

To Be Good or To Be Better: Asset Managers' Attitudes Towards Herding

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Abstract: Based on a questionnaire survey the paper distinguishes between herding asset managers who try to be good and non-herding asset managers who try to be better than their competitors. It provides evidence for reputational herding and discusses herding managers' working effort, preferred sources of information and investment horizon. Additionally, their risk taking behavior including their investment behavior in short-term tournament scenarios is analyzed. It is found that herding managers assess themselves as generally more risk averse than non-herding managers, but in the tournament they are willing to take more risk. This finding is ascribable to their fear of falling out of the herd.

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1. Introduction

Institutional investors, such as investment funds, insurance companies and others, have become the dominant group in international financial markets during the past decades. They take advantage of comparatively low transaction costs and the opportunity of balanced portfolio diversification. Nevertheless, as empirical studies show, they mostly fail to achieve the market developments; no matter what kind of fund is managed – mutual fund or pension fund (see Malkiel, 1995, and Lakonishok et al., 1992), nor which period is considered – the postwar period or nowadays (see Jensen, 1968, Carhart, 1997, and Kempf and GRIESE, 2003). These results are astonishing, because asset managers are sophisticated, experienced market players who obtain valuable information about the economies and financial markets from professional research activities. So, one has to question why does their active portfolio management often not pay off? Malkiel (2003) ascribes this observation to additional expenses of active management (e.g. higher management fee) compared to passive strategies. However, another possible explanation for weaker performance is that asset managers could show inadequate working effort as they receive insufficient incentives. This paper provides evidence that some asset managers tend to strategic behavior of following the herd, which is connected with significantly less working effort than others.

Institutional investors act in a principal agent framework as agents when managing funds that belong to private or corporate clients, who can be considered as their principals. There is a conflict of interests as the clients demand attractive risk-adjusted performance, whereas the asset managers – who naturally are effort averse – are more concerned about an adequate compensation for their working effort [explicit incentive] on the one hand and an adequate development of their professional career [implicit incentive] on the other hand. Managers should care for their reputation in the labor market as it might have an effect on their remuneration later in their career (see e.g. Fama 1980, Lazear and Rosen 1981, and Holmström 1999). Holmström and Ricart i Costa (1986, p. 856) find that reputational (career) concerns are more central than effort aversion in explaining incongruities in risk preferences between managers and owners or superiors. In order to make the asset managers act

with best effort as desired by their principals, their investment performance is commonly assessed in relation to a benchmark – typically their peer group (see e.g. Lakonishok et al., 1992, and Maurer, 1998). But this also affords the opportunity for strategic behavior: By choosing his effort level an asset manager can "try to be good", i.e. equally good as his peers, or he can "try to be better", i.e. outperform the peer group. Respective behavioral strategies are herding for managers who (only) try to be equally good as their peers and non-herding for managers who try to be better. Here, non-herding should comprise both, anti-herding (i.e. observing the herding and doing the opposite) on the one hand and ignoring the herd on the other hand.

Among a lot of other explanations (for a detailed discussion see Bikhchandani and Sharma, 2001) reputational concerns seem to be the most important and strongest rational motives for apparently and stable herd behavior (Hirshleifer and Teoh, 2003). We have to mention here that asset managers could theoretically also try to improve their professional reputation by intentionally deviating from the herd (i.e. by signaling personal capabilities and investment competence), but this strategy requires far more effort and its success is more uncertain (see e.g. Predergast and Stole, 1996). Hence, we will focus on reputational herding henceforth. The theoretical background of this behavior is ascribable to Keynes' (1936, p. 158) argumentation that "it is better for reputation to fail conventionally than to succeed unconventionally". Scharfstein and Stein (1990) follow this view and argue that an unfavorable decision affects the decision makers' reputation significantly less negatively when others made the same mistake as well. As a result, they ignore substantial private information but copy the action of the former for reputational reason. Accordingly, herding asset managers are able to "share the blame" and "hide in the herd" when their investment decisions emerge as being unprofitable (see also Devenow and Welch 1996). Additionally, Pally (1995) explains herding based on the principle of "safety in numbers". Chevalier and Ellison (1999) analyze the investment behavior of professional asset managers and they confirm that reputational career concerns can induce herding. They find that younger managers who typically have stronger career concerns as they have a longer working life ahead deviate less from the average decision of the herd. Moreover, hire and fire is a typical personnel policy in professional asset management. As younger managers are more at risk to be fired for bad performance than seniors, they tend to herd. Arora and Ou-Yang's (2001) empirical results confirm that the tendency to herding decreases with the manager's age. Simi-

larly, Hong et al. (2000) as well as Lamont (2002) find that inexperienced forecasters deviate less from the consensus forecasts, but when they become older and more established they tend to make bolder forecasts to manipulate assessments of their ability.

Unfortunately, it is not only difficult to discriminate spurious from intentional herding, but particularly to identify reputational herding. The inconsistent evidence of herding (see discussion in Sias, 2004) and especially the lack of a measure of reputational herding motivates us to pursue a questionnaire survey as an alternative approach. We asked professional asset managers by questionnaire concerning their motivation and investment behavior and distinguish between decision makers who "try to be good" and those who "try to be better". By doing so, we avoid the problematic use of a proxy. This kind of method enables a systemic consideration of personal viewpoints and intentional behavior in specific situations and is therefore able to detect reputational herding. It is established as a way to analyze financial markets, being used by Shiller (1989), Blinder (2000), and Strong and Xu (2003) among others. Our survey provides evidence for the existence of reputational herd behavior in the asset management industry. Herding managers show less working effort, focus on shorter investment horizons and prefer the use of non-fundamental information. Furthermore, we find that they are generally more risk averse, but in short-term tournament scenarios they are willing to take more risk as they apparently fear of falling out of the herd.

The remainder of the paper is structured as follows. Section 2 presents the methodology and design of the survey in professional asset management. Section 3 comprehends a discussion about different views on reputational herd behavior. In Section 4 we initially focus on managers' working effort, preferred sources of information and investment horizons. Then, in Section 5, we analyze their risk taking behavior including short-term risk level alterations in a tournament situation. Finally, Section 6 concludes the paper.

