Professional Norms and Risk-taking of Bank Employees: Do Expectations of Peers' Risk Preferences Matter?

Jiafu An[*]
University of Aberdeen Business School, University of Aberdeen
King's College, Aberdeen, United Kingdom AB24 3FX
jiafu.an@abdn.ac.uk

Mengfei Jiang
Edinburgh Business School, Heriot-Watt University
Gait 11, The Avenue, Edinburgh, United Kingdom EH14 4AS
m.jiang@hw.ac.uk

Jiaman Xu
University of Edinburgh Business School, University of Edinburgh
29 Buccleuch Place, Edinburgh, United Kingdom EH8 9JS
jiaman.xu@ed.ac.uk

[*] Corresponding author.
[†] We thank the Editor, Iftekhar Hasan, and two anonymous referees for the very helpful and constructive comments. We thank Chen Lin, Jo Danbolt, Andrew Wood, Seth Armitage, Yizhe Dong, Wenxuan Hou, Tinghua Duan, Xianda Liu, Ziwei Xu, Xi Liang, Xiao Han, and Ruoran Zhao for helpful discussions. All remaining errors are our own.

Professional Norms and Risk-taking of Bank Employees: Do Expectations of Peers' Risk Preferences Matter?

Jiafu An, Mengfei Jiang, and Jiaman Xu *

Aug 2021

Abstract

Using experimental data, we document that the impact of professional norms on the risk-taking of bank employees depends on their expectations of peers' risk preferences. When the professional identity of bank employees is made salient, those who expect colleagues to take more risk than themselves increase risky investments by 5.2 percentage points in a mock investment task, while others do not statistically change their risk-taking behaviors. Data from placebo experiments with non-bank employees do not exhibit such empirical patterns. The results are consistent with peer effects and social identity theories, and challenge the existing evidence that professional norms in the banking industry decrease risk-taking.

JEL classification: C93; G02; M14
Keywords: Banking; Professional norms; Risk-taking; Field experiments

* Jiafu An, University of Aberdeen. Email address: jiafu.an@abdn.ac.uk. Mengfei Jiang, Heriot-Watt University. Email: m.jiang@hw.ac.uk. Jiaman Xu, University of Edinburgh. Email address: Jiaman.Xu@e.ac.uk.

1. Introduction

Understanding the extent of risk-taking in the banking industry is central to global financial and economic stability.[1] Researchers and regulators, for example, have depicted excessive risk-taking in the banking industry as one of the fundamental causes of the recent financial crisis.[2] An active body of literature, therefore, seeks to understand the determinants of bank risk-taking (e.g., Esty, 1998; Laeven and Levine, 2009; Houston et al., 2010; Berger et al., 2014; Kirchler et al., 2018; Palvia et al., 2015; Kanagaretnam et al., 2015; Zardkoohi et al., 2018). However, the impact of professional norms, defined as widely shared beliefs that govern a set of acceptable behaviors in a profession, on bank risk-taking has received little academic attention. This is surprising given the large amount of policy discussions on changing professional norms in the banking industry to curb excessive risk-taking.[3]

A notable exception is Cohn et al. (2017), who conduct experiments with 128 bankers of a large international bank and find that bank employees are less willing to take risks when their professional identity is salient. Their results thus suggest that professional norms in the banking industry do not favor risk-taking. Using experimental data on a larger sample of 768 bankers, we contribute to this line of research by assessing whether the impact of professional norms on bankers' risk-taking depends on their subjective evaluations of the norms in the banking industry. We discover that when bank employees' professional identity is made salient, those who expect their colleagues to take more risks than themselves are more willing to take risks, while others do not change their risk-taking behaviors in a statistically significant way. Our results reveal that the effect of banking norms on risk-taking behaviors is heterogeneous, depending on bank employees' expectations of their peers' risk preferences.

Our empirical analysis is guided by theories of behavioral finance (e.g., Duflo and Saez, 2002, 2003; Ahern et al., 2014; Lindquist et al., 2015; Ouimet and Tate, 2020) and social identity and preferences (e.g., Akerlof and Kranton, 2000; Benjamin et al., 2010; Bénabou and Tirole, 2011). The behavioral finance literature on peer effects implies that individuals' behaviors are

[1] For example, see Bernanke (1983), Calomiris and Mason (2003), Mian and Sufi (2009), Chodorow-Reich (2014) and Huber (2018).
[2] See, for example, Financial Crisis Inquiry Commission (2011), Dewatripont and Freixas (2012), Kirchler et al. (2018).
[3] For example, see House of Commons Treasury Committee (2008), Power et al. (2013), International Monetary Fund (2014).

influenced by their peers because people develop beliefs about behavioral norms of their social groups by observing their peers and they receive utility benefits by conforming to the norms (e.g., Duflo and Saez, 2003; Lindquist et al., 2015). Relatedly, social identity theory states that individuals have a portfolio of social identities and each identity is tied to a specific set of behavioral norms, violating which can evoke anxiety and discomfort (Akerlof and Kranton, 2000).

The theory further predicts that increasing the salience of one specific social identity (i.e., identity priming) can alter people's behaviors in a tractable way (e.g., Cohn et al., 2014, 2017; Kumar et al., 2011; Hong and Kostovetsky, 2012). Moreover, such behavioral response may be heterogeneous, depending on a person's subjective evaluation of that social identity (e.g., Benjamin et al., 2010). Relating the argument to our empirical setting, the theory predicts that bankers' behavioral responses (i.e., risk-taking) to the professional identity priming (i.e., exogenously increasing the salience of the banker's identity) critically depend on their self-evaluated banking norms and the acceptable level of risk-taking prescribed by the norms. As suggested in the model by Benjamin et al.(2010), bankers whose professional identity is primed would shift their risk-taking levels towards what their self-evaluated banking norms prescribe. Using bankers' expectations of peers' risk preferences as a proxy for their self-evaluated banking norms, the theory thus predicts that, upon being identity primed (treated), bankers who expect their colleagues to take more risks than themselves increase risky investments, while those who expect their peers to take less or equal risk reduce the level of risk-taking. On the other hand, the behavioral response to the professional identity priming may not depend on bankers' expectations of their peers' risk preferences. For example, people in the same social group may have homogenous beliefs on the behavioral norms, and all members in the group show identical responses upon receiving a positive shock to the salience of the associated social identity. If this is the case, we will not observable heterogeneous effects of professional norms on bank employees' risk-taking.

To empirically test the research question on whether the impact of professional norms on the risk-taking of bank employees depends on their self-evaluated banking norms, we obtain experimental data from Rahwan et al. (2019). These scholars conducted two extensive field experiments with 768 bankers to study professional norms and dishonesty in the banking industry. While their experiments included a mock investment task, Rahwan et al. (2019) only used it to divert the participants' attention from the dishonesty task and did not analyze it. In the experiments,

they first randomly assigned participants to a treatment condition that boosted the saliency of their professional identity, and a control condition where the saliency of participants' professional identity was unchanged. The authors then asked participants to complete a mock investment task, where participants received an endowment of US $1,000 that they could invest in a risk-free or a risky asset with a positive expected return. We use the share invested in the risky asset as a measure of bankers' risk-taking. In the experiments, participants also provided their expectations of peers' investment in the risky assets. We use these expectations to proxy for their self-evaluated professional norms regarding risk-taking in the banking industry. According to identity theory (e.g., Akerlof and Kranton, 2000; Benjamin et al., 2010), bankers who expect their peers to invest in risky assets more than themselves should respond to identity manipulation differently from those who expect their peers to invest equally or less.

We discover that bankers who expect their colleagues to take more risks than themselves increase risky investments by 5.2 percentage points after receiving a positive shock to the salience of their professional identity, while those who expect their peers to take less or equal risk reduce their risky investments in a statistically insignificant way.[4]

It is important to note that our results are unlikely to be affected by endogeneity biases because we focus on the comparison of risk-taking behavior within bankers with data obtained from randomized controlled trials. A major empirical challenge in assessing the causal impact of professional norms on bank employees' risk-taking is that individuals' decisions to work in the banking industry and risk preference might be codetermined by personal traits, many of which are unobservable. Therefore simply comparing the risk-taking behavior of bank employees to that of professionals in other industries may lead to results that suffer from the endogeneity problem of omitted variables. By comparing the risk-taking outcomes within bankers, we are able to eliminate the concern that our estimates are confounded by omitted variables that simultaneously lead people to the banking industry and influence their risk-taking decisions.

Moreover, we use experiment data from a series of randomized controlled trials with a sufficiently large number of participants in which the treatment (i.e., identify priming) is randomly assigned. Therefore our results are unlikely to be driven by differences between treated and control bankers that influence bank employees' self-evaluated professional norms and risk-taking

[4] The interpretation is based on the estimates in column (3) of Table 4.

decisions. Overall, our empirical strategy enables us to isolate professional norms from other determinants of bank employees' risk-taking. Nevertheless, we still control for a wide range of personal traits in the empirical analysis and conduct additional tests discussed below to check the robustness of our baseline finding.

A key identification assumption is that bankers' expectations of their peers' risk preferences were not changed by the treatment, as the information on expectations was collected at the end of the experiment. We argue and provide an assortment of evidence supporting that this is a reasonable assumption in the current study. First, the length of the experiment was too short (about 15 minutes) to change participants' perceptions of their peers' risk preferences,[5] which were arguably being formed over a very long time via shared experiences and social interactions as colleagues. Indeed, participating bankers in our sample, on average, have over 14 years of professional experience. Second, we provide empirical evidence that the proportion of bankers who think their peers are more risk-seeking than themselves is not statistically different between the treatment and the control groups. This suggests that the treatment does not causally change bankers' expectations of their peers' risk preferences. Third, we conduct similar tests in a sample of financial regulators and non-financial professionals to see whether the null result is specific to bankers. The evidence shows that being primed on their professional identity does not change participants' perceptions about their peers' risk preferences, regardless of participants' professions. In sum, the evidence suggests that expectations of peers' risk preferences are unlikely to be influenced by the experiments, although such information was collected after the treatment.

It is important to ask whether the conditional treatment effect is specific to the banking industry. In other words, is the result really capturing the impact of professional norms of bankers, or some general effects when people think about their jobs? To address this concern, we obtain data on 514 non-banking employees who were recruited to participate in the same experiments. We find that participants who expect their peers to take more risks than themselves do not change their risk-taking behaviors in a statistically meaningful way after the manipulation of their professional identity, nor do the other non-banking professionals.

Another essential concern is whether the conditional effect of professional norms on risk-taking captures the impact of rankings within the participating banks. As Kirchler et al. (2018)

[5] See the online appendix of Cohn et al. (2017) for details on the time of the experiment. Rahwan et al. (2019), which provide the data for our empirical analysis, use the same survey instrument.

documented, rankings based on employee performance within financial firms can materially increase underperformers' risk-taking.[6] In our empirical setting, if participants who expect their peers to take more risks than themselves are also those with worse rankings within the banks, then our interpretation of the results would be invalid. To address this concern, we additionally control for participants' competitiveness and relative salary in our empirical analyses. As emphasized by Kirchler et al. (2018), the channel through which rankings influence employees' risk-taking is their stronger preferences for better performance relative to their peers. Our results remain unchanged after controlling for these measures.

Our study is closely related to Cohn et al. (2017) but distinct from it on several important fronts. First, while Cohn et al. (2017) study the average effect of banking norms on bankers' risk-taking, we focus on bankers' heterogeneous behavioral responses to banking norms. Although both research questions are important, they are testing two different aspects of identity theory. In addition, our finding that bankers, conditional on their subjective evaluations of banking norms, do increase their risk-taking when their professional identity is salient has different policy implications than the findings in Cohn et al. (2017). For example, Cohn et al. (2017) suggest that banks may send professional identity reminders to their employees to promote risk-averse behavior. Our results imply that such a strategy may work in the opposite direction when employees believe that their peers take more risks.[7] Lastly, our sample, which contains 768 bank employees (620 from the Asia Pacific and 148 from the Middle East), is much larger in size and geographical coverage than Cohn et al. (2017). This helps improve the external validity and thus policy relevance of our study.

