

# Italian Asset Managers' Behavior: Evidence on Overconfidence, Risk Taking and Gender

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## Abstract

This paper offers new insights into the Italian mutual fund industry. Surveying Italian professionals, we do not only reveal typical gender differences but also detect divergence to their German counterparts. While disclosing Italian professionals' overly positive self-assessment in general, we find evidence for male overconfidence in particular – though without being accompanied by excessive control illusion of the own information level. Asset managers' risk taking reveals further differences: Italian female professionals do not only assess themselves as more risk averse than their male colleagues, they also prefer a more passive portfolio management compared to the level they are allowed to. Moreover, in a tournament scenario near the end of the investment period female asset managers do not try to become the ultimate top performer when they have outperformed their peer group so far. However, in case of underperformance, the risk of deviating from the benchmark makes especially female professionals willing to seize a chance of catching up. Overall, compared to their German counterparts, we find Italian asset managers to be slightly more risk averse. Matching bounded former results on Italian mutual funds, we discuss interdependencies as well as impact of our findings at the individual asset managers' level on trading activity, management style and performance.

## Estratto:

Il presente studio si inserisce nel filone della finanza comportamentale e analizza il comportamento dei gestori italiani di fondi d'investimento. Esso si basa su una vasta inchiesta condotta nel 2004, con la quale è stato raccolto uno dei più ampi campioni di questionari nel settore dei gestori professionistici. L'analisi è focalizzata principalmente su due aspetti: le differenze di comportamento tra i due sessi e il confronto con le attitudini dei gestori di fondi in Germania, dove un'analoga inchiesta è stata svolta nello stesso periodo. Numerosi risultati interessanti emergono: prima di tutto, una spiccata tendenza all'*overconfidence*, cioè all'iper-sicurezza, riscontrabile soprattutto tra i gestori maschi, mentre le donne non solo si dimostrano più coscienti dei propri limiti e meno propense al rischio, ma tendono anche ad utilizzare uno stile di *trading* più passivo. Questi risultati sono ulteriormente confermati dalle risposte date a domande mirate a creare scenari da torneo. Paragonati al comportamento dei loro colleghi tedeschi, i gestori italiani dimostrano di essere leggermente più avversi al rischio.

JEL-CLASSIFICATION: G 23, G 14, J16

KEYWORDS: Institutional investors, Gender, Overconfidence, Risk taking,  
Tournament behavior

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## 1 Motivation

The Italian mutual fund industry ranges among the global top ten investment businesses with considerable gains in size during the last decade and substantial amounts of national households' financial wealth entrusted to professional asset managers.<sup>1</sup> However, up to now, this growth market, and in particular attitudes and behavior of its professional market players are comparatively unexplored. This is somewhat surprising compared to depth, variety and conspicuity of findings derived e.g. for important U.S. financial market participants: very often observations contradict the preamble of solely rational behavior in text-book like efficient financial markets and promote research in the mounting field of behavioral finance instead (cf. Shiller, 2003). In particular, psychological phenomena like investor overconfidence or risk aversion strongly matter even for professional market players' perception, information processing and investment decisions (cf. Hirshleifer, 2001, Barberis and Thaler, 2003). In addition, individual characteristics such as gender or experience have been found to influence behavior (cf. e.g. Chevalier and Ellison, 1999, or Menkhoff et al., 2006).

Surveying Italian professional asset managers, this study concentrates on the three aspects of overconfidence, risk behavior, and gender differences. Indeed, an enormous array of studies addresses gender dissimilarities in risky decision making more generally and, although being less clear cut than often referred to (cf. Schubert et al., 1999), derived the stereotype of women to be more risk averse than men.<sup>2</sup> In order to properly frame our study, we briefly review selected studies that link gender to overconfidence, before addressing research on risk related gender differences particularly in the domain of professional asset management.