2. Survey methodology and design

A questionnaire survey being conducted with asset managers in Germany in 2003 provides the data set for the analyses here. The survey is motivated by institutional investors' influence and role in international investment markets and focuses on the personal viewpoints, perceptions and investment behavior of professional as-

set managers. As we developed the short questionnaire, we had to consider that the quality and significance of the answers given critically depend on the selection of possible questions and their correct formulation. Therefore, we discussed draft versions of the questionnaire with professional asset managers in numerous personal interviews between February and March 2003 in order to avoid misinterpretations. The interviews could contribute to specify relevant hypotheses from the economic literature and to assess their applicability for a written survey. Pretests confirmed the questionnaire's applicability. Moreover, we had to bear in mind that the recipients will be more willing to fill in the questionnaire the shorter it is. The relevant questions of the survey are listed in Annex 1.

During the period of April to June 2003 the fund management companies in Germany were repeatedly contacted to participate in the survey. The German investment association 'BVI Bundesverband Investment und Asset Management e.V.' supported our research project with a letter of recommendation to all its member firms. In total, we received 263 filled in questionnaires from professional asset managers. Sustained following up by mail, email and telephone was necessary to achieve such a large sample size. As the survey was conducted by mail as well as by email we do not report a response rate on the whole number of questionnaires the asset managers received, because a lot of asset managers forwarded blank questionnaires to their colleagues by email attachment. We rather emphasize the participation rate of fund management companies which is 77.3%. In detail, we sent questionnaires to 66 member firms of the BVI with major investment segments in equities, fixed income and money market, respectively, and fund managers of 51 different companies participated in the survey. Strategic answers are not expected due to guaranteed anonymity of participants. With regard to that remarkable participation rate, the large data sample seems to be suitable to truthfully represent the personal viewpoints, perceptions and investment behavior of fund managers in Germany. Table 1 confirms the representativeness of the collected data sample: the null hypothesis of no difference between the structure of the data set and that of the German asset management industry regarding the volume of assets under management of each company cannot be rejected. This means that the companies who participated in the survey sufficiently represent the structure of the whole German asset management industry regarding the volume of assets they actively manage. Bigger investment companies typically employ more asset managers and have a higher market impact

than smaller ones. This higher importance is also reflected in the data set, as asset managers of bigger companies participated significantly more in the survey (see Table 1). Moreover, the typical personal characteristics of the surveyed asset managers are in line with the findings in current surveys in the German asset management industry, e.g. Arnswald (2001) or Menkhoff and Schmidt (2005): The descriptive statistics in [Table 2](#) illustrate that fund managers are typically male and married, barely 35 years old, and their professional experience is about 6 years on average. Their mean working effort amounts to approximately 50 working hours per week (including about 20 hours for data procurement and research). Moreover, the fund managers generally attained graduate degrees and are in senior management positions. They usually manage rather equities than bonds and are predominantly responsible for special funds. The questionnaire survey does not unveil whether investment decisions are made by only one asset manager or a team of managers. However, the result of the prior personal interviews with professional asset managers indicate that final investment decisions are typically made by only one responsible asset manager, even if general investment ideas are often discussed in teams.

3. Survey findings on reputational herding

First of all, we realize that herding is not only a theoretical problem, but definitively exists in practice. By measuring the level of institutional herding directly (without the problematic use of a proxy) the present analysis adds to the empirical literature on herding. The survey shows that institutional herding is perceived by a great majority of asset managers. Numerous interviews made sure that asset managers comprehend only intentional investment behavior as herding, but not spurious behavior. [Figure 1](#) illustrates that 91.3% of the surveyed asset managers perceive institutional herding, since they agree with statement [A] that "herding is observable amongst professional asset managers." For the wording of all statements, questions and respective response categories analyzed in this paper please have a look at the questionnaire in Annex 1.

Following the arguments by Chevalier and Ellison (1999) who confirm a positive correlation between asset managers' career concerns and herd behavior in their study, we test the following hypothesis:

H1: Asset managers believe that herding benefits the career.

Figure 1 also shows that only 40.1% believe that herd behavior benefits the asset manager's career, whereas 59.9% disagree to the respective statement [B]. Taking this general market view into consideration, we should rather reject **H1**. However, we have to point out that this is the aggregated view of the whole industry. Do asset managers who tend to follow the herd themselves have a different opinion regarding the influence of herding on managers' reputation and career, respectively? To analyze this, we additionally take into account their assessment of statement [C] "I generally follow the trend." As the figure illustrates there are approximately as many asset manager that admit to follow the trend (50.2%) as others who do not (49.8%). Why do approximately half of the asset managers tend to follow the trend? We consider their subjective view on how herding affects the asset managers' career to unveil their motivation. We find that asset managers who follow the trend significantly have a stronger belief that herding benefits their career compared to non-herding asset managers. The contingency table presented in [Table 3](#) illustrates not only the positive relation between the asset managers' perception of institutional herding and their personal trend following behavior (upper part of the table), but also the positive relation between the belief that herding benefits the career and their tendency to follow the trend (lower part of the table). These positive relations are confirmed by the results of the Spearman rank correlations. In addition, the Chi-squared-Test also shows that the variables are not statistically independent. Thus, we conclude that herding is (at least partly) triggered by asset managers' career concerns, since they rather believe in beneficial effects of such investment behavior. While from the aggregated market view one should rather reject **H1**, the subjective point of view of herding asset managers, however, somewhat supports this hypothesis. Again, we have to underline that herding does typically not lead to superior outperformance of the managed portfolio, but it assures the asset manager against underperformance versus the majority of the peer group. Accordingly, herd behavior can be considered as an active protection strategy for the manager's career.

4. Herding managers' working effort, preferred source of information and investment horizon

4.1 Herd behavior and working effort

Due to the principal agent problems in professional asset management there is a gap between the working effort level targeted by the asset managers and that desired by their clients. A possible and widely used mechanism to reduce the disparity is the relative performance measurement in relation to a benchmark (normally the performance of a peer group). This should motivate the asset managers to do a better job in order to receive a higher bonus. But in this situation an asset manager faces the opportunity of strategic behavior, which allows him to deviate from that level of working effort their clients prefer – without being correspondingly penalized. As a herding manager does not "try to be better" than his peers, we expect him to show comparatively less working effort than non-herding asset managers who by definition "try to be better". It seems to be plausible that non-herding asset managers show more working effort, since the wish "to be better" typically claims to be more ambitious. In addition to the motivational differences between herding and non-herding managers, there are also differences in the amount of necessary data research: Herd behavior requires less data research about securities and, accordingly, less working effort.