This paper is related to the broad literature that examines the determinants of bank risk-taking behaviors. For example, Esty (1998) finds that banks subject to stricter liability regulations take less risk, as measured by equity and asset volatility. Laeven and Levine (2009) relatedly document that the impact of regulation on bank risk-taking is heterogeneous and critically depends on bank ownership structure (i.e., the comparative power of shareholders). In a critical study, Berger et al. (2014) find that board demographic characteristics (e.g., average age, gender

[6] These rankings do not have to be formal, and do not have to be payoff-relevant, to exert a positive impact on the risk-taking of financial professionals (Kirchler et al., 2018).

[7] This scenario is highly likely given the large amount of negative publicity about the financial industry (e.g., Securities and Exchange Commission, 2011; United States Senate Permanent Subcommittee on Investigations, 2011; Security and Exchange Commission, 2016; Chon et al., 2015).

composition and education level) are key factors shaping bank risk-taking behaviors. Adhikari and Agrawal (2016) and Kanagaretnam et al. (2015), on the other hand, uncover that religion is another important factor that influences bank risk-taking. Our study adds to this literature by documenting that professional norms in the banking industry play a key role in influencing bank risk-taking levels, and such impact is heterogeneous depending on bankers' subjective evaluations of professional norms.

This paper also adds to the literature on social identity theory (e.g., Akerlof and Kranton, 2000; Benjamin et al., 2010). In the models of Benjamin et al. (2010) and Cohn et al. (2017), people can exhibit heterogeneous behavioral responses to the increased salience of social identity, depending on their subjective evaluations of that social identity. In particular, their models predict that people change their behavior towards what their self-evaluated identity norms prescribe, upon being identity primed. This paper provides the first empirical test of this part of the theory in the context of banking professional norms and risk-taking. We find that the risk-taking behaviors of bank employees who expect their peers to take less or equal risk than themselves do not respond to the shock in a statistically meaningful way, which is in contrast to what their models predict, i.e., moving towards what their self-evaluated identity norms prescribe. One possible explanation mentioned in Benjamin et al. (2010) is that these bankers become saturated with the banking professional identity in terms of risk-taking and therefore become irresponsive to the identity shock.

Lastly, this article contributes to an emerging but quickly expanding literature that examines the impact of social identity and preferences on financial behaviors (e.g., Hilary and Hui, 2009; Kaustia and Torstila, 2011; Kumar et al., 2011; Hong and Kostovetsky, 2012; Cohn et al., 2015; Kirchler et al., 2018; Drupp et al., 2020). For example, Cohn et al. (2014) document that professional norms in the banking industry lead bank employees to be less honest. Lindner et al. (2019) show that self-image, a form of intrinsic motive, drives professionals in the finance industry to take more risks. Our study takes a further step, showing that the impact of social identity on risk-taking is heterogeneous, depending on subjects' self-evaluation of the professional norms.

Our findings are highly relevant for policies that aim to effectively reduce excessive risk-taking in the banking industry. Researchers and regulators have reached a broad consensus that excessive risk-taking in the banking industry is one of the major causes of the recent financial crisis (e.g., Financial Crisis Inquiry Commission, 2011; Dewatripont and Freixas, 2012; Kirchler

et al., 2018) and therefore seek to find the roots of the excessive risk-taking. Many believe that professional norms in the banking industry encourage risk-taking behaviors, and thus they call for a change in professional norms to address the problem (e.g., House of Commons Treasury Committee, 2008; Power et al., 2013; International Monetary Fund, 2014). However, Cohn et al. (2017) find the opposite, suggesting that professional norms in the banking industry do *not* favor risk-taking.

Our paper adds to the ongoing debate by documenting that banking industry norms cause bankers to be more risk-seeking, but only when they think their peers take more risks. Further, such a conditional relationship between banking industry norms and risk-taking may be the reason that Cohn et al. (2017) find opposite results. In other words, participants in Cohn et al. (2017) may believe they take more risks than their peers on average, and therefore reduce risk-taking when reminded about their professional identity.[8] As stated in a more recent study by the same authors (Cohn et al., 2019), the investment bank from which the authors recruited participants for Cohn et al. (2017) "was involved in multiple high-profile legal and regulatory disputes that involved problematic business practices", which may reflect excessive risk-taking in the bank.[9] Overall, our findings suggest that it warrants more evidence to make a more informed decision to curb excessive risk-taking in the banking industry.

The rest of the paper is organized as follows. Section 2 presents the theory and hypotheses. Section 3 introduces data and the experiments. Section 4 presents the empirical analyses. Section 5 concludes.

2. Theory and Hypothesis

The behavioral finance literature has long suggested that individuals' behaviors are influenced by peers in their social groups (Duflo and Saez, 2002, 2003; Hong et al. 2004, 2005; Brown and Laschever, 2012; Lerner and Malmendier, 2013; Ahern et al., 2014; Lindquist et al., 2015; Ouimet and Tate, 2020). For example, Duflo and Saez (2003) document that individuals'

[8] We find that bankers reduce their investment in the risky asset when they expect their colleagues to take less risk than themselves. However, this result is not statistically significant.

[9] To further elaborate, participants in Cohn et al. (2017) may have a sense that they are taking more risks than their peers, and thus reduce their investments in risky assets when their professional identity is made salient. This does not necessarily mean that these participants are actually taking more risks in their business practices. The prediction we have developed from identity theory emphasizes participants' self-evaluations of the professional norms; that is, their expectations of how their peers take risks, not real investment practices.

decisions on contributing to retirement plans are affected by their workplace peers. The authors suggest that, as emphasized by the model of conformity (Akerlof, 1980; Bernheim, 1994), one mechanism to explain such peer effects is that people want to maintain the same consumption level as is common in their social group; hence, they learn appropriate behavior by observing co-workers and acting accordingly. Along the same lines, a more recent study by Lindquist et al. (2015) shows that, driven by conformist behavior, workers' productivity is influenced by their co-workers. In addition, Ahern et al. (2014) provide evidence that individuals' risk preference shifts towards that of their peers enrolled in the same MBA program. Students may infer the risk preferences of their peers from behaviors such as classroom-based investment decisions, job searches or discussions about business ideas, and they receive utility benefits by conforming to norms in the social group. Overall, the literature implies that, by interacting with and observing their peers, individuals develop beliefs about behavioral norms attached to the social groups and update their behaviors accordingly.

Relatedly, a stream of literature on social identity and preference states that individuals have a portfolio of social identities, such as gender, race or occupation, which are associated with their social groups (e.g., Akerlof and Kranton, 2000; Benjamin et al., 2010). Each identity prescribes a specific set of behavioral norms, i.e., how one as a member of the social group should behave (e.g., Tajfel, 1974; Turner et al., 1987; Akerlof and Kranton, 2000; Benjamin et al., 2010; Bénabou and Tirole, 2011). Actions violating the norms may evoke anxiety and discomfort in oneself, reducing the payoffs of the actions (Akerlof and Kranton, 2000). Social identity theory predicts that a person's behavioral choice in a given situation is governed by a portfolio of weighted behavioral norms tied to their social identities, in which the weights are determined by the relative strength or salience of the identities in the person's mind (Benjamin et al., 2010). An exogenous shock to the relative strength or salience of one specific social identity, which we call an identity shock for simplicity, can change people's behavior in a tractable way (e.g., Cohn et al., 2014, 2017; Kumar et al., 2011; Hong and Kostovetsky, 2012). Moreover, as implied by the models of Benjamin et al. (2010) and Cohn et al. (2017), people can exhibit heterogeneous behavioral responses to the increased salience of social identity, depending on their subjective evaluations of the norms associated with that identity.

Relating to our empirical setting, individuals working in banks have a portfolio of social identities, one of them being their occupational identity as bank employees. By interacting with

their peers at work and observing their investment behaviors, bank employees develop a sense of norms with respect to risk-taking in the banking industry. Since bank employees have the desire to stay in line with other members in the banking profession and avoid violating the self-evaluated professional norms (Akerlof and Kranton, 2000), upon receiving a positive shock to the strength of their professional identity, bank employees would shift their risk-taking levels from their preferred level towards what their self-evaluated banking norms prescribe.

Using bankers' expectations of peers' risk preferences as a proxy for their self-evaluated banking norms, we predict that, following a positive shock to the salience of their professional identity as bank employees, those who expect their colleagues to take more risk than themselves increase risky investments, while those who expect their peers to take less or equal risk reduce the level of risk-taking. Our main hypothesis is as follows:

H1: *Ceteris paribus*, bankers who expect their colleagues to take more risk than themselves increase risky investments upon receiving a positive shock to the strength of their professional identity, while those who expect their peers to take less or equal risk reduce the level of risk-taking.

On the other hand, the impact of professional norms on risk-taking behaviors in the banking industry may not depend on the bank employees' expectations of their peers' risk preferences. An implicit assumption of previous research is that employees respond to professional norms in a homogenous way. For example, Cohn et al. (2014, 2017) find that when their professional identity is rendered salient, bank employees are more likely to behave dishonestly and are less willing to take risks. Whether the results are heterogeneous, however, remains unclear. A possible result is that people in the same social groups have homogenous beliefs on the behavioral norms and all the members in the group will react identically to a positive shock to the increased salience of the associated social identity. This yields our second hypothesis:

H2a: *Ceteris paribus*, upon receiving a positive shock to the strength of their professional identity, bankers increase their risk-taking level regardless of what they believe their colleagues would behave.

H2b: *Ceteris paribus*, upon receiving a positive shock to the strength of their professional identity, bankers reduce their risk-taking level regardless of what they believe their colleagues would behave.

3. Data

3.1 Sample and Experiments

We obtain data from Rahwan et al. (2019). The authors conducted two field experiments with two commercial banks in the Middle East and the Asia Pacific. In the Asia Pacific experiment, which was administered in August 2018, the authors recruited 620 bankers and 242 non-banking professionals. In the Middle East study, 148 bankers and 67 non-banking professionals participated in the experiment. The authors also recruited 205 additional non-banking participants from Europe. While the non-banking professionals in the Asia Pacific study were recruited from all types of industries,[10] those from the Middle East and Europe were recruited from a financial service regulator. In our empirical analyses, we pool participants from these experiments together and add experiment fixed effects whenever appropriate. In total, our banker sample has 768 observations, while the non-banking professional sample has 514 observations.

In the experiments, Rahwan et al. (2019) randomly selected 599 participants, 357 bankers and 242 non-banking professionals, for a treatment called priming. During priming, participants were exposed to a series of subtle situational cues designed to activate or boost the saliency of their professional identity. In particular, treated participants were asked seven questions about their occupational background, such as "At which bank are you presently employed?" or "For how many years have you been working in the banking sector?" In the control group, these were replaced by seven questions unrelated to professional identity.[11] After the priming, participants were asked to solve a word-completion exercise used to test the effectiveness of the priming, which we discuss in detail in the next section and in the Online Appendix A. This identity priming technique was initially developed by applied psychologists and has been widely applied to study

[10] The participants were sourced from a professional panel provider (Rahwan et al., 2019).

[11] See the Online Appendix A for more details of priming. For details of the survey instrument used in these experiments, see Cohn et al. (2014) and Rahwan et al. (2019). Rahwan et al. (2019) used the same survey instruments as Cohn et al. (2014), with slight modifications, such as the endowment amount for the investment task.

topics in finance and economics (e.g., Benjamin et al., 2010; Benjamin et al., 2016; Cohn et al., 2014, 2017; Kirchler et al., 2018; Drupp et al., 2020).

3.2 Key Variables

After random assignment for the treatment exposure, all participants were invited to complete a mock investment task.[12] In the investment task, participants received an endowment of US $1,000 that they could invest either in a riskless or a risky asset. When investing in the risky asset, participants had a 50% probability of earning 2.5 times the invested amount, and a 50% probability of losing the entire invested amount. Therefore, we use the share invested in the risky asset, *RiskyShare*, to measure bankers' risk-taking.

In the experiments, participants also provided their expectations of peers' investment in the risky assets. We use these expectations to measure their self-evaluated professional norms regarding risk-taking in the banking industry. As predicted by models of identity theory (e.g., Akerlof and Kranton, 2000; Benjamin et al., 2010), participants who expect their peers to invest more in risky assets than themselves should respond to the identity manipulation differently from those who expect their peers to invest equally or less. According to this theoretical prediction, we construct an indicator variable, *RiskAverse*, that equals one if participants expect their peers to invest more in the risky assets than themselves, and zero otherwise.