One of the most prominent studies in the field of overconfidence is presented by Barber and Odean (2001). Their paper is motivated by Odean (1998), who does not only give a broad overview of the literature on overconfidence, but also shows that overconfident investors, i.e. those investors who miscalibrate and overestimate the precision of their own knowledge, trade too much and by doing so forfeit expected utilities.<sup>3</sup> When analyzing common stock investments with the help of a large data set of household accounts, Barber and Odean do not explicitly measure overconfidence, but relying on previous studies (e.g. Lewellen et al., 1977) take gender as a proxy for overconfidence. They find the average portfolio turnover rate for men to be significantly higher than for women. While both male and female investors reduce

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<sup>1</sup> Cf. Khorana et al. (2005) who compare the mutual fund industries around the globe. They relate assets under professional management to the nation's GDP and disclose Italy in this respect to hold the second position in Europe behind Luxemburg as well as the fifth position worldwide.

<sup>2</sup> For an overview cf. the meta analysis by Byrnes, Miller and Schafer (1999) as well as Beckmann and Menkhoff (2006) who survey some more recent work.

<sup>3</sup> Similar findings are derived by Odean (1999), as well as Barber and Odean (2000).

net returns by trading, performance losses are significantly more pronounced for men. Their findings are contrasted by Deaves et al. (2004) as well as Biais et al. (2005). The former experimentally analyze the relation between overconfidence, trading activity and gender differences with the help of German and Canadian student samples. They provide evidence that greater overconfidence enhances trading activity and thus results in reduced earnings. However, they do not confirm formerly reported gender differences. Biais et al. (2005) find men to trade more than women, but they do not discover any correlation between gender and the overconfidence measure of miscalibration. When splitting their experimentally generated data set by gender, however, they detect miscalibration to significantly worsen male performance, but not the one of their female participants.

Miscalibration, going back to Fischhoff et al. (1977), is not the only form of overconfidence. Overestimation of the own ability going hand in hand with unrealistically positive self-evaluation as well as control illusion in ambiguous situations are further strains of overconfidence that are widely found among individuals (cf. e.g. Deaves et al., 2004, for a survey). Taking the so-called “better than average” effect, e.g. Svenson (1981) revealed that 82% of the surveyed Swedish car drivers believe that their driving skills are among the best 30%.

Returning to gender differences and overconfidence, Lundeberg et al. (1992) provide evidence of dissimilarities for male and female psychology students by requesting confidence judgements whether formerly given exam answers were correct. Although they reveal both men and women to be overconfident, in particular young males are found to be especially overconfident when wrong. Similarly, Bengtsson et al. (2005) also reveal significant gender dissimilarities in self-assessments when studying exam behavior of male and female Swedish economics students. Differences in confidence are most pronounced in younger age groups.

Apart from exam behavior, different kinds of competitive environments could be suitable to analyze the relation between overconfidence and gender. Moreover, assumptions of higher female risk propensity have also been linked to observed competition behavior. Niederle and Vesterlund (2006), for example, present an interesting insight into gender dissimilarities in an experimental tournament frame: women are found to be rather diffident in terms of entering a competitive tournament incentive scheme, whereas men welcome it. The gender gap cannot be explained by performance differences, but male overconfidence is found to be a key factor. Gupta et al. (2005) as well as Dohmen and Falk (2006) confirm former findings while attributing them to differences in risk attitudes.

With Bliss and Potter (2002) who link gender differences to both risk aversion and overconfidence, and also consider professional asset managers, we return to the financial

market environment. Comparing data from domestic and international U.S. equity funds, the authors expect women to hold less risky portfolios than men. Assuming them to be less overconfident, female asset managers are expected to trade less than their male counterparts, and thus to perform better. However, Bliss and Potter do not find evidence of expected risk taking differences among female and male asset managers. Furthermore, trading activity is not subject to gender differences for domestic but only for international funds. While for the latter male asset managers perform better than their (few) female colleagues, for domestic funds the authors detect female outperformance. When controlling for factors that might influence results like risk or asset managers' tenure, yet lastly performance differences disappear for domestic funds. Remaining with professionally trained investors, Olsen and Cox (2001) provide survey evidence from two groups of U.S. professionals: Chartered Financial Analysts (CFAs) and Certified Financial Planners (CFPs). They reveal that female professionals weight risk attributes, such as possibility of loss and ambiguity, more severely than their male counterparts. Moreover, females put more emphasis on risk reduction in their portfolio construction.

