-driven behavior changes as soon as the ranking gets payout relevant in Treatment TTOUR with a tournament. We find that underperformers increase their risk taking significantly by an average 23.4 percentage points compared to the outperformers (column 3). This rank effect appears to be weaker compared to Experiment OPM, as the rank variable $RANK$ in column 7 is insignificant with a p-value of 8.4%. This is further supported by the interaction term $RANK$*TTOUR (column 4). Although the interaction term is insignificant with a p-value of 6.0%, it provides, in addition to variable $UNDERPERFORM$ in column 3, some tentative support for our findings from Experiment OPM. All other pairwise coefficient tests between interaction terms in columns 4 and 8 are insignificant. Note that we also ran a robustness check with clustered standard errors on a group level, yielding qualitatively similar results.[31]

[30] Hausman tests indicated to use fixed effects specifications.

[31] Results can be provided upon request. Moreover, our major findings do not change qualitatively when running specifications with clustered standard errors on an individual level instead.

Table A4: **Ranks and Risk-Taking in Experiment OPMLAB**

This table shows fixed-effects panel regressions with AR(1) disturbance, testing drivers of professionals' percentage invested in the risky asset ($RISK$). RET_PF_{t-1} is the log-return of subject i's portfolio since the start of the experiment, and RET_ASSET_{t-1} is the preceding period's asset return. $UNDERPERFORM_{t-1}$ is a binary dummy variable marking underperforming professionals at ranks 3 and 4. $RANK_{t-1}$ indicates subject i's rank at the end of the preceding period. In Treatment TBASE, professionals received a fixed payment, and the real funds of clients were aligned to the performance of the managed fund. Treatment TRANK was identical except for the display of an anonymous and non-incentivized ranking after each period. In Treatment TTOUR, the setup was identical to TRANK, except that the ranking was relevant to the payout for the professionals with a convex tournament scheme. The interaction terms (e.g., $UNDERPERFORM_{t-1} *$ TRANK; $RANK_{t-1} *$ TRANK) measure treatment differences in the rank-effect w.r.t. variable $RANK$ (columns ALL (1) and ALL (2)) with TBASE serving as the reference category. Standard errors are provided in parentheses. ** and * represent significance at the 1% and 5% levels, respectively. respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$RISK$	TBASE	TRANK	TTOUR	ALL (1)	TBASE	TRANK	TTOUR	ALL (2)
RET_PF_{t-1}	-0.043	-0.140	-0.421	-0.194	-0.065	-0.150	-0.456	-0.215
	(0.224)	(0.306)	(0.267)	(0.151)	(0.225)	(0.312)	(0.272)	(0.153)
RET_ASSET_{t-1}	-0.120	-0.073	-0.119	-0.104	-0.107	-0.068	-0.101	-0.093
	(0.236)	(0.260)	(0.268)	(0.147)	(0.236)	(0.262)	(0.271)	(0.148)
$UNDERPERFORM_{t-1}$	2.510	8.923	23.352**	0.987				
	(9.288)	(8.063)	(8.251)	(9.907)				
$UNDERPERFORM_{t-1} *$ TRANK				7.363				
				(12.584)				
$UNDERPERFORM_{t-1} *$ TTOUR				23.359				
				(12.426)				
$RANK_{t-1}$					-0.674	2.974	7.309	-1.238
					(4.294)	(4.183)	(4.219)	(4.592)
$RANK_{t-1} *$ TRANK								3.792
								(6.058)
$RANK_{t-1} *$ TTOUR								9.506
								(5.969)
α	93.608**	97.607**	85.912**	92.393**	96.617**	94.714**	79.545**	90.295**
	(3.693)	(4.056)	(4.333)	(2.316)	(7.290)	(7.679)	(8.766)	(4.596)
N	336	312	312	960	336	312	312	960
R^2	0.001	0.025	0.007	0.002	0.073	0.027	0.008	0.000
F	0.214	0.710	4.956	3.405	0.197	0.469	3.247	2.143
p-value	1.000	0.935	0.000	0.000	1.000	0.999	0.000	0.000

When focusing on the control variables, the negative but insignificant relationship between the portfolio return RET_PF_{t-1} and professionals' risk taking is worth mentioning. This indicates that professionals mildly increase (decrease) risk taking, the lower (higher) the portfolio return since the start falls (rises). Results are stronger in the specification without AR(1) disturbance, as three of the six coefficients turn significantly negative (results can be provided upon request). This finding has been shown by Kirchler et al. (2018) in a more pronounced way when professionals invest for themselves. Thus, it seems that when professionals invest for third parties, customers' presence could de-bias professionals slightly from this disposition effect (Odean, 1998), leading to less reference-dependent levels of risk taking.

Turning to other control variables explaining risk taking in the investment game, we run an OLS regression outlined in Table A5. Again, we find that professionals' self-assessed risk attitude in financial matters, measured with the self-reported question from the German SOEP, significantly explains professionals' average risk taking on behalf of third parties. Neither loss tolerance nor all other control variables measuring professionals' attitudes towards financial success, social status, and relative performance explain risk taking in the investment game.