H2: Herding managers show less working effort than non-herding managers.

We measure managers' working effort by their average working hours per week (being typically 46-50 hours, see [Figure 2](#)) and find that herding managers exhibit significantly less working effort than non-herding ones. The Spearman rank correlation in [Table 4](#) confirms **H2**. As the asset manager's working effort cannot be observed by his clients (see Golec, 1992 p. 82) and only partly by his superiors, he has some opportunity to reduce working effort and execute hidden action. However, asset managers are predominantly evaluated and performance-related paid by means of (relative) fund performance (see Gehrig et al., 2004). The latter does not necessarily reflect true management achievements (see also Starks, 1987, p.19, and Heinkel and Stoughton, 1994, p.354).

4.2 Herd behavior and use of information

After providing evidence for institutional herding in Section 3 we consider the information which herding managers typically use. Our hypothesis is based on Scharfstein and Stein (1990) who conclude that decision makers ignore substantive private

information they possess, because they will be more favorably evaluated if they follow the decisions of others. Therefore, we expect identified herding managers to rely relatively more on non-fundamental information – especially the investment decisions of other market players. This argumentation is more than obvious as it comprises the definition of herding, but we have to test the importance of different sources of information in order to get a better understanding of the managers. Moreover, the knowledge of the preferred sources of information enables a more detailed discussion of the asset managers' preferred investment horizon later on.

H3: Herding managers rely more on non-fundamental information than non-herding managers.

The analysis provides evidence that fundamentals and their discussion with colleagues are the most important sources of information for asset managers, followed by technical analysis. However, we also find that herding asset managers typically base their investment decisions comparatively more on technical analysis, investment decisions of other market players and the statements of opinion leaders of the asset management industry in relation to non-herding managers. Moreover, they ascribe significantly less importance to fundamental information and serious discussions with their colleagues. For more details see the results of the Spearman rank correlations in [Table 5](#). In addition, the setting of an ordered probit regression (considering all sources of information simultaneously) discloses that following the trend is significantly driven by using technical analysis and taking into account statements of industry's opinion leaders. In contrast, using fundamental information significantly lowers trend following behavior. These findings confirm **H3**. This kind of selective use of information implies negative economic consequences as it may drive securities prices away from fundamental equilibria. In this manner, our findings support the results in Froot et al. (1992) that herding reduces efficiency of prices. Apart from that, we find that non-herding asset managers base their investment decisions especially on fundamental information and its discussion with their colleagues, whereas technical analysis, investment decisions of other market players and the statements of opinion leaders within the industry are significantly less important. This behavior would help to improve market efficiency as it drives security prices towards their fundamental equilibria. The preference for the mentioned kind of information seems to

be plausible for non-herding managers who "try to be better": If you are too focused on what the other market players do and what opinion leaders say, you can at most be as good as your peers are. Non-herding asset managers who "try to be better" concentrate more on fundamental facts and discuss their viewpoints with their colleagues.

4.3 Herd behavior and investment horizon

We already realized that herding managers predominantly base their investment decisions on technical analysis which is typically used for short-term forecasting horizons (see evidence in Gehrig and Menkhoff, 2003). Consequently, they are expected to have a shorter investment horizon than non-herding managers. Another explanation for this assumption is that herding managers are typically more benchmark oriented and as the fund performance will regularly be assessed in the short term (see Marsh, 1992, and Lakonishok et al., 1991) they should focus on this horizon. It seems to be plausible that asset managers tend to short term horizon: Imagine they actually possess valuable information for promising long term performance that recommends a deviation from the current market view. Then, the resulting investment strategy is expected to be impeded by third parties who due to short term performance evaluation contradict such deviation (see Menkhoff, 2002). Baker's (1998) interview study conducted with fund managers in the United Kingdom as well as Arnswald's (2001) questionnaire survey of German fund managers provide survey evidence for their short term orientation. Accordingly, we come to the following hypothesis:

H4: Herding managers focus on shorter investment horizons than non-herding manager.

To test the hypothesis that herding managers are even more short term oriented, we asked the asset managers what their personal forecasting horizon is when making investment decisions (Question [F]). We offered five response categories from "days" to "years" and calculate a mean forecasting horizon of 6-12 months (see [Table 6](#)). The survey also provides evidence that herding managers significantly focus more on shorter investment horizons than non-herding managers. This result in [Table 6](#) confirms **H4**.

One has to question whether this orientation is in line with their clients' preferred investment horizon. In contrast to asset managers, their private clients (holding shares in mutual funds) are typically rather long term oriented, e.g. for retirement provisions. The investment horizon of corporate / institutional clients depends on their liability structure, e.g. due to pension benefit plans, which are rather long term liabilities. Thus, an adequate asset liability management is a core element when managing special funds. Here the principal agent problems become obvious again as the problem of performance justification induces asset managers' short term horizon. However, Marsh (1992) argues that market players' short term actions often reflect long term views. Furthermore, short term horizon would also appear in myopic loss aversion. This behavioral pattern is the combination of a greater sensitivity to losses than to gains and a tendency to frequent performance evaluation (see Thaler et al., 1997). Thus, in Section 5.2 we will discuss whether herding managers who focus on shorter investment horizon also have a stronger loss aversion.

5. Herding managers' risk taking behavior

5.1 Herd behavior and risk aversion

Herding asset managers are able to hide in the herd and to share the blame when their investment decisions emerge as being unprofitable (Scharfstein and Stein, 1990, and Devenow and Welch, 1996). Additionally, Pally (1995) explains herding based on the principle of safety in numbers. Thus, we assume herding asset manager to be more risk averse. This view is in line with the finding in Gumbel (2003) that investors herd in their asset allocation, when managers are sufficiently risk averse.

H5: Herding managers are more risk averse than non-herding managers.