Niessen and Ruenzi (2006), finally, investigate gender differences among U.S. equity mutual fund managers. They disclose only moderately less risky portfolios of female managers but show that women follow more stable investment styles over time. With regards to performance, the authors do not find significant average performance differences. Again, however, male asset managers are rather found in the distributional extremes than women, and more moderate female investment styles lead to a higher performance persistence compared to their male counterparts. In contrast to that, while analysing a sample of U.S. fixed income funds, and controlling for wealth and knowledge differences between female and male asset managers, Atkinson et al. (2003) find no differences in fund performance, risk and other fund characteristics. They do, however, similarly to Niessen and Ruenzi, detect significantly lower customer net inflows to funds that are managed by female professionals.

Our contribution to the literature is twofold: Firstly, we provide a pioneering insight into the Italian mutual fund industry by directly assessing asset managers' views and behavior and comparing their aggregated answers with those given by their German counterparts in a similar survey. Secondly, we shed light on overconfidence, risk and typical gender differences – not in an experimental framework with student participants but among professionals in the risky and ambiguous investment environment. While disclosing Italian professionals' overly positive self-assessment in general, we find evidence for male overconfidence in particular – though without being accompanied by control illusion in forms of an excessive overestimation of the own level of information. Asset managers' risk taking reveals further differences:

Italian female professionals do not only assess themselves as more risk averse than their male colleagues, they also prefer a more passive portfolio management compared to the level they are allowed to. Moreover, in a competitive tournament scenario near the end of the investment period female asset managers do not try to become the ultimate top performer when they have outperformed their peer group so far. However, in case of underperformance, the risk of deviating from the benchmark makes female professionals more willing than their male colleagues to seize a chance of catching up. Overall, compared to their German counterparts, we find Italian asset managers to be more risk averse. Matching bounded former results on Italian mutual funds, we discuss interdependencies as well as impact of our findings at the individual asset managers' level on trading activity, management style and performance.

The remainder of the paper is organized as follows: Section 2 provides an overview of the Italian mutual fund industry's development and related research so far. Section 3 describes survey methodology and data set. Both, a comparison between the generated sample and the industry structure as well as characteristics of the surveyed asset managers are provided. Section 4 addresses asset managers' self-assessment regarding their professional success and information level, Section 5 reveals asset managers' risk propensity. In Section 6, we disclose Italian professionals' behavior in the tournament they typically face near the end of an investment period. Section 7 summarizes the main findings and concludes.

## **2 The Italian mutual fund industry**

The Italian mutual fund management industry has risen to one of the biggest in the world: since its foundation in 1984, starting with 10 offered funds at the beginning, the industry has experienced meaningful growth rates, particularly by the end of the 1990s. [Figure 1](#) sheds a more detailed light on its development. Numbers from the German mutual fund industry are given in comparison as we consider the latter a well suiting reference due to three main factors: Firstly, in both countries, the mutual fund industries are embedded in rather bank-based than market-based financial systems. This implies certain similarities in equity culture, bank presence and pension systems (cf. Otten and Schweitzer, 2002). Secondly, different from the United States, in both countries a limited number of fund groups have long dominated the domestic market. Combined with considerably higher importance of bank branch distribution channels<sup>4</sup>, this reveals a competition environment very different from the one in

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<sup>4</sup> Cf. Walter (1999). Fund distribution in the U.S. has always been strongly dominated by direct sales and full-service brokers, while bank branches have only played a marginal role. In contrast, bank branch distribution has dominated in Germany while in Italy both bank and independent sales force channels have been used.

the U.S. Thirdly, obvious parallels concerning development and fixed income funds dominance in the German and Italian mutual fund industry are shown in the following.