Table A5: **Individual Preferences and Investments in the Risky Asset in Experiment OPMLAB**

This table shows ordinary least squares regressions of professionals' average amounts invested in the risky asset, $\overline{RISK}$. *FINANCIAL_SUCCESS*, *SOCIAL_STATUS*, and *RELATIVE_PERFORMANCE* represent the answers to subjects' importance of corresponding survey questions on a 7-point Likert scale (higher values indicate stronger preferences) following Cohn et al. (2014), Cohn et al. (2017), and Kirchler et al. (2018). *RISKFIN* is the self-reported willingness to take risks in financial matters, according to the German SOEP questionnaire (11-point Likert scale), and *LOSSTOL* is a measure of loss attitudes (from 0 to 1; higher values indicate lower loss aversion). Standard errors are clustered on a group level and are provided in parentheses. Additionally, ** and * represent significance at the 1% and 5% levels, respectively.

	(1)	(2)	(3)	(4)
$\overline{RISK}$	TBASE	TRANK	TTOUR	ALL
FINANCIAL_SUCCESS	-3.731	-7.181	3.851	-2.206
	(6.735)	(3.488)	(3.736)	(2.736)
SOCIAL_STATUS	5.579	-6.512	5.198	1.114
	(3.312)	(4.950)	(4.091)	(3.005)
RELATIVE_PERFORMANCE	3.709	6.267	-0.232	3.953
	(6.015)	(6.916)	(7.691)	(4.638)
LOSSTOL	12.305	-14.589	43.978	5.727
	(30.629)	(33.789)	(32.031)	(17.051)
RISKFIN	9.768*	6.996	5.324	7.620**
	(3.972)	(3.788)	(2.521)	(1.865)
α	-9.221	89.001	3.425	27.699
	(53.236)	(43.639)	(47.295)	(26.974)
N	56	52	52	160
N Cluster	14	13	13	40
R^2	0.162	0.191	0.143	0.114
F-value	2.265	2.564	3.289	5.138
p-value	0.109	0.084	0.042	0.001

Finally, the results and implications of Experiment OPMLAB warrant discussion. Given the relatively small sample size of 160 professionals in all three treatments, we do not want to overinterpret the findings generated from this experiment. This particularly holds for the results outlining no significant effect in treatments with flat incentives of professionals. Of course, insignificant effects do not mean that there are no effects. Hence, we conservatively interpret the absence of a rank effect as a tentative result. One drawback, particularly in Experiment OPMLAB, is that it was difficult to recruit more customers investing 1,000 euros each. However, we considered it encouraging to find qualitative patterns similar to Experiment OPM in this modified setting, strengthening the major results of this paper.

A3 Instructions of Online Experiment OPM[32]

[WELCOME SCREEN][33]
We are researchers from several universities conducting a study on your personal opinions and attitudes.

Participation will take less than 10 minutes. With your participation, you will make an important contribution to research and you can earn money: one in five participants can win up to $81! `one in five participants will receive at least $45!` At the end of the data collection (in about 10 days), a random draw will determine whether you are one of those that are paid out according to your decisions. In this case, you will receive your payout in points which you can cash in and retrieve via Paypal or other methods. Note that your earnings can vary according to the decisions you take in this study.

All data will be depersonalized and will only be used for scientific purposes. This online study adheres to the principles of economic experiments: participants are not deceived and earnings are paid out in real.

Thank you very much for participating!

*** Please click below to start. Note that you will not be able to go back to previous pages throughout the whole study. ***

[32]Additional information on the recruitment: we recruited the professionals in collaboration with a global market research agency (henceforth MRA), which is specialized on B2B surveys and experiments and has access to financial professionals worldwide, particularly to financial professionals in the US. The firm only contributed the link to the professionals. We administered the complete experiment ourselves by providing the MRA with a link to our Qualtrics code (experimental program) that the MRA then administered to the financial professionals after having anonymized the participants' real ID. That means that the Qualtrics code continued to run on our servers and within our license packages, including the behavioral data that we collected from the experiment. After the experiment, the anonymized ID codes generated by the MRA, which we have in our data, were used to provide individual feedback on the experiment and the payout via the MRA.

[33]Instructions are for Treatment OWN in experiment OPM, additional text regarding the customer for treatments SAL_LO, SAL_HI, and FLAT is in *italic*. Additional text for Treatment FLAT is written in `teletype`.

[PRIMING SCREEN—PROFESSIONAL PRIME]

We start with a few questions. Please answer all of the following questions:

- At which financial institution are you presently employed?
- What is your function at this financial institution?
- For how many years have you been working in the financial sector? (Please enter full years; can be in different organizations and/or functions)
- Why did you decide to become an employee in the financial sector? Please describe your answer in two to three sentences.
- What are, in your opinion, the three major advantages of your occupation as an employee in the financial sector?
- Which three characteristics of your personality do you think are typical for an employee in the financial sector?
- What are the three most important things you learned in your occupation as an employee in the financial sector?