After completing the mock investment task, participants were invited to solve a word-completion exercise. The results of the exercise were used to measure whether the treatment, i.e., identity priming, was effective. Specifically, participants were required to use the first word that came into their mind to complete word fragments, including "_ock", "_oker", "_oney" and "b_nd". The idea is that if the saliency of bank employees' professional identity was successfully primed, they would be more likely to complete the fragments with finance-related words, such as "stock", "broker", "money" and "bond", rather than "clock", "smoker", "honey" and "band", which are

[12] Participants were first invited to conduct another exercise before the investment task. The exercise, which was the research interest of Rahwan et al. (2019), asked participants to take any coin, toss it ten times and report the outcomes to the researchers. The investment task we examine here was used to draw attention away from the coin-tossing exercise. The results were later used to study professional norms and dishonesty in the banking industry. Rahwan et al. (2019) find bankers are no more likely to be dishonest when their professional identity is made salient, which contradicts what Cohn et al. (2014) document. Since this is not the focus of our paper, we omit further details of this exercise.

unrelated to their daily work. We construct a variable, *Words*, equal to the share of finance-related words participants completed.

3.3 Other Variables

Apart from some basic demographic information, including participants' age, gender, education background and job function, Rahwan et al. (2019) also collect a range of other data that are important to our study. For example, *Relativewage* is an indicator ranging from 1 to 7, with higher values representing a higher salary compared to other employees in the same company; *ProfessionalExperience* equals the number of years a participant has worked in the respective professional industry; *Statusmoney* is a scale indicator ranging from 1 to 7, with higher values indicating a stronger level of agreement with the statement "Social status is primarily determined by financial success"; *SocialEsteem* and *ProfessionalImage* are scale measures ranging from 1 to 7, with higher values indicating that respondents regard what other people think about them and their professional industry as more important, respectively; lastly, *Competitiveness* is a scale indicator ranging from 1 to 7, with higher values indicating that the respondent regards being the best at what she/he does are more important. Detailed definitions for all variables are presented in Table 1.

[Insert Table 1 Here]

Table 2 shows summary statistics by subjects' treatment and control status and presents balance checks between the two groups. In panel A, we break up the full sample by participants' treatment and control status. As shown in the panel, participants on average invest 43% of their endowment in risky assets, and 38% of the participants think that their peers invest more in risky assets than themselves. The share of finance-related words that participants completed in the word-filling task is significantly higher in the treatment group (45%) than in the control group (39%). We will provide a formal test later in the empirical analysis section. Across the treatment and control groups, all other variables, except *SocialEsteem*, are well balanced. Therefore, in the later analyses, *SocialEsteem* will be controlled for.

[Insert Table 2 Here]

Panel B presents the same statistics for the banker sample. Bankers, on average, invest more in the risky assets (51% versus 43%). Further, 48% of bankers think their peers take more

risks than themselves, which is substantially higher than the number of non-banking professionals (31%). Panels C and D further break down the banker sample based on *RiskAverse*, which equals one if participants expect their peers to invest more in the risky assets than themselves, and zero otherwise. The results from these panels show that the treatment and control groups are all well balanced in these two sub-samples, and the treated bankers invest substantially more in the risky assets than their peers from the control group when they expect their colleagues to be more risk-seeking (panel C).[13]

4. Empirical Analysis

This section empirically examines the impact of professional norms on risk-taking behaviors in the banking industry. We first present results from a manipulation check, which documents that the priming treatment effectively activated bank employees' professional identity. We then present various evidence that bankers' expectations of their peers' risk preferences are not changed by the experiments. Next, we show the main results that the treated bank employees who expect their colleagues to take more risk than themselves increase risky investments substantially, while those who expect their peers to take less or equal risk do not statistically change their risk-taking behavior.

[Insert Figure 1 Here]

4.1 Manipulation Check

Figure 1 compares the results from the word-completion task between bankers in the treated and control groups. The share of bank-related words increased from 37% in the control group to 43% in the treated group, a 16% increase. However, the sharp increase may reflect other differences between the two groups, such as *SocialEsteem*. To control for these observable factors, we run the following Ordinary Least Squares (OLS) model:

[13] Our sample only consists of bankers in commercial banks, who might have different characteristics from the employees of investment banks in the sample of Cohn et al. (2017), we thus compare the demographic characteristics and attitudes of the commercial bank employees in our sample to those of investment bank employees in the sample of Cohn et al. (2017). The statistics are displayed in the Online Appendix Table OA1. As shown, most of the characteristics of the treated bankers are not statistically different between the two samples, except for professional experience and competitiveness. The commercial bank employees in our sample on average have worked for more years in the industry and are more competitive compared to the investment bank employees in Cohn et al.'s (2017) sample.

$$Words_i = \alpha + \beta Prime_i + \gamma X_i + \delta + \varepsilon \quad (1)$$

where $Words_i$ is the share of bank-related words for participant i; $Prime_i$ indicates the treatment condition; and X_i is a vector of control variables, including some basic demographic characteristics, such as respondents' age, gender, education background and job function, and variables of self-reported and work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage* and *Competitiveness*. δ denotes experiment/region fixed effects as our sample include data from banks in two different regions. All variables are defined in both Section 3 and Table 1. Table 3 presents the regression results, with *P*-values calculated by robust standard errors in parentheses. We report results from the full banker sample in column (1), those who expect their peers to take more risks in column (2), and the rest in columns (3).

[Insert Table 3 Here]

As shown in Table 3, the treatment indicator $Prime_i$ has entered all regressions with a positive, statistically significant coefficient. This suggests that the treatment, which aimed at activating bankers' professional identity, was effective. In terms of the magnitude, consider the estimates from column (1). The share of bank-related words has increased by 5.8 percentage points, representing a 14.5% increase when evaluated at sample mean.[14] In the next section, we exploit this variation to examine the relationship between professional norms and risk-taking.

4.2 Main Results

We present in this section our main findings on the effects of professional norms on risk-taking in the banking industry.

Before proceeding to our main analyses, it is essential to discuss a fundamental identification assumption of our study. That is, bankers' expectations of their peers' risk preferences were not influenced by the experiments, although the information on expectations was collected at the end of the experiments. Here, we present various evidence that this is a reasonable assumption in our study. First, the length of the experiments, as described in Cohn et al. (2014) and Rahwan et al. (2019), was too short (about 15 minutes) to change participants' perceptions of their peers' risk preferences, which were arguably formed over a rather long time through shared

[14] Since our dependent variable is categorical, we also run a Tobit model instead of OLS. The results are the same, and are tabulated in the Online Appendix Table OA2.

work experiences and social interactions. As shown in Table 2 panel B, bankers in our sample on average have 14.4 years of work experience.

We next formally test whether the proportion of bankers who think their peers are more risk-seeking than themselves is different between the treatment and the control groups. In other words, we are concerned with whether the treatment (identity priming) has changed bankers' expectations of their peers' risk preferences relative to their own. In particular, we run the following OLS model:

$$RiskAverse_i = \alpha + \beta Prime_i + \gamma X_i + \delta + \varepsilon \quad (2)$$

where $RiskAverse_i$ equals one if participants, i, expect their peers to invest more in the risky assets than themselves, and zero otherwise; $Prime_i$ indicates the treatment condition; X_i is a vector of control variables, including basic demographic characteristics and variables of work-related attitudes; and δ denotes experiment/region fixed effects. All variables are defined in Section 3 and Table 1. Table OA3 in the Online Appendix presents the regression results, with *P*-values calculated by robust standard errors in parentheses. We tabulate the results from the full banker sample, the Asia Pacific sample and the Middle East sample in columns (1)-(3), respectively. We only control for experiment fixed effects in the regressions displayed in column (1), in which both the Asia Pacific sample and the Middle East sample are included.

As shown, none of the coefficients on the treatment indicator $Prime_i$ are statistically significant. This suggests that the treatment does not causally change bankers' expectations of their peers' risk preferences. In addition, we perform similar tests in a sample of financial regulators from Europe to see whether the null result is specific to bankers in the Middle East and the Asia Pacific. The results, tabulated in column (4) of Table OA3, show that identity priming does not change participants' expectations of their peers' risk preferences. In sum, the evidence suggests that expectations of peers' risk preferences are unlikely to be influenced by the experiments, although such information was collected after the treatment.

We now proceed to our main analysis on professional norms and risk-taking in the banking industry. Do professional norms encourage bankers to take more risks? Does this relationship depend on bankers' expectations of their peers' risk preferences? Figure 2 panel A shows that bankers in the treatment group slightly decreased their investments in the risky assets relative to their peers in the control group. However, as we show later, the difference is not statistically

significant and hides substantial heterogeneous effects. When we further break down the sample based on bankers' expectations of their peers' risk preferences, we find that the treated bankers substantially increased their risky investments when they expect their peers to take more risks (panel B), while still not finding a statistically significant difference between the treated and the control groups in the rest of the sample (panel C). Finally, in panel D, we show the cumulative distribution functions of shares invested in the risky assets for bankers who expect their peers to take more risks. Clearly, the treatment has led to a general shift of the distribution to the right; that is, greater investment in the risky asset.

[Insert Figure 2 Here]

Although the graphs illustrate that professional norms in the banking industry lead to more risk-taking for bankers who expect their colleagues to take more risks than themselves, such results may reflect the differences of some other observable factors that the randomization process of the experiments failed to balance, such as *SocialEsteem*. To control for these factors, we therefore run the following OLS model:

$$y_i = \alpha + \beta Prime_i + \gamma X_i + \delta + \varepsilon \quad (3)$$

where y_i is the share of risky investment for participant i; $Prime_i$ measures the treatment status; X_i is a vector of control variables, including some basic demographic characteristics and variables of self-reported and work-related attitudes; and δ denotes experiment/region fixed effects. All variables are defined in both Section 3 and Table 1.

The Online Appendix Table OA4 tabulates the results, with *P*-values calculated by robust standard errors shown in parentheses. We report the results from the full banker sample in columns (1), those who expect their peers to take more risks in columns (2), and the rest in columns (3). The results reveal a similar empirical pattern to the graphical evidence presented in Figure 2. While the treatment indicator $Prime_i$ is not statistically significant in the full sample, it enters all the regressions in the sub-sample where bankers expect their peers to take more risks, with a positive, statistically significant coefficient at the 1% level.[15] This provides initial evidence that the impact of professional norms of the banking industry on risk-taking is heterogeneous, depending on bank

[15] The economic magnitude of the impact is non-trivial. The estimated coefficients on $Prime_i$ displayed in column (2), suggests that bankers in the treatment group invest 4.9 percentage points more in the risky assets than those in the control group. This increase represents about a 13% (= 4.9/37) jump from the sub-sample mean.

employees' expectation of peers' risk preferences, i.e., their self-evaluated norms. Our second hypothesis discussed in Section 2 is thus rejected.

We next conduct a difference-in-differences regression to test whether the treatment effect differs between bankers who expect their peers to take more risks than themselves and the rest. By pooling the two sub-samples, we have more observations and more testing power. Further, we can directly account for the effects of simply having a higher expectation of peers' risk preferences on bankers' risk-taking. Particularly, we run the following OLS model:

$$y_i = \alpha + \beta_0 Prime_i \times RiskAverse_i + \beta_1 Prime_i + \beta_2 RiskAverse_i + \gamma X_i + \delta + \varepsilon \qquad (4)$$

where y_i is the share of risky investment for participant *i*; $Prime_i$ is an indicator for treatment status; $RiskAverse_i$ is an indicator that equals one if participants expect their peers to invest more in the risky assets than themselves, and zero otherwise. X_i is a vector of control variables, and δ denotes experiment/region fixed effects.

Table 4 reports results from the full banker sample, with *P*-values calculated by robust standard errors shown in parentheses. Column (1) reports the results without any controls; in column (2), we include the basic demographic variables, including respondents' age, gender, education background and job function; in column (3), we report the results with additional variables of work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage* and *Competitiveness*, as well as region fixed effects. We note that controlling for the region fixed effects in the specification is essential, as our data consist of bank employees from different regions and the cultural differences may affect both participants' risk-taking level and the expectations on their peers' risk preferences (e.g., Benjamin et al., 2010). Thus omitting region fixed effects would potentially bias our estimates.