**FIGURE 1. Development of the Italian mutual fund industry  
(assets under management, % of households' wealth entrusted)**

While in the 1980s indirect holdings of financial assets in Italy through mutual fund investments “was virtually absent” (Guiso and Jappelli, 2002) by accounting for less than four percent of household's financial wealth, a shift towards more risky assets as well as mutual fund investments became clearly noticeable in the mid 1990s.<sup>5</sup> By 1995, the number of funds offered by the Italian mutual fund industry has risen to 459, and in 1996, assets under management by Italian mutual funds passed the EUR 100 billion line. Dramatic growth rates in the following four years positioned Italy among the largest investment businesses in the world. Italian assets under management invested in over one thousand funds peaked in the year 2000, showing 20% of Italian household wealth in the hands of mutual funds. A recovery from the following stock market turbulences appeared in 2003. Since, steady industry growth rates of at least three percent per year led the Italian mutual fund industry to 2,340 offered funds, provided by 63 investment groups and summing up to EUR 604.3 billion of assets under management by September 2006. One fourth of it is invested in equity funds, almost half in fixed income funds, 15% in money market funds, and the rest comprehends balanced, flexible as well as hedge funds.

In comparison, the German mutual fund industry underwent a similar development, though starting to boom a little earlier, in 1992, with slightly more smooth and steady growth rates in the subsequent years and a first peak in 2000. Its quick recovery from the following crisis is best documented by an astonishing industry growth rate of 16% in 2005. By September 2006, the German mutual fund industry accounts for EUR 573.7 billion of assets under management and 3,112 offered funds. 79 member companies of the “BVI” (the German Investment and Asset Management Association) manage equity and bond fund by about one third each, remaining assets comprise money market, real estate, balanced and other funds.<sup>6</sup>

While German asset managers' behavior has been covered by comprehensive survey studies (cf. e.g. Arnswald, 2001, Lütje and Menkhoff, 2005, or Menkhoff and Schmidt, 2005),

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<sup>5</sup> This move towards higher stock market participation in Italy is part of a general change in portfolio structure observed throughout Europe, confirmed both by aggregate accounts (Guiso et al., 2003) and by household survey data (Sierminska et al., 2006). Among other determinants, like the good performance of stock markets in the 1990s and demographic trends, the growth of the mutual fund industry is regarded as one of its main causes, reducing significantly (real and perceived) participation costs for households.

<sup>6</sup> Not considered special funds cover another EUR 650 billion.

even after more than twenty years of mutual fund business in Italy, the number of studies explicitly addressing Italian asset managers remains limited. Among previous studies, the majority concentrates on issues of performance, persistence, and market efficiency, some on customer interaction or regulation induced developments, and only very few address – more or less directly – behavioral aspects in the Italian market. Nevertheless, some interesting findings have been derived that can also be linked to our results regarding asset managers’ self-assessment and risk behavior in the following and should therefore be reviewed in brief.

Starting with performance findings, Cesari and Panetta (2002) reveal market efficiency in the sense that on the basis of gross returns, risk-adjusted performance<sup>7</sup> is in total positive in the Italian market, thus implying that informed investors are compensated for their information gathering. The authors do, however, not find significant market-timing abilities for analyzed Italian equity funds. Moreover, at the single fund level, they disclose half of funds with negative risk-adjusted performance, but do find the latter to be driven out of the market as a consequence. Casarin et al. (2003) also question whether mutual fund managers are able to generate “extra return” due to market timing and stockpicking ability, and which role performance persistence plays in the Italian market. Different from Grande and Panetta (2002) who provide evidence for weak persistence for their whole sample period from 1987 to 2000, Casarin et al. (2003) do neither find evidence for general outperformance abilities nor return persistence in the long run. They do, however, provide evidence of a short run “hot-hand” effect by showing perseverance in risk-adjusted returns at least for four-month intervals.

Looking from the side of mutual fund investors, Anolli (2005) investigates the costs investors face when holding shares of Italian mutual funds. He discloses the management style and fund portfolio turnover as key determinants of mutual fund costs, but shows that a low level of transparency from mutual fund companies meets insufficient awareness of cost importance from the fund investors’ side. Both keep competition to a mild degree in this respect.