[INVESTMENT TASK—SCREEN 1]

On the following screens you will play a game with five other experimental participants from the financial sector, who will be randomly matched with you. We will show you some depersonalized characteristics of the other participants in your group. You will play several rounds in each of which you can choose between a fixed payment of $2.25 and a lottery where you can win $9 with 75% probability or lose $18 with 25% probability.

- At the beginning of each round, the computer will hold a lottery and give you and the other players in your group different amounts of money, referred to as initial wealth. You will see a ranking with the initial position you hold in your group according to your wealth.
- At the end of each round, after your decision, you will see a results screen with your new wealth. We also provide you with an updated ranking indicating your new position based on your decision and that of the others in the group.

In each round you will face a new draw of group members and initial wealth allocations. If you are selected for payment we will randomly draw one of the rounds and pay your new wealth. As any of the following rounds can be the one which is actually paid out, you should play the whole game as if you are playing for real money in each round.

[Begin alternative text for Treatment FLAT]

On the following screens you will play a game with five other experimental participants from the financial sector, who will be randomly matched with you. We will show you some depersonalized characteristics of the other participants in your group. You will play several rounds in each of which you can choose between a fixed payment of $2.25 and a lottery where you can win $9 with 75% probability or lose $18 with 25% probability.

- At the beginning of each round, the computer will hold a lottery and give you and the other players in your group different amounts of money, referred to as initial wealth. You will see a ranking with the initial position you hold in your group according to your wealth.
- At the end of each round, after your decision, you will see a results screen with your new wealth. We also provide you with an updated ranking indicating your new position based on your decision and that of the others in the group.

In each round you will face a new draw of group members and initial wealth allocations. If you are selected for payment you will receive from us a fixed fee of $45 for completing this task.

[INVESTMENT TASK—EXTRA SCREEN for Treatments SAL_LO, SAL_HI, FLAT]

ADDITIONAL INSTRUCTIONS FOR NEXT SCREENS

Your decisions in the following rounds also affect the payout of a client, whom we randomly assigned to you and who will receive a payout according to your decisions. The client is not part of the group of the five other experimental participants with whom you will play the game on the next screens, but another person who we approached separately. The client is a male, between 30 and 50 years old, holds a university degree, is in no financial trouble, and knows the rules of this game (the client has read the instructions and agreed to them by signing a declaration of consent).

The client does not receive the initial wealth from us, but pays it out of his own pocket. At the end of all rounds, we will randomly draw one round, and then pay the client his new wealth (initial wealth plus outcome of your choice). At the end of this experiment, you can indicate whether you want to receive depersonalized information about the amount earned by everyone in this research project (including the clients).

[INVESTMENT TASK—SCREEN 2]

ROUND 1

You are matched with five other participants from the financial sector. Please click the button below to start.

[INVESTMENT TASK—SCREEN 3]

Your initial wealth: **$40.50**
Your initial position: **4th Place**

Ranking in your group:

Place	*Player*	*Wealth*	*Function*	*Exp. in yrs*	*Characteristic #1*
1st	other	$54	Financial Advisor	38	Analytical
2nd	other	$49.50	Trading	38	Discipline
3rd	other	$45	Financial advisor	10	Social
4th	**YOU**	**$40.50**	Portfolio manager	11	competitiveness
5th	other	$36	analyst	10	assertive
6th	other	$31.50	Licensed support speciali	7	Patient

In this round, which would you prefer?

Win $2.25 with 100% probability

Win $9 with 75% probability or lose $18 with 25% probability

Should this round be randomly selected your payment is determined as follows. If you have chosen the upper option, you receive your initial wealth plus $2.25. If you have chosen the lower option, you receive your initial wealth plus $9 with 75% probability or you receive your initial wealth minus $18 with 25% probability. All random draws are computer-generated and are independently and separately drawn for each round and player.

Figure A1: Decision screen in treatments OWN and SAL_LO.

Your initial wealth: **$45**
Your initial position: **3rd Place**

Ranking in your group:

Place	*Player*	*Wealth*	*Function*	*Exp. in yrs*	*Characteristic #1*
1st	other	$54	Financial Advisor	38	Analytical
2nd	other	$49.50	Trading	38	Discipline
3rd	**YOU**	**$45**	Portfolio manager	11	competitiveness
4th	other	$40.50	Financial advisor	10	Social
5th	other	$36	analyst	10	assertive
6th	other	$31.50	Licensed support speciali	7	Patient

In this round, which would you prefer?
Keep in mind that your decision below solely affects the payoff of the client, whom we matched with you. The client does not receive the initial wealth of $45 from us, but pays it out of his own pocket.

Win $2.25 with 100% probability

Win $9 with 75% probability or lose $18 with 25% probability

Should this round be randomly selected the payment of the client is determined as follows. If you have chosen the upper option, the client receives the initial wealth plus $2.25. If you have chosen the lower option, the client receives the initial wealth plus $9 with 75% probability or the initial wealth minus $18 with 25% probability. All random draws are computer-generated and are independently and separately drawn for each round and player. Your decision does not affect your own payment, which is a fixed fee of $45 (if you are selected for payment).

Figure A2: Decision screen in treatments SAL_HI and FLAT.
(The final sentence concerning the fixed payout of $45 only applies to Treatment FLAT.)