[Insert Table 4 Here]

As shown in Table 4, none of the coefficients on $Prime_i$ is statistically significant. This implies that the risk-taking behaviors of the reference group, bankers who expect their colleagues to take the same or less risk than themselves, do not respond to the shock to the salience of the professional identity in a statistically meaningful way.

On the other hand, the interaction term $Prime_i \times RiskAverse_i$ enters all the regressions with a positive, statistically significant coefficient at the 1% level. Consider the coefficient displayed in column (3). The estimate on the interaction term suggests that, upon receiving a

positive shock to the salience of the professional identity, the increase in the share invested in the risky asset of bank employees who expect their peers to take more risks is 8.0 percentage points higher than that of those who expect their peers to be equally or less risk-taking. This, again, suggests that the impact of professional norms on bankers' risk-taking behaviors depends on their expectations of peers' risk preferences.

Furthermore, professional norms do cause bankers to be more risk-seeking in an economically meaningful way, when bankers expect their peers to take more risks. Considering the economic magnitude of the impact on bankers who expect their peers to take more risks, those in the treatment group invest 5.2 percentage points more in the risky assets than those in the control group, representing about 14% (= 5.2/37) jump from the sub-sample mean.[16] In particular, the effect is similar to our previous split sample results. It suggests that even when we directly control the impact of bankers' expectations of peers' risk preferences on risk-taking, our results do not change.

Our finding is in line with the literature on peer effects and social identity theory. The two strands of literature provide theoretical guidance on why bank employees who expect their peers to take more risks than themselves are more risk-taking when their professional identity is primed.

The peer effects literature presents evidence that people's behaviors are influenced by their peers through social interactions (e.g., Duflo and Saez, 2002, 2003; Hong et al. 2004, 2005). In particular, the peer effects might prevail more in the workplace where social interactions are relatively more regular and frequent than in other social groups. Indeed, an active line of research has documented that individuals' financial decisions and work productivity are affected by their co-workers (e.g., Duflo and Saez, 2002, 2003; Falk and Ichino, 2006; Mas and Moretti, 2009; Bandiera et al., 2009; Lindquist et al., 2015; Ouimet and Tate, 2020). The literature suggests that people develop beliefs around social norms by interacting with others and observing them (e.g., Duflo and Saez, 2003; Ahern et al., 2014; Lindquist et al., 2015), and they conform to those norms to receive utility benefits (Akerlof, 1980; Bernheim, 1994).

In addition, social identity theory predicts that individuals have a portfolio of social identities, each tied to a specific set of behavioral norms, and individuals' behavior is guided by the relative level of the salience of a particular identity and associated norms in their minds (e.g.,

[16] The mean value of *RiskyShare* of the sub-sample of bankers who expect their peers to take more risk is 0.37.

Benjamin et al., 2010). Collectively, the literature explains why upon receiving a positive shock to the strength of their professional identity, bank employees shift their risk-taking level towards what their self-evaluated professional norms prescribe.

On the other hand, we do not find any evidence that bank employees who expect their peers to take the same or fewer risks reduce the level of risk-taking when their professional identity is made salient. One possible explanation mentioned in Benjamin et al. (2010) is that these bankers become saturated with the banking professional identity in terms of risk-taking and therefore become irresponsive to the identity shock.

4.3 Robustness Checks

In this subsection, we conduct several robustness checks on the main results.

We first present results from placebo experiments on non-banking professionals. A significant concern of our main results is whether the empirical patterns documented above are specific to the banking industry. In other words, are the results really capturing the impact of professional norms of bankers, or some general effects when people think about their jobs? To alleviate this concern, we obtain data from the same experiments, but on 514 non-banking employees from the Middle East (N=67), Asia Pacific (N=242) and Europe (N=205). Summary statistics for this sub-sample are tabulated in the Online Appendix Table OA5. Figure 3 shows that in contrast to the banker sample, professional norms in the banking industry do not have the same impact on non-banking professionals' risk-taking behaviors. Although some differences in the share of risky investments can be observed between the treatment and control groups in some sub-samples, none of these differences is statistically meaningful. Panel D again shows the cumulative distribution functions of shares invested in the risky assets for professionals who expect their peers to take more risks. Clearly, the treatment does not cause a general shift in the distribution. In fact, the two cumulative distributions cross two times during their courses.

[Insert Figure 3 Here]

Similar to the main experiments, we run model (4) with data from the placebo experiments. The results are presented in Table 5 columns (1)-(3). *P*-values calculated by robust standard errors are shown in parentheses. In column (1), we do not add any control variables; in column (2), X_i includes some basic demographic characteristics; in column (3), X_i includes the full set of control

variables and experiment fixed effects. All variables are defined in both Section 3 and Table 1. As shown in Table 5, none of the coefficients on $Prime_i$, nor the interaction term $Prime_i \times RiskAverse_i$ is statistically meaningful. This suggests that the impact of professional norms on risk-taking is specific to the banking industry. In other words, the treatment on bankers in the main experiments does capture, to a large extent, the effect of banking professional norms.[17]

Second, another important concern is whether the conditional effect of professional norms on risk-taking captures the impact of rankings within the participating banks. In a recent study, Kirchler et al. (2018) document that rankings based on employee performance within financial firms can materially increase underperformers' risk-taking. In our sample, if participants who expect their peers to take more risks than themselves are also those with worse performance rankings within the banks, then our interpretation of the results would be tainted. To alleviate this concern, we note that, as shown in Table 4, our results barely change when we include measures of participants' preferences for competitiveness and their relative salary as control variables in the regression. As emphasized by Kirchler et al. (2018), the mechanism through which rankings influence employees' risk-taking behaviors is their strong preferences for better performance relative to their colleagues. Thus, adding control variables on participants' preferences for competitiveness and their relative salary is an appropriate way to capture the potential impact of rankings.

Finally, as shown in the Online Appendix Table OA8 and Cohn et al. (2019), the priming treatment on bankers was only effective in the Asia Pacific experiment, not in the Middle East study. That is, when we regress the share of bank-related words on the treatment indicator ($Prime_i$) in the Middle East sample, the coefficients on $Prime_i$ are not statistically different from zero. This implies that, in the Middle East sample, the experiment failed to induce the desired thinking mode in the treated bankers. As a result, it is difficult to interpret the results from the Middle East sample. To address this concern, we re-do all the regressions with the Asia Pacific sample. The results are presented in Table 5 columns (4)-(6). *P*-values calculated by robust standard errors are shown in parentheses.

[Insert Table 5 Here]

[17] We also run model (3) using the observations from the non-banking professionals who expect their peers to take more risks, and those who expect their peers to take the same or fewer risks, respectively. The results, tabulated in the Online Appendix Table OA6, have the same implications.

As shown in Table 5, the empirical patterns are the same as in our main results. The coefficients on $Prime_i$ are statistically insignificant while the coefficients on the interaction term $Prime_i \times RiskAverse_i$ are positive and statistically significant at the 1% level in all the regressions. The economic magnitude of the impact is slightly stronger compared to our baseline results. The coefficients on $Prime_i$ and the interaction term $Prime_i \times RiskAverse_i$, shown in column (3), together suggest that bankers in the treatment group invest 5.5 percentage points more in the risky assets than their peers in the control group. This represents about a 15% (= 5.5/37) increase from the sub-sample mean.[18]

5. Discussions and Conclusions

Using experimental data from 768 commercial bankers, we document that professional norms in the banking industry causally increase the risk-taking of employees who expect their peers to take more risks than themselves, while the norms have no statistically significant impact on the risk-taking of the other employees. This effect is specific to the banking industry and is unlikely to be driven by other confounding factors, such as performance-based rankings within the participating banks.

Our finding on the impact of professional norms on employees who expect their peers to take more risks is consistent with two strands of prior literature. First, a group of behavioral finance studies has investigated peer effects on individuals' behaviors (e.g., Duflo and Saez, 2002, 2003; Hong et al. 2004, 2005). The literature suggests that people develop beliefs around appropriate behaviors in a social group, or social norms, by observing their peers and updating their behaviors accordingly. Such peer effects prevail in workplaces where social interactions are frequent (e.g., Duflo and Saez, 2003; Lindquist et al., 2015; Ouimet and Tate, 2020). This strand of literature explains why bank employees evaluate professional norms via the risk preferences of their colleagues.

Second, social identity theory predicts that individuals have a portfolio of social identities; each prescribes a set of behavioral norms (e.g., Tajfel, 1974; Turner et al., 1987). The theory

[18] We also run model (3) with the observations from bankers who expect their peers to take more risks, and those who expect their peers to take the same or fewer risks, respectively, using the Asia Pacific banker sample. The results are the same, and are tabulated in the Online Appendix Table OA7.

further suggests that people's behaviors are influenced by the relative level of the salience of each identity in their minds (e.g., Akerlof and Kranton, 2000; Benjamin et al., 2010). Moreover, prior sociological experiments have presented evidence that exposure to primes, i.e., environmental cues, can temporarily make a certain social identity more salient (e.g., Cohn et al., 2014, 2017; Kumar et al., 2011; Hong and Kostovetsky, 2012). In sum, this line of research provides theoretical explanations on why bankers respond to primes that make their professional identity more salient by shifting their risk-taking level from their preferred level to the level their self-evaluated professional norms prescribe.

Our result on the bank employees who expect their peers to take the same or less risk than themselves is not in line with what social identity theory predicts, as we do not observe any behavioral responses to the positive shock to the salience of their professional identity. The results highlight the heterogeneity in the effects of professional norms on risk-taking in the banking industry. We note that one possible explanation is that these bankers become saturated with the banking professional identity with respect to risk preference and thus their risk-taking behaviors do not respond to any identity shocks.

Our paper contributes to the policy debate on whether bank norms encourage risk-taking behaviors. While many policymakers and regulators believe that this is the case and have called for reforms to the professional norms in the banking industry (e.g., House of Commons Treasury Committee, 2008; Power et al., 2013; International Monetary Fund, 2014), recent experimental evidence suggests the opposite. For example, Cohn et al. (2017) find that investment bankers decrease their risky investment substantially when the salience of their professional identity is primed. Further, Cohn et al. (2017) suggest that banks can send professional identity reminders to reduce employees' risk-taking. Our results, in contrast, suggest that such a strategy can have the opposite effect when employees believe that their peers are taking more risks. In sum, more evidence is needed to make a more informed decision on how to curb excessive risk-taking in the banking industry.

This paper also contributes to the studies on social identity theory (e.g., Akerlof and Kranton, 2000; Benjamin et al., 2010). While the theory is informative on how people will respond to an identity shock, it does not offer a precise prediction on how the heterogeneous responses will pan out. This paper provides the first empirical test of this part of the theory in the context of banking professional norms and risk-taking. Finally, this article also adds to an emerging literature

that studies the impact of social identity and preferences on financial behaviors. While the majority of these papers study the average effects of social identities, our study takes a further step, showing that the impact of social identity on risk-taking is heterogeneous, depending on subjects' perception of the profession.

References:

Adhikari, B. K., & Agrawal, A. (2016). Does local religiosity matter for bank risk-taking? *Journal of Corporate Finance*, 38, 272-293.

Ahern, K. R., Duchin, R., & Shumway, T. (2014). Peer effects in risk aversion and trust. *Review of Financial Studies*, 27(11), 3213-3240.

Akerlof, G A. (1980). A theory of social custom, of which unemployment may be one consequence. *Quarterly Journal of Economics*, 94, 749-75.

Akerlof, G. A., & Kranton, R. E. (2000). Economics and identity. *Quarterly Journal of Economics*, 115(3), 715-753.

Bandiera, O., Barankay, I., & Rasul, I. (2009). Social connections and incentives in the workplace: Evidence from personnel data. *Econometrica*, 77, 1047–1094.

Bénabou, R., & Tirole, J. (2011). Identity, morals, and taboos: Beliefs as assets. *Quarterly Journal of Economics*, 126(2), 805-855.

Benjamin, D. J., Choi, J. J., & Fisher, G. (2016). Religious identity and economic behavior. *Review of Economics and Statistics*, 98(4), 617-637.

Benjamin, D. J., Choi, J. J., & Strickland, A. J. (2010). Social identity and preferences. *American Economic Review*, 100(4), 1913-28.