Asking the asset managers to self-assess their attitude towards financial risk allows us to test this hypothesis. Accordingly, we asked them to complete the following sentence [G]: "In respect of professional investment decisions, I mostly act...". The response categories range from "very risk averse" to "little risk averse". While the survey unveils that asset managers self-assess as "medium risk averse" on average, it also provides significant evidence that herding managers regard themselves as

more risk averse (see [Table 7](#)). But, we have to emphasize that this self-assessment can possibly deviate from actual risk taking behavior, as it critically depends on the manager's self-perception – however, it somewhat helps to improve the understanding of these professional market players. So, we also consider their risk taking behavior in a simulated bet [H]: "Imagine someone offers you a bet and the odds are fifty-fifty. You will have to pay €1,000 from your personal account if you lose. What would be the minimum amount you would expect to win to lure you into accepting the bet?" According to [Table 7](#) we suppose that herding managers are more risk averse as they demand a higher expected win to accept the bet. We find a positive correlation between the demanded amount and following the trend. However, this result is not statistically significant. Hence, we take a closer look on their risk taking behavior and consider behavioral biases – more precisely their possible aversion to realize losses and the degree of their disposition effect.

5.2 Herd behavior and biased risk-taking behavior

5.2.1 Loss aversion

According to Kahneman and Tversky's (1979) prospect theory, loss aversion implies being more sensitive to losses than to gains. This can be concluded from an S-shaped value function, being convex for losses and concave for gains. Loss aversion in terms of higher sensitivity to losses becomes obvious in the steeper slope below the reference price (typically the purchase price). Tversky and Kahneman (1992) come to the conclusion that individuals weight losses approximately 2.25 times as strongly as gains. We expect herding managers to have a higher loss aversion than non-herding ones – not only as they fear to fall out of the herd when cutting losses. Another reason is that they are more risk averse (see evidence provided in [Section 5.1](#)) and Schmidt and Zank (2002) argue that the definition of loss aversion has analogies with those of risk aversion.

H6: Herding managers are more loss averse than non-herding managers.

The simulated bet in [Section 5.1](#) shows that asset managers have a smaller loss aversion compared to non-professional individuals as considered in Tversky and Kahneman (1992). Asset managers median answer indicates that losses are

weighted (only) 1.75 times the gains.¹ The higher minimum amount demanded to accept the bet somewhat indicates a higher loss aversion of herding managers in relation to non-herding managers. To substantiate this assumption the asset managers were asked to assess the following statement [I]: "In case of loss positions in my portfolio I generally wait for a price rebound instead of selling those securities." Even if only 42.1% of all managers agree with that statement, we find that herding managers significantly agree to a greater extent with it. In Table 7 the results of the Spearman rank correlation confirms that they are indeed more loss averse and it hence supports **H6**. While loss aversion only considers the investment behavior regarding losses, the disposition effect additionally captures the behavior concerning profits.

5.2.2 Disposition effect

Shefrin and Statman (1985) define the disposition to ride losers too long (i.e. loss aversion) and to sell winners too early as disposition effect. Odean (1998) finds empirical evidence for this phenomenon. Weber and Camerer (1998) confirm the disposition effect with experiments and ascribe this behavior to people's reluctance to admit wrong investment decisions ex post. Shapira and Venezia's (2001) research provides empirical evidence that both, independent investors and professional asset managers exhibit the disposition effect, albeit it is stronger for the independent. Due to the fact that herding managers are more loss averse than non-herding managers (see evidence discussed above) we expect them to have a stronger disposition effect, too.

H7: Herding managers make investment decisions with stronger disposition effect than non-herding managers.

To test this hypothesis, we asked the asset managers to comment on the following statement [J]: "I prefer to take profits instead of cutting losses when I am confronted with unexpected liquidity demands." The response categories range from "completely agree" to "completely disagree". It is found that only 37.8% of the surveyed managers agree to have such a disposition effect. The results of the Spearman rank correlation provides evidence that herding managers agree significantly

¹ See footnote 4 in Table 7. Here, we consider the same settings and assumptions especially regarding the utility function for gains and losses like in Kahneman and Tversky (1992) in order to make the results comparable.

more with that statement (see Table 7). This demonstrates that they have a stronger disposition effect and hence supports **H7**. The deviating trading behavior of herding managers by means of a higher loss aversion plus a stronger disposition effect seems to be somewhat strange with regard to the definition of herd behavior on the first sight, as it actually means an orientation on the peer group's behavior. However, this deviation also reveals an excessive – and irrationally biased – risk taking behavior of these managers. Even if herding managers focus on the investment decisions of other managers, they also try to minimize the risk of falling out of the herd by their excessive risk taking behavior, which is irrationally biased.

Summing up so far, we identified different characteristics of herding versus non-herding asset managers. The analysis in [Table 8](#) unveils that, among all items considered, herding is predominantly driven by a specific use of information sources and risk taking behavior: Herding managers prefer the use of technical analysis and pay less attention to fundamental information. Moreover, they assess themselves as more risk averse which also becomes obvious in their stronger loss aversion. We realized that herding managers have a significantly different risk taking behavior than non herding ones. We also realized that they tend to short term horizon (even if it is no main driver of herding as the analysis shows). In order to consider both aspects jointly, we analyze their risk taking behavior in the short term perspective in Section 5.3. For this purpose we simulate tournament scenarios professional asset managers typically face near the end of the period. Do herding managers possibly change their risk-taking behavior during the year?

5.3 Herd behavior in the tournament

In the literature there are different opinions, how and in what direction (higher or lower risk level) the risk taking behavior is influenced by performance incentives. In fact, there is an interesting discussion about the so called "tournament effect". Brown et al. (1996) argue that the tournament structure of the mutual fund industry influences the asset managers to vary the risk level of their portfolios near the end of the valuation period. Particularly, successful performing funds tend to lock in, while losing funds tend to gamble. Arora and Ou-Yang (2001) argue that the manager's risk manipulation is definitely more influenced by this tournament effect than by manager's career concerns. The finding that past performance is negatively related with changes in risk can be ascribed to the coincidence of two circumstances. First, the

incentive of asset based fees (i.e. fees in per cent of assets under management) in the investment management industry makes the asset managers compete with each other for clients' assets. Second, Sirri and Tufano (1998) provide evidence that investors react asymmetrically to fund performance. They show that high performing funds receive large inflows, but underperforming funds are not equally penalized with outflows. However, Busse (2001) questions the temporal coherence with the managers' strategic year end risk alteration as tournament effect, because mutual fund performance is widely reported daily and cash flows accrue to funds throughout the year. Chevalier and Ellison (1997) confirm that underperforming funds tend to gamble to catch the market whereas funds that are a few points ahead of the benchmark tend to lock in. However, they also find that even outperforming funds tend to gamble to become a top performer, if they are not only a few points, but well ahead of the benchmark.