[INVESTMENT TASK—SCREEN 4: RESULTS SCREEN for all treatments]

Your result:

You chose: Win $9 with 75% probability or lose $18 with 25% probability

The computer has drawn: $9

Your new wealth: **$49.50**

Your new position: **3rd Place**

New ranking in your group:

Place	*Player*	*Wealth*	*Function*	*Exp. in yrs*	*Characteristic #1*
1st	other	$58.50	Trading	38	Discipline
2nd	other	$56.25	Financial Advisor	38	Analytical
3rd	**YOU**	**$49.50**	Portfolio manager	11	competitiveness
4th	other	$47.25	Financial advisor	10	Social
5th	other	$45	analyst	10	assertive
6th	other	$33.75	Licensed support speciali	7	Patient

Figure A3: Results screen in all treatments OWN, SAL_LO, SAL_HI, and FLAT. (The outcome shown on this screen results from choosing and winning the lottery in the decision screen shown in Figure A1.)

[INVESTMENT TASK—SCREENS 2 to 4 are repeated for three rounds]

[MANIPULATION CHECK]

This is the end of the decision rounds. Please complete the task below:

Try to fill the gaps with letters to form existing words. Please enter in each case the full solution word into the input field.

Example: _ o u s e H o u s e

_ _ o c k	
_ a t	
_ _ o k e r	
_ o n e y	
T h _ n _	
B _ n d	

Figure A4: Manipulation check in all treatments.

[LOSS AVERSION TASK]

In the 6 decisions below you have to decide whether you want to participate in a lottery where you can win or lose money. If you reject the lottery, you will receive $0 (in addition to your initial endowment). If you are one of the participants who receive payment, the initial endowment and one of your 6 decisions below will be paid out.

For this task you receive an initial endowment of $18.

Please decide for each of the six rows below:

	Accept this lottery	Reject this lottery
Loss of $3 with 50% probability or **gain of $15** with 50% probability.	○	○
Loss of $6 with 50% probability or **gain of $15** with 50% probability.	○	○
Loss of $9 with 50% probability or **gain of $15** with 50% probability.	○	○
Loss of $12 with 50% probability or **gain of $15** with 50% probability.	○	○
Loss of $15 with 50% probability or **gain of $15** with 50% probability.	○	○
Loss of $18 with 50% probability or **gain of $15** with 50% probability.	○	○

If you are one of the participants who receive payment, the computer will randomly draw one of the above six rows and will execute your choice in that row. So, if you have chosen to play the lottery in that row, the computer will randomly draw one of the outcomes mentioned in that specific lottery and increase/decrease your initial endowment of $18 accordingly. If you have chosen not to play the lottery in that row, you receive the initial endowment of $18. The task on this screen is paid out separately from your previous decisions/rounds.

Figure A5: Loss aversion task in all treatments.

A4 Pictures of the Experimental Laboratories

Figure A6: Top: Example of a mobile laboratory in the conference room of a financial institution. Bottom: Innsbruck EconLab.

A5 Instructions Online Survey[34]

Thank you very much for participating in our survey for a joint research project of the Innsbruck University, Radboud University, and Utrecht University.

Please make sure that you answer all questions which apply to you. The survey will not take longer than 5 minutes.

For the vast majority of questions, there are no incorrect answers. We are merely interested in your opinion. It is important that you remain focused while answering the questions.

All information in this research project will be regarded as confidential and treated according to the ethical norms and standards for scientific research. All data will be used for academic research purposes only.

As a token of our gratitude we are going to award 100 euro to each of three randomly selected participants who fully answered the questionnaire.

If you want to be eligible for one of these prizes, you can enter your email at the end of the questionnaire. Entering your email is completely voluntarily and the information will only be used to contact you in case you are one of the winners and for nothing else. Your email will be deleted from the raw data once we have randomly determined and contacted the winners. After this, all data will be completely de-personalized and cannot be traced back to individuals. We thank you for your cooperation and time.

Prof. Dr. Michael Kirchler (Innsbruck University, Gothenburg University)

Dr. Florian Lindner (Innsbruck University)

Prof. Dr. U. Weitzel (Utrecht University, Radboud University)

- 1. In which year are you born? (Please enter full calendar year with four digits)
- 2. What is your gender? [Male; Female]
- 3: What is your highest level of education? [Compulsory school; Apprenticeship; Technical college; High school; University; Other]
- 3. What is your highest function at university? (US-American categories) [PhD; Postdoc; Assistant professor, Associate professor; Full professor; Teacher; Other (please specify)]
- 4. How many years of experience do you have in your current profession? (Please enter full years; can be across different organizations and/or functions)

[34]Survey questions are for the general population. Modified questions for financial professionals, professional athletes, and academics are in *italic*, `teletype`, and small caps respectively. [Details on answers and measurements are in square brackets.] For financial professionals, Question 21 was not applicable because only participants from the finance industry were invited and Question 22 was used to select functions that matched the profile of professionals in the experiments.