Berger, A. N., Kick, T., & Schaeck, K. (2014). Executive board composition and bank risk taking. *Journal of Corporate Finance*, 28, 48-65.

Bernanke, B. S. (1983). Nonmonetary effects of the financial crisis in the propagation of the Great Depression. *American Economic Review*, 73(3), 257-276.

Bernheim, B. D. (1994). A theory of conformity. *Journal of political Economy*, 102(5), 841-877.

Brown, K. M., & Laschever, R. A. (2012). When they're sixty-four: Peer effects and the timing of retirement. *American Economic Journal: Applied Economics*, 4(3), 90-115.

Calomiris, C. W., & Mason, J. R. (2003). Consequences of bank distress during the Great Depression. *American Economic Review*, 93(3), 937-947.

Chodorow-Reich, G. (2014). The employment effects of credit market disruptions: Firm-level evidence from the 2008–9 financial crisis. *Quarterly Journal of Economics*, 129(1), 1-59.

Chon, G., Binham C., & Noonan, L. (2015). Six Banks Fined $5.6 bn over Rigging of Foreign Exchange Markets. *Financial Times*, 20.

Cohn, A., Engelmann, J., Fehr, E., & Maréchal, M. A. (2015). Evidence for countercyclical risk aversion: An experiment with financial professionals. *American Economic Review*, 105(2), 860-85.

Cohn, A., Fehr, E., & Maréchal, M. A. (2014). Business culture and dishonesty in the banking industry. *Nature*, 516(7529), 86-89.

Cohn, A., Fehr, E., & Maréchal, M. A. (2017). Do professional norms in the banking industry favor risk-taking? *Review of Financial Studies*, 30(11), 3801-3823.

Cohn, A., Fehr, E., & Maréchal, M. A. (2019). Selective participation may undermine replication attempts. *Nature*, 575(7782), E1-E2.

Dewatripont, M. & Freixas, X. (2012). The Crisis Aftermath: New Regulatory Paradigms. Centre for Economic Policy Research.

Drupp, M. A., Khadjavi, M., Riekhof, M. C., & Voss, R. (2020). Professional identity and the gender gap in risk-taking. Evidence from field experiments with scientists. *Journal of Economic Behavior & Organization*, 170, 418-432.

Duflo, E., & E. Saez. (2002). Participation and investment decisions in a retirement plan: The influence of colleagues' choices. *Journal of Public Economics*, 85, 121-18.

Duflo, E., & E. Saez. (2003). The role of information and social interactions in retirement plan decisions: Evidence from a randomized experiment. *Quarterly Journal of Economics*, 118, 815-42.

Esty, B. C. (1998). The impact of contingent liability on commercial bank risk taking. *Journal of Financial Economics*, 47(2), 189-218.

Falk, A., & Ichino, A. (2006). Clean evidence on peer effects. *Journal of labor economics*, 24(1), 39-57.

Financial Crisis Inquiry Commission (2011). The Financial Crisis Inquiry Report.

Hilary, G., & Hui, K. W. (2009). Does religion matter in corporate decision making in America? *Journal of Financial Economics*, 93(3), 455-473.

Hong, H., & Kostovetsky, L. (2012). Red and blue investing: Values and finance. *Journal of Financial Economics*, 103(1), 1-19.

Hong, H., J. D. Kubik, & J. C. Stein. (2004). Social interaction and stock-market participation. *Journal of Finance*, 59, 137-63.

Hong, H., J. D. Kubik, & J. C. Stein. (2005). Thy neighbor's portfolio: Word-of-mouth effects in the holdings and trades of money managers. *Journal of Finance*, 60, 2801-2.

House of Commons Treasury Committee (2008). Banking Crisis: Dealing with the Failure of the UK Banks.

Houston, J. F., Lin, C., Lin, P., & Ma, Y. (2010). Creditor rights, information sharing, and bank risk taking. *Journal of Financial Economics*, 96(3), 485-512.

Huber, K. (2018). Disentangling the effects of a banking crisis: Evidence from German firms and counties. *American Economic Review,* 108(3), 868-98.

International Monetary Fund (2014). Risk Taking, Liquidity, and Shadow Banking. Curbing Excess while Promoting Growth. Global Financial Stability Report.

Kanagaretnam, K., Lobo, G. J., & Wang, C. (2015). Religiosity and earnings management: International evidence from the banking industry. *Journal of Business Ethics,* 132(2), 277-296.

Kaustia, M., & Torstila, S. (2011). Stock market aversion? Political preferences and stock market participation. *Journal of Financial Economics*, 100(1), 98-112.

Kirchler, M., Lindner, F., & Weitzel, U. (2018). Rankings and risk-taking in the finance industry. *Journal of Finance,* 73(5), 2271-2302.

Kumar, A., Page, J. K., & Spalt, O. G. (2011). Religious beliefs, gambling attitudes, and financial market outcomes. *Journal of Financial Economics*, 102(3), 671-708.

Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 93(2), 259-275.

Lerner, J., & U. Malmendier. (2013). With a little help from my (random) friends: Success and failure in post-business school entrepreneurship. *Review of Financial Studies*, 26, 2411-52.

Lindner, F., Kirchler, M., Rosenkranz, S. & Weitzel, U. (2019). Social status and risk-taking in investment decisions. MPI Collective Goods Discussion Paper.

Lindquist, M. J., Sauermann, J., & Zenou, Y. (2015). Network effects on worker productivity. CEPR Discussion Paper 10928.

Mas, A., & Moretti, E. (2009). Peers at work. *American Economic Review*, 99, 112–145.

Mian, A., & Sufi, A. (2009). The consequences of mortgage credit expansion: Evidence from the US mortgage default crisis. *Quarterly Journal of Economics*, 124(4), 1449-1496.

Ouimet, P., & Tate, G. (2020). Learning from coworkers: Peer effects on individual investment decisions. *The Journal of Finance*, 75(1), 133-172.

Palvia, A., Vähämaa, E., & Vähämaa, S. (2015). Are female CEOs and chairwomen more conservative and risk averse? Evidence from the banking industry during the financial crisis. *Journal of Business Ethics*, 131(3), 577-594.

Power, M., Ashby, S., & Palermo, T. (2013). Risk culture in financial organizations: A research report. CARR-Analysis of Risk and Regulation.

Rahwan, Z., Yoeli, E., & Fasolo, B. (2019). Heterogeneity in banker culture and its influence on dishonesty. *Nature*, 575(7782), 345-349.

Securities and Exchange Commission (2011). SEC enforcement actions: Addressing misconduct that led to or arose from the financial crisis. Security and Exchange Commission.

Securities and Exchange Commission (2016). SEC enforcement actions: Addressing misconduct that led to or arose from the financial crisis. Security and Exchange Commission.

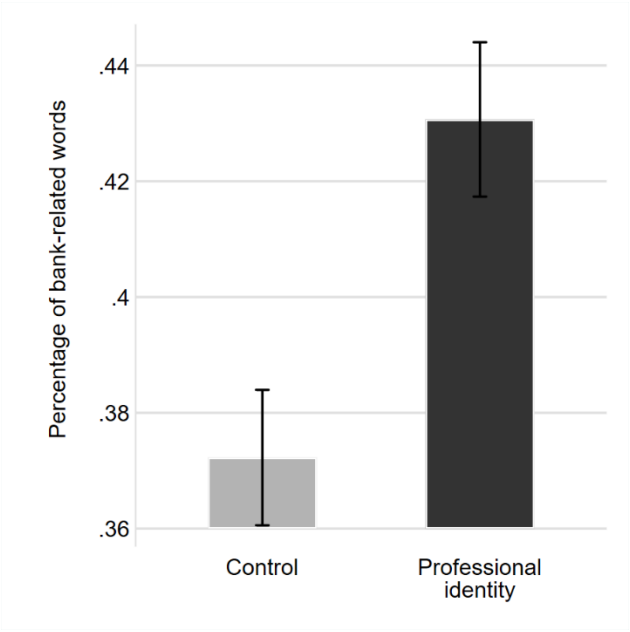
Tajfel, H. (1974). Social identity and intergroup behaviour. *Social science information*, 13(2), 65-93.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). Rediscovering the social group: A self-categorization theory. Basil Blackwell, Massachusetts.

United States Senate Permanent Subcommittee on Investigations (2011). Wall Street and the financial crisis: Anatomy of a financial collapse. United States Senate Permanent Subcommittee on Investigations.

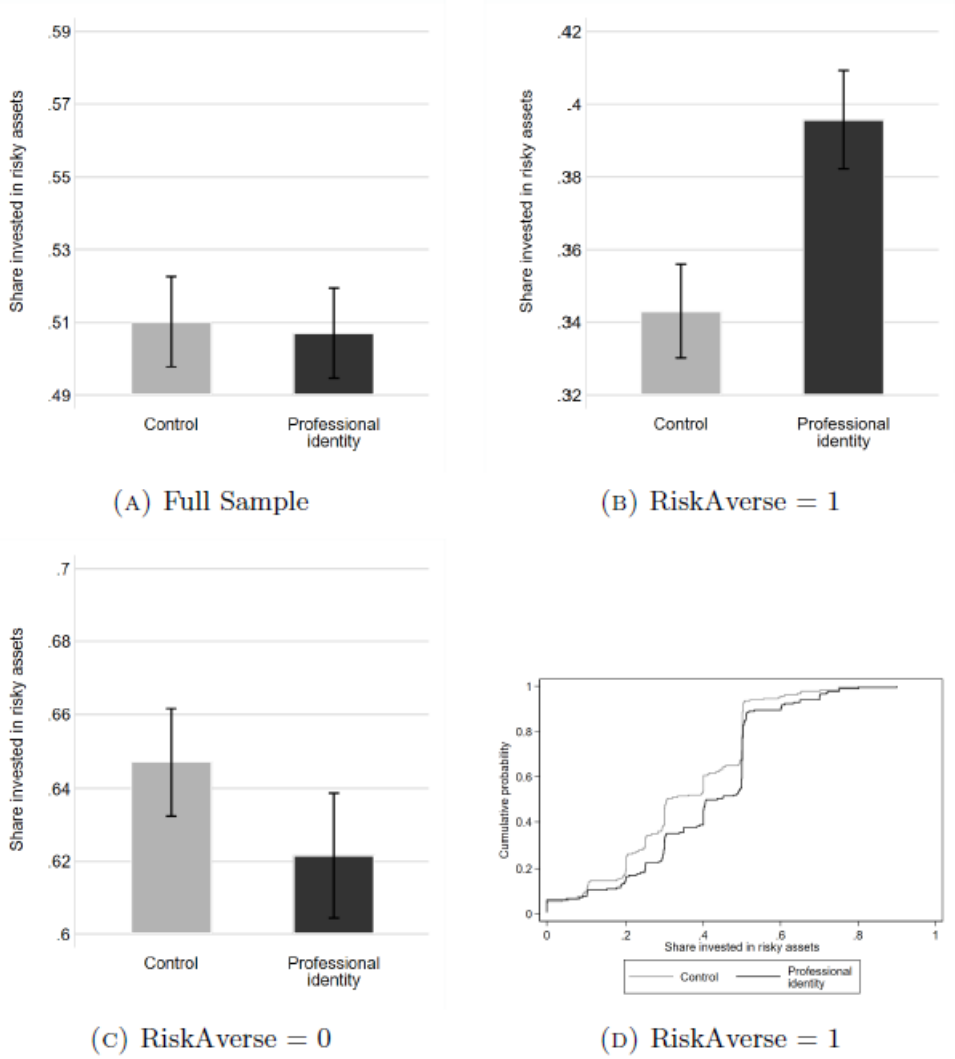
Zardkoohi, A., Kang, E., Fraser, D., & Cannella, A. A. (2018). Managerial risk-taking behavior: A too-big-to-fail story. *Journal of Business Ethics*, 149(1), 221-233.