Savona (2006a, b) analyzes the Italian mutual fund industry in terms of competition induced by foreign market players. Comparing return patterns between domestic and foreign mutual funds, his first paper focuses on tax-induced differences while showing that only asymmetric treatment of foreign and domestic funds supports foreign funds’ outperformance. In his second paper, Savona finds evidence for different dominant investment styles between home market players and their foreign counterparts. Detected dominance of bond and liquid-

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<sup>7</sup> While Cesari and Panetta (2002) carefully check different models, Casarin et al. (2005) shed light on the relevance of the chosen performance indicator by e.g. also addressing customized benchmarks that mutual fund companies in Italy, as the first county in Europe, have to disclose by law in their fund’s advertisements.

ity investment for Italian funds as well as shifts from bonds to equities especially for foreign funds are attributed to possible changes in respective clients' risk-return targets.

Caparrelli et al. (2004), finally, offer an interesting insight from the behavioral perspective. When testing for herd behavior in the Italian stock market and detecting the latter to be particularly present in extreme market conditions, i.e. sustained growth rates and high stock levels, they underline the role of investors' mentality and rationality, as well as the importance of behavioral psychology also in Italian financial market decisions.

### **3 Methodology and data survey**

In financial market analysis, survey studies using data directly derived from professional decision makers, have been established as a complementary method to conventional approaches (cf. Shiller and Pound, 1989, or Blinder, 2000, as prominent examples). However, especially in written surveys, quality and explanatory power crucially depend on the reasonable choice of questions as well as correct and unmistakable wording. We therefore discussed preliminary questionnaire versions with asset managers in several cities in advance, and test runs assured comprehensibility. In addition, guaranteed anonymity of participating asset managers and companies, as well as limited individual influence on survey results overall, are two further factors that strengthen authenticity and explanatory power of our survey.

Between March and July 2004, we collected the written questionnaire data of Italian asset managers addressed to all relevant member companies of the "Assogestioni" (Association of Italian Investment Management Companies). A reference letter by the association helped to ensure participation and convinced asset managers in contributing companies to act as multipliers by forwarding blank questionnaires to their colleagues as well. For the German market we received similar support by the "BVI" for an analogous survey conducted in 2003.<sup>8</sup>

Altogether, we base our following analyses on 375 questionnaires, covering both Italian and German asset managers. We are pleased to finally report a participation rate of 58% regarding contacted investment firms in Italy, and even 77% in the German mutual fund industry. Numbers are shown in [Table 1](#).<sup>9</sup>

#### **TABLE 1. Comparison of the data sample with the industry structure<sup>1</sup>**

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<sup>8</sup> A full description of the German survey can be found in Lütje and Menkhoff (2005).

<sup>9</sup> Due to anonymity reasons, we were unable to attribute all questionnaires. Numbers thus refer to those questionnaires without doubt in regards to company assignment.



As 29 among the thirty biggest investment firms in Italy participated in our survey, and we mainly missed the smallest companies, participating firms cover almost 97% of the market in terms of assets under management. Regarding the number of funds offered, the covered companies' market share comprehends 90%. For Germany, numbers sum up to 92% and 82%, respectively. Mann-Whitney U tests confirm that the null hypothesis of no difference between the respective industry's structure and our data sample cannot be rejected.

While a clear majority of survey respondents is male, we also received at least 20 percent of the questionnaires from female asset managers. This result might seem somewhat surprising when having stereotypes and cultural descriptions of an alleged male-dominated Italian society in mind. Indeed, in relation to e.g. the U.S. mutual fund industry with constant female shares around 10% (cf. Niessen and Ruenzi, 2006) or the German sample with industry-representative similar numbers (cf. also Beckmann and Menkhoff, 2006), a share of one fifth appears comparatively high and encourages further analyses. Descriptive sample statistics are therefore given in [Table 2](#). They reveal characteristics of the participating Italian asset managers – directly clustered by gender.