- 4. How many years of experience do you have as a professional athlete? (Please enter full years; can be across different types of sports)
- 4. How many years of experience do you have as employee at a university? (Please enter full years; can be across different universities and/or functions)
- 5. How important is it for you what others think about you? [7-point Likert-scale]
- 6. Think about your time as a child from age 4 to 10, as adolescent person from age 11 to 18 and as a young adult from age 19 to 25. How important was it for you what others thought about you? [7-point Likert-scale each]
- 7. People can behave differently in different situations. How important is it for you what others think about you in the following areas: (please choose N/A if specific area does not apply to you) [7-point Likert-scale each, plus N/A, for Profession, Hobbies, Family, Friends]
- 8. Since you are in your current profession, what others think about you has become much less (more) important. [7-point Likert-scale]
- 9. How important is it for you to be the best at what you do? [7-point Likert-scale]
- 10. Think about your time as a child from age 4 to 10, as adoloscent person from age 11 to 18 and as a young adult from age 19 to 25. How important was it for you that you were the best at what you did? [7-point Likert-scale each]
- 11. People can behave differently in different situations. How important is it for you to be the best at what you do in the following areas: (please choose N/A if specific area does not apply to you) [7-point Likert-scale each, plus N/A, for Profession, Hobbies, Family, Friends]
- 12. Since you are in your current profession, to be the best at what you do has become much less (more) important. [7-point Likert-scale]
- 13. How do you see yourself: Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks? [11-point Likert-scale]
- 14. People can behave differently in different situations. How would you rate your willingness to take risks in the following areas: [11-point Likert-scale each, for financial matters, trust in other people]
- 15. Social status is primarily defined by financial success. [5-point Likert-scale]

- 16. I enjoy working in situations involving competition with others. [5-point Likert-scale]
- 17. It is important to me to perform better than others on a task. [5-point Likert-scale]
- 18. I feel that winning is important in both work and games. [5-point Likert-scale]
- 19. It annoys me when other people perform better than I do. [5-point Likert-scale]
- 20. I try harder when I'm in competition with other people. [5-point Likert-scale]
- 21. Which industry are you working in? [Agriculture, forestry & fishing; Mining & Utilities (e.g. Energy companies); Financial services (e.g. Banks and Insurance companies); Construction; Transport; Communications (e.g. Telecommunications and Postal services); Manufacture of food products; Manufacture of chemical products; Automotive/Aerospace; Manufacturing (other); Distribution (wholesale & retail trade); Hotels & Catering; IT services; Business & other services; Public administration; Education; Health and Social work]
- *21. N/A*
- `21. In which type of sport are you a professional athlete?`
- 21. In which branch of science are you working?
- 22. What is your current profession? [farmer; freelance with 5 employees or less (incl. craftsman, tradesman, industrial); freelance with 6 employees or more (incl. industrial, wholesaler); free professional (doctor, lawyer, notary, ...); member of the general management, senior management (director, manager, ...) responsible for 5 employees or fewer; member of the general management, senior management (director, manager, ...) responsible for 6 to 10 employees; member of the general management, senior management (director, manager ..) responsible for 11 employees or more; middle management, not part of the general management, responsible for 5 employees or fewer; middle management, not part of the general management, responsible for 6 employees or more; other employees, mainly office work; other employees, mainly no office work (nurse, teacher, police, ...); skilled worker, incl. supervisor; unskilled worker, incl. manual labor; in early retirement; retired; incapacitated, disabled; student, in education; housewife or househusband; unemployed; other; never worked]
- *22. Which of the following best describes your current job? [account manager; accounting/controlling; analysis/research/valuation; area manager; asset liability mgmt; compliance; consulting in management; consulting in processes; corporate finance; acquisitions; client advisor; customer support; fund management; fund placement; general mgmt/admin; investment advisor; investment banking; IT-support/mgmt; planning, financial; portfolio*

management; private equity/banking; product manager; project developer; regulation, financial; relationship manager; risk management; sales; supervision, financial; trading/brokerage; treasury; wealth management; other]

- `22. N/A`
- 22. N/A

Thank you very much for participating in our survey. Please make sure that you answered all questions that were applicable to you.

As a token of our gratitude we are going to award 100 euro to each of three randomly selected participants who fully answered the questionnaire. If you want to be eligible for one of these prizes, please enter you email below.

(Entering your email is completely voluntarily and the information will only be used to contact you in case you are one of the winners and for nothing else. Your email will be deleted from the raw data once we have randomly determined and contacted the winners. After this, all data will be completely de-personalized and cannot be traced back to individuals. All data will be used for academic research purposes only.)

A6 Instructions of Robustness Check Experiment OPMLAB

Welcome to the experiment and thank you for your participation![35]

Please do not talk with the other participants during the experiment from now on.

General Information

This experiment consists of two parts in which you can earn money separately. Your entire payment will be paid out to you privately and in cash after the experiment. At the beginning of each part you will receive detailed instructions. If you have questions please raise your hand and your questions will be answered privately.

