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Dishonest or professional behavior? Can we tell?*

A comment on: Cohn et al. 2014, *Nature* 516, 86-89,
“Business culture and dishonesty in the banking industry”

Thomas Stöckl†

Abstract

By means of a coin tossing experiment Cohn et al. (2014, *Nature* 516, 86-89, doi:10.1038/nature13977) study business culture in the banking industry and report that employees of a large, international bank behave honestly in a control condition while a significant proportion of them becomes dishonest when their professional identity as bank employees is rendered salient. The authors conclude that the business culture in the banking industry weakens and undermines the honesty norm. We argue that the data allows for an alternative interpretation based on so far unrecognized dynamics in the experimental design. This interpretation classifies bankers’ behavior in the treatment condition to be in accordance with the professional requirements of the banking industry. The two competing interpretations cannot be flawlessly separated and, consequently, bankers’ behavior cannot reliably be classified as resulting from a problematic business culture.

Keywords: Experimental finance; dishonesty, business culture, banking industry.

JEL-Classification: G21; G28; C91.

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1. Introduction

Recruiting employees from a large, international bank as participants in a coin tossing experiment Cohn et al. (2014, *Nature* 516, 86-89, doi:10.1038/nature13977) study business culture in the banking industry. As their main finding, the authors report that bank employees, when their professional identity is rendered salient, report a significantly higher fraction of successful coin flips (58.2%) compared to the control condition (51.6%). This result is interpreted as bankers behaving honestly in the control condition while a significant proportion of them becomes dishonest when their professional identity is rendered salient. The authors conclude that the prevailing business culture in the banking industry weakens and undermines the honesty norm implying the need to implement measures aiming to restore an honesty culture in the banking industry.

In this comment we analyze the design of the experiment and, based on our analysis, question the appropriateness of the authors’ interpretation (Section 2). The experimental design implemented in Cohn et al. (2014) is a modified version of a design used in earlier studies (Bucciol and Piovesan 2011; Houser et al. 2012; Fischbacher and Föllmi-Heusi 2013) to explore dishonest behavior in the laboratory. We argue that the modification in the experimental design creates an entirely different decision environment that allows for an alternative interpretation of the observed treatment effect. Bankers in the professional identity condition, rather than breaching an honesty norm, behave in accordance with a basic competence required in their industry.

In Section 3, we consider various arguments that would allow us to favor one of the two competing interpretation above the other. Moreover, we discuss the robustness of our interpretation in light of additional experimental treatments provided in Cohn et al. (2014). However, we cannot eliminate one of the two potential interpretations and, consequently, bankers’ behavior cannot be flawlessly classified as resulting from a problematic business culture. We simply cannot tell whether the observed behavior is dishonest or professional behavior. Most importantly, the available data is not sufficiently clear to call for changes in the business culture of the banking industry. Section 4 summarizes and concludes.

2. Experimental design analysis

The experimental design implemented in Cohn et al. (2014) builds on previous studies (Bucciol and Piovesan 2011; Houser et al. 2012; Fischbacher and Föllmi-Heusi 2013) aiming to explore dishonest behavior in the laboratory. In these experiments subjects are asked to toss a fair coin (once or several times) and report the outcome, i.e., the side of the coin that landed on top. Usually, reporting the outcome of one specific side yields a higher payoff than reporting the other side and privacy in tossing the coin eliminates detection risk, creating incentives to cheat about the actually observed (number of) outcome(s). This game can be characterized (among others) by two features. First, the game is non-strategic as subjects’ payoffs are independent of any other subjects’ decision. Second, decisions are made under certainty, implying that subjects earn their payoffs with certainty once they made their decision. Basically, subjects participating in this game have to solve the conflict between reporting honestly and optimizing on their risk-free earnings.