Busse (2001) examines the validity of the tournament hypothesis for the behavior of US mutual fund managers based on daily observations. His findings contradict prior evidence based on monthly evidence as found by Brown et al. (1996), i.e. the tournament effect disappears with daily data. He considers two possible explanations as responsible for the conflicting evidence (see also Gorjaev et al., 2003). On the one hand, auto-correlation in daily fund returns biases volatility estimates used in empirical tests of the tournament hypothesis until then. On the other hand, cross-correlation in mutual fund returns invalidates the independence assumption underlying the standard statistical tests for the tournament hypothesis. He argues that the evidence in favor of the tournament hypothesis based on monthly fund returns disappears when empirically accounting for either of these effects. By doing so, he finds that fund's intra-year change in risk arises rather from changes in the volatility of common stock market risk factors as it is not related to changing factor exposures or residual risk. Thus, he concludes very little of risk alteration is attributable to deliberate actions of the fund manager.

According to this somewhat inconclusive evidence of the tournament effect, we will test the tournament hypotheses in two steps. First, we will examine whether the tournament structure of the mutual fund industry makes that asset managers tend to vary the risk level near the end of the period. As we find that this is the case, we will take a closer look and test secondly in what direction the risk level will be changed in two different performance scenarios. Even if asset managers are often responsible

for more than one investment fund, which might be managed differently and/or have achieved different performance levels near the end of the period, the given scenarios enable the identification of a manager's typical reaction to under- and outperformance situations. Our survey approach has the advantage that we ask the asset manager directly about his preferred action. Hence, we will be able to comment on Busse's (2001) objection that very little of risk alteration is supposed to be attributable to the 'deliberate actions' of the fund manager.

H8: Asset managers are willing to change their strategy near the end of the period.

H9: Near the end of the period, outperformers (within the group of all asset managers) tend to lock in.

H10: Near the end of the period, underperformers (within the group of all asset managers) tend to gamble to catch up.

These hypotheses are predominantly based on the findings in Brown et al. (1996). They also refer to the evidence in Chevalier and Ellison (1997); however, we have to assume here that the fund performance is only "a few points ahead" of the benchmark, but not "well ahead" to bring **H9** in line with Chevalier and Ellison's findings. From our point of view, Chevalier and Ellison's differentiation is not practicable in a written survey as the separation between "a few points ahead" and "well ahead" would individually be interpreted, whereas the differentiation between under- and outperformance is consistently understood.

The results confirm that asset managers do not always keep their strategy until the end of the period: [Table 9](#) shows that only 51.4% of the asset managers retain their chosen investment strategy if they deviate from the benchmark (in both scenarios) near the end of the period, whereas 48.6% change their risk behavior in case they underperformed and/or outperformed the benchmark so far. If asset managers truly trust in the power of their investment strategies, they should be unimpressed by performance figures throughout the year and, thus, not change their behavior at all. Accordingly, they should keep the chosen risk level. However, the finding that nearly half of the asset managers are willing to change their strategy if they deviate from the benchmark performance seems to confirm **H8** since a comparatively high share of

asset managers would 'intentionally' change the chosen risk level. The result somewhat overrules Busse's (2001) objection that very little of risk alteration is attributable to the managers' deliberate actions. With regard to the conclusion that nearly half of the surveyed asset managers are willing to vary the risk level near the end of the period, we want to find out, in which direction they vary the risk level in the respective scenario. So, we consider the two performance scenarios separately.

By doing so, Table 9 illustrates that 65.5% of all asset managers would keep their strategy when the benchmark is outperformed so far, while 33.7% would decrease the relative risk level to lock in performance and 0.8% would increase the relative risk level to become a 'top performer'. This bias towards taking less risk in case of outperformance confirms **H9**. On the other hand, when the benchmark is underperformed so far, 69.0% of all asset managers would keep their strategy, while 21.8% would decrease the relative risk level to avoid further deficits and 9.1% would increase the relative risk level to reach the benchmark. This survey finding does not confirm **H10**, because in this scenario there are more asset managers who decrease the risk level than the ones who start to gamble. However, compared to the scenario of outperformance, here we find more gamblers.

Summing up so far, the survey provides evidence for the behavior as expected by the tournament hypothesis when the benchmark is outperformed so far, but rather not when it is underperformed until now. How can we explain this finding? A possible reason for the unexpected behavior in the underperformance scenario could be that herding and non-herding managers behave differently and, therefore, the tournament effect might be biased. Does the separate subgroup consideration unveil different tournament behavior and for that reason explain why the tournament hypothesis should be rejected in the case of underperformance? The following analysis will confirm this speculation.

Since a herding asset manager is typically focused on what the herd does, we assume that he considers the (average) performance of the herd as the actually relevant "benchmark" for his investment decisions. So, we argue that a herding asset manager intends not to fall out of the herd when he underperforms his "benchmark" so far. In that case, he should tend to increase the risk level to catch up to the average performance of the herd.

H11: Herding asset managers tend to increase the risk-level near the end of the period to a larger extent than non-herding ones, if they underperformed the benchmark so far.

Regarding the underperformance scenario, there we find a highly significant difference between the two groups, as the results of the Mann-Whitney U-Test in Table 9 clearly show. This result emphasizes and confirms the finding as already presented in the distribution of answers that herding asset managers are more willing to take more risk when they fall short. When the benchmark is underperformed so far, 64.8% of the herding asset managers would keep their strategy, while 21.9% would decrease the relative risk level to avoid further deficits and 13.3% would increase the relative risk level to reach the benchmark. Considering exclusively non-herding asset managers there are 73.8% that would keep their strategy, 22.1% that would decrease the chosen risk level but only 4.1% that would increase the risk level. This survey finding that herding managers are about three times more willing to take more risk when they underperformed the benchmark so far seems to confirm **H11**. So, the survey provides evidence that asset managers who tend to follow the herd are generally more risk averse (see Section 5.1), but in the tournament – i.e. near the end of the period – they are willing to take more risk if they have underperformed so far. We ascribe this finding to their fear of falling out of the herd when they perform worse. The combination of herding managers' short term horizon (see evidence in Section 4.3) and their loss aversion (see evidence in Section 5.2) seems to indicate myopic loss aversion (see Thaler et al. 1997). Much more work has to be done to justify this assumption.

6. Conclusions

The study examines German asset managers' attitudes towards herd behavior based on a questionnaire survey of 263 responses. It considers herding as strategic behavior to be evaluated as good as the peer group, whereas non-herding is regarded as the attempt to be better. The paper achieves the disclosure of significant differences between herding and non-herding managers in respect of working effort, preferred use of information, investment horizon and risk taking behavior.

First of all, the study provides evidence that institutional herding actually exists. It is perceived to a large extent by a great majority of asset managers. This kind of

behavior is (at least partly) ascribable to asset managers' reputational and career concerns: Herding managers believe in benefits of herd behavior for their career. As their attitude is to be as good as their peers are, it is not surprising that they show less working effort than non-herding asset managers who "try to be better". Herding managers' investment behavior drives prices away from fundamental equilibriums, because they significantly use more non-fundamental information and focus on shorter investment horizons. Furthermore, they are generally more risk averse and loss averse and their investment decisions are more biased by a disposition effect. Interestingly, the survey provides strong evidence that herding managers are generally more risk averse, but in tournament scenarios they are willing to take more risk. We ascribe this finding to their fear of falling out of the herd.

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TABLE 1. Comparison of the data sample with the respective industry's structure

	Structure of the German asset management industry (by assets under management ¹⁾)
Structure of the data sample (by assets under management ¹⁾)	H ₀ : no difference ²⁾ -0.669 (0.503)
Number of answered questionnaires per company	Correlation ³⁾ with company size (by assets under management ¹⁾) 0.678*** (0.000)

The market data is taken from on the annual report 2003 of the BVI.

¹⁾ The comparison between the structure of the data set and that of the German asset management industry is based on the volume of assets under management of each company.

²⁾ The table gives the z-value of the Mann-Whitney U-Test with the p-value in parentheses.

³⁾ The table gives the coefficient of the Pearson correlation with the p-value in parentheses.

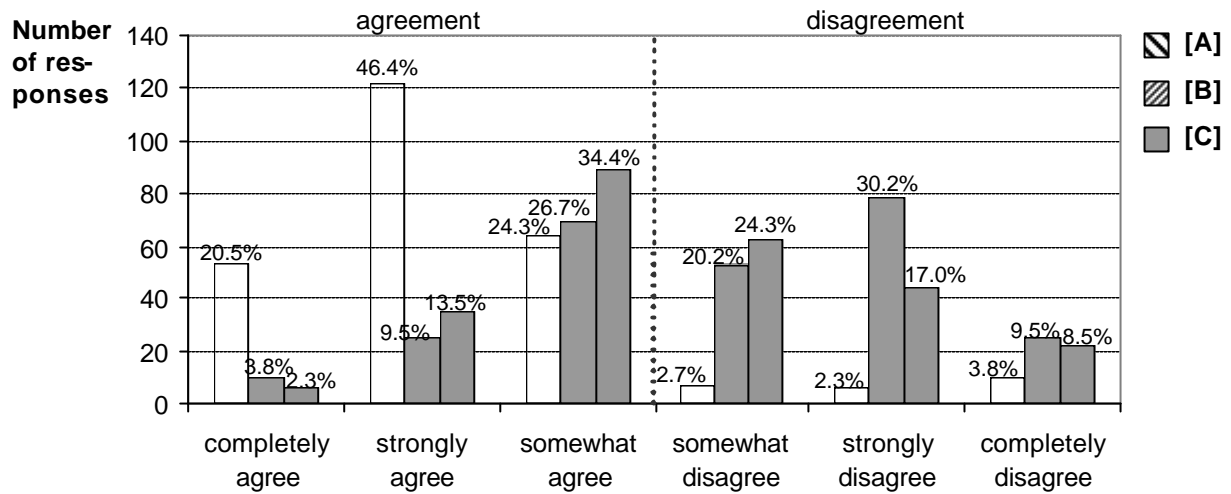
Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

TABLE 2. Fund managers' personal characteristics

Characteristics	Answer categories and distribution of answers						N
Gender / Marital status	<i>male</i> 90.0%	<i>female</i> 10.0%		<i>single</i> 44.1%	<i>married</i> 53.5%	<i>other</i> 2.4%	261/ 254
Age (in years)	<i>< 31</i> 21.0%	<i>31 – 35</i> 35.5%	<i>36 – 40</i> 22.9%	<i>41 – 45</i> 14.9%	<i>46 – 50</i> 3.8%	<i>> 50</i> 1.9%	262
Prof. experience (in years)	<i>< 4</i> 32.0%	<i>4 – 6</i> 20.7%	<i>7 – 9</i> 19.1%	<i>10 – 12</i> 10.9%	<i>13 – 15</i> 7.8%	<i>> 15</i> 9.4%	256
Average working hour per week	<i>< 41</i> 1.9%	<i>41 – 45</i> 17.9%	<i>46 – 50</i> 45.9%	<i>51 – 55</i> 23.7%	<i>56 – 60</i> 6.2%	<i>> 60</i> 4.3%	257
Educational level	<i>non-academic</i> 13.2%	<i>academic</i> 86.8%					257
Occupational level	<i>Junior manager</i> 32.0%	<i>Senior manager</i> 46.1%		<i>Head of asset management team</i> 16.4%	<i>CIO or CEO</i> 5.5%		256
Type of managed fund	<i>Mutual fund</i> 32.5%	<i>Special fund</i> 50.6%		<i>both</i> 16.9%			249
Major investment segment	<i>Equities</i> 71.7%	<i>Bonds</i> 26.7%		<i>Money market</i> 1.6%			242

FIGURE 1. Perception of herding, career concerns and following the trend

Statement [A] Perception of institutional herd behavior (N=263)
 Statement [B] Career concerns trigger herd behavior (N=262)
 Statement [C] Personal trend following behavior (N=259)



The mean answers to the statements are: [A] 2.3118, [B] 3.9198, and [C] 3.6564. These figures indicate the following shares of agreement to the statements: [A] 91.3%, [B] 40.1%, and [C] 50.2%, respectively. Here, each share of agreement is calculated as aggregated distribution to the answer categories 1-3. The reason for this aggregation is that the spectrum of possible answers ranges from 1-6, whereas category 1 stands for "completely agree" and category 6 means "completely disagree". This enables a comparison between general "agreement" (answer categories 1-3) versus general "disagreement" (answer categories 4-6) – this separation is illustrated by the dotted line in the figure.