Figure 1: Manipulation Check



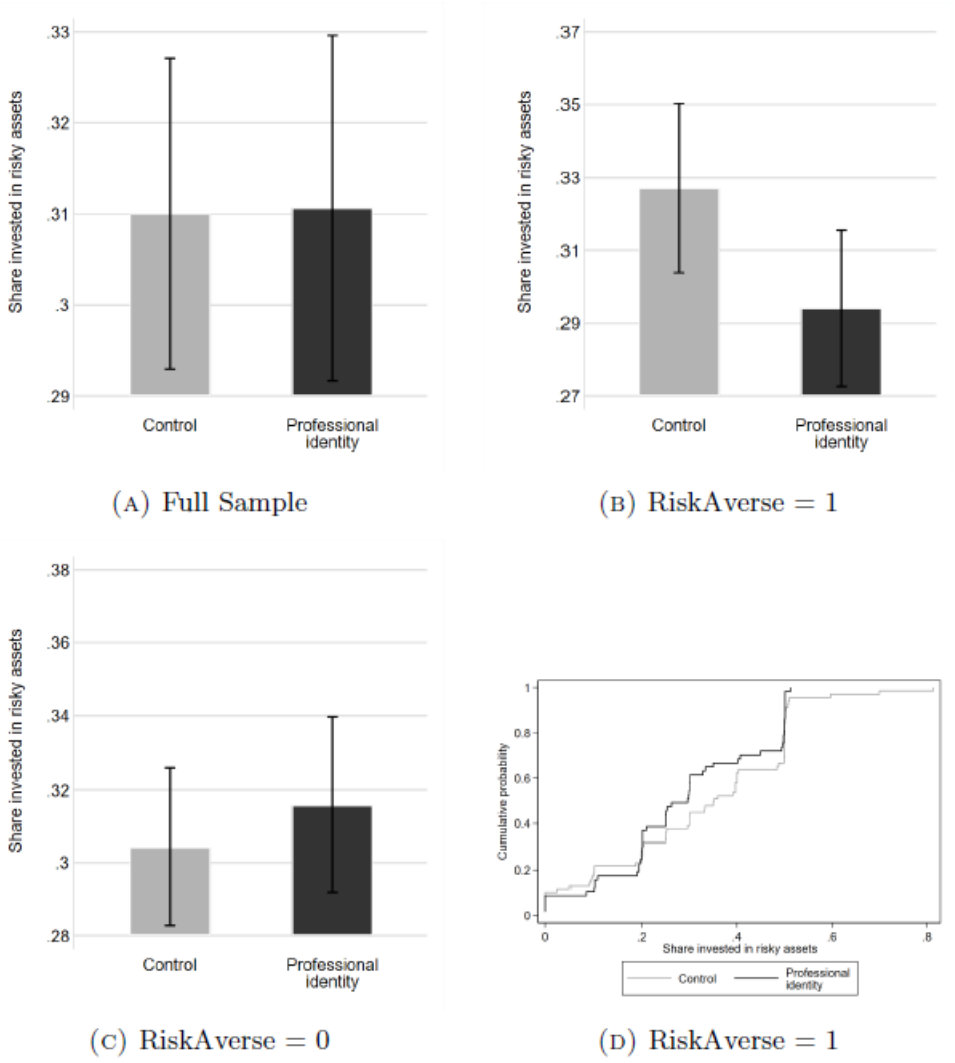
Notes: This figure plots the average share of bank-related words in the word-filling exercise by treatment status for the full sample. Error bars indicate standard error of the mean.

Figure 2: Differences in Risky Investments between Bankers in the Treated and the Control Groups



Notes: These figures plot the share of risky investment in treated and control groups in the banker sample. While panel A focuses on the full sample; panel B and C look at split samples based on bankers' expectations of their peers' risk preferences. Panel D, on the other hand, draws the cumulative distribution functions of the treated and control groups. Error bars in panel A-C indicate standard error of the mean.

Figure 3: Differences in Risky Investments between Non-banking Professionals in the Treated and the Control Groups



Notes: These figures plot the share of risky investment in treated and control groups in the non-banking professional sample. While panel A focuses on the full sample; panel B and C look at split samples based on bankers' expectations of their peers' risk preferences. Panel D, on the other hand, draws the cumulative distribution functions of the treated and control groups. Error bars in panel A-C indicate standard error of the mean.

Table 1: Variable Definitions

Variable	Definition
RiskyShare	Share invested in the risky asset.
RiskAverse	An indicator that equals to 1 if the respondent expects her/his colleagues to invest more in the risky asset than her/himself, and 0 otherwise.
Prime	An indicator for professional identity treatment, which equals to 1 for treated, and 0 for control.
Age	Respondent's age.
Male	Respondent's gender.
HigherEducation	An indicator that equals to 1 if respondent has obtained a higher education degree and 0 otherwise.
PostGradEdu	An indicator that equals to 1 if respondent has obtained a postgraduate degree and 0 otherwise.
CoreUnit	An indicator that equals to 1 if respondent is working in core units of the bank (private bankers, wealth managers, traders or investment managers) and 0 otherwise.
Relativewage	A scale indicator ranging from 1 to 7, with higher values representing higher salary relative to other employees in the same company.
ProfessionalExperience	Years of working in the respective industry (e.g., for bank employees, industry means financial industry).
Statusmoney	A scale indicator ranging from 1 to 7, with higher values indicating a stronger level of agreement to the statement "Social status is primarily determined by financial success".
SocialEsteem	A scale indicator ranging from 1 to 7, with higher value representing that the respondent regards what other people think about her/him as more important.
ProfessionalImage	A scale indicator ranging from 1 to 7, with higher value representing that the respondent regards what other people think about the respective industry that the respondent is working in as more important.
Competitiveness	A scale indicator ranging from 1 to 7, with higher value indicating that the respondent regards being the best at what she/he does is more important.
Europe	An indicator that equals to 1 if the respondent is recruited from Europe, and 0 otherwise.
Asia Pacific	An indicator that equals to 1 if the respondent is from the Asia Pacific study, and 0 otherwise.

Table 2: Summary Statistics and Balance Checks

Panel A. Full sample

Variable	Total N = 1282		Treated N = 599		Control N = 683		Control - Treated	
	Mean	SD	Mean	SD	Mean	SD	Difference	p-value
RiskyShare	0.429	0.279	0.428	0.278	0.430	0.281	0.003	0.860
RiskAverse	0.384	0.486	0.397	0.490	0.372	0.484	-0.025	0.350
Words	0.417	0.260	0.449	0.266	0.389	0.252	-0.060	0.000
Age	41.534	11.667	41.569	11.839	41.504	11.524	-0.066	0.920
Male	0.484	0.500	0.503	0.500	0.469	0.499	-0.034	0.225
HigherEducation	0.579	0.494	0.589	0.492	0.570	0.496	-0.020	0.475
PostGradEdu	0.229	0.420	0.230	0.421	0.227	0.419	-0.003	0.884
CoreUnit	0.595	0.491	0.604	0.490	0.588	0.493	-0.016	0.602
Relativewage	3.866	1.313	3.918	1.321	3.820	1.306	-0.098	0.181
ProfessionalExperience	12.281	10.590	12.516	10.859	12.075	10.351	-0.442	0.457
Statusmoney	4.366	1.545	4.421	1.508	4.318	1.577	-0.103	0.234
SocialEsteem	4.273	1.639	4.364	1.600	4.193	1.670	-0.171	0.063
Professional Image	4.154	1.688	4.230	1.631	4.086	1.735	-0.144	0.128
Competitiveness	6.055	1.099	6.073	1.083	6.038	1.114	-0.035	0.566
Asia Pacific	0.672	0.470	0.673	0.470	0.672	0.470	-0.001	0.977

Panel B. Banker sample

Variable	Total N = 768		Treated N = 357		Control N = 411		Control – Treated	
	Mean	SD	Mean	SD	Mean	SD	Difference	p-value
RiskyShare	0.509	0.243	0.507	0.235	0.510	0.251	0.003	0.859
RiskAverse	0.477	0.500	0.507	0.501	0.450	0.498	-0.057	0.116
Words	0.399	0.246	0.431	0.252	0.372	0.237	-0.058	0.001
Age	41.579	10.951	41.039	10.771	42.049	11.096	1.009	0.203
Male	0.458	0.499	0.473	0.500	0.445	0.498	-0.028	0.436
HigherEducation	0.493	0.500	0.518	0.500	0.472	0.500	-0.046	0.202
PostGradEdu	0.174	0.380	0.162	0.369	0.185	0.389	0.022	0.414
CoreUnit	0.518	0.500	0.515	0.500	0.521	0.500	0.005	0.884
Relativewage	3.777	1.247	3.804	1.266	3.754	1.232	-0.050	0.582
ProfessionalExperience	14.401	10.777	14.431	11.121	14.375	10.482	-0.056	0.943
Statusmoney	4.388	1.504	4.431	1.491	4.350	1.515	-0.081	0.457
SocialEsteem	4.176	1.639	4.283	1.611	4.083	1.660	-0.200	0.091
Professional Image	4.111	1.723	4.137	1.691	4.088	1.752	-0.050	0.691
Competitiveness	6.182	1.013	6.151	1.049	6.209	0.980	0.058	0.429
Asia Pacific	0.807	0.395	0.801	0.400	0.813	0.391	0.012	0.687

Panel C. Banker sample, *RiskAverse* = 1

Variable	Total N = 366		Treated N = 181		Control N = 185		Control - Treated	
	Mean	SD	Mean	SD	Mean	SD	Difference	p-value
RiskyShare	0.369	0.180	0.396	0.182	0.343	0.175	-0.053	0.005
Words	0.465	0.292	0.500	0.298	0.435	0.285	-0.065	0.069
Age	42.760	11.202	42.022	10.587	43.481	11.757	1.459	0.213
Male	0.391	0.489	0.398	0.491	0.384	0.488	-0.014	0.784
HigherEducation	0.445	0.498	0.475	0.501	0.416	0.494	-0.059	0.258
PostGradEdu	0.150	0.358	0.149	0.357	0.151	0.359	0.002	0.954
CoreUnit	0.511	0.501	0.497	0.501	0.524	0.501	0.027	0.605
Relativewage	3.743	1.205	3.790	1.225	3.697	1.187	-0.093	0.462
ProfessionalExperience	15.427	11.211	15.301	11.564	15.550	10.884	0.249	0.832
Statusmoney	4.260	1.533	4.315	1.489	4.205	1.578	-0.110	0.495
SocialEsteem	4.161	1.616	4.309	1.550	4.016	1.670	-0.293	0.083
Professional Image	4.104	1.719	4.122	1.734	4.086	1.708	-0.035	0.846
Competitiveness	6.120	1.035	6.122	1.052	6.119	1.020	-0.003	0.981
Asia Pacific	0.817	0.387	0.801	0.400	0.832	0.374	0.031	0.440

Panel D. Banker sample, *RiskAverse* = 0

Variable	Total N = 402		Treated N = 176		Control N = 226		Control - Treated	
	Mean	SD	Mean	SD	Mean	SD	Difference	p-value
RiskyShare	0.636	0.223	0.622	0.228	0.647	0.219	0.025	0.258
Words	0.411	0.246	0.436	0.249	0.385	0.242	-0.051	0.046
Age	40.505	10.617	40.028	10.896	40.876	10.405	0.848	0.428
Male	0.520	0.500	0.551	0.499	0.496	0.501	-0.056	0.270
HigherEducation	0.537	0.499	0.563	0.497	0.518	0.501	-0.045	0.373
PostGradEdu	0.197	0.398	0.176	0.382	0.212	0.410	0.036	0.365
CoreUnit	0.525	0.500	0.534	0.500	0.518	0.501	-0.016	0.745
Relativewage	3.808	1.285	3.818	1.310	3.801	1.268	-0.017	0.894
ProfessionalExperience	13.468	10.291	13.537	10.604	13.414	10.064	-0.123	0.905
Statusmoney	4.505	1.468	4.551	1.488	4.469	1.455	-0.082	0.579
SocialEsteem	4.189	1.662	4.256	1.676	4.137	1.653	-0.119	0.479
Professional Image	4.117	1.730	4.153	1.651	4.088	1.792	-0.065	0.709
Competitiveness	6.239	0.990	6.182	1.048	6.283	0.943	0.101	0.309
Asia Pacific	0.799	0.402	0.801	0.400	0.796	0.404	-0.005	0.908

Notes: This table presents summary statistics by subjects' treatment and control status and presents balance checks between the two groups. While panel A reports information on the full sample, panel B summarizes the banker sample. Panel C and D further breaks up the banker sample based on employees' expectations of their peers' risk preferences. All variables are defined in Section 3 and Table 1.