**TABLE 2. Italian asset managers' personal characteristics clustered by gender<sup>1</sup>**

We find a balanced sample regarding age and experience, particularly among the surveyed male asset managers, and also discover immediate gender differences. As we can see, participating female asset managers are significantly<sup>10</sup> younger (none is older than 40), and on average less experienced than their male counterparts (on average six versus nine years). Furthermore, the typical male asset manager is married and in the majority academically educated, while the majority of female asset managers are single, and received by even hundred percent an academic education. The slight female advantage in education is not yet reflected in the asset managers' position: training-on-the-job might play a major role as well. So far, the biggest group of asset managers who participated in the survey now holds a position as senior asset manager – this finding is equal among both sexes with even relatively more women in this position than men. Among the surveyed male asset managers, almost one third work as Chief Investment Officers (CIO) or Chief Executive Officers (CEO) in comparison to only ten percent among female respondents. As the bonus payment, which is additionally paid to the fixed basic salary in relation to one's performance, increases with the hierarchical level, it is not surprising that bonus payments are (though not significantly) higher for men than for

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<sup>10</sup> Also conducted Mann-Whitney U tests are not explicitly shown here.

women, revealing also higher variances among the former. Differences regarding working hours that are assumed to be higher on average for higher positions are minor. We even find women to put more timely effort in information research. Finally, regarding the investment segment, significant differences at the 5% level reveal a clear majority of surveyed females to manage equity funds, while male asset managers are more equally distributed among equities and bonds, and to a smaller part also manage money market funds.

#### **4 Asset managers' overconfidence**

We start our analyses by reviewing how surveyed professional asset managers perceive their own professional success and whether they underlie the “better-than-average” effect of overconfidence identified in former, mainly experimental studies. Both the prevalence of gender dissimilarities in the Italian mutual fund industry as well as differences among Italian and German professionals are addressed in our analyses. In more detail, on the one hand, we asked surveyed professionals to judge their last year's risk-adjusted investment performance compared to their peer group; on the other hand, we requested them to reveal their perceived overall achievements in relation to colleagues and counterparts. [Table 3](#) shows their answers – both split by gender and in aggregated form in comparison to German asset managers.

#### **TABLE 3. Self-assessment of professional success**

We find striking evidence for an unrealistically positive self-evaluation – particularly among male asset managers – which are almost comparable to the findings of Svenson (1981): summing up the first three response categories, 73% of the male asset managers in Italy (but only 50% of their female colleagues) indicate a better risk-adjusted performance relative to their peers. Additional 22% and 35%, respectively, reveal an equally good investment performance and only few a slightly worse than their peer group. As the ultimately achieved fund performance can be seen as the result of a complex, multilevel investment process, it is reasonable not only to ask for the risk-adjusted investment performance but also how asset managers individually evaluate their overall achievement in asset management. Among male managers positive self-perception becomes even more pronounced here: 78% perceive their achievements to be better than their peer group and none of them at all indicates to be worse. Among female asset managers, the percentage of those assessing themselves to be better drops to 45%, while another 45% indicates their achievements to be equally good as

other market players in their investment segment. Not surprisingly, indicated Mann-Whitney U tests reveal significant gender differences in both questions.<sup>11</sup>

Taking aggregated data in comparison to German asset managers into account, Italian professionals indeed show an overly positive self-assessment. Although Germans also reveal affirmative self-evaluations, findings seem to be relatively less pronounced. Again, differences are significant in both cases at the 10% and 5% level, respectively.

Although our findings could indeed reflect relatively positive performance developments compared to individually considered benchmarks for (at least some) Italian managers, findings by Cesari and Panetta (2002) of several negatively performing Italian equity funds rather point towards a clearly biased overestimation of own abilities among Italian asset managers in general, and male professionals in particular. The also described absence of expected market mechanisms in response to negative fund performance which would, if existent, mediate completely unjustified self-perceptions, supports our observation in addition.

In order to better assess possible deriving implications, we examine whether detected overly positive self-evaluations are also accompanied by an overestimation of the own level of information, i.e. reflecting a second form of overconfidence: control illusion. In asymmetric information frameworks – as prevailing in international financial markets and hence representing the typical information environment for professional asset manager to make their investment decisions – access to, as well as choice and transparency of relevant information is of key importance. We therefore also surveyed the asset managers' personal information level and tested for control illusion regarding the latter by presenting two statements and evaluating their degree of agreement. The first pronouncement assesses individually perceived novelty of published business news; the second statement questions possible advantages of domestic managers relative to their foreign counterparts. Results are displayed in [Table 4](#).

**TABLE 4. Self-assessment of personal informational level**

Concerning novelty of news, we again find Italian male asset managers to be slightly more prone to overconfidence than their female colleagues (55% agreement that news do not

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<sup>11</sup> The level of significance is even reinforced when controlling for possible “boldness effects” among professionals arising by the position they hold. As shown in Section 3, female professionals are clearly less represented in higher positions. In order to take into account that asset managers in leading positions might indeed show better achievements or at least subjectively assume to be better than their lower positioned counterparts, we repeat Mann-Whitney U tests after excluding the leading position groups of CIO/CEO and head of asset management team. Findings of even pronounced gender differences in the lower position groups do not only reassure male overconfidence in our sample but they are also in line with reinforced findings in lower age groups by Lundeberg et al. (1992) and Bengtsson (2005) as described in our motivating section.

reveal any surprise at all versus 48%). Differences are, however, not statistically significant. Besides, results turn when assessing the agreement on information advantages as a domestic market player. With 57% versus 42% agreement, females are found to show a considerably higher conviction in this respect. Though, once again, the null hypothesis cannot be rejected, and thus gender dissimilarities among surveyed professionals cannot be confirmed for control illusion. Instead, it is interesting that only 14 percent of both males and females completely disagree on informational advantages for domestic managers as this conviction can be linked to the belief in efficient markets where home market informational advantages would not exist. Taking into account that Savona (2006a) cannot distinguish pre-tax risk-adjusted returns between domestic Italian and foreign funds, surveyed professionals seem to have quite a realistic self-perception in this respect. Accordingly, when comparing Italian professionals to German asset managers at the aggregate level, Italians seem indeed to be much more moderate in their assessment. For both statements, German professionals reveal significantly higher levels of confidence in their own information level.

To summarize our findings, we find (unrealistic) overly positive self-assessments of Italian asset managers with regards to professional success and achievements. In particular, male overconfidence is statistically confirmed. Nevertheless, we do neither detect comparably high levels of possessed information overestimation nor gender dissimilarities for control illusion. At least the latter is approvable from the Italian investor's point of view: Bringing to mind the fiduciary character of the asset management industry, it is surely in the investor's interest that asset managers are apparently not too overly convinced about their own performance and their abilities to control uncertain situations. As reviewed, empirical studies have widely shown that overconfidence inclines excessive trading activity, which has turned out to be detrimental to the performance of U.S. funds (cf. i.e. Carhart, 1997, Odean, 1999, Glaser and Weber, 2004). In line with that, for the Italian market Anolli (2005) underlines the huge impact of portfolio turnover on mutual fund costs. Besides, overconfidence might drive professionals into overly risky investment decisions. In order to get further insights, we now turn to professionals' risk taking behavior. Again, we analyze possible gender differences as well as divergence to German asset managers' behavior.

## **5 Asset managers' risk taking behavior**

Once more, we start the analysis by a self-assessment of the surveyed asset managers. We directly asked them about their risk taking behavior in professional investment decisions. Table 5 reveals their responses.

**TABLE 5. Self-assessment of risk taking behavior**

While the majority of male asset managers, i.e. almost 59%, indicate to rather act little risk averse (indicated by response categories 4 to 6), female professionals seem to behave according to the stereotype. Indeed, females respond slightly less in the extremes than their male colleagues, i.e. indicating neither very high nor very little risk aversion, but nevertheless female agreement on rather risk averse behavior sums up to 70% when taking together the first three response categories. This gender difference is statistically significant.

When looking at the aggregate level, Italian asset managers do not seem to differ from German professionals. In both samples, agreement to risk averse behavior (covered by response categories 1 to 3) adds up to slightly under 50%.

In a second step, we move from the professional investment decision framework to a simulated coin toss bet originated by Tversky and Kahneman (1992). In this abstract gamble, asset managers are asked to indicate the minimum amount to win that would make them accepting a bet where the odds are fifty-fifty to lose EUR 1,000. While we do not test for an explicit (risk-less) certainty equivalent, we nevertheless expect to find that losses loom larger than corresponding gains (cf. Tversky and Kahneman, 1991). Moreover, findings by Schubert et al. (1999), who were the first to disclose mixed evidence regarding gender dissimilarities in financial decisions, confirmed the latter to appear at least in an abstract gambling framework.