PART 1

Task

In this task you have to make investment decisions for two clients outside the laboratory. Each client wants to invest 1000 euro of his own money. Each client is a real person, who committed real money to us before the start of this experiment. All clients are males, between 30 and 50 years old, hold a university degree, are in no financial troubles and know the rules of the experiment (the clients read the instructions and agreed on participating in this experiment by signing a declaration of consent). On your table you can find a sheet of paper, where you can insert your email address and tick boxes if you (i) want to receive detailed information about the amount earned by each client in this research project, and/or (ii) willing to participate in short online experiments.

Each of the two clients has delegated the investment of 1000 euro to you and you manage the FUND of 2000 euro for them. You have to decide in each of eight periods how much of your clients' wealth you invest in a stock market index (each period corresponds to one quarter of a year). The rest is invested at a risk-free rate of 0.3% per period. The development of the stock market index over the eight periods (quarters) follows a historical price path of a real stock market index. The price paths are a randomly picked sequence of 8 quarters (2 years) from one of ten major stock market indices for the time span between January 1989 and December 2014. In Table 1 you get information about the average quarterly returns and the average quarterly standard deviations of returns of the indices in the sample. Each index is equally likely to be selected. You will not receive information on the name of the index and on the exact time span of the randomly chosen 8 consecutive quarters.

In each period you can invest between 0 and 200% of your clients' current wealth in the stock market index. If you invest more than 100%, then the fraction exceeding 100% is borrowed at the risk-free rate of 0.3%. At the beginning of this task you will be randomly assigned to a

[35] Instructions are for Treatment TBASE in experiment OPMLAB, additional text for treatments TRANK and TTOUR are in *italic*. The relevant parts on the payout in Treatment TTOUR are in `teletype`.

Index	Quarterly return	Quarterly standard deviation
1	1.93%	7.94%
2	1.22%	11.22%
3	2.03%	7.47%
4	3.05%	14.13%
5	1.10%	9.11%
6	-0.48%	11.81%
7	2.10%	13.21%
8	1.07%	11.38%
9	2.02%	12.82%
10	2.17%	9.05%
ALL	1.62%	11.02%

Average quarterly returns and the average quarterly standard deviations of returns of the indices in the sample for the time span between January 1989 and December 2014.

group of four participants and you will remain in the same group for all eight periods in this task. All market participants (group members) observe the same index development as outlined above. At the end of each period the wealth of your clients will be calculated according to your investment decisions.

Investment examples (for one period):

1. Assume, your clients' current wealth is 2000 euro and you decide to invest 50% in the stock market index. Thus, the remaining 50% will be invested at the risk-free rate. If the stock market index yields a return of +3.0%, then the clients' wealth in the next period will be as follows: Profit/loss from the stock market index: (50% Investment $*$ 2000 euro) $*$ 3.0% Return = 30 euro. Profit from investing in the risk-free interest rate: (50% Investment $*$ 2000 euro) $*$ 0.3% Interest = 3 euro. Your clients' wealth in the subsequent period: 2000 euro (previous period's wealth) + 30 + 3 = 2033 euro.

2. Assume, your clients' current wealth is 2000 euro and you decide to invest 150% in the stock market index. Thus, the remaining 50% will be borrowed at the risk-free rate. If the stock market index yields a return of +3.0%, then the clients' wealth in the next period will be as follows: Profit/loss from the stock market index: (150% Investment $*$ 2000 euro) $*$ 3.0% Return = 90 euro. Cost of borrowing 50% at the risk-free rate: ($-$50% Loan $*$ 2000 euro) $*$ 0.3% Interest = $-$3 euro. Your clients' wealth in the subsequent period: 2000 euro (previous period's wealth) + 90 $\frac{1}{2}$ 3 = 2087 euro.

In each period, your decision screen shows the current wealth of your clients, the wealth change relative to the previous period, the return of the index in the previous period, the fraction invested in the index in the previous period, the risk-free rate and the fraction invested at the risk-free rate in the previous period A7).[36]

The decision screen in all 8 periods looks as follows:

[Begin additional text for treatments TRANK and TTOUR]

Beginning with Period 2, a league-table is displayed which shows your rank in your group of four, based on the clients' current wealth. You also get information about the clients' current

[36]See Figure A8 for treatments TRANK and TTOUR.