Table 3: Manipulation Check

	(1) All Mean of dep. var = 0.40	(2) *RiskAverse* = 1 Mean of dep. var = 0.41	(3) *RiskAverse* = 0 Mean of dep. var = 0.39
Prime	0.058***	0.047*	0.063**
	(0.001)	(0.062)	(0.011)
Male	0.004	-0.004	0.009
	(0.835)	(0.879)	(0.734)
Age	-0.001	-0.001	-0.001
	(0.545)	(0.741)	(0.404)
HigherEducation	-0.023	-0.033	-0.011
	(0.314)	(0.314)	(0.717)
PostGradEdu	0.017	0.039	-0.001
	(0.553)	(0.390)	(0.985)
CoreUnit	0.007	0.024	-0.005
	(0.702)	(0.358)	(0.849)
Relativewage	-0.012	-0.005	-0.016
	(0.108)	(0.669)	(0.110)
ProfessionalExperience	0.002*	0.003*	0.001
	(0.076)	(0.085)	(0.417)
Statusmoney	0.006	0.006	0.009
	(0.316)	(0.478)	(0.318)
SocialEsteem	0.009	0.012	0.006
	(0.106)	(0.130)	(0.441)
Professional Image	0.010*	0.011	0.008
	(0.064)	(0.154)	(0.283)
Competitiveness	0.025***	0.020	0.034***
	(0.004)	(0.124)	(0.006)
Experiment FE	Yes	Yes	Yes
Observations	768	366	402
R-squared	0.063	0.082	0.063

Notes: This table presents the results from manipulation checks. The dependent variable is *Word*, which is the share of bank-related words; *Prime* indicates the treatment condition, which equals to 1 if respondents are treated and 0 otherwise. Column (1) reports the results from the full banker sample, column (2) shows the results from those who expect their peers to take more risks, and column (3) presents the results from the rest of the sample. Control variables include basic demographic characteristics, such as respondents' age, gender, education background and job function, as well as variables of self-reported work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness*. Experiment fixed effects are included in all the regressions. All variables are defined in Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 4: Professional Norms and Risk-taking, Difference-in-differences Results

	(1)	(2)	(3)
		Bankers	
		Mean of dep. var = 0.51	
(a) Prime * RiskAverse	0.078***	0.079***	0.080***
	(0.008)	(0.007)	(0.007)
(b) Prime	-0.025	-0.027	-0.028
	(0.260)	(0.227)	(0.213)
RiskAverse	-0.304***	-0.304***	-0.298***
	(0.000)	(0.000)	(0.000)
(a) + (b)	0.053***	0.052***	0.052***
	(0.005)	(0.006)	(0.006)
Basic control	No	Yes	Yes
Additional control	No	No	Yes
Experiment FE	No	No	Yes
Observations	768	768	768
R-squared	0.307	0.311	0.320

Notes: This table presents the results on the impact of professional norms on risk-taking in the banking industry, using a difference-in-differences model and observations of the full banker sample. The dependent variable is *RiskyShare*, which is the share of risky investment; *Prime* indicates the treatment condition which equals to 1 if respondents are treated and 0 otherwise; *RiskAverse* is an indicator that equals to 1 if participants expect their peers to invest more in the risky assets than themselves, and 0 otherwise. Column (1) shows the results from models that do not include any control variables; column (2) presents the results from models that includes some basic demographic characteristics, such as respondents' age, gender, education background and job function; column (3) shows the results from models that includes several additional control variables, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness* and experiment fixed effects. All variables are defined Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table 5: Professional Norms and Risk-taking, Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)
	Placebo experiments Non-banking Professionals			Asia-Pacific sample only Bankers		
	Mean of dep. var = 0.31			Mean of dep. var = 0.51		
(a) Prime * RiskAverse	-0.045	-0.054	-0.054	0.086***	0.086***	0.087***
	(0.323)	(0.232)	(0.142)	(0.009)	(0.008)	(0.008)
(b) Prime	0.012	0.012	0.019	-0.030	-0.031	-0.033
	(0.720)	(0.691)	(0.277)	(0.229)	(0.212)	(0.197)
RiskAverse	0.023	-0.031	-0.312***	-0.322***	-0.317***	-0.313***
	(0.469)	(0.369)	(0.000)	(0.000)	(0.000)	(0.000)
(a) + (b)	-0.033	-0.043	-0.035	0.056***	0.055***	0.055***
	(0.296)	(0.216)	(0.275)	(0.008)	(0.009)	(0.009)
Basic control	No	Yes	Yes	No	Yes	Yes
Additional control	No	No	Yes	No	No	Yes
Experiment FE	No	No	Yes	No	No	Yes
Observations	514	514	514	620	620	620
R-squared	0.001	0.152	0.656	0.333	0.339	0.347

Notes: This table presents the results on the impact of professional norms on risk-taking in the banking industry, using a difference-in-differences model and observations from the non-banking professional sample or the Asia Pacific banker sample. The dependent variable is *RiskyShare*, which is the share of risky investment; *Prime* indicates the treatment condition which equals to 1 if respondents are treated and 0 otherwise; *RiskAverse* is an indicator that equals to 1 if participants expect their peers to invest more in the risky assets than themselves, and 0 otherwise. Columns (1)-(3) report results from the non-banking professional sample, while columns (4)-(6) show results from the Asia-Pacific banker sample. Columns (1) and (4) show the results from models that do not include any control variables; columns (2) and (5) present the results from models that includes some basic demographic characteristics, such as respondents' age, gender, education background and job function; columns (3) and (6) show the results from models that includes several additional control variables, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness* and experiment fixed effects. Note that the job function variable, *Coreunit*, is omitted in the regressions of the non-banking professional sample because it is not available for the observations in the sample. All variables are defined in Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Online Appendix:
Professional Norms and Risk-taking of Bankers:
Do Expectations of Peers' Risk Preferences Matter?

Appendix A: Design for priming in Rahwan et al. (2019)

We provide more details here on how the treatment, or priming, works in the experiment conducted by Rahwan et al. (2019).

In the experiment, bankers were randomly and evenly assigned to treatment and control groups. Ahead of undertaking the main experiment exercises, bankers in the treatment group were asked seven questions about their professional background, while bankers in the control group were asked an equal number of questions about leisure activities. Answers to these questions were not of interest. Instead, the purpose of asking questions about professional background was to remind the bankers in the treatment group of their occupation and make participants' professional identity, along with the associated norms, more salient.

The seven questions about their professional background for treated bankers were (1) At which bank are you presently employed? (2) What is your function at this bank? (3) For how many years have you been working in the banking sector? (4) Why did you decide to become a bank employee? Please describe your answer in two to three sentences. (5) What are, in your opinion, the three major advantages of your occupation as a bank employee? (6) Which three characteristics of your personality do you think are typical for a bank employee? (7) What are the three most important things you learned in your occupation as a bank employee?

The questions about leisure activities for bankers under the control condition were (1) What is your favourite leisure activity? Please describe your answer in two to three sentences. (2) Which 3 opportunities for leisure activities would you most like in your area? (3) How many hours per week on average do you watch TV? (4) Where did you spend your last vacation? (5) Which 3 things did you like most about your last vacation? (6) Are you actively involved or have you ever been involved in a club? (7) Which 3 leisure activities do you enjoy most with your friends or family?

To assess the effectiveness of the treatment, both participants in the treatment and control groups were invited to solve six-word puzzles, four of which had banking-themed solutions. The two puzzles with no bank-related solution at all were used to disguise the purpose of the task. If the priming was effective, the number of banking-themed solutions of the treatment group should be higher than that of the control group. The four puzzles and the banking-themed solutions for Asia Pacific bankers were _ _ ving (saving), cr_ _ _ (credit), _ oney (money) and _ _ nch (branch).

The ones for Middle Eastern bankers were _ _ ock (stock), _ _ oker (broker), _oney (money) and b_nd (bond). We show in Section 4.2 of the paper that treated participants were more likely to choose bank-related words even after controlling for demographic characteristics, indicating that the priming was effective.

Appendix B: Additional Tables

Table OA1: Characteristics of Bankers in Commercial Banks and Investment Banks

	Total				Treated				Control			
	CB (N =768)	IB (N=128)	Diff.	p-val.	CB (N =357)	IB (N=61)	Diff.	p-val.	CB (N =411)	IB (N =67)	Diff.	p-val.
Male	0.458	0.609	0.151	0.002	0.473	0.623	0.150	0.031	0.445	0.597	0.152	0.021
Age	41.579	38.875	-2.704	0.008	41.039	38.492	-2.547	0.075	42.049	39.224	-2.825	0.048
HigherEducation	0.493	0.617	0.124	0.010	0.518	0.574	0.056	0.423	0.472	0.657	0.185	0.005
CoreUnit	0.518	0.484	-0.034	0.479	0.515	0.525	0.009	0.895	0.521	0.448	-0.073	0.269
Relativewage	3.777	3.945	0.168	0.163	3.804	3.836	0.032	0.855	3.754	4.045	0.291	0.079
ProfessionalExperience	14.401	11.489	-2.912	0.003	14.431	10.926	-3.505	0.017	14.375	12.001	-2.374	0.080
Statusmoney	4.388	4.203	-0.185	0.197	4.431	4.492	0.060	0.769	4.350	3.940	-0.410	0.040
SocialEsteem	4.176	4.320	0.145	0.343	4.283	4.459	0.176	0.425	4.083	4.194	0.111	0.597
Professional Image (bankingimage)	4.111	4.039	-0.072	0.657	4.137	4.016	-0.121	0.604	4.088	4.060	-0.028	0.901
Competitiveness	6.182	5.609	-0.573	0.000	6.151	5.590	-0.561	0.000	6.209	5.627	-0.582	0.000

Notes: This tables compares the demographic characteristics and self-reported work-related attitudes of the bank employees in the commercial bank sample used in our study with those of the investment bank sample in Cohn et al. (2017).

Table OA2: Manipulation Check, Tobit Model

	(1) All Mean of dep. var = 0.40	(2) *RiskAverse* = 1 Mean of dep. var = 0.41	(3) *RiskAverse* = 0 Mean of dep. var = 0.39
Prime	0.058***	0.047*	0.063***
	(0.001)	(0.058)	(0.009)
Male	0.004	-0.004	0.009
	(0.833)	(0.877)	(0.730)
Age	-0.001	-0.001	-0.001
	(0.541)	(0.737)	(0.397)
HigherEducation	-0.023	-0.033	-0.011
	(0.310)	(0.305)	(0.713)
PostGradEdu	0.017	0.039	-0.001
	(0.550)	(0.381)	(0.985)
CoreUnit	0.007	0.024	-0.005
	(0.700)	(0.349)	(0.846)
Relativewage	-0.012	-0.005	-0.016
	(0.105)	(0.663)	(0.104)
ProfessionalExperience	0.002*	0.003*	0.001
	(0.074)	(0.079)	(0.409)
Statusmoney	0.006	0.006	0.009
	(0.312)	(0.470)	(0.310)
SocialEsteem	0.009	0.012	0.006
	(0.103)	(0.123)	(0.434)
Professional Image	0.010*	0.011	0.008
	(0.062)	(0.146)	(0.275)
Competitiveness	0.025***	0.020	0.034***
	(0.003)	(0.118)	(0.006)
Experiment FE	Yes	Yes	Yes
Observations	768	366	402

Notes: This table presents the results of manipulation checks from Tobit regressions. The dependent variable is *Word*, which is the share of bank-related words; *Prime* indicates the treatment condition, which equals to 1 if respondents are treated and 0 otherwise. Column (1) reports the results from the full banker sample, column (2) shows the results from those who expect their peers to take more risks, and column (3) presents the results from the rest of the sample. Control variables include basic demographic characteristics, such as respondents' age, gender, education background and job function, as well as variables of self-reported work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness*. Experiment fixed effects are included in all the regressions. All variables are defined in Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table OA3: Professional Norms and Expectations of Peers' Risk Preference

