

# Does Culture Influence Asset Managers' Views and Behavior?

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## Abstract

This research enters new ground by presenting comparative survey evidence on asset managers' views and behavior in the United States, Germany, Japan and Thailand. Relying on Hofstede's four cultural dimensions, we find that cultural differences are most helpful in understanding country differences which cannot be explained by pure economic reasoning. In short, controlling for various determinants, the dimension of more Individualism predicts less herding behavior, more Power Distance leads to older and comparatively less experienced managers in the upper hierarchy, Masculinity brings men into top positions and to higher volumes of assets under personal responsibility, and Uncertainty Avoidance is related to higher safety margins against the tracking error allowed and relatively more research effort. These consequences, i.e. the culturally different importance of herding, age, experience, gender, tracking error and research effort, clearly affect investment behavior, although in a complex way.

JEL-Classification: G 23, G 14, G15, Z10

Key Words: Asset Managers, Individualism, Power Distance, Masculinity, Uncertainty Avoidance

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# Does Culture Influence Asset Managers' Views and Behavior?

## 1 Introduction

International financial markets have been the outriders of globalization during the last decades. Asset managers who manage huge volumes – typically billions of Dollars – for banks, insurance companies or mutual funds invest their entrusted assets globally as a matter of course. Moreover, their decisions are based on theories about capital markets and optimal portfolio allocation that are globally uniform. Thus, we would expect asset managers' behavior to be influenced by incentives resulting from their age, experience, education etc. and idiosyncratic institutional details, but not really by cultural aspects. With the help of a questionnaire survey, we analyze asset managers' views and behavior in the market by considering respondents' attributes such as gender, experience, position or their firm's size as well as selected fund characteristics. At the heart of this research is the question, whether cultural differences, as predicted by cultural theory, do have any systematic influence on the actors of the international asset management industry.

We do indeed find asset management to be a global business that shows some common global aspects like e.g. strong reliance on fundamental data and related strategies. However, we also find country-specific differences that can hardly be explained by capital market theory but that are consistent with a cultural influence on views and behavior instead.

Defining “culture” has been of scientific interest for centuries (for a critical review, see Kroeber and Kluckhohn, 1952). We rely on the comprehensive, empirically based understanding by Hofstede (1980). He defines culture as collective programming of the mind which is primarily manifested in values and norms, but also more superficially visible in rituals and symbols. This so-called mental programming – also referred to as “software of the mind” – is stable over time and implies the same person showing consistently similar behavior in similar situations. When talking about culture, Hofstede refers to national culture.

There have been several research streams in cultural theory in the past decades and cross-cultural research as a multidisciplinary approach ranges from cognitive and social psychology, sociology, anthropology and history, up to management

science and economics. This broad and vivid field of research encompasses a variety of approaches and frameworks for cross-cultural analyses.<sup>2</sup>

In order to examine and compare the viewpoints and behavior of asset managers from four countries, we refer to Hofstede's (1980, 2001) cultural dimension framework and his country scores given as index numbers for each single country.<sup>3</sup> We account for all four of his original dimensions, namely "Individualism" (IDV), "Power Distance" (PDI), "Masculinity" (MAS), and "Uncertainty Avoidance" (UAI). Further explanations of the single dimensions will be given in Section 4.

Regarding our selection of countries, we consider asset managers from the United States, Germany, Japan, and Thailand. At first glance, one might be tempted to expect a simple eastern-western differentiation. However, when taking a closer look at the exact dimension scores given by Hofstede for our four surveyed countries, the differences over all dimensions become clearly evident (see [Figure 1](#)). According to Hofstede, the United States and Germany are closer to each other than they are to Japan and Thailand. Nevertheless, the latter are far away from being similar. Especially regarding Hofstede's dimension of Masculinity, they deviate significantly. Even without going into detail yet, analyses can be expected to be surely more complex than they might seem at first sight.

So far, cross-cultural research papers have mostly focused on one cultural dimension only. Especially the Individualism dimension is much researched. It has been (re-)defined, analyzed in detail, and combined with selected topics<sup>4</sup> – both, theoretically and empirically (see Triadis, 1995, or Oysermann et al., 2002, for a broad overview). Among most recent studies Hwang et al. (2003) and Green et al. (2005), provide interesting cross-cultural psychology research input on Individualism.

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<sup>2</sup> Approaches to unambiguously distinguish cultural groups from each other could be based on different cultural dimensions as suggested by Hofstede (1980, 2001), Hall (1985), Hall and Hall (1990) or House et al. (2004), on grid/group typologies and cultural prototyping (see e.g. Douglas and Wildavsky, 1982, Rayner and Cantor, 1987, Thompson et al., 1990, or Dake, 1991) or on factors such as professional or ideological affiliations which, as the former, are often used for risk-related cultural research (see e.g. Rohrmann and Renn, 2000, Sjöberg et al., 2000).

<sup>3</sup> Hofstede's cultural dimensions are based on a global written survey conducted within the IBM group in the late 1960s and by beginning of the 1970s. Altogether 116,000 questionnaires from more than 70 countries were collected. Though not without pitfalls, this all-time comprehensive data set assures Hofstede's recognition and uniqueness until today (see Kagitcibasi, 1997).

<sup>4</sup> Shafiro et al. (2003) or e.g. Nesdale and Naito (2005) combine their analysis of Individualism with gender aspects, Kemmelmeier et al. (2003) take authoritarianism, i.e. the individual degree of compliance with social norms and (political) authority, into additional account. Shuper et al. (2004) do not only consider Hofstede's dimension of Individualism but also include Weinstein's (1980) measure of unrealistic optimism as well as Hofstede's dimension of Uncertainty Avoidance.

Chui et al. (2005) are the first to apply Hofstede's Individualism index to financial market return patterns.<sup>5</sup>

Hofstede's study and its dimensions are definitely not without critics. In more detail, Baskerville (2003), provides a thorough discussion of issues predominantly raised by anthropologists and sociologists regarding the theoretical underpinnings of Hofstede's approach. Critical aspects include the chosen methodology of equating nation states with culture instead of allowing for maximal diversity also within a nation state, the neglected influence of organizational culture as well as the framework's creation mainly from the managerial perspective, the difficulties linked to a quantification of culture in forms of rigid indexes, and the general assumption of stability in cultural differences over time. In particular the latter point has been crucially accounted for by Inglehart (see e.g. Inglehart and Baker, 2000 or Welzel et al., 2003). Reviewing cultural change with the help of several waves of his so-called World Value surveys, Inglehart recently gained broad acceptance among sociologists. All of the above mentioned critics keep on setting incentives to test the validity of Hofstede's dimensions as e.g. done by Merritt (2000). Examining the behavior of a broad sample of commercial airline pilots in 19 countries, she was able both to statistically replicate all four dimensions and to find support that culture exerts a non-neglectable influence on professional pilots' behavior. Thus, the role and relevance of Hofstede's dimensions at least as a description of national management culture cannot be denied.

Accordingly, having the critical arguments in mind, we rely on Hofstede's dimensions as cultural framework. Analyzing asset manager's viewpoints and behavior with the help of a questionnaire survey designed from an economic point of view, we access Hofstede's work as an analytical grid and aim at deducing structured contributions to the field of cross-cultural research. Indeed, with our analysis we overcome several recent shortcomings in many cross-cultural studies (see e.g. Renn and Rohrman, 2000, p. 227) and add the following benefits to the existing body of literature: First, we do not analyze another student sample, but we were able to convince asset managers to participate in our survey study.<sup>6</sup> Managing huge volumes of assets in international financial markets, these professionals and their ways of perception and behavior exert an influence on prices as well as market developments. Sec-

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<sup>5</sup> Further recent examples of incorporating culture into economic and financial research are provided by e.g. Grinblatt and Keloharju (2001), Frederking (2002), or Stulz and Williamson (2003).

<sup>6</sup> Effects of occupational factors on e.g. subjective risk perception and interpretation have been found by several researchers (see e.g. Rohrman and Renn, 2000, p. 36).

ond, we are able to distinguish gender aspects and to consider individual demographic and occupation-related factors like e.g. age, experience, position, working effort, and company size. Third, we highlight that we consider a broad and diverse sample and thus are able to overcome the restrictions implied by the so-called “generation effect” of younger people being on the one hand more prepared to take risks but on the other hand less brave regarding individual behavior due to lacking experience and reputation. Indeed, we consider the whole range of asset managers regarding age, experience and position. Fourth, our sample asset managers are asked about their market perception, their individual behavior and their attitudes, e.g. regarding risk – not from a general perspective related to hazards people might fear and that have been addressed in several studies (see e.g. Slovic et al., 2000, or Sjöberg et al., 2000) but all related to their every day business. Fifth, by considering asset managers from two Asian countries, namely Japan and Thailand, from Germany and from the United States, we deviate from the often observable concentration on the United States and Europe and are able to critically check an easily done eastern versus western split.

The remainder of the paper is structured as follows. Section 2 describes design and methodology of the survey as well as the generated data set. Section 3 focuses on common aspects in global asset management. In Section 4 we analyze differences in asset managers’ view points and behavior by relying on Hofstede’s dimensions as analytical framework. Section 5 discusses implications of cultural influences. Section 6 concludes.

## **2 Survey design and data**

Our analyses are based on data from an international written survey conducted with asset managers in four countries in 2003/2004. Altogether, we generated a sample of 1025 questionnaires, comprising 148 questionnaires from the United States, 263 from Germany, 488 from Japan and 126 questionnaires from Thailand.