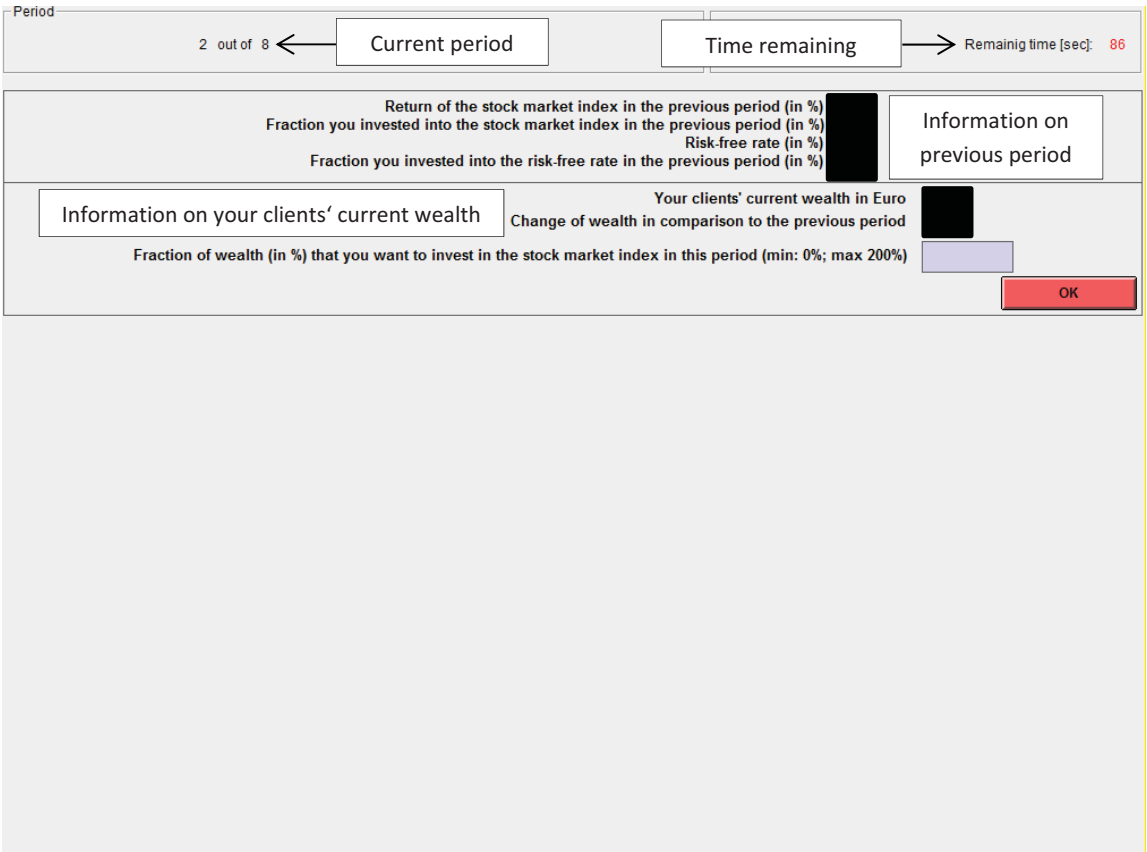

Figure A7: Decision screen in each period (note that this screen is only shown in Treatment TBASE).

wealth and the corresponding rank of the other participants in your group. This table appears for 20 seconds at the beginning of each period (see Figure A9) and is also displayed at the bottom of the decision screen (see Figure A8).

[End additional text for treatments TRANK and TTOUR]

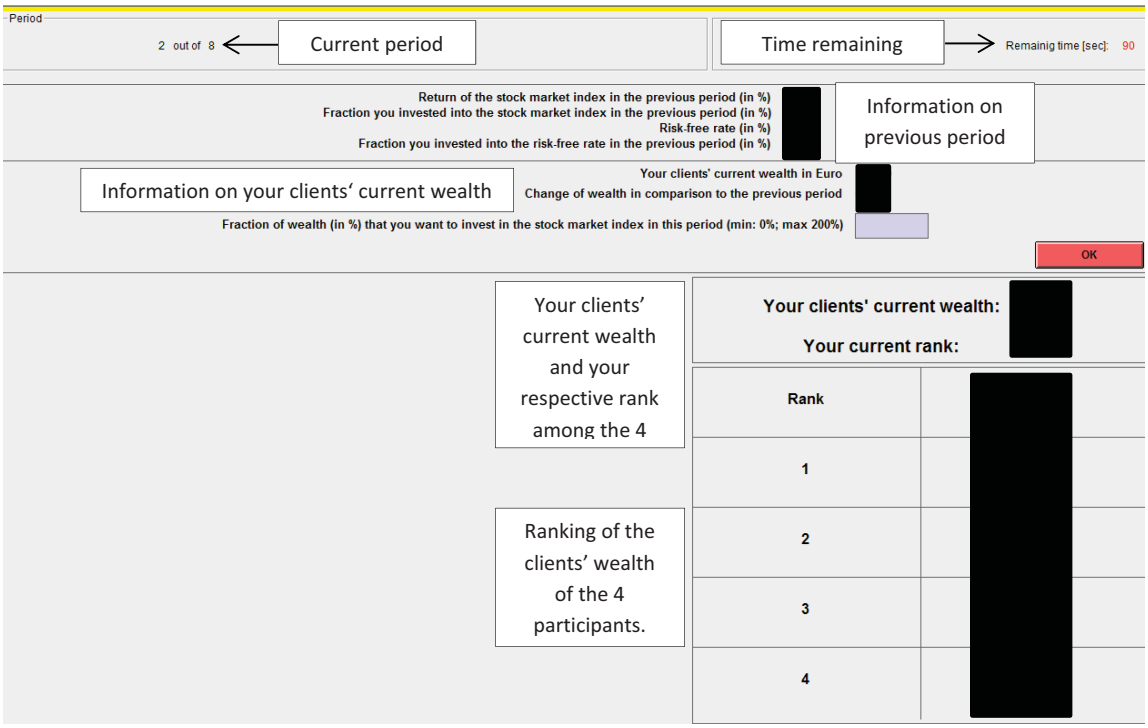

Figure A8: Decision screen in each period (note that this screen is only shown in treatments TRANK and TTOUR).