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3 Either real coins, showing heads and tail, or artificial coins, showing different colors on each side, are used to determine the outcome.
Cohn et al. (2014) task employees of a large, international bank with a modified version of the game. Specifically, subjects toss a coin ten times in private and report the outcomes. For each reported positive outcome (heads or tails, whatever requested by the experimenter) they could win an amount equal to approximately US$20 (as opposed to $0). Now, the authors add an additional feature to mimic one characteristic of the banking industry, namely its competitive nature. Specifically, subjects only earn money if the reported total earnings from the ten coin tosses are higher or equal to those of a randomly drawn subject from a pilot study. This modification in the incentive structure of the game, however, implies substantial changes. This game can be characterized (among others) by two features. First, subjects now participate in a strategic game as they have to consider how decisions by other subjects influence their own payoffs. Second, subjects’ payoffs are risky as each reported outcome is associated with an expected payoff and a risk of earning nothing. Thus, subjects participate in a strategic game facing a decision under risk. Figure 1 illustrates the implications of the experiment’s basic features by plotting expected payoffs, payoff risks (measured by the standard deviation of expected payoffs), and payoff probabilities conditional on the number of reported outcomes. We assume honest, i.e., unbiased, reporting in the calculations and scale values by their highest realization. Figure 1 reveals that payoff probabilities as well as expected payoffs strictly increase in the number of reported positive outcomes. Payoff risk, however, exhibits an inverted U-shape, indicating increasing payoff risk up to five reported outcomes and decreasing payoff risk thereafter. For instance, expected payoff increases by 33.2% when reporting seven instead of six successful outcomes (out of ten coin flips) while at the same time payoff risk decreases by 29.7%. Subjects reporting ten successful outcomes earn $200 with certainty. In this framework subjects have to solve the conflict between reporting honestly and optimizing on their risky earnings. The latter part requires subjects to recognize the experiments’ inherent dynamics between expected payoff and payoff risk created by its strategic character.

![Expected payoff, payoff risk, and payoff probability](image)

**Figure 1**: Expected payoffs (black line with circles), payoff risks (measured by the standard deviation of expected payoff, black line with diamonds), and payoff probabilities (black line with triangles) in the experiment conditional on the number of reported positive outcomes. Note that payoff probability equals the cumulative probabilities of the binomial distribution. We assume honest (unbiased) reporting in the calculation. For comparability reasons, numbers are scaled by the maximum realization (maximum expected payoff equals $200; maximum payoff risk equals $48.46).
Cohn et al. (2014) observe that on average, bank employees in the control condition, i.e., without rendering their professional identity salient, reported 51.6% successful coin flips, a value which is not significantly different from 50% (P=0.415, two-sided t-test; n=67). Bank employees in the professional identity condition, however, report a higher fraction of successful coin flips, namely 58.2% compared to the control condition. Comparing this value to the expected value of 50% and the control condition, Cohn et al. (2014) find that it is significantly above chance (P=0.002, two sided t-test; n=561) and significantly higher than in the control condition (P=0.033, two-sided rank-sum test; n=128). A closer look at bank employees’ behavior in the professional identity condition reveals that they more frequently report outcomes above six or even claim the maximum (risk-free) payoff. Cohn et al. (2014) interpret the treatment effect – in accordance with previous experiments (Bucciol and Piovesan 2011; Houser et al. 2012; Fischbacher and Föllmi-Heusi 2013) of different design – as an increase in dishonesty, which they attribute to the prevailing business culture in the banking industry.

However, considering the characteristics of the experiment a rivaling interpretation based on an economic rationale is possible. In addition to solving the conflict between reporting honestly or not, subjects’ behavior might be driven by the desire to optimize between expected payoff and payoff risk. Bank employees reporting more than six successful outcomes effectively reduce their payoff risk while at the same time they increase their expected payoff. By doing so, bankers in the professional identity treatment behave in accordance with a basic competence of the banking industry. In their everyday business bankers are frequently confronted with situations that involve strategic decisions associated with risky outcomes. Due to this professional background, bankers in their professional identity pay more attention to the economic rationale, i.e., considering the dynamics between expected payoff and payoff risk, while at the same time they pay less attention to the honesty norm. Outside their professional identity bankers pay less attention to these dynamics and behave similar to non-banking employees or students.

3. Robustness of interpretations

Based on the comparison of the treatment and the control condition we cannot classify whether bankers’ behavior is driven by the honesty norm or whether it is driven by the economic rationale. In this section we discuss several arguments that could potentially help us in deciding which interpretation is the more appropriate among the two rivaling interpretations. Moreover, we evaluate the alternative interpretation in the light of additional experimental evidence reported in Cohn et al. (2014).

3.1. Still, subjects act dishonestly as they breach the rules of the game

One could argue that reporting higher payoffs indicates that subjects cheat by breaching the rules of the game. Consequently, the conclusion of the existence of a problematic business culture drawn in Cohn et al. (2014) would dominate. This argument focuses on subjects’ understanding of the rules of the game. As experimentalists we can be sufficiently confident on subjects’ understanding of the rules if (i) the rules of the game are explicitly stated in the instructions or if (ii) we could assume that the rules, without stating them explicitly, are clear to subjects.
To evaluate whether (i) applies in Cohn et al. (2014) we study the experiment’s instructions and find that only the procedure of the coin flips and the incentive function are explained. No further rules, like a requirement to comply with the honesty norm, that could guide subjects in the decision process of the experiment, are specified. Accordingly, reporting higher payoffs than actually observed cannot be classified as dishonesty because this behavior does not violate a previously defined rule. To interpret data based on (ii) requires a strong conviction that the rules of the game are sufficiently clear to subjects. In all cases, this conviction implies a loss of experimental control as in most environments it is difficult for the experimenter to assess the set of rules subjects bring to the lab. The loss of experimental control increases in the complexity of the experimental task. Remember, that subjects in the Cohn et al. (2014) game have to consider the complex dynamics between expected payoff and payoff risk. Without any rules guiding subjects in their decision behavior we cannot be sufficiently sure what set of beliefs about the “correct” behavior in the game subjects bring to the lab. Some might favor an honesty rule while others might favor a risk-payoff optimizing rule. Subjects of the second type might not be aware of breaching the authors’ implicit rules. Therefore, we cannot assume that the rules of the game were sufficiently clear to subjects.

To summarize, bankers’ behavior in the treatment condition cannot be classified as breaching the rules of the game.

### 3.2. Decision behavior and risk preferences

The Cohn et al. (2014) game tasks subjects with considering a relationship between expected payoff and associated risk. Based on this observation one might suggest to have a closer look whether subjects’ behavior is guided by individual risk preferences. Unfortunately, both experimental designs, the original as well as and the modified version implemented in Cohn et al. (2014), feature the same prediction about the influence of individual risk preferences on behavior. The rationales are as follows.

First, experiments implementing the original design are games under certainty. Therefore, payoffs are risk-free and risk preferences are irrelevant in the decision process. Second, subjects in the Cohn et al. (2014) game face a decision under risk and risk preference might have an influence. One assumption, however, is crucial in the context of risk preferences: a positive relationship between risk and return; higher expected returns are associated with higher risk, and vice versa. The Cohn et al. (2014) game is not characterized by such a positive relationship. The dominant strategy, i.e., payoff maximizing strategy, is to report the highest (and risk-free) outcome irrespective of individual risk preference. Given the lacking influence of risk preferences on the number of reported outcomes we should expect zero correlation between subjects’ risk preferences and the number of reported outcomes. Therefore, individual risk preferences cannot disentangle the two rivaling interpretations.

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4 This interpretation is supported by the lack of a penalty for getting caught. Without a penalty, there is no guideline for subjects indicating that dishonest behavior seems wrong.

5 Indeed, the predictions on the influence of risk preferences are supported in additional findings not reported in the Nature publication. Cohn et al. (2014) elicit bank employees’ risk preferences using an incentivized investment task (Gneezy and Potters 1997) and find no correlation between risk aversion and reporting behavior in the coin tossing task (Spearman’s rho: 0.017, p= 0.853, N=128). These results were reported in private communication with the authors and are available from the author upon request.
3.3. Additional experimental evidence reported in Cohn et al. (2014)

Cohn et al. (2014) conduct several additional analyses to test different channels to explore bankers’ behavior. First, they rule out a typical feature of the banking culture, namely competitive behavior, to be the driving force for the treatment effect. Second, they rule out the salience of competitive incentives to be the driving force, as the treatment effect in core units is similar and statistically indistinguishable from the support units. Third, their treatment manipulation does not affect beliefs about other bank employees’ reporting behavior. Fourth, they were not able to replicate the treatment effect using (i) students or (ii) participants from other professions as their subjects in the experiment. Fifth, Cohn et al. (2014) consider the case that the professional culture in the banking industry might promote bankers’ behavior owing to its focus on materialistic values. In this test they ask subjects about the extent to which they endorse the statement that social status is primarily determined by financial success. Two findings are reported. First, bankers in the professional identity condition endorse the statement significantly more strongly than those in the control condition. Second, a stronger endorsement of the materialistic statement is positively correlated with the reported number of successful outcomes.

None of these additional analyses, however, is able to disentangle bankers’ behavior to be either driven by the honesty norm or by the economic rationale.

4. Conclusion

By means of a coin tossing experiment Cohn et al. (2014) study business culture in the banking industry and report that employees of a large, international bank behave honestly in a control condition while a significant proportion of them becomes dishonest when their professional identity as bank employees is rendered salient. In this comment we question the appropriateness of the authors’ interpretation by evaluating the characteristics of the implemented experimental design. We argue that a modification in the experimental design compared to previous studies creates an entirely different game that allows for an alternative interpretation of the data. Bankers in the professional identity condition do not follow an honesty rule but rather behave in accordance with a basic competence required in their industry. Consequently, two potential interpretations of the available data are possible and bankers’ behavior cannot be classified as resulting from a problematic business culture. We simply can’t tell whether the observed behavior is dishonest or professional behavior. Considering various arguments and additional experimental evidence, we are not able to favor one interpretation above the other.

Given the impossibility of disentangling the two interpretations based on arguments or existing data, the question arises whether the conflict could be solved by conducting new experiments. One obvious possibility would be to replicate the treatments using the unmodified version of the experiment. This procedure, however, would not completely solve the described conflict. Still, subjects might decide according to an honesty norm or an economic rationale. Although the conflict would be less pronounced due to the missing strategic component, the experimenter has no control over subjects’ beliefs about the correct behavior in the experiment. Another possibility would be to modify the coin tossing game by clearly stating the norm according to which subjects are expected to decide, e.g., advising them to comply with the honesty norm. Violations of this rule would be a stronger indicator for dishonest behavior. This procedure, however, might be subject to criticism as it potentially trig-
gers an experimenter demand effect. Therefore, designing an appropriate environment to assess whether bankers behave in accordance with an honesty norm or not is a challenging task. Moreover, due to the specific subject pool the implementation of a new series of treatments might be even more challenging (and costly).

5. References


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Abstract
By means of a coin tossing experiment Cohn et al. (2014) study business culture in the banking industry and report that employees of a large, international bank behave honestly in a control condition while a significant proportion of them becomes dishonest when their professional identity as bank employees is rendered salient. The authors conclude that the business culture in the banking industry weakens and undermines the honesty norm. We argue that the data allows for an alternative interpretation based on so far unrecognized dynamics in the experimental design. This interpretation classifies bankers’ behavior in the treatment condition to be in accordance with the professional requirements of the banking industry. The two competing interpretations cannot be flawlessly separated and, consequently, bankers’ behavior cannot reliably be classified as resulting from a problematic business culture.