We prepared our survey by previous oral interviews with asset managers from various investment companies in several cities in the different countries. Especially for an international survey, it is most important to speak in the right language: Both, questions and response categories had to be clearly understandable and in common wording, relevant for the respective market and if necessary country-specifically adapted. A test run of the questionnaire assured its comprehensibility.

As we successfully convinced participating asset managers to act as multipliers within their companies by forwarding blank questionnaires to their colleagues and team members, we do not report a response rate regarding the number of sent out questionnaires. Altogether, however, we obtained a participation rate of 47.5% of investment companies.<sup>7</sup> In detail, we contacted the top 250 US asset management firms ranked by worldwide assets under management and received response from asset managers of 74 different companies (participation rate of US firms: 29.6%). In Germany, we sent questionnaires to 66 member firms of the German Investment Management Association 'BVI' with major investment segments in equities and bonds, respectively, and asset managers of 51 different companies participated in the survey (participation rate of German firms: 77.3%). The high participation rate of German companies is also attributable to the letter of recommendation by the 'BVI'. In Japan, we cooperated with the Daiwa Research Institute that provided us access to all major and core asset management companies. Their letter of recommendation encouraged participation and assured academic purpose only. In the end, 46 of 74 contacted asset management companies participated in our survey (participation rate of Japanese companies: 62.2%). In Thailand, we received responses from 29 of 31 contacted member companies of the 'AIMC' – the Thai Association of Investment Management Companies (participation rate of Thai firms: 93.5%). Once again, the extraordinary high participation rate is attributable to recommendation and very helpful support of the 'AIMC'.

Regarding representativeness of our collected data sample, we compare the structure of the asset management industry in each country with the one of our respective country sample data set. As shown in Table 1 the null hypothesis of no difference cannot be rejected in any country's case. Moreover, bigger investment companies typically employ more asset managers and thus have a higher market impact than smaller investment companies. The same can be found in our country sub samples: asset managers working for bigger companies participated significantly more in our survey over all countries. Besides, survey studies may face criticism regarding data quality and target group width and appropriateness. Regarding this study, there

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<sup>7</sup> Compared to similarly designed surveys as presented by Shiller and Pound (1989) with participation rates of 45% or Menkhoff and Schmidt (2005) with 59% regarding companies, our response rates represent a reasonable result. Moreover, our total number of participants with 1025 altogether is also convincing compared to other cross-cultural survey studies like Shuper et al. (2004) with 535 participants from two countries, Kimmelmeier et al. (2003) with 1018 participants from seven different countries or Kühnen et al. (2001) comprising 422 participants from four countries.

are two cogent counterarguments: First, due to guaranteed anonymity of all participants, strategic answering is unlikely. Second, strategic answering would be useless from an individual point of view as the benefit of influencing results is marginal for a single person and as the costs of professionals with limited time are obviously high. As an indication of the usefulness of our data, the current position of respondents within their companies for each country sub sample is shown in [Table 2](#). Obviously, the firms' hierarchy is reflected in the sample. For universality of responses it is of particular significance that answers were not primarily given by less experienced and less influential junior asset managers but by a broad and balanced sample of asset managers. Moreover, additional exemplary data on age, experience and weekly working hours, given in [Table 2](#) as well, prove the sample to be consistent in its structure.

Besides, [Table 3](#) sheds light on the distribution of asset managers' responses regarding three main fund characteristics: the fund type, the investment segment and the degree of active management, i.e. the tracking error which the individual asset manager is allowed to take. In all four countries, the management of pension (and private) funds dominates the one of mutual funds, with the difference being most pronounced in Japan and least in Thailand. Moreover, equity funds dominate bond funds in the United States, Germany and Japan, while Thailand is rather fixed-income funds oriented. Finally, comparing the degree of active management, a high tracking error is most common for Japanese professionals, followed by U.S., German, and finally Thai asset managers.

### **3 Common aspects in global asset management**

In our study we consider asset managers who act as professionals in global financial markets. New approaches from the area of behavioral finance already take behavioral biases of human actors into account and thus contribute to a more complete understanding of financial markets and its participants (Shiller, 2003). Nevertheless, the traditional capital market theory about risk and return of a well diversified financial portfolio – as reflected in the seminal studies by Markowitz (1952), Sharpe (1964) and Fama (1970) – is globally taught and unmistakably understood as the basis of portfolio management. Accordingly, we expect to detect some common worldwide characteristics that are inherent to the asset management industry, its structure, market players' behavior, and strategies.

First of all, as we have seen in Table 2, common factors among all four countries apply very generally to the combination of personal characteristics and career development: Overall, holding higher positions in an asset management company seems positively associated with higher age, longer experience, slightly higher working effort and higher managed asset volumes under personal responsibility.

Furthermore, we asked all surveyed asset managers about the relevance of fundamentals and the importance of different investment strategies (see [Table 4](#)). When assuming a globally shared portfolio theory, one would expect large communality in investment approaches, too. Indeed, being questioned about the relevance of fundamentals, an overwhelming majority of asset managers from all four countries agrees on their extremely high relevance. This is substantiated by the fact that fundamental information is also clearly most relevant in comparison to further sources of information used in making investment decisions, such as discussions with colleagues or decisions and opinions of others (in the following Section 4, we return to these other sources in more detail). Due to this strong orientation towards fundamentals, one may be not surprised that the preferred investment strategy is also derived from theory. In efficient markets it is rational to rely on a long-term orientated buy and hold strategy, especially when facing long-term investment horizons, and thus to refrain from following short-sighted sentiment driven trends and frequent portfolio shifts that might cause high transaction costs.

Table 4 [B] shows that, indeed, the buy and hold strategy receives highest importance in all four countries (rivalled by the momentum strategy in Germany only). However, it seems interesting to note that despite the strong reliance on fundamental facts and despite the preference for the buy and hold strategy, other strategies receive a surprisingly high amount of attention. Striking is the prominent position of the momentum strategy, i.e. buying past winners and selling past losers, a finding also confirmed by many studies (see Grinblatt et al., 1995) and in different surveys (Menkhoff and Schmidt, 2005). This strategy is definitely not rooted in financial theory and thus provides a clear hint that factors not captured by traditional capital market theory may play a role, too.

In order to take possible cultural factors on asset managers' views, behavior and the industry's structure into account, we introduce a necessary cultural framework below.



## 4 Cross-cultural differences in global asset management

In the following, we rely on Hofstede's (1980) cultural dimensions framework that consists of four dimensions that are explained briefly: The first dimension, "Individualism" (IDV), as opposed to "Collectivism", focuses on the degree of reinforcement of individual or collective achievements and interpersonal relationships. A high Individualism ranking expresses individuality and individual rights being overriding in a society while personal relationships are loose. The second dimension, "Power Distance" (PDI), takes the extent of inequality among members of a country's society into account. A high Power Distance ranking implies that inequalities of power, prestige, and wealth have been allowed to grow within the society and keep being accepted by its members. The third dimension, "Masculinity" (MAS) with its opposite pole of femininity, describes the extent of role division between sexes and its emphasis on the traditional masculine work role model of male achievement, control, and power. A high Masculinity ranking indicates that a country experiences a high degree of gender differentiation. The fourth dimension, "Uncertainty Avoidance" (UAI), finally focuses on the extent to which members of a country's society feel threatened by and thus try to avoid uncertain or ambiguous situations. A high Uncertainty Avoidance ranking implies low tolerance for uncertainty, leading to the creation of a rule-oriented society.<sup>8</sup> Hofstede (2001, p. 29) emphasizes his four dimensions to be statistically independent of each other and to occur in all possible combinations.

### 4.1 Individualism

According to Hofstede, the four considered countries can be clearly ranked regarding their position on a continuum between Individualism and Collectivism. The highest Individualism scoring is given to the United States at 91 as their top dimension, followed by Germany, then Japan and the lowest for Thailand at 20.

We analyze asset managers' behavior in this dimension by taking a closer look at their trend following or so-called "herding" behavior – a phenomenon that remains highly discussed in both academics and practice and yet cannot be totally explained

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<sup>8</sup> In a later study, Hofstede (2001) extended his original four dimensions by a fifth one, i.e. "long-term orientation". We do not consider this additional dimension because it does not fit equally well to our approach. First, the original framework was developed for business professionals in a consistent way whereas the extension is derived from a different source. Second, and more important here, the fifth dimension of "long-term orientation" does not fit well to asset managers' behavior – despite its intuitive appeal – as long-term perspective is related to "thrift" (which is rather a category of investors' behavior) and short-term perspective is related to "respect for tradition" and "fulfilling obligations" (where we are not aware of intuitive proxies in asset management).

by rational motives (Bikhchandani and Sharma, 2001). Herding behavior in its problematic denotation means that investment decisions are solely based on observed investments of other investors (and not on own fundamental information as assumed by theory). Different types of such behavior can be traced back to informational cascades (Bikhchandani et al., 1998) or reputation based herding (Scharfstein and Stein, 1990). It has been found empirically by Chevalier and Ellison (1999) and Hong et al. (2000) that younger managers who are more likely to be fired due to poor performance than their older colleagues deviate less from the herd than more experienced asset managers.