Payment

[Begin text for treatments TBASE and TRANK]

This same task is done by 10 investment managers for each pair of clients. At the end of this task the decisions of one of the 10 investment managers will be selected randomly to determine the payment for the two clients. If your decision is selected, your clients will be paid according to your investment decisions. The final wealth will be split equally between them. So, they will receive money in addition to their committed 2000 euro if the final wealth exceeds 2000 euro after the experiment. They will lose some of their committed money if the final wealth is below 2000 euro. For your services you will receive a fixed payment of 40 euro, irrespective of the final wealth of your clients.

[End text for treatments TBASE and TRANK]

[Begin text for Treatment TTOUR]

This same task is done by 10 investment managers for each pair of clients. At the end of this task the decisions of one of the 10 investment managers will be selected randomly to determine the payment for the two clients. If your decision is selected, your clients will be paid according to your investment decisions. The final wealth will be split equally between them. So, they will receive money in addition to their

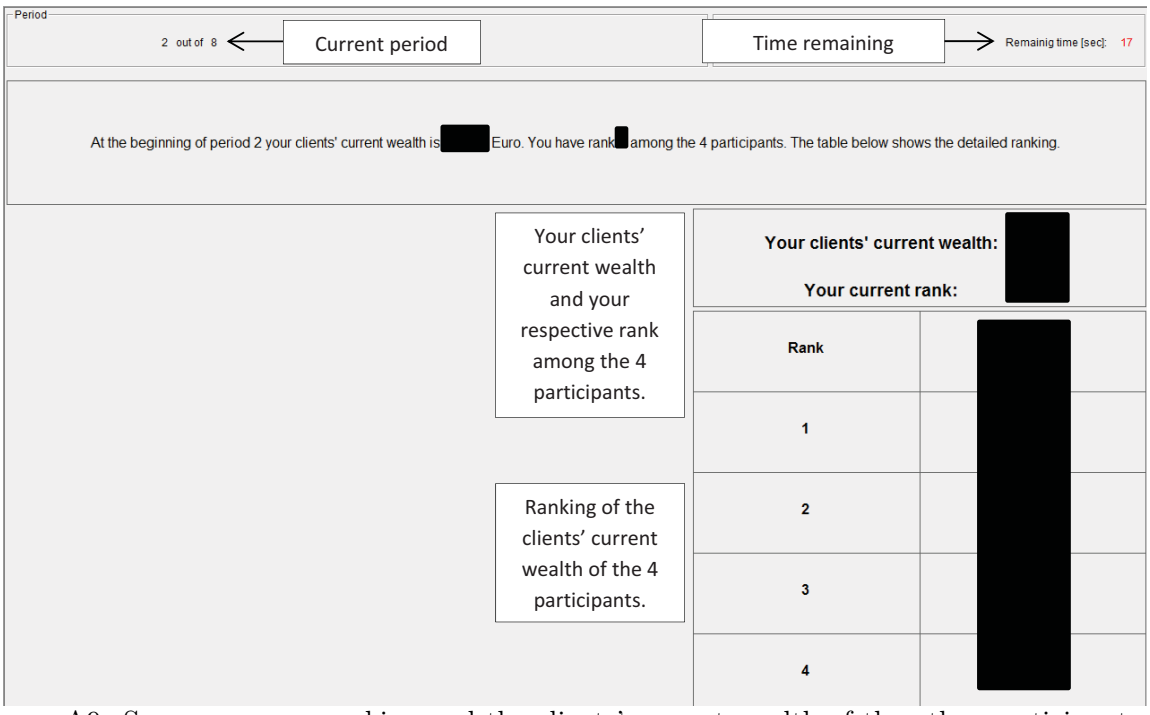

Figure A9: Screen on your ranking and the clients' current wealth of the other participants at the beginning of each period. This table is shown from period 2 onward (note that this screen is only shown in Treatments TRANK; TTOUR).

`committed 2000 euro if the final wealth exceeds 2000 euro after the experiment. They will lose some of their committed money if the final wealth is below 2000 euro. For your services you will receive a fixed payment according to your final rank as follows: the participant with rank 1 receives 90 euro, rank 2 receives 50 euro, ranks 3 and 4 receive 10 euro each.`

[End text for Treatment TTOUR]

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Michael Kirchler, Florian Lindner, Utz Weitzel

Delegated Investment Decisions and Rankings

Abstract
Two aspects of social context are central to the finance industry. First, financial professionals usually make investment decisions on behalf of third parties. Second, social competition, in the form of performance rankings, is pervasive. Therefore, we investigate professionals' risk-taking behavior under social competition when investing for others. We run online and lab-in-the-field experiments with 805 financial professionals and show that professionals increase their risk taking for others when they lag behind. Additional survey evidence from 1,349 respondents reveals that professionals' preferences for high rankings are significantly stronger than those of the general population.

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