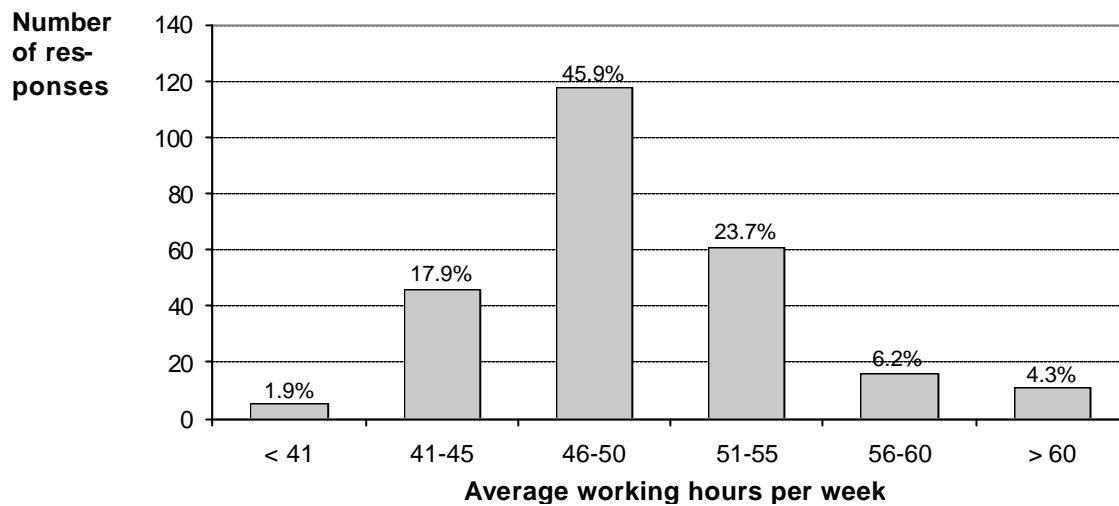
TABLE 3. Contingency table: Perception of herding, career concerns and following the trend

	Distribution of answers (number)						<i>Total</i>	Rank correlation ¹⁾	Chi squared ²⁾
	completely agree	completely disagree							
[A] Perception of institutional herding	[C] Personal trend following behavior								
completely agree	3	7	12	16	10	5	53	0.131**	119.549***
strongly agree	3	18	52	23	22	2	120	(0.035)	(0.000)
somewhat agree	-	8	23	21	7	4	63	[259]	[259]
somewhat disagree	-	1	1	1	2	2	7		
strongly disagree	-	1	-	2	3	-	6		
completely disagree	-	-	1	-	-	9	10		
<i>Total</i>	6	35	89	63	44	22	259		
[B] Herding benefits career	[C] Personal trend following behavior								
completely agree	1	1	2	2	2	1	9	0.276***	95.549***
strongly agree	1	7	5	6	5	-	24	(0.000)	(0.000)
somewhat agree	-	12	31	16	7	3	69	[258]	[258]
somewhat disagree	-	6	27	12	6	2	53		
strongly disagree	3	8	21	26	16	4	78		
completely disagree	1	-	3	1	8	12	25		
<i>Total</i>	6	34	89	63	44	22	258		

¹⁾ The table gives the coefficient of the Spearman rank correlation between the perception of institutional herding and personal trend following behavior (statements [A] and [C], upper part of the table) as well as the belief that herding benefits the career and personal trend following behavior (statements [B] and [C], lower part of the table). The respective p-value is given in parentheses and the number of responses in squared brackets.

²⁾ The table gives the results of the Chi-squared-Test with the p-value in parentheses and the number of responses in squared brackets.

Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

FIGURE 2. Working effort in the German asset management industry**TABLE 4. Herd behavior and working effort**

	All managers' mean answer	Spearman rank correlation ²⁾ with following the trend
[D] Less working effort ¹⁾	46-50 hours	0.175*** (0.005) [253]

¹⁾ Working effort is measured by the asset managers' average working hour per week.

²⁾ The table gives the coefficient of the Spearman rank correlation with the p-value in parentheses and the number of responses in squared brackets.

Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

TABLE 5. Herd behavior and sources of information

[E] Importance of information:	Distribution of answers (%)						Rank correlation ¹⁾ with herding	Ordered probit regression ²⁾
	highest relevance					no relevance		
Fundamentals	44.1	41.1	9.1	1.5	2.7	0.8	-0.254*** (0.000)	-0.244*** (0.001)
Technical analysis	5.7	33.5	31.6	7.6	13.3	8.4	0.426*** (0.000)	0.260*** (0.000)
Discussion with colleagues	15.3	33.0	30.3	13.0	4.6	3.8	-0.116* (0.063)	-0.058 (0.263)
Other market players	1.1	7.6	22.4	25.1	29.3	14.4	0.148** (0.017)	0.024 (0.691)
Opinion leaders (Industry)	0.4	2.7	16.0	28.1	27.8	25.1	0.194*** (0.002)	0.137** (0.043)
Opinion leaders (Economy)	2.3	14.8	26.2	20.5	25.1	11.0	0.051 (0.413)	-0.027 (0.631)

¹⁾ The table gives the coefficient of the Spearman rank correlation with the p-value in parentheses. The correlation is based on 254 to 259 valid responses.

²⁾ The table gives beta coefficient estimates from an ordered probit regression of following the trend considering all sources of information simultaneously as independent variables with the p-value in parentheses. The dependent variable "I generally follow the trend" is classified in six response categories, ranging from "completely agree" (coded as 1) to "completely disagree" (coded as 6). Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

TABLE 6. Herd behavior and investment horizon

	All managers' mean answer	Rank correlation ¹⁾ with following the trend
[F] Shorter investment horizon	6-12 months	0.174*** (0.006)

¹⁾ The table gives the coefficient of the Spearman rank correlation with the p-value in parentheses and the number of responses in squared brackets.

Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

TABLE 7. Herd behavior and risk taking behavior

	Mean answer	Share of agreement ¹⁾	Spearman rank correlation ²⁾ with following the trend
[G] Higher risk aversion ³⁾	3.5077	n/a	0.156** (0.012) [257]
[H] Higher minimum amount ⁴⁾	€25,068	n/a	0.074 (0.284) [214]
[I] Higher loss aversion	4.4576	42.1%	0.296*** (0.000) [258]
[J] Stronger disposition effect	4.1506	37.8%	0.264*** (0.000) [258]

¹⁾ The share of agreement is calculated as aggregated distribution to the answer categories 1-3. The reason for this aggregation is that the spectrum of possible answers ranges from 1-6, whereas category 1 stands for "completely agree" and category 6 means "completely disagree". This enables a comparison between general "agreement" (answer categories 1-3) versus general "disagreement" (answer categories 4-6).

²⁾ The table gives the coefficient of the Spearman rank correlation with the p-value in parentheses and the number of responses in squared brackets.

³⁾ All managers' mean answer of 3.5077 indicates a "medium" extent of risk aversion on average.

⁴⁾ Compared to their mean answer of €25,068, all managers' median answer is (only) €1,750.

Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

TABLE 8. Analysis of triggers of herd behavior

Considered items	Ordered probit regression of "I generally follow the trend"		
	Beta coefficient	p-value	Standard error
Herding benefits career	0.156**	(0.040)	0.076
Working effort	-0.032	(0.614)	0.065
Importance of information			
Fundamentals	-0.274***	(0.001)	0.085
Technical analysis	0.262***	(0.000)	0.060
Discussion with colleagues	0.009	(0.878)	0.058
Other market players	-0.050	(0.482)	0.072
Opinion leaders (industry)	0.123	(0.101)	0.075
Opinion leaders (economy)	-0.116*	(0.070)	0.064
Investment horizon	-0.037	(0.723)	0.107
Risk taking behavior			
Risk aversion (self-assessment)	0.291***	(0.000)	0.083
Requested minimum amount	4.91e ⁻⁷	(0.352)	5.28e ⁻⁷
Loss aversion	0.210***	(0.002)	0.069
Disposition effect	0.098*	(0.094)	0.058

The dependent variable "I generally follow the trend" is classified in six response categories, ranging from "completely agree" (coded as 1) to "completely disagree" (coded as 6). Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

TABLE 9. Risk taking and herd behavior in the tournament

	All asset managers	Herding managers only ¹⁾	Non-herding managers only ¹⁾	Kind of change vs. keeping strategy H ₀ : no difference ²⁾
[K] Keep strategy in <u>both</u> performance scenarios	51.4%	47.2%	55.7%	
Change strategy	48.6%	52.8%	44.3%	
Behavior in the outperformance scenario [K.1]?				
Increase risk level	0.8%	0.8%	0.8%	-0.051 (0.959)
Decrease risk level	33.7%	37.5%	29.5%	-1.335 (0.182)
Keeping strategy	65.5%	61.7%	69.7%	
Behavior in the underperformance scenario [K.2]?				
Increase risk level	9.1%	13.3%	4.1%	-2.583*** (0.010)
Decrease risk level	21.8%	21.9%	22.1%	-0.378 (0.705)
Keeping strategy	69.0%	64.8%	73.8%	

¹⁾ "Herding managers" are those managers who agree to show trend following behavior, i.e. who answer to the statement "I generally follow the trend" with the answer categories 1-3, whereas category 1 stands for "completely agree" and category 6 means "completely disagree". "Non-herding managers" are those managers who underline that they do not follow the trend, i.e. who answer to the statement "I generally follow the trend" with the answer categories 4-6.

²⁾ The table gives the z-value of the Mann-Whitney U-Test of the tournament behavior of herding managers versus that of non-herding managers with the p-value in parentheses.

Asterisks refer to level of significance: * 10%, ** 5%, *** 1%.

ANNEX 1. The questionnaire

Please assess the following statements:		completely agree				completely disagree
[A]	Herding is observable amongst professional asset managers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[B]	Following the herd benefits the asset manager's career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[C]	I generally follow the trend.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[D]	Average working hours per week:					
	<input type="checkbox"/> < 41 <input type="checkbox"/> 41 - 45 <input type="checkbox"/> 46 - 50 <input type="checkbox"/> 51 - 55 <input type="checkbox"/> 56 - 60 <input type="checkbox"/> > 60					
[E]	Please assess the following sources of information used in making investment decisions:	highest relevance				no relevance
[E.1]	Fundamental facts about the company / market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[E.2]	Chart analysis / technical indicators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[E.3]	Discussions / exchange of views with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[E.4]	Investments decisions of other market players	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[E.5]	Statements of opinion leaders within the industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[E.6]	Statements of economic opinion leaders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[F]	What is your personal forecasting horizon when making investment decisions?					
	<input type="checkbox"/> Days <input type="checkbox"/> Weeks <input type="checkbox"/> 2-6 Months <input type="checkbox"/> 6-12 Months <input type="checkbox"/> Years					
[G]	Please classify your personal risk-taking:	very risk averse				little risk averse
	In respect of professional investment decisions, I mostly act...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[H]	Imagine someone offers you a bet and the odds are fifty-fifty . You will have to pay 1.000 € from your personal account, if you lose. What would be the minimum amount you would expect to win to lure you into accepting the bet?					
	At least _____ €					
Please assess the following statements:		completely agree				completely disagree
[I]	I prefer to take profits instead of cutting losses, when I am confronted with unexpected liquidity demands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[J]	In case of loss positions in my portfolio I generally wait for a price rebound instead of selling those securities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[K]	Apart from any fund's restriction – Imagine your portfolio's performance differs from its benchmark near the end of the period.					
[K.1]	If my portfolio has <u>outperformed</u> its benchmark so far, I would...					
	<input type="checkbox"/> increase the relative risk level to become a top performer <input type="checkbox"/> decrease the relative risk level to lock in the performance <input type="checkbox"/> not change my strategy					
[K.2]	If my portfolio has <u>underperformed</u> its benchmark so far, I would...					
	<input type="checkbox"/> increase the relative risk level to reach the benchmark <input type="checkbox"/> decrease the relative risk level to avoid further deficits <input type="checkbox"/> not change my strategy					