	(1) All Mean of dep. var = 0.48	(2) Asia Pacific Mean of dep. var = 0.48	(3) Middle East Mean of dep. var = 0.45	(4) Europe Mean of dep. var = 0.49
Prime	0.057	0.054	0.101	-0.080
	(0.131)	(0.173)	(0.248)	(0.272)
Male	-0.154***	-0.160***	-0.032	-0.242***
	(0.000)	(0.000)	(0.733)	(0.001)
Age	0.004*	0.004	0.008	0.002
	(0.098)	(0.120)	(0.376)	(0.517)
HigherEducation	-0.043	-0.038	-0.044	0.132
	(0.353)	(0.431)	(0.767)	(0.263)
PostGradEdu	-0.036	-0.046	0.013	-0.078
	(0.583)	(0.548)	(0.883)	(0.313)
CoreUnit	-0.026	-0.016	-0.180**	
	(0.498)	(0.694)	(0.050)	
Relativewage	-0.012	-0.015	0.044	-0.002
	(0.442)	(0.396)	(0.220)	(0.944)
ProfessionalExperience	0.003	0.004	-0.008	-0.006
	(0.173)	(0.143)	(0.475)	(0.414)
Statusmoney	-0.026*	-0.024*	-0.044*	0.018
	(0.054)	(0.094)	(0.078)	(0.398)
SocialEsteem	0.007	0.008	-0.001	0.009
	(0.566)	(0.544)	(0.959)	(0.701)
Professional Image	-0.005	-0.008	0.005	0.011
	(0.660)	(0.547)	(0.859)	(0.614)
Competitiveness	-0.039**	-0.041**	0.025	-0.018
	(0.034)	(0.033)	(0.728)	(0.581)
Experiment FE	Yes	No	No	No
Observations	768	620	148	205
R-squared	0.057	0.060	0.088	0.094

Notes: This table presents the results on the impact of professional norms on bankers' expectations of peers' risk preferences. The dependent variable is *RiskAverse*, which equals to 1 if participants expect their peers to invest more in the risky assets than themselves, and 0 otherwise; *Prime* indicates the treatment condition which equals to 1 if respondents are treated and 0 otherwise. Column (1) reports the results from the full banker sample, column (2) shows the results from the Asia Pacific banker sample, and column (3) presents the results from the Middle East banker sample. Column (4) displays the results from the European non-banking professional sample. Control variables include basic demographic characteristics, such as respondents' age, gender, education background and job function, as well as variables of self-reported work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness*. The variable *Coreunit* is omitted in the regression model shown in column (4) because it is not available for the non-banking professional sample. Experiment fixed effects is controlled in the regression reported in column (2) in which both the Asia Pacific sample and the Middle East sample are included. All variables are defined in Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table OA4: Professional Norms and Risk-taking

	(1) All Mean of dep. var = 0.51	(2) *RiskAverse* = 1 Mean of dep. var = 0.37	(3) *RiskAverse* = 0 Mean of dep. var = 0.64
Prime	-0.007	0.049***	-0.028
	(0.699)	(0.008)	(0.210)
Male	0.055***	0.005	0.023
	(0.005)	(0.813)	(0.372)
Age	-0.001	-0.001	0.001
	(0.398)	(0.252)	(0.346)
HigherEducation	0.038*	-0.010	0.046
	(0.091)	(0.681)	(0.110)
PostGradEdu	-0.006	-0.024	0.001
	(0.816)	(0.407)	(0.971)
CoreUnit	0.009	0.008	-0.003
	(0.621)	(0.707)	(0.902)
Relativewage	0.005	0.006	-0.002
	(0.505)	(0.513)	(0.820)
ProfessionalExperience	-0.000	0.000	0.000
	(0.721)	(0.735)	(0.776)
Statusmoney	0.018***	0.021***	0.001
	(0.003)	(0.001)	(0.865)
SocialEsteem	-0.002	-0.004	0.002
	(0.675)	(0.530)	(0.766)
Professional Image	0.001	0.005	-0.002
	(0.838)	(0.417)	(0.803)
Competitiveness	0.019*	0.018*	-0.002
	(0.057)	(0.059)	(0.842)
Experiment FE	Yes	Yes	Yes
Observations	768	366	402
R-squared	0.041	0.076	0.037

Notes: This table presents the results on the impact of professional norms on risk-taking in the banking industry. The dependent variable is *RiskShare*, which is the share of risky investment; *Prime* indicates the treatment condition which equals to 1 if respondents are treated and 0 otherwise. Column (1) reports the results from the full banker sample, column (2) shows the results from those who expect their peers to take more risks, and column (3) presents the results from the rest of the sample. Control variables include basic demographic characteristics, such as respondents' age, gender, education background and job function, as well as variables of self-reported work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness*. Experiment fixed effects are included in all the regressions. All variables are defined in Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table OA5: Summary Statistics, Non-banking Professional Sample

Variable	Total N = 514		Treatment N = 242		Control N = 272		Control - Treatment	
	Mean	SD	Mean	SD	Mean	SD	Difference	p-value
RiskyShare	0.310	0.288	0.311	0.295	0.310	0.282	-0.001	0.980
RiskAverse	0.245	0.431	0.236	0.425	0.254	0.436	0.018	0.634
Words	41.467	12.673	42.351	13.242	40.680	12.115	-1.671	0.136
Age	0.523	0.500	0.545	0.499	0.504	0.501	-0.042	0.345
Male	0.706	0.456	0.694	0.462	0.717	0.451	0.023	0.574
HigherEducation	0.309	0.463	0.331	0.471	0.290	0.455	-0.040	0.327
PostGradEdu	0.813	0.391	0.856	0.353	0.776	0.419	-0.080	0.091
CoreUnit	3.998	1.397	4.087	1.383	3.919	1.407	-0.168	0.175
Relativewage	9.113	9.465	9.691	9.823	8.598	9.123	-1.093	0.192
ProfessionalExperience	4.333	1.607	4.405	1.536	4.268	1.667	-0.137	0.337
Statusmoney	4.418	1.630	4.483	1.578	4.360	1.675	-0.123	0.393
SocialEsteem	4.218	1.633	4.368	1.530	4.085	1.711	-0.283	0.050
Professional Image	5.864	1.193	5.959	1.122	5.779	1.249	-0.179	0.089
Competitiveness	0.465	0.292	0.500	0.298	0.435	0.285	-0.065	0.069
Asia Pacific	0.471	0.500	0.483	0.501	0.460	0.499	-0.024	0.589

Notes: This table shows the summary statistics of variables for the non-banking professional sample.

Table OA6: Professional Norms and Risk-taking of Non-banking Professionals

	(1) All Mean of dep. var = 0.31	(2) *RiskAverse* = 1 Mean of dep. var = 0.31	(3) *RiskAverse* = 0 Mean of dep. var = 0.31
Prime	0.006	-0.042	0.019
	(0.741)	(0.206)	(0.272)
Male	0.061***	-0.005	0.028*
	(0.001)	(0.881)	(0.096)
Age	-0.001	0.000	-0.000
	(0.450)	(0.932)	(0.661)
HigherEducation	-0.022	-0.015	-0.007
	(0.260)	(0.790)	(0.683)
PostGradEdu	0.030	0.037	0.007
	(0.267)	(0.301)	(0.788)
Relativewage	-0.003	-0.015	-0.000
	(0.708)	(0.281)	(0.957)
ProfessionalExperience	-0.000	0.004	-0.001
	(0.903)	(0.231)	(0.402)
Statusmoney	0.000	0.013	0.000
	(0.982)	(0.244)	(0.976)
SocialEsteem	0.003	-0.005	0.003
	(0.608)	(0.643)	(0.625)
Professional Image	-0.003	-0.001	-0.004
	(0.605)	(0.950)	(0.471)
Competitiveness	0.008	0.002	0.009
	(0.307)	(0.909)	(0.253)
Experiment FE	Yes	Yes	Yes
Observations	514	126	388
R-squared	0.481	0.047	0.724

Notes: This table presents the results on the impact of professional norms on risk-taking in the non-banking professional sample. The dependent variable is *RiskyShare*, which is the share of risky investment; *Prime* indicates the treatment condition which equals to 1 if respondents are treated and 0 otherwise. Column (1) reports the results from the full banker sample, column (2) shows the results from those who expect their peers to take more risks, and column (3) presents the results from the rest of the sample. Control variables include basic demographic characteristics, such as respondents' age, gender, education background, as well as variables of self-reported work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness*. Experiment fixed effects are included in all the regressions. Note that the job function variable, *Coreunit*, is omitted in the regressions shown in this table because it is not available for the non-banking professional sample. All variables are defined in Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table OA7: Professional Norms and Risk-taking, Asia-Pacific Sample Only

	(1) All Mean of dep. var = 0.51	(2) *RiskAverse* = 1 Mean of dep. var = 0.37	(3) *RiskAverse* = 0 Mean of dep. var = 0.65
Prime	-0.005	0.054**	-0.031
	(0.804)	(0.010)	(0.217)
Male	0.068***	0.003	0.035
	(0.002)	(0.883)	(0.234)
Age	-0.001	-0.001	0.002
	(0.519)	(0.298)	(0.336)
HigherEducation	0.027	-0.015	0.037
	(0.253)	(0.554)	(0.234)
PostGradEdu	0.029	0.021	0.011
	(0.464)	(0.570)	(0.821)
CoreUnit	0.008	0.022	-0.004
	(0.709)	(0.351)	(0.873)
Relativewage	0.011	0.008	0.005
	(0.209)	(0.443)	(0.638)
ProfessionalExperience	-0.001	0.000	-0.000
	(0.422)	(0.742)	(0.891)
Statusmoney	0.018**	0.023***	0.002
	(0.017)	(0.003)	(0.845)
SocialEsteem	-0.003	0.002	-0.001
	(0.659)	(0.831)	(0.865)
Professional Image	0.006	0.007	0.001
	(0.346)	(0.300)	(0.908)
Competitiveness	0.017	0.015	-0.004
	(0.103)	(0.168)	(0.739)
Experiment FE	Yes	Yes	Yes
Observations	620	299	321
R-squared	0.053	0.084	0.033

Notes: This table presents the results on the impact of professional norms on risk-taking, using data from the Asia Pacific sample. The dependent variable is *RiskyShare*, which is the share of risky investment; *Prime* indicates the treatment condition which equals to 1 if respondents are treated and 0 otherwise. Column (1) reports the results from the full banker sample, column (2) shows the results from those who expect their peers to take more risks, and column (3) presents the results from the rest of the sample. Control variables include basic demographic characteristics, such as respondents' age, gender, education background and job function, as well as variables of self-reported work-related attitudes, such as *Relativewage*, *ProfessionalExperience*, *Statusmoney*, *SocialEsteem*, *ProfessionalImage*, *Competitiveness*. Experiment fixed effects are included in all the regressions. All variables are defined in Section 3 and Table 1. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.

Table OA8: Manipulation Checks by Location of Experiment

	(1)	(2)
	Asia Pacific bankers	Middle East bankers
	Mean of dep. var = 0.39	Mean of dep. var = 0.44
Prime	0.062***	0.012
	(0.001)	(0.780)
Male	0.014	-0.065
	(0.507)	(0.136)
Age	-0.001	0.010***
	(0.246)	(0.009)
HigherEducation	-0.022	-0.004
	(0.341)	(0.968)
PostGradEdu	0.010	0.035
	(0.814)	(0.428)
CoreUnit	0.029	-0.074*
	(0.153)	(0.096)
Relativewage	-0.008	-0.024
	(0.361)	(0.164)
ProfessionalExperience	0.002*	-0.004
	(0.055)	(0.417)
Statusmoney	0.008	0.013
	(0.237)	(0.292)
SocialEsteem	0.010	0.004
	(0.126)	(0.752)
Professional Image	0.009	0.007
	(0.123)	(0.554)
Competitiveness	0.027***	0.004
	(0.003)	(0.900)
Experiment FE	Yes	Yes
Observations	620	148

Notes: This table presents the results of manipulation checks by experiment location. The dependent variable is *Word*, which is the share of bank-related words; *Prime* indicates the treatment condition, which equals to 1 if respondents are treated and 0 otherwise. Column (1) reports the results from the Asia Pacific banker sample, while column (2) shows the results from the Middle East banker sample. Control variables include basic demographic characteristics, such as respondents' age, gender, education background and job function, as well as variables of self-reported work-related attitudes, such as *Relativewage, ProfessionalExperience, Statusmoney, SocialEsteem, ProfessionalImage, Competitiveness*. Experiment fixed effects are included in both regressions. All variables are defined in Section 3 and Table 1 in the main text. *P*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively.