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The dark side of team incentives: Experimental evidence
on advice quality from financial service professionals

Anastasia Danilov (University of Cologne)
Torsten Biemann (University of Cologne)
Thorn Kring (Steinbeis University of Berlin)
Dirk Sliwka (University of Cologne)

Cologne Graduate School
in Management, Economics
and Social Sciences
Albertus-Magnus-Platz
50923 Köln
www.cgs.uni-koeln.de

University of Cologne



The dark side of team incentives:
Experimental evidence on advice quality from financial service
professionals

BY ANASTASIA DANILOV, TORSTEN BIEMANN, THORN KRING AND DIRK SLIWKA*

In an experiment with professionals from the financial services sector, we investigate the impact of a team incentive scheme on recommendation quality of investment products when advisors benefit from advising lower quality products. Experimental results reveal that, when group affiliation is strong, worse products are recommended significantly more often under team incentives than under individual incentives.

Keywords: deception, team incentives, professionals, financial advice, experiment

JEL classification numbers: C90, D82, J30, M52

*Corresponding author: Anastasia Danilov, Department of Personnel Economics and Human Resource Management, University of Cologne, Albertus-Magnus-Platz, 50923 Cologne, Germany. Email: danilov@wiso.uni-koeln.de, Telephone: +49 (0) 221 470 5887. Dirk Sliwka and Torsten Biemann: Department of Personnel Economics and Human Resource Management, University of Cologne, Albertus-Magnus-Platz, 50923 Cologne, Germany. Thorn Kring: Department of Strategic Management in Cooperative Networks, Steinbeis University of Berlin, Guertelstraße, 10247 Berlin, Germany. We thank Katharina Laske, Isabella Cetnarowski, Ursula Schuh and Tobias Hinze for their great support in running the experiment. We are also grateful to participants of Deception, Incentives and Behavior Symposium at Rady School of Management, Uri Gneezy, Silvia Saccardo, Rainer Michael Rilke and two anonymous referees for their insightful feedback. Financial support by the DFG through research group FOR 1371 is gratefully acknowledged.

1. Introduction

Consumers often have to rely on experts' advice when making investment decisions, especially in the presence of strong informational asymmetries, the lack of expertise, and uncertainty about future profits. However, in the wake of the recent financial crisis, financial advisors have been claimed to mislead private investors about the riskiness of products inducing investments in inferior financial assets. Indeed, in their professional routine, financial service experts constantly face the dilemma of how to balance their own and their customers' interests.

The impact of monetary profit on misadvising but also misreporting has recently gained increasing interest and is often seen as one of the important drivers of unethical behavior (Gneezy 2005; Inderst and Ottaviani 2009; Sutter 2009; Popova 2010; Angelova and Regner 2012; Gibson, Tanner and Wagner 2012). It has been shown that not only the size of a monetary incentives is relevant for an unethical behavior but also the type of the incentive scheme itself (Schweitzer et al. 2004; Denis et al. 2006; Ordonez et al. 2009; Cadsby et al. 2010; Conrads et al. 2011). For example, Cadsby et al. (2010) find experimental evidence that performance is over-reported more often under target-based incentive scheme than under piece rate or tournament schemes. Denis et al. (2006) find a positive correlation between the likelihood of stock manipulation fraud and intensity of option-based compensation of CEOs. In a recent experiment, where Conrads et al. (2011) employed the dice-rolling game of Fischbacher and Heusi (2008), students lied significantly more often when team incentives were offered. However, in this experiment lies had no negative impact on any other subject but raised the costs for the experimenter.

Even if the advisors may not be purely focused on their narrow personal interest, they may still be tempted to adjust their recommendations to the benefit of their team or the financial institution they work for – for instance due to strong team identification or loyalty to the employer – and neglect customers' interests. Thus, advice from potentially biased experts might lead to suboptimal investment decisions, in particular when their monetary incentives are tied to the short-term goals of the financial institution rather than customers' interests.

In general, the effect of team incentives on potential misadvising may be twofold: On one hand, a simple economic model would predict that misadvising is less prominent under a team bonus, as the individual marginal monetary benefit from misadvising is smaller and a free-rider problem occurs as demonstrated by Holmstrom (1982). However, recent research indicates that the underlying mechanism of cheating under team incentives cannot be

explained by purely economic considerations. For example, several experimental studies have pointed out that splitting the benefits with another person increases the likelihood of cheating (Gino and Pierce, 2010; Wiltermuth, 2011; Conrads et al., 2012). In this way, Conrads et al. (2012) observed that lying in teams is partially driven by opportunity to hide the individual misdeeds. Gino et al. (2009) showed that corrupt social norms may serve as a trigger of unethical behavior in teams.

The key research question of this paper is how advice quality is affected by either a team or an individual incentive scheme and whether the effects are moderated by the strength of the relationship between the team associates. Mazar et al. (2008) demonstrated that deception is affected by the desire to keep a positive self-image. Considering our research question, team incentives may provide a justification for dishonest acts by means of, e.g., “*helping the team members*” which reduce the perceived immorality of the self. In this case, team incentives may help to reduce the perceived moral costs of dishonesty towards customers and increase the occurrence of bad advice. The justification of dishonesty for the team benefit may be easier especially when the relationship between the team members is strong. Therefore, we hypothesize that the detrimental effect of the team incentives is moderated by the strength of the relationship among the team members. To the best of our knowledge, there is very little research on individual closeness and misbehavior. Gino and Pierce (2010) observed a positive effect of feeling empathy with the others on helping them out by lying, whereas Wiltermuth (2011) found no significant effect of experimental matching with either a friend or a stranger on misreporting. However, investigating how closeness among individuals alters the likelihood of engaging in dishonest behavior remains of great importance, as human decisions are often made in social environments where actors have strong social ties. Therefore, in our experiment we focus on the disadvantages of team incentives among individuals with different degrees of group affiliation.

We address this question by implementing a simple sender receiver game, in which advisors – represented by financial sector professionals who took part in training – recommended an investment product to customers. Each customer – represented by a student participant – decided whether or not to buy the recommended product. Customers were not informed about the products’ features and as participants interacted only once, the products were pure credence goods (Darby and Karni, 1973; Dulleck and Kerschbamer, 2006). The advisor, however, were informed the revenue distribution and the size of the commission rate attributed to each product. The product quality in our setting was operationalized by high

expected return and low risk, and was inversely related to the size of the commission rate paid to the advisor. In particular, we compare the quality of recommended products under an individual commission rate and a team bonus payment. For the latter, commissions of three advisors were paid to a team account, which then was evenly distributed among its members. Additionally, we used the difference in amount of time spent in the joint training seminars as a natural variation of subjects' closeness.

Both product design and incentive schemes are derived from common situations in the financial advisory business. Being financial professionals, advisors are confronted with very similar situations in their day-to-day business where they can typically choose from a set of products with different commission rates, returns on investment, and risk. Furthermore, retail bankers' compensation schemes often combine components of individual and group commissions. We thus believe that conducting this experiment with financial service professionals employs a useful social framing that adds to the external validity of the experiment (e.g., Carpenter, Burks and Verhoogen, 2005).

Our main finding is that, compared to individual incentive schemes, advisors who were strongly affiliated with the fellow team members recommended lower quality products when facing team incentives. However, we did not observe any difference in recommendation quality between treatments when the relationship strength was weak.

The remainder of this paper is organized as follows. In section 2 we describe the experimental design and procedure. Section 3 presents results and the last section concludes.

2. Experiment

2.1. Design

In this one-shot experiment we investigated a simple sender-receiver game where one player (henceforth referred to as *advisor*) has private information about six different payoff allocations for himself and his counterpart (henceforth *customer*). In the experimental instructions, we named these payoff allocations as *investment products*. Each of the products brings a commission rate to the advisor and a stochastic return to the customer. The advisor's commission rate corresponds to a fixed amount of money and is presented in column 2 of Table 1. The customer's return on investment is drawn from a uniform distribution on the integer values from a predetermined range defined by columns 3 and 4. Columns 5 and 6 report the expected value and the standard deviation of customer revenue, but they were not

presented to the subjects. As can be seen from Table 1, the products are designed such that higher commission rates are paid for lower product qualities, as measured by the customer's expected payoff and its volatility. For instance, the customer's payoff of the worst product is drawn from the set $\{0, 1, 2, \dots, 15, 16\}$ and brings the advisor a commission of EUR 9. The second worst product brings the customer a random amount from the set $\{2, 3, 4, \dots, 14\}$, whereas the advisor receives EUR 8. The best product pays customer EUR 12 for certain but only EUR 4 to the advisor. As products are monotonically ranked for any customer who prefers higher returns and lower uncertainty, we use the product's inverse rank as a measure of recommendation quality – hence, this quality measure of the worst product is equal to 1 and that of the best product is equal to 6.

The customer has no information on his and his advisor's payoffs from any investment. He only knows that his earnings range from 0 to EUR 16. The advisor, on the other side, knows the exact distribution of the revenues and the size of the commission rate for each investment product. His task is to recommend one of these six products to the customer. After learning the advisor's recommendation the customer can pick either one of the products or an outside option that brings him EUR 5 and EUR 2.50 to the advisor. Thus, the earnings from the investment depend only on the customer's choice and payoff realization, but not on the advisor's message.

Table 1
Payoffs from different investment products used in the experiment

Recommendation quality	Commission rate (in EUR)	Customer's revenue (in EUR)			
		Minimum	Maximum	Expected value	Standard deviation
1	9	0	16	8	4.90
2	8	2	14	8	3.74
3	7	6	14	10	2.58
4	6	8	12	10	1.41
5	5	10	14	12	1.41
6	4	12	12	12	0.00

Note: The products were shown advisors in the following order by recommendation quality: 1, 5, 6, 2, 3, and 4. Recommendation quality, expected customer's value and standard deviation were not presented to the advisors, but could be easily inferred from the experimental instructions.

Two experimental treatments were designed by changing the incentive scheme. In both treatments, each advisor interacts with one customer. In the *Individual Commission* treatment, the advisor himself receives the commission rate associated with the product chosen by his or her customer. In the *Group Commission* treatment, advisors are randomly and anonymously allocated into groups of three and their earned commissions are summed up and split among all three group members equally.

2.2. Procedure

The experiment was conducted between February and November 2011. Subjects who were assigned the role of advisor ($N = 94$, 9.6% female) were participants of a management seminar¹ for executives from cooperative German banks at the Academy of German Cooperatives ADG² in Montabaur, Germany. The experiment was conducted during the seminar and participation was voluntary.³

The experiment was run by an experimenter who had not met any of the subjects before. The participants were sitting in one large room and each subject had a seat at an isolated workplace. They received experimental instructions with exact information about their role, task, and possible payoffs. Furthermore, through the instructions they were explicitly informed that their recommendation would have been sent to participants recruited at the Cologne Laboratory for Experimental Research who were assigned the role of customers.

Within each session, the subjects were randomly allocated to the *Group Commission* or *Individual Commission* treatments. Under the *Group Commission* treatment subjects did not know the identities of the two other group members they were matched with. However, they knew that their experimental partners were from the same training group and were present in the same room during the experiment.

No communication was allowed during the experiment. After all decisions were made, subjects were asked to answer a questionnaire including measures of group identity (Aron et al., 1992; Shamir and Kark, 2004) and Big Five personality traits (Rammstedt and John, 2007). They were also informed that the process of decision making and payment was anonymous and that the payment would be carried out in cash two days later at the end of the seminar module. The average payoff of advisors was EUR 5.36.

Subjects in the role of customers ($N = 105$)⁴ were students from the University of Cologne and were recruited via ORSEE (Greiner, 2004). They participated in the experiment online and could either receive their experimental earnings via *paypal* or pick it up in cash in the laboratory. The average payoff of customers was EUR 8.97.

Each participant took part in the experiment only once.

¹ Successful participation at the management seminar legitimates an executive to become chief executive officer of a cooperative bank according to German Kreditwesengesetz (§33 KWG).

² More information about the Academy of German Cooperatives can be found under http://www.adg-international.com/adg_international/.

³ All seminar participants decided to take part in the experiment.

⁴ Including 11 replacement subjects.

2.3. *Experimental manipulation*

As described above, subjects in the role of advisors were financial professionals who participated in the executive seminar. The seminar consisted of 14 modules with 5 days of training each. These modules spanned over a period of 10 months. The participants did not know each other before the management seminar, as they came from different retail banking companies, branches, locations and divisions. They were assigned to the training groups randomly and remained within the same class for all 14 modules.

We were mainly interested in the effect of team incentives on misadvising under different degrees of team affiliation. As mentioned above, we used the training duration as a natural variation of group affiliation. For this purpose, we ran two out of four experimental sessions with seminar groups from the third module (henceforth called as *loose affiliates*, $N = 49$). These participants barely knew each other at the time of the experiment, as they had been spending only few seminar days together and studying individually rather than in groups. Thus, we expect these subjects not to be in a close relationship with each other and scarcely identify themselves with their training group.

Two other sessions were run with different participants attending the last seminar module in the fourteenth week ($N = 45$). These subjects had completed 14 weeks of training within the same group and had been taking part in numerous team activities. Therefore, we expected them to know each other well and strongly identify themselves with their training group. Accordingly, we assume that social ties between these subjects were stronger than those among the *loose affiliates*. Therefore, we refer to this subject sample as *close affiliates*. It is important to note that we randomly assigned participants to a compensation scheme within each session, but the assignment of team affiliation is necessarily non-random. Hence, our analysis focuses on a comparison of the two incentive schemes for each of the two degrees of *affiliation*.

To test whether the variation of time spent jointly in the course indeed captures group affiliation we used the Inclusion of Others in the Self (IOS) scale developed by Aron et al. (1992) as a post-experimental manipulation check. The IOS scale is broadly used in social psychology as a measure of the subjective sense of closeness and in organizational research as a measure of organizational identification. This single item measure entails high test-retest reliability and discriminant validity. It consists of 7 Venn-like diagrams with 7 representations of different degrees of overlap of two circles, one of them representing the respondent's self and another representing the training group. Respectively, two circles that do not have any

common intersection indicate the absence of closeness with other training participants (1 ‘do not identify myself with the training group at all’) and two completely overlapping circles correspond to the closest possible relationship between an individual and his or her classmates (7 ‘identify myself completely with the training group’). After the experiment participants were asked to indicate one of the 7 circle combinations that would describe their relationship with the training group most accurately.

3. Results

3.1. Manipulation check: Effect of training on group affiliation

As described in the previous section we varied two dimensions in our experimental design: the incentive scheme and the number of training modules that subjects had spent together before the experiment.

We claim that at the end of the 14 weeks training the perceived interpersonal relationship between peers is closer, as they become more acquainted with each other by interacting during the training. Consistent with our prediction, participants in the *close affiliation* condition reported stronger group identification ($M = 5.13$, $SD = 1.01$) than those in the *loose affiliation* condition ($M = 4.67$, $SD = 1.07$). This difference is significant ($z = -1.946$, $p = 0.0516$, two-sided Mann-Whitney U test).⁵ We thus conclude that in our experiment the duration of the joint experience has indeed a significant impact on the interpersonal closeness of the subjects with their classmates.

3.2. Effect of incentive scheme on recommendation quality

We examine recommendation quality measured by the number assigned to the respective product (1 for the worst and 6 for the best product). Since we can make clean treatment comparisons solely between team and individual incentives within a given level of affiliation, we focus mainly on the comparison of *close (loose) affiliates* between the *Group Commission* and *Individual Commission* treatments. The main result of our study is summarized in Figure 1. The average recommendation quality of *close affiliates* was significantly lower when they received team incentives ($M = 4.14$, $SD = 1.35$) than in the case of individual incentives ($M =$

⁵ The difference is significant at the 5% - level if testing with the t test: $t(94) = -2.1366$, $p < 0.05$.

4.92, $SD = 0.97$, $z = 1.986$, $p = 0.0471$, two-sided MWU test).⁶ However, the recommendations of advisors from *loose affiliation* group do not significantly differ between the *Group Commission* ($M = 4.44$, $SD = 1.25$) and *Individual Commission* treatments ($M = 4.09$, $SD = 1.57$, $z = -0.654$, $p = 0.5130$, two-sided MWU test).

Overall, the above presented non-parametric analysis suggests that team incentives induce lower recommendation quality among advisors with close affiliation. We summarize these findings as follows:

RESULT 1: When affiliation between financial advisors is close, they recommend products of significantly lower quality if they receive team incentives as compared to individual incentives. However, among loosely affiliated advisors there is no significant difference in recommendation quality for these two incentive schemes.

Interestingly, *closely affiliated* advisors recommended better products under the individual incentive scheme than *loosely affiliated* advisors ($z = 1.765$, $p = 0.0775$, two-sided MWU test). The explorative nature of this finding does not allow us to claim causality, i.e. detrimental effects of group affiliation under individual incentives. A potential interpretation of this result is that too much “greed” under individual incentives may reduce group reputation or cultivate a bad image in front of the teammates. These concerns may be internalized to greater extent under close affiliation especially when they are not counteracted by monetary team benefit.

⁶ As the advisors were asked to recommend one out of six products, we consider the propensity of strategically good recommendation aiming to direct the customer towards less optimal products as low (Sutter, 2009). Indeed, 91.4% of advisors expect customers to follow their recommendations. Only two out of nine subjects, who did not expect the customers to follow their advice, chose the best product. As for the customers, only 63.8% choose the recommended product. 16.2% choose the outside option and 20% a different product. There is no significant difference in customer’s choice between the *Individual Commission* and *Group Commission* treatments.

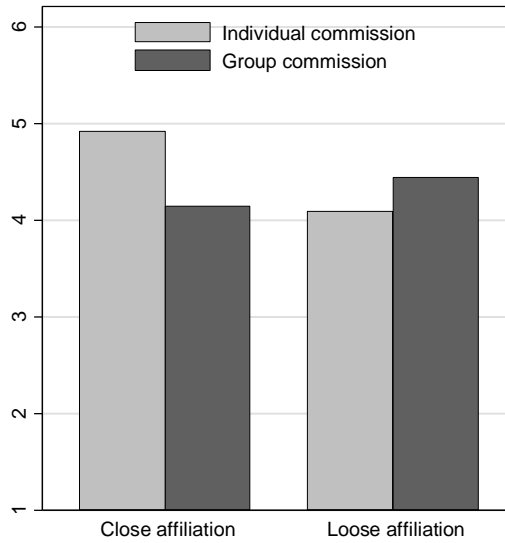


Fig. 1. Average recommendation quality

Note: Recommendation quality ranges from 1 to 6 with higher numbers indicating better quality.

3.3. Regression analysis

We also estimate a number of ordered probit regression models with robust standard errors and session clusters, reported in Table 2. The dependent variable is the recommendation quality, whereas the main exogenous variable of interest is the dummy for the incentive scheme and interaction variable *Group Commission * Close Affiliation*. As we see from model 1 the group commission has no significant impact on the recommendation quality among *loose affiliates*. However, among *close affiliates* team incentives induce significantly lower recommendation quality ($p < 0.01$).

Table 2
Ordered probit regression results

Dependent variable: Recommendation quality 1 = low, 6 = high	(1)	(2)	(3)
Group commission	0.27 (0.28)	0.29 (0.19)	0.33 (0.40)
Close affiliation	0.65* (0.33)	0.70** (0.35)	0.71 (0.46)
Group commission * Close affiliation	-0.87*** (0.23)	-0.99*** (0.18)	-1.00** (0.40)
Female		-0.49 (0.46)	-0.54 (0.38)
Age		0.00 (0.01)	0.01 (0.01)
Conscientiousness		0.19*** (0.05)	0.21*** (0.05)
Extroversion			0.03 (0.14)
Neuroticism			-0.09* (0.05)
Openness			0.04 (0.04)
Agreeableness			-0.10 (0.07)
Observations	94	93	92

Note: Data clustered on sessions. Robust standard errors reported in parentheses. The reference group is *Loose Affiliation Group Commission*. *** Significant at the 1 percent level. ** Significant at the 5 percent level. * Significant at the 10 percent level.

However, not only incentive schemes and group affiliation but also individual characteristics can influence the subjects' propensity to engage in unethical behavior (O'Fallon and Butterfield, 2005; Treviño et al., 2006). In the next step, we include gender, age and the Big Five personality dimensions in our regression analysis.⁷ The coefficient for gender and age are not significant. However, the regression results point out the relevance of personality for moral behavior. As model 2 shows, participants scoring high on the personality trait *Conscientiousness* recommend significantly better products ($p < 0.01$). *Conscientiousness* is considered to reflect dependability, dutifulness, order, self-discipline, competence and can induce more honest decisions resulting in the better recommendations (i.e. Digmann, 1990). Indeed, previous studies have found a positive correlation between conscientiousness and moral behavior (i.e. Salgado, 2002, Hogan and Ones, 1997, Murphy and Lee, 1994). In model 3 we add control variables for the remaining Big Five dimensions. The previous results remain unchanged. Additionally, we find a weakly negative effect of *Neuroticism* on the recommendation quality. This finding is in line with Conrads et al. (2012).

⁷ The Big Five personality traits are measured with 10-items scale (2-items per each) as suggested by Rammstedt and John (2007). Each values ranges from 0 to 8, where 8 indicates the intensity of the personality trait.

Although the impact of personality traits on recommendation quality is not the key focus of this paper, this result underlines the validity of our data. We summarize Result 2:

RESULT 2: More conscientious or less neurotic subjects recommend higher quality products.

4. Concluding remarks

A potential negative impact of individual incentive schemes, such as relative performance pay or target based incentives, on ethical behavior has been broadly discussed in economics and management research (i.e. Schweitzer et al., 2004; Denis et al. 2006; Ordóñez et al., 2009; Cadsby et al., 2010). Moreover, some recent studies (e.g., Conrads et al., 2012) have indicated that team incentives may induce lying. Our results show that team incentives can induce a lower recommendation quality for credence goods by professional financial service advisors when they are from a sample with closer social ties. In the experiment, retail banking professionals were asked to recommend one out of six investment products to the customers. Here, advisors had the opportunity to reap material benefits from recommending financially unattractive products to customers. We find that group incentives lead to lower recommendation quality when the group affiliation is strong. As close affiliation between team members is what we encounter in real world organizations where group bonuses are paid to team members who typically work together over long time horizons, this problem is particularly relevant. Our results indicate that under close group affiliation individual incentives may be beneficial to induce more honest behavior, potentially because the selfish nature of distorted advice is more obvious and may raise the individual costs of lying.

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