Figure 2 displays the distribution of responses to the statement “I generally follow the trend”. Evidently, Japan and Thailand show a much higher approval to collectivistic behavior in forms of trend following than Germany or the United States. While a clear majority of asset managers from Thailand and Japan and still half of the German asset managers agree on the above mentioned statement, only 20% of the asset managers from the most individualistic country, the United States, affirm it.<sup>9</sup>

Following the herd implies the orientation on others. Accordingly, as mentioned before in Section 3, we also ask asset managers about the relevance of different information sources for their investment decisions. As we have already seen in Table 4, fundamentals have been agreed to be of high relevance by at least 95% of the surveyed asset managers, consistently over all countries. Compared with the results concerning other sources of information shown in Table 5, fundamentals are thus judged to be the most important source of information. Furthermore discussions with colleagues take the second position in all countries: An evident majority of the surveyed asset managers judge collegial exchange to be of high relevance.

Taking the other three information sources into account, a difference between Germany and the United States on the one hand, and Japan and Thailand on the other hand becomes obvious. Our results show consistently over all considered information sources where others market players are integrated that asset managers from the more individual western countries seem to orientate themselves less on others than the more collectivistic eastern countries do.<sup>10</sup>

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<sup>9</sup> These differences in behavior over all countries are confirmed to be significant by the Kruskal-Wallis-Test (results are not explicitly shown here).

<sup>10</sup> A comprehensive theoretical discussion of the influence of social and cultural norms on individual's decision making processes as well as the individual orientation on reference groups can be found in Hayakawa (2000). Returning to our empirical findings, we also controlled our sample for possible biases e.g. due to an extraordinary high participation among higher positions as it can be found in

Before jumping to conclusions, however, we want to look at possible causes of herd behavior. Might it be beneficial for an asset manager's career and thus be rational for the individual asset manager to "hide in the herd"? What role do personal characteristics as age or experience play? Does the industry incentive structure in general and its country-specific type<sup>11</sup> or e.g. the fund characteristic matter? In the following, we therefore apply a multivariate ordered probit approach in order to detect possible reasons behind asset managers' herding behavior (proxied by the "trend following"-variable, see Figure 2).<sup>12</sup> Results are shown in [Table 6](#). The first regression [A] considers single countries as clusters and contains variables being related to the herding literature as addressed above as well as a set of control variables. We will refer to the latter whenever we return to multivariate considerations. All factors included for control purpose are specific to the individual asset manager and, in parts, have also been treated in the herding literature before. In detail, these factors are the asset manager's experience, age, and position, all implying her degree of establishment and self assessment (see e.g. Avery and Chevalier, 1999, and Lamont, 2002), her educational background, the size of company the asset manager is working for (expressed in worldwide assets under management) as a proxy of her individual information and research facilities access, the asset manager's working effort and finally the individual manager's fund characteristics, i.e. the type of fund (bonds vs. equities), the kind of assets under management (pension vs. mutual fund) and the tracking error allowed (high code for indexing).

The second regression [B] of Table 6 is restricted to those variables that are at least significant at the 10% level, including a summarized Individualism indicator.

So what do we learn about the determinants of herding behavior? First of all, the fact that herding is regarded as beneficial for the asset manager's career proves

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the United States sample (see Table 2). CEOs and CIOs would be expected to orientate less on others than their younger counterparts. However, except for a weak correlation among position and orientation on opinion leaders of the industry, correlations are not at all significant. This indicates that cultural differences might indeed play an important role here.

<sup>11</sup> The type of incentives could be linked to the development stage of the respective financial market. However, it does not seem very obvious how the four considered countries should be classified with respect to different aspects in financial market development. Assuming this influence to be correlated with income per capita, the resulting order USA – JP – GER – TH is different from all of the four cultural dimensions we are addressing. Thus, by neglecting development stages we might miss a determinant of behavior but at least we do not wrongly interpret financial market development as cultural difference.

<sup>12</sup> We use the non-parametric ordered probit approach due to the non-metric nature of variables. Estimations are calculated applying the robust Huber/White/sandwich estimator and adjusting standard errors for intragroup correlations as suggested by Wooldridge (2003, 2006)(the Stata "robust cluster" procedure). We thank the referee for this advice.

to be an important and highly significant determinant of herding behavior. Second, the above mentioned orientation on other market players as well as on opinion leaders from both, the economy and the asset management industry itself, all show the expected positive coefficients, though partly lack significance. Third, the formerly addressed coherence of herding behavior with a significant lower reliance on fundamentals is also confirmed by our multivariate regression results. All these outcomes are in line with theory and expectation. However, what appears most interesting for us is the question whether culture in form of an individualism factor also matters. As described above, we firstly consider country clustering to capture country specific factors [A], before secondly taking an additional pooled Individualism factor into account [B]. In accordance with cultural theory and the Hofstede framework, we find culture to matter significantly as Individualism has the predicted sign: The more individualistic the home country of the surveyed asset manager is, the less likely she is to show herding behavior.<sup>13</sup> We find this cohesion to be significant at the 1% level.

Regarding our set of control variables, we find the asset manager's experience – consistently with expectation and theory – to matter significantly in both regressions. More experienced asset managers feel more skillful and surely less threatened by the industry's "hire and fire" career menace than their inexperienced colleagues.<sup>14</sup> As a logical consequence the negative coefficient implies that experienced asset managers are less keen on hiding in the herd than their less experienced and – as we have seen in Table 2 – on average younger and lower positioned counterparts. This is in line with a negative significant coefficient for position. Interestingly, we find higher age to positively influence herding behavior (although not to a significant degree). At first glance, this finding seems contradictory. However, if the degree of herding behavior could also be understood as a proxy for risk taking (see e.g. Graham, 1999, Hong et al., 2000), our tentative finding might be explained by a negative correlation of risk taking with age as found in several studies (see e.g. Andersen, 2001 or Dohmen et al., 2005). Regarding education, we find those asset managers with a lower educational degree to be more prone to herding behavior. Also the last significant variable is intuitively plausible as index fund managers herd less. Moreover, as-

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<sup>13</sup> The same result is found when we use country dummies (instead of anonymous country clusters). The United States dummy, standing for the most individualistic country, shows a significant negative coefficient while the country dummies of the more collectivistic countries Thailand and Japan have positive coefficients.

<sup>14</sup> It seems well plausible that they may be more skillful indeed, as they survived the competition, whereas less skillful asset managers may have been driven out of business.

set managers who work for bigger companies are expected to be or at least to feel better informed than their colleagues working for smaller firms and they thus tend to herd less than their counterparts. The same can be found for weekly working hours. The negative, though not significant coefficient implies those asset managers who show more effort also to herd tentatively less.

Summarizing our results so far, we find several factors – as predicted by earlier work – to determine the observed herding phenomenon. Additionally, as proposed by our applied cultural framework, our results also show that the cultural dimension of Individualism exerts an independent, stable and significant influence on asset managers' (herding) behavior.

## **4.2 Power Distance**

In the following we take a closer look at Hofstede's dimension of Power Distance, generally speaking the degree of inequalities of power, wealth, and prestige, and its tolerance within a country's society. According to Hofstede, Thailand shows the highest scoring at 64, followed by Japan, with some distance the United States, and finally Germany with a scoring of 35 in this dimension. Different from the dimension of Individualism, however, where the United States hold the global leading position, the top scorer of Power Distance in Hofstede's original results (2001, p. 127) is Malaysia (PDI score of 104). Compared to a score of 104, our four considered countries are relatively close to each other around the global mean in this dimension. Accordingly, Power Distance is harder to capture than the Individualism dimension. Nevertheless, we find three hints for cultural differences among our four countries that we summarize in the following.

First of all, we use the illustrational example of the hierarchical distribution of occupied positions by our surveyed asset managers. Although hierarchy and unequal distributions of power among members of an organization are the essence of the latter (Hofstede 2001, p. 82), cross-country comparisons of the observed hierarchical structure reveal some striking differences. In countries that score higher in Power Distance, we would expect to find power more unequally distributed, implying comparably fewer asset managers in top positions who face a wider basis of asset managers in non leading positions. Splitting the sample therefore into asset managers (junior and senior) and leading positions (head of asset management team or CIO/CEO), Thailand shows the lowest share of leading positions with 16.7%, followed by Japan,

then Germany, and the United States with the highest share of leading positions at 37.9% (see [Figure 3](#)). Only the latter disrupt Hofstede's country classification in this dimension as the results in the United States are mainly based on the exceptionally high share of responses by CEOs/CIOs in the country's subsample.<sup>15</sup>

Second, we are able to observe a complete fit to Hofstede's dimension scoring when taking the asset managers' age additionally into account (see also [Figure 3](#)). Considering the mean position difference between the youngest and the oldest age group in all countries separately, Thailand shows the highest position mean difference regarding age groups, Germany the lowest. This could indicate a less rigid and less age dependent hierarchy in the latter country and thus quicker career advancement opportunities for younger asset managers due to lower Power Distance occurrence and preservation. However, even though Power Distance may provide an explanation here, the relation to an age-dependent hierarchy is not compelling at all.<sup>16</sup>

Third, we test our hypothesis by analyzing position and its determinants in a multivariate framework. Possible influencing factors to be tested for holding a higher position refer to our standard set of control variables as far as being intuitive, i.e. longer experience, higher age, higher education or higher working effort.<sup>17</sup> We first estimate the model for the whole sample [A] before allowing for country specific variable considerations [B]. Estimation output is shown in [Table 7](#). As expected and in line with [Table 2](#), our estimation reveals highly significant positive coefficients for experience, age and educational degree while working effort is positively related to position, but significance is missing over all countries. Going more into detail in [Table 7 \[B\]](#), however, we can detect striking differences among the four countries, particularly regarding the relative importance of age versus experience: While for Thailand and Japan age is found to be the single most important determinant for reaching a higher position, in the United States and Germany a higher position is depending much more on the asset manager's experience. Additionally, in the United States and Germany a higher working effort exerts an important significant positive influence.

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<sup>15</sup> In parts, the longer asset management history in the United States, especially in comparison to Germany or Thailand, might also have helped the industry to mature in its structure and contributed to a more balanced distribution among all four positions.

<sup>16</sup> The referee mentions several counter-examples, such as an army which is characterized by extremely high Power Distance but not much age-dependent hierarchy.

<sup>17</sup> Due to questionable explanation power, we exclude company size and fund characteristics from our set of control variables here.

Therewith, results confirm former observations and underline an apparently different role of age and seniority in the four considered countries.<sup>18</sup>

To sum up, taking the distribution of positions, controlling for age, experience, educational degree and weekly working hours, we find significant differences that seem to confirm a culturally predicted influence of Power Distance.

### 4.3 Masculinity – Feminity

We now turn to the third of Hofstede's cultural dimensions, namely Masculinity, i.e. the degree of gender differentiation and traditional role models. While Masculinity is Japan's top dimension with a scoring of 95 and Japan is according to Hofstede among the global top scorers, respectively, Germany and the United States are found in between, and Thailand's score in this dimension is considerably low at 34.

We find evidence in favor of cultural influences on the asset management industry and its participants also in this dimension. To start the analysis, we refer to the gender distribution related to the asset manager's position in the four surveyed countries. [Figure 4](#) shows essential differences between the considered countries that can be simply summarized as follows: The more masculine a country is, the less women can be found in highly-paid asset management positions. While Japan has only a minority (around 3%) of female junior or senior asset managers, Germany, also lacks women in the leading positions, but we find at least around 18% of female junior asset managers. In the United States sample we find women in all four positions (up to 18% female heads of an asset management team) but the sample is still far away from being equally distributed. This can only be said about Thailand, the clearly most feminine country among the four, where women hold about 40% of all asset management positions, almost independent of the hierarchical level.<sup>19</sup>

Besides position, managed asset volumes and responsibilities are a second aspect where gender differentiation might be observable. With the help of an ordered

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<sup>18</sup> These findings are robust to the inclusion of fund characteristics. Results are available on request.

<sup>19</sup> Mann-Whitney-test results (not explicitly shown here) for gender differences regarding position reveal significant differences at the 1% level for Germany. For Japan, weak significance only may be due to the very small number of female asset managers in the Japanese sample. Among the relatively more female cultures, neither the United States nor Thailand show significant gender differences. Though these results suit well to cross-cultural predictions, we also consider additional aspects as education or experience. No significant gender differences can be found for education. In terms of experience, we only find significant differences for the two poles, Japan and Thailand. In detail, we find junior positions to be the driving force in Japan, observing male junior asset manager to be significantly more experienced than their female counterparts. For Thailand, female asset managers are slightly more experienced over all positions but differences are never significant.

probit model, we therefore examine whether gender matters in this respect and include a gender variable in addition to our familiar set of control variables (namely experience, age, position, educational degree, company size, working effort and fund characteristics). Gender differentiation thus brought into a multivariate framework is shown in Table 8. The first regression [A] is estimated over all countries, the second estimation [B] allows for country specific gender considerations. While a longer experience shows a positive and highly significant coefficient, implying more experienced asset managers to be more likely to be responsible for higher asset volumes, the age coefficient shows a negative sign but lacks significance in both regressions. As expected and in line with Table 2, a higher position also leads to significantly higher asset volumes under personal responsibility. Regarding a higher educational degree and longer weekly working hours, we find negative and partly highly significant coefficients: While the first aspect points towards a “learning on the job” practice, higher working efforts obviously do not automatically imply higher responsibilities. However, working for a bigger company is, as expected, linked to significantly higher asset volumes under personal responsibility. Coming to the most interesting point: Being male can be considered as a tentative systematic career advantage. A positive although insignificant coefficient over all countries in the first regression is confirmed by three highly significant country specific gender coefficients in the second regression. For all three countries considered in regression [B], we find male asset managers to manage significantly higher volumes than their female counterparts. Moreover, in line with cultural predictions, we reveal that the more masculine a country is, the higher is the coefficient of the gender variable.

To summarize, both, descriptive distributional comparisons of position and multivariate regressions, show that gender differences are more important career determinants for societies like Japan and Germany that also score high in Hofstede’s dimension of Masculinity than for those that are judged to be relatively more feminine societies like the United States or Thailand.

#### **4.4 Uncertainty Avoidance**

The last considered dimension, Uncertainty Avoidance, deals with the way of societal coping with uncertainty. Depending on the respective tolerance level, societies have brought up different coping measures of e.g. technology, institutional structure, law and (decision) rules to overcome uncertainty. Hofstede explicitly refrains from equat-



ing Uncertainty Avoidance with risk avoidance. Accordingly, risk is focused on a specific event, its probability and its outcome, whereas uncertainty is a more diffuse sentiment. According to Hofstede, Japan shows by far the highest Uncertainty Avoidance scoring results at 92, being followed by Germany and Thailand and finally the United States with the relatively lowest scoring of 46.

Before analyzing the degree of uncertainty avoidance, brief background information on asset managers' environment appears necessary. In general, asset managers do not invest on their own accounts but manage entrusted assets on behalf of their customers. Depending on the company's risk-return policies, individual performance as well as factors as experience or position, asset managers might be more or less allowed to freely compose their portfolios. To put it in the extremes: They might either be forced to stick to the benchmark, i.e. a market index, or be allowed to clearly deviate from it, showing a so-called high tracking error, i.e. accepting higher risks and higher outcome uncertainty by deviating from the benchmark. However, given a wide leeway does not necessarily imply to play on it. Especially a more uncertainty avoidant asset manager might wish to refrain from deviating too much from the market index even if she would be allowed to do so in order to be on the safer side. Accordingly, we consider the mean difference between the tracking error that asset managers would be allowed to and the one they actually take a chance on. As we can see from [Figure 5](#), the difference between the allowed level and the actual tracking error is maximal for Japan, indicating that Japanese asset managers stick relatively closest to their benchmarks. Germany shows the second biggest difference, followed by the USA, and Thailand. Except for the last two, this matches the order of Hofstede regarding the avoidance of uncertainty and ambiguity.

In the asset management industry where decisions are made under uncertainty and risk, comprehensive information research is essential. Nevertheless, different degrees of Uncertainty Avoidance might imply different effort intensities to solve uncertainty in order to fulfill the individual desire to maintain clarity. While information quality itself is unobservable, the survey allows us to compare asset managers' efforts by the time they spend on information research relative to their overall working hours. Results are also shown in [Figure 5](#). Asset managers from Japan, the most uncertainty avoidant country, spend with 45% the most time of their already in absolute numbers higher weekly working hours (see [Table 2](#)) on explicit information research. They are followed by Germany and Thailand, whereas asset managers from

the relatively least uncertainty avoidant country, the United States, spend the smallest portion on average of their working hours on information research.

These results fit well into the culture framework. Nevertheless, univariate considerations always lack control for interferences as e.g. the considered tracking error difference might be influenced by a variety of factors. Especially the tracking error allowed should be accounted for. We therefore, once again, apply our set of control variables. Additionally, we also consider country clusters [A] and directly test for the cultural factor's impact [B]. As [Table 9](#) shows, four variables have a consistently significant and intuitively plausible influence. The tracking error difference is lower for asset managers in higher positions and those working less. Moreover, the tracking error allowed exerts a significant negative influence on the asset manager's tracking error difference, i.e. managers who command over a potentially large tracking error use their degree of freedom less than others; the extreme others are index fund managers who do not deviate from their hardly existent tracking error, of course.<sup>20</sup> Finally, and being of particular interest here, Uncertainty Avoidance captured in one variable [B], positively influences the tracking error difference to a highly significant degree. This indicates that also this cultural dimension is important in understanding asset managers' decisions.<sup>21</sup>

To sum up, we find evidence that also the last of Hofstede's dimensions, Uncertainty Avoidance, matters. Asset managers from more uncertainty avoidant countries refrain from composing their portfolios as freely as they might be allowed to and try to countervail missing certainty by higher information research effort.

## 5 Discussion of cultural influences' possible implications

The preceding Section 4 has shown that asset managers' views and behavior as well as the industry's structure differ between countries in a way that is clearly related to expectations derived from Hofstede's cultural dimensions. In this section we discuss to which extent these cultural differences may be important for financial markets: Not only herding behavior, influenced by the degree of Individualism, could have a direct

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<sup>20</sup> Results are robust to the exclusion of the variable "tracking error allowed" which is by construction highly correlated to the dependent variable. However, the pseudo R-square is much lower and the managers from larger companies and with longer working hours seem to stick closer to their benchmarks (10 percent level of significance).

<sup>21</sup> If we consider country dummies explicitly, they matter consistent with results shown in Table 9. While Japan, the most uncertainty avoidant country, does not show a significant difference relative to Germany, less uncertainty avoidant countries, namely Thailand and the United States, reveal negative coefficients at the 1% level of significance.

impact on market prices and efficiency, but also Power Distance, Masculinity, and Uncertainty Avoidance affect strategic investment decisions and behavior.

Starting with the Individualism dimension, we clearly find that more individualistic countries have asset managers who follow less the trend in the market, i.e. they show less herding. Analyzing different aspects of herding behavior reveals, first, some relation to rational opportunistic behavior, i.e. following the trend because this may support one's career. Second, herding is seen as an instrument to learn from others (importance of other market players etc.). Third, herding seems to be performed because asset managers do believe in psychological forces in the market (less importance of fundamentals). Fourth, another strong relation exists between herding and having an information disadvantage (less education or working for a smaller company) and fifth, personal experience and career steps matter significantly. In addition to these many influences, the cultural dimension of Individualism is shown to also contribute to a better understanding of herding. There is thus useful evidence that cultural differences cause different behavior. Yet the way how behavior is changed may be complex due to further factors like e.g. the type of financial system and its degree of development, the information surrounding or the regulatory framework.

One may speculate that herding in Germany is more opportunistically career driven and possibly in Thailand comparatively more caused by the motivation to learn from opinion leaders. As these motivations are weaker in Japan, it may be that the cultural norm is strongest there (for theoretical considerations see Hayakawa, 2000). Additionally, in their empirical work Kim and Nofsinger (2005) assume Japanese institutional investors, due to the regulative and relational setting, to suffer less from the asymmetric information framework than asset managers in the United States. Kim and Nofsinger thus attribute herding in the Japanese market to superior information, so-called investigative herding (see also Froot et al., 1992, Hirshleifer et al., 1994). Accordingly, judging the impact of herding critically depends on the kind of herding that is supported by the cultural dimension. Herding being rooted in opportunistic and uninformed behavior will reduce price efficiency, it will induce the danger of contagion and thus the spread out of financial crises (see e.g. Calvo and Mendoza, 2000, Borensztein and Gelos, 2003, Shiller, 2003 or Chari and Kehoe, 2003). However, herding that is based on fundamental information gathering, can speed up the process in which information is reflected in prices.

The second cultural dimension, Power Distance, was identified in asset management mainly in the role that age plays in getting into the upper hierarchy. Countries with more Power Distance put more emphasis on seniority so that the bosses who decide about strategic investment directions are comparatively older. This may be important as we know that age influences investment behavior, especially risk taking, and might thus lead to a more conservative portfolio allocation. Moreover, there are systematic differences with regard to the relative importance of age and experience in receiving leading positions: Societies scoring higher in Power Distance do not only prefer older managers for promotion, they also consider experience less. Experience is known to have some favorable impact on investment behavior in a way that it reduces herding (see Chevalier and Ellison, 1999), enhances learning about one's own competences (see Prendergast and Stole, 1996), and dilutes overconfidence to some degree (see e.g. Gervais and Odean, 2001, Locke and Mann, 2003, Menkhoff et al., 2006).

Masculinity, the third cultural dimension, is also clearly found in international asset management. In all countries, there are more men than women in asset management and they are overrepresented in leading positions as well with respect to higher asset volumes under personal responsibility. However, the more masculine a country is, the higher is the degree of male overrepresentation, even when we control for further possible determinants. This is important for investment decisions as we know that men invest differently from women, basically by a more aggressive and often less risk averse stance which is identified by generating higher turnover ratios. Male overconfidence is assumed to be the driving force there (see Barber and Odean, 2001).<sup>22</sup> Accordingly, one can imagine that more masculine countries are characterized – at least when we consider this dimension alone – by more aggressive investment styles generating higher turnover for the entrusted asset volumes.

Finally, also the fourth cultural dimension of Uncertainty Avoidance impacts investment behavior. The above analysis has shown that Uncertainty Avoidance is related to the degree of an underutilized tracking error, i.e. a safety margin. This leads

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<sup>22</sup> Further empirical research is provided by Bengtsson et al. (2005) and Schubert et al. (1999). While the former confirm male overconfidence, the latter underline that gender differences found in financial decision making experiments might strongly depend on the decision frame: For abstract gambles they reveal gender differences indeed, for contextual and covenant investment and insurance decisions, however, they do not. In contrast, Eckel and Grossman (2005) find women to be significantly more risk averse than men in both, gambles as well as investment treatments. Further research in this respect is needed.

to the problem that asset managers will not invest as actively as allowed. According to theory, a higher tracking error which is used to increase portfolio risk should lead – on average and in the longer run – to higher returns compared to the benchmark. Thus, Uncertainty Avoidance may be a reason for lower returns generated by affected asset managers. There is, however, also a positive side to this cultural dimension: In order to reduce uncertainty, it seems plausible that asset managers in these societies put more effort into information research. Whether this is always efficient may be another question but at least it can help to gain more information and thus to invest more successfully.

Again, we see – as with the other dimensions – that cultural differences translate into different behavior and that these differences are relevant for investment behavior. Unfortunately, the relations are complex, first because countries have different orderings in the four cultural dimensions, and second because cultural influences do not always impact behavior to the same extent and in the same direction. Thus, one cannot draw the conclusion that asset managements' behavior will in a simple way differ between two culturally different countries. One can say, however, that the rigidity of traditional capital market theory (as referred to in Section 3) is inferior to an understanding that incorporates cultural norms. The same kind of reasoning has been made by researchers in economics too (Akerlof, 2007) and may offer an approach towards developing behavioral economics and finance into a more general framework. In summary, the influences from cultural diversity seem to be important enough to be considered, even in fund management.

## **6 Concluding remarks and future prospects**

This research enters new ground by presenting comparative survey evidence on asset managers' views and behavior in four countries, i.e. the United States, Germany, Japan and Thailand. According to the globalization of financial markets, evident for example by the same theories used to support portfolio allocation and by the international operation of asset management firms, the question emerges whether cultural differences between countries would play any role in this worldwide business.

Relying on Hofstede's four cultural dimensions, we find cultural differences to be most helpful in understanding country differences which cannot be explained by pure economic reasoning alone. In short, even when controlled for various determinants, more Individualism explains less herding behavior, more Power Distance leads to

relatively older managers in the upper hierarchy, Masculinity generates men in top positions and implies a strong gender influence on managed asset volumes under personal responsibility, and higher Uncertainty Avoidance is related to higher safety margins against the tracking error allowed and more research effort. These consequences, i.e. the culturally different importance of herding, age, experience, gender, active asset management style and information research effort, clearly impact investment behavior. Unfortunately, the impact is complex. Thus, it may be interesting not only to test robustness of our findings but also to further examine consequences for each country.

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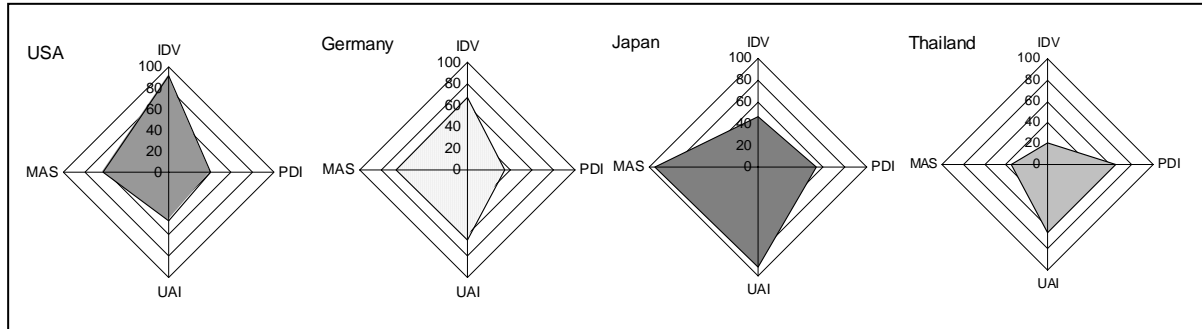
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**FIGURE 1. Country scores<sup>1</sup> in cultural dimensions according to Hofstede**

<sup>1</sup> For the United States, Germany, Japan and Thailand, scores in Hofstede's following four dimensions are shown here: Individualism (IDV), Power Distance (PDI), Masculinity (MAS) and Uncertainty Avoidance (UAI).

**TABLE 1. Comparison of the sample with the industry's structure<sup>1</sup>**

|   | Structure of the asset management industry in relation to respective country sub sample (by assets under management) |                     |                     |                     |
|---|--|---------------------|---------------------|---------------------|
|   | USA  | GER                 | JP                  | TH                  |
| H <sub>0</sub> : no difference <sup>2</sup>   | -1.213<br>(0.225)  | -0.669<br>(0.503)   | -1.183<br>(0.237)   | -0.136<br>(0.892)   |
|   | Correlation <sup>3</sup> with company size (by assets under management)  |                     |                     |                     |
| Number of answered questionnaires per company | 0.256**<br>(0.033)   | 0.679***<br>(0.000) | 0.545***<br>(0.000) | 0.534***<br>(0.000) |

<sup>1</sup> The market data for the USA is taken from on the 'Pensions & Investments' money managers directory 2003 (www.pionline.com). For Germany, market data is taken from the annual report 2003 of the BVI. Japanese market data refers to The Trust Companies Association of Japan, Japan Securities Investment Advisors Association, and The Investment Trust Association Japan. Thailand data is taken from a market share data-sheet provided by selected companies of the Thai asset management industry and private information provided by the AIMC.

<sup>2</sup> The table gives the z-value of the Mann-Whitney U-Test with the p-value in parentheses.

<sup>3</sup> 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. Sample composition and respondents' characteristics<sup>1</sup>**

|     |  | CEO /<br>CIO     | Head<br>of<br>team | Senior<br>asset<br>manager | Junior <sup>2</sup><br>asset<br>manager | Total /<br>Average |
|-----|--|------------------|--------------------|----------------------------|---|--------------------|
| USA | Number of responses  | 17.9%            | 20.0%              | 46.9%                      | 15.2%                                   | N=148              |
|     | Age in years   | 47               | 42                 | 42                         | 31                                      | 42                 |
|     | Experience in years  | 15               | 15                 | 13                         | 4                                       | 13                 |
|     | Weekly working hours   | 55               | 53                 | 51                         | 52                                      | 52                 |
|     | Spearman rank correlation <sup>3</sup> of higher position with |                  |                    |                            |   |                    |
|     | Higher managed volumes <sup>4</sup>                            | 0.270*** (0.001) |                    |                            |   |                    |
| GER | Number of responses  | 5.5%             | 16.4%              | 46.1%                      | 32.0%                                   | N=263              |
|     | Age in years   | 43               | 38                 | 37                         | 31                                      | 36                 |
|     | Experience in years  | 14               | 8                  | 7                          | <4                                      | 7                  |
|     | Weekly working hours   | 54               | 52                 | 48                         | 49                                      | 49                 |
|     | Spearman rank correlation <sup>3</sup> of higher position with |                  |                    |                            |   |                    |
|     | Higher managed volumes <sup>4</sup>                            | 0.469*** (0.000) |                    |                            |   |                    |
| JP  | Number of responses  | 2.3%             | 17.9%              | 18.3%                      | 61.5%                                   | N=488              |
|     | Age in years   | 48               | 41                 | 40                         | 36                                      | 38                 |
|     | Experience in years  | 15               | 14                 | 12                         | 9                                       | 11                 |
|     | Weekly working hours   | 53               | 55                 | 53                         | 54                                      | 54                 |
|     | Spearman rank correlation <sup>3</sup> of higher position with |                  |                    |                            |   |                    |
|     | Higher managed volumes <sup>4</sup>                            | 0.291*** (0.000) |                    |                            |   |                    |
| TH  | Number of responses  | 4.8%             | 11.9%              | 45.2%                      | 38.1%                                   | N=126              |
|     | Age in years   | 42               | 39                 | 37                         | 31                                      | 35                 |
|     | Experience in years  | 11               | 10                 | 8                          | 4                                       | 7                  |
|     | Weekly working hours   | 46               | 48                 | 45                         | 45                                      | 45                 |
|     | Spearman rank correlation <sup>3</sup> of higher position with |                  |                    |                            |   |                    |
|     | Higher managed volumes <sup>4</sup>                            | 0.331*** (0.000) |                    |                            |   |                    |

<sup>1</sup> Mean values for age, experience and weekly working hours are given for each position in the respective country.

<sup>2</sup> In Japan the lowest position was entitled more generally as "Asset Manager". This broader classification might imply a bias in favor of a high number of responses in this answering category.

<sup>3</sup> The table gives the coefficient of the Spearman rank correlation with the p-value in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.

<sup>4</sup> Higher managed volumes indicate that an asset manager has a higher amount of financial assets under personal responsibility.

**TABLE 3. Distribution of responses regarding fund characteristics**

|                                 |                           | USA   | GER   | JP    | TH    |
|---------------------------------|---------------------------|-------|-------|-------|-------|
| Type of fund <sup>1</sup>       | Mutual fund               | 30.9% | 32.5% | 21.5% | 32.0% |
|                                 | Both types                | 26.5% | 16.9% | 22.5% | 32.0% |
|                                 | Pension (or private) fund | 42.6% | 50.6% | 55.9% | 36.0% |
| Investment segment <sup>2</sup> | Equities                  | 58.2% | 67.8% | 58.2% | 39.0% |
|                                 | Both segments             | 10.6% | 8.3%  | 5.9%  | 12.7% |
|                                 | Bonds                     | 31.2% | 24.0% | 35.7% | 48.3% |
| TE-allowed <sup>3</sup>         | High TE                   | 51.7% | 47.2% | 63.7% | 26.4% |
|                                 | Medium TE                 | 39.5% | 44.8% | 30.9% | 63.2% |
|                                 | Low TE/Index.             | 8.8%  | 8.1%  | 5.5%  | 10.4% |

<sup>1</sup> Type of fund is split into three categories, ranging from mutual funds (codes as 1) to special type of funds as pension/provident or restricted/private funds (coded as 3). The middle category captures those asset managers who manage both types of funds, mutual and rather special types.

<sup>2</sup> For the investment segment we split particularly equities management (coded as 1) from the one of fixed-income funds such as bond and money market funds (coded as 3). Again, a middle group of asset managers captures both investment segments.

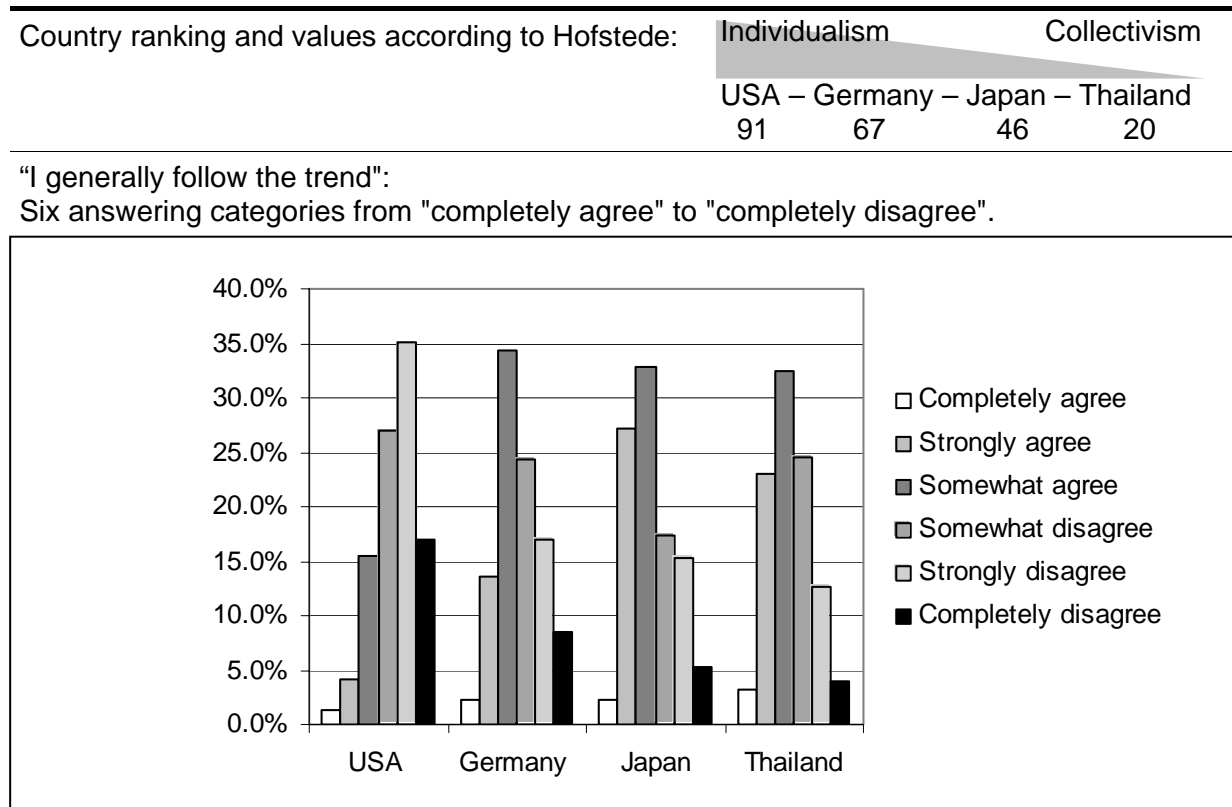
<sup>3</sup> The allowed tracking error (TE) is assessed as follows: "How actively can you actually manage your portfolio at most?". Response categories range from high tracking error (coded as 1) to indexing (coded as 6). We re-group the six response categories into three groups and classify the first two response categories as high TE, categories three and four as medium TE and categories five and six as low TE/Indexing.

**TABLE 4. Relevance of fundamentals and the importance of different investment strategies**

| [A] Relevance of fundamental information: "Please assess the following sources of information used in making investment decision" Six response categories, ranging from "highest relevance" (coded as 1) to "no relevance" (coded as 6). |  |          |          |          |          |
|--|--|----------|----------|----------|----------|
| [B] "Which strategies are your investment decision normally based upon? Please assign 100% altogether. If a category does not apply, please assign 0% to it."  |  |          |          |          |          |
|  |  | USA      | GER      | JP       | TH       |
| [A]  | Share of high relevance <sup>1</sup> of: | 96.0%    | 95.1%    | 98.2%    | 99.2%    |
|  | Fundamentals                             | (-1.074) | (-0.913) | (-1.264) | (-0.945) |
| [B]  | Buy and hold <sup>2</sup>                | 37.39    | 26.17    | 33.17    | 47.65    |
|  | Momentum                                 | 17.50    | 26.61    | 23.79    | 21.43    |
|  | Contrarian                               | 23.08    | 15.84    | 26.02    | 12.27    |
|  | Dividend orientated                      | 6.53     | 8.61     | 3.77     | 16.59    |
|  | Other                                    | 15.51    | 22.91    | 13.60    | 2.06     |

<sup>1</sup> The table shows the share of high relevance of fundamental information, calculated as aggregated distribution to the answer categories 1-3. The mean value difference relative to the second most important information source, namely discussion with colleagues, is given in parentheses, respectively.

<sup>2</sup> The table shows the mean values for the different strategies, expressed in percentages.

**FIGURE 2. Trend following****TABLE 5. Relevance of different information sources**

Country ranking and values according to Hofstede:

|                                  | Individualism     | Collectivism |
|----------------------------------|-------------------|--------------|
| USA – Germany – Japan – Thailand | 91 – 67 – 46 – 20 |              |

Relevance of different information sources: “Please assess the following sources of information used in making investment decision” Six response categories, ranging from "highest relevance" (coded as 1) to "no relevance" (coded as 6).

|  | USA              | GER              | JP               | TH               |
|--|------------------|------------------|------------------|------------------|
| Share of high relevance <sup>1</sup> of: |                  |                  |                  |                  |
| Discussion with colleagues               | 81.8%<br>(2.689) | 78.6%<br>(2.701) | 80.8%<br>(2.619) | 92.1%<br>(2.413) |
| Other market players                     | 41.2%<br>(3.865) | 31.1%<br>(4.171) | 60.7%<br>(3.379) | 49.6%<br>(3.472) |
| Opinion leaders (industry)               | 25%<br>(4.514)   | 19.1%<br>(4.555) | 41.2%<br>(3.936) | 57.1%<br>(3.357) |
| Opinion leaders (economy)                | 33.2%<br>(4.142) | 43.3%<br>(3.844) | 61.3%<br>(3.289) | 89.7%<br>(2.349) |

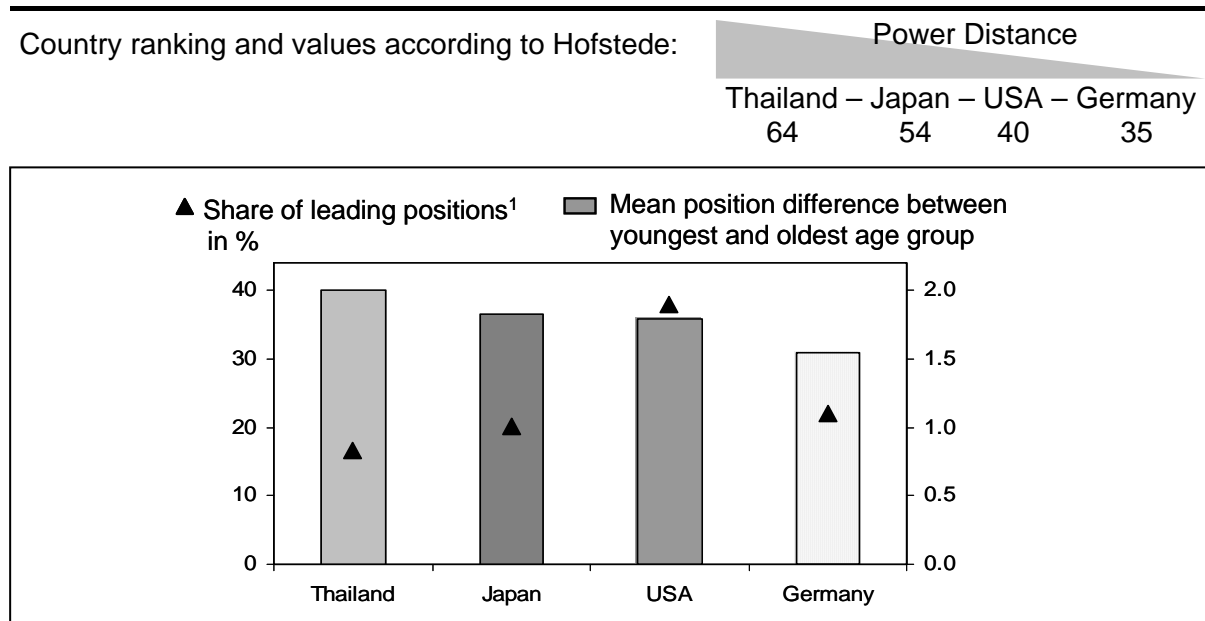
<sup>1</sup> The table shows the share of high relevance calculated as aggregated distribution to the answer categories 1-3. Mean values are given in parentheses. Performed Kruskal-Wallis-Tests show that the Null-hypotheses of no difference between our four considered countries cannot be rejected for discussions with colleagues. However, for the other three information sources, significant differences over all countries are confirmed at the 1% level. Test outcomes are not explicitly shown here.

**TABLE 6. Herding in a multivariate framework**

| Ordered PROBIT regressions of herding (trend following) behavior <sup>1</sup> |           |            |            |            |
|---|-----------|------------|------------|------------|
|   | [A]       |            | [B]        |            |
| Career benefit  | 0.160     | (0.018)*** | 0.185      | (0.031)*** |
| Orientation on other market players   | 0.070     | (0.011)**  | 0.089      | (0.021)*** |
| Orientation on opinion leaders (industry)                                     | 0.045     | (0.046)    |            |            |
| Orientation on opinion leaders (economy)                                      | 0.086     | (0.061)    |            |            |
| Relevance of fundamental information  | -0.138    | (0.046)*** | -0.186     | (0.078)*** |
| Higher Individualism  |           |            | -0.302     | (0.090)*** |
| Longer experience   | -0.049    | (0.022)**  | -0.022     | (0.005)**  |
| Higher age  | 0.027     | (0.050)    |            |            |
| Higher position   | -0.035    | (0.009)*** | -0.026     | (0.007)*** |
| Higher educational degree   | -0.018    | (0.018)*** | -0.092     | (0.031)*** |
| Bigger company  | -0.024    | (0.025)    |            |            |
| Longer weekly working hours   | -0.010    | (0.016)    |            |            |
| Pension fund (vs. mutual fund)  | 0.004     | (0.052)    |            |            |
| Bond segment (vs. equity)   | -0.023    | (0.041)    |            |            |
| Index fund (vs. high tracking error)  | -0.073    | (0.020)*** | -0.085     | (0.023)*** |
| Log pseudolikelihood  | -1500.645 |            | -1579.2561 |            |
| (Pseudo)-R <sup>2</sup>   | 0.046     |            | 0.058      |            |

<sup>1</sup> Herding is measured by way of the trend following-variable introduced in Figure 2 above. The table gives the coefficients of the ordered PROBIT regression with applied cluster sample method according to Wooldridge (2003, 2006). Standard errors are given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.



**FIGURE 3. Hierarchy structure, age and Power Distance**

<sup>1</sup> The share of leading positions is calculated as aggregated distribution to the answer categories 3 (= "Head of Asset Management Team") and 4 (= "CEO/CIO").

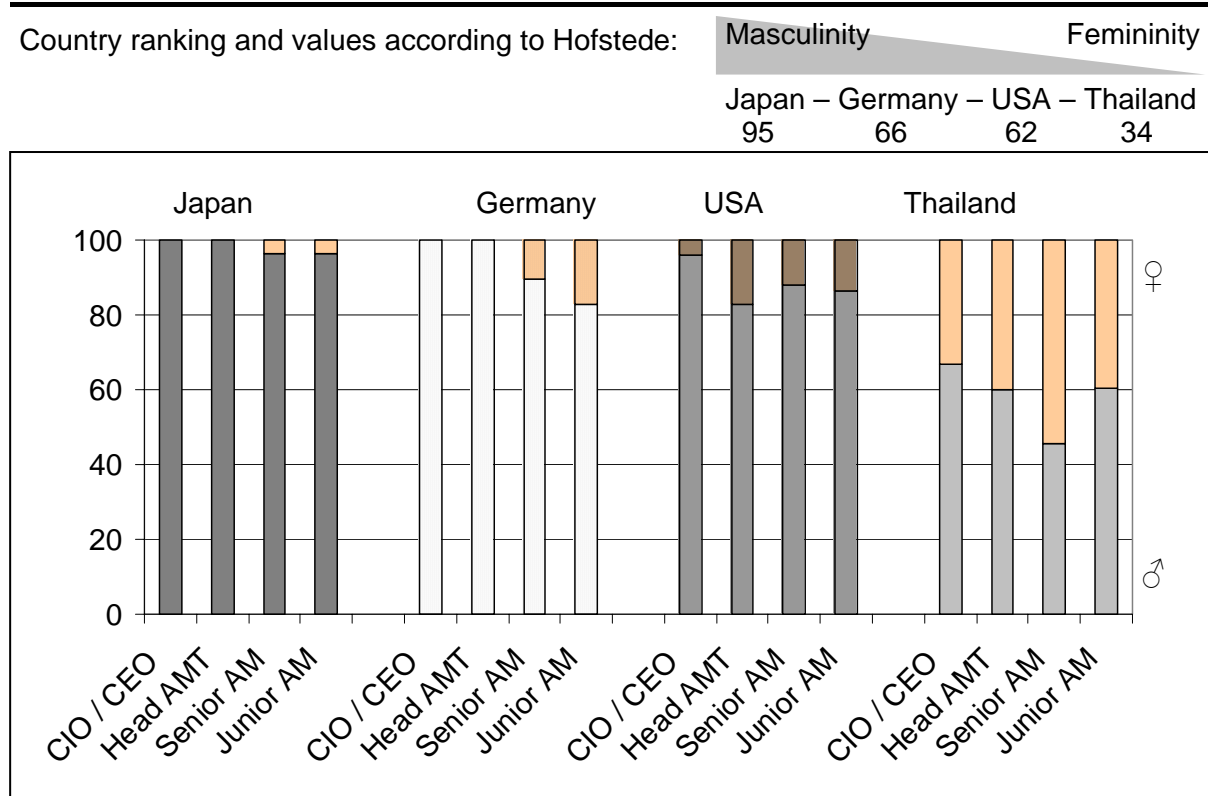
**TABLE 7. Position in a multivariate framework**

Ordered PROBIT regressions<sup>1</sup> of position

[A] over the whole sample  
[B] with country specific variables consideration

|                                 | [A]              | [B]              |
|---------------------------------|------------------|------------------|
| Longer experience               | 0.124 (0.038)*** |                  |
| Longer experience TH            |                  | 0.345 (0.028)*** |
| Longer experience JP            |                  | 0.090 (0.010)*** |
| Longer experience USA           |                  | 0.208 (0.010)*** |
| Longer experience GER           |                  | 0.160 (0.016)*** |
| Higher age                      | 0.329 (0.065)*** |                  |
| Higher age TH                   |                  | 0.610 (0.049)*** |
| Higher age JP                   |                  | 0.425 (0.016)*** |
| Higher age USA                  |                  | 0.193 (0.100)*** |
| Higher age GER                  |                  | 0.282 (0.011)*** |
| Higher educational degree       | 0.128 (0.020)*** |                  |
| Higher educational degree TH    |                  | -0.312 (0.156)** |
| Higher educational degree JP    |                  | -0.026 (0.029)   |
| Higher educational degree USA   |                  | 0.024 (0.027)    |
| Higher educational degree GER   |                  | 0.012 (0.063)    |
| Longer weekly working hours     | 0.016 (0.024)    |                  |
| Longer weekly working hours TH  |                  | 0.013 (0.006)**  |
| Longer weekly working hours JP  |                  | -0.024 (0.042)   |
| Longer weekly working hours USA |                  | 0.151 (0.026)*** |
| Longer weekly working hours GER |                  | 0.191 (0.029)*** |
| Log likelihood                  | -1177.135        | -1130.005        |
| (Pseudo)-R <sup>2</sup>         | 0.109            | 0.144            |

<sup>1</sup> The table gives the coefficients of the ordered PROBIT regression with applied cluster sample method according to Wooldridge (2003, 2006). Standard errors are given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.

**FIGURE 4. Gender distribution****TABLE 8. Gender differences in a multivariate framework**

Ordered PROBIT regressions<sup>1</sup> of asset volume under personal responsibility

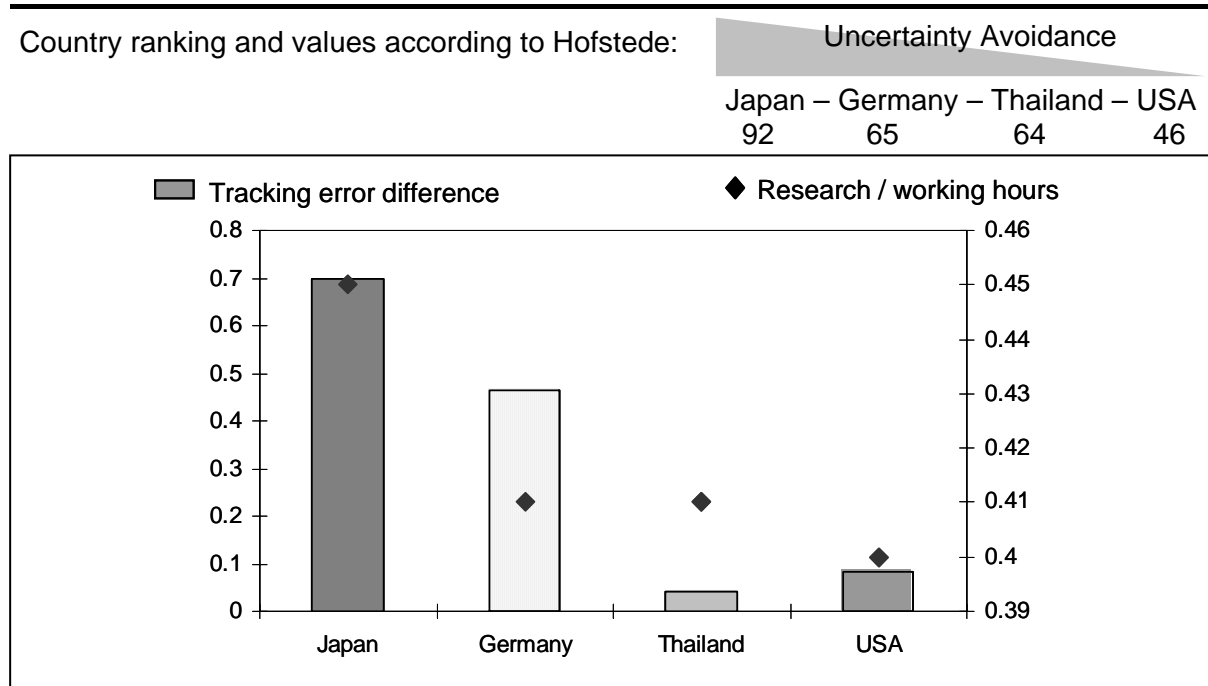
[A] over the whole sample  
[B] with country specific gender consideration

|                                      | [A]       |            | [B] <sup>2</sup> |            |
|--------------------------------------|-----------|------------|------------------|------------|
| Longer experience                    | 0.101     | (0.038)*** | 0.097            | (0.040)**  |
| Higher age                           | -0.008    | (0.047)    | -0.008           | (0.051)    |
| Higher position                      | 0.088     | (0.018)*** | 0.092            | (0.019)*** |
| Higher educational degree            | -0.105    | (0.015)*** | -0.070           | (0.016)*** |
| Longer weekly working hours          | 0.077     | (0.040)*   | 0.065            | (0.041)    |
| Bigger company                       | 0.211     | (0.007)*   | 0.208            | (0.007)*** |
| Male asset manager                   | 0.040     | (0.045)    |                  |            |
| Male asset manager GER               |           |            | 0.157            | (0.063)**  |
| Male asset manager USA               |           |            | 0.140            | (0.071)**  |
| Male asset manager TH                |           |            | 0.111            | (0.053)**  |
| Pension fund (vs. mutual fund)       | 0.162     | (0.052)*** | 0.151            | (0.056)*** |
| Bond segment (vs. equity)            | 0.140     | (0.062)**  | 0.138            | (0.061)**  |
| Index fund (vs. high tracking error) | 0.063     | (0.037)*   | 0.067            | (0.037)*   |
| Log likelihood                       | -1659.762 |            | -1654.756        |            |
| (Pseudo)-R <sup>2</sup>              | 0.083     |            | 0.086            |            |

<sup>1</sup> The table gives the coefficients of the ordered PROBIT regression with applied cluster sample method according to Wooldridge (2003, 2006). Standard errors are given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.

<sup>2</sup> We refrained from including a gender specific consideration for Japan due to the very limited number of female respondents.

**FIGURE 5. Tracking Error difference and research hours as proxies for Uncertainty Avoidance<sup>1</sup>**



<sup>1</sup> Mean values are given for each country. The tracking error scale in the questionnaire ranges from “1” (high tracking error) to “5” (low tracking error = indexing). Thus, the lower the value the more the asset managers tend to accept outcome uncertainty by deviating from the benchmark in forms of a market index. Here, only the difference between the actual and the possible tracking error is shown. Weekly research time comprises time for “data procurement and information research”. It is shown here in relation to weekly working hours.

**TABLE 9. Tracking error difference in a multivariate framework**

Ordered PROBIT regressions<sup>1</sup> of tracking error difference

[A] including diverse variables  
[B] with a summarized Uncertainty Avoidance variable

|                                      | [A]      |            | [B]      |            |
|--------------------------------------|----------|------------|----------|------------|
| Longer experience                    | 0.009    | (0.042)    | 0.002    | (0.036)    |
| Higher age                           | -0.052   | (0.037)    | -0.034   | (0.020)*   |
| Higher position                      | -0.049   | (0.005)*** | -0.034   | (0.005)*** |
| Higher educational degree            | -0.109   | (0.046)**  | -0.015   | (0.025)    |
| Longer weekly working hours          | 0.061    | (0.022)*** | 0.042    | (0.016)**  |
| Bigger company                       | 0.022    | (0.031)    | 0.006    | (0.022)    |
| Higher Uncertainty Avoidance         |          |            | 0.283    | (0.045)*** |
| Pension fund (vs. mutual fund)       | 0.052    | (0.057)    | 0.028    | (0.059)    |
| Bond segment (vs. equity)            | 0.021    | (0.042)    | 0.018    | (0.039)    |
| Index fund (vs. high tracking error) | -0.600   | (0.045)*** | -0.594   | (0.044)*** |
| Log likelihood                       | -930.659 |            | -909.931 |            |
| (Pseudo)-R <sup>2</sup>              | 0.154    |            | 0.173    |            |

<sup>1</sup> The table gives the coefficients of the ordered PROBIT regression with applied cluster sample method according to Wooldridge (2003, 2006). Standard errors are given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.