Indeed, results for both male and female asset managers point into the expected direction of a pronounced fear of loss – even among professionals. Facing the threat to lose EUR 1,000 Italian male asset managers demand on average a minimum gain of EUR 2,001 as condition to accept the bet. Their female colleagues' possible gain equivalent even adds up to five times the loss amount. Although these median numbers point towards greater risk propensity among females again, differences are not confirmed to also be statistically significant.

Turning to aggregate numbers, we find Italian asset managers to show a higher sensitivity to the possible loss of EUR 1,000 than their German colleagues. While Italian professionals demand on average a minimum gain amount of EUR 2,750, Germans reveal a median of EUR 1,750. Here, differences are statistically significant at the 1% level.<sup>12</sup>

So far, gender differences in risk propensity seem to be more pronounced when surveyed asset managers are asked about professional investment decisions. At first sight, this finding deviates from Schubert et al. (1999). However, it might also reflect and imply differ-

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<sup>12</sup> Given the higher female participation in the Italian sample, we repeat Mann-Whitney U tests for surveyed male professionals only. Differences between German and Italian professionals remain strongly significant.

ences in the risk related management of entrusted assets. Female asset managers might face other institutional restrictions than males in regards to risky behavior by the funds they manage: if female asset managers indeed supervised less risk oriented funds (self-selected or not), this would explain their stronger agreement on risk averse behavior in regards to professional investment decisions. In order to examine the robustness of previous findings, we return to the professional investment decisions framework, and let the surveyed asset managers self-assess their degree of active management. Asking them about their allowed and their actually practiced trading style, we assume that more risk-averse managers would shrink from exploiting their given leeway, and prefer a more passive management style instead. [Figure 2](#) illustrates our comparative results in this respect.

**FIGURE 2. Self-assessment of active management style  
(difference between tracking error allowed and practiced)**

In general, in all four displayed subgroups (Italian males, Italian females, Italian asset managers in total, and their German counterparts) a plurality of asset managers actually uses the tracking error, i.e. the deviation from their benchmark index, as they are allowed to. However, dissimilarities between Italian males and females become, again, clearly evident: While 50% of Italian male asset managers do not show any difference at all, and another 40% reveal to act only slightly more passive in comparison to what they are allowed to, Italian female professionals are obviously more risk averse. While (only) 30% reveal no difference between allowed and actually used tracking error, a clearly right skewed graph demonstrates another 60% of female managers to act either slightly or clearly more passive than allowed. A Mann-Whitney U test reveals significant differences at the 5% level. In contrast, significant differences between German and Italian asset managers overall cannot be detected.

To sum up, we find significant risk related gender dissimilarities when using the professional investment framework but not in an abstract bet. Indeed, within their daily business, Italian female professionals describe themselves as more risk averse and also reveal more passive trading styles than their male colleagues relatively to what they are allowed to. In a strongly competitive environment like the asset management industry where companies and funds compete for client's assets, relative performance is of key importance. So far, we have seen that male asset managers are more confident about their success than women. Does the revealed higher risk propensity also imply female asset managers to shy away from competition as shown by experimental work of Niederle and Vesterlund (2006)? In order to shed light on this question and to detect whether differences among German and Italian professionals in

the abstract gamble reveal further implications, we bring our asset managers in a simulated, but typical tournament situation they regularly face in their professional work near the end of the investment period.

## **6 Asset managers in the tournament**

Driven by the industry's structure and competitiveness, asset managers could have an incentive to vary the risk level of their managed fund(s) near the end of the valuation period in order to either assure and "lock in" their achieved outperformance, or to guard a chance to "catch up" in case of previous underperformance relative to their benchmark. Indeed, this so-called "tournament behavior", going back to Brown et al. (1996), has been empirically detected, but also controversially discussed by several studies (cf. Lütje, 2006, for an overview of the literature, as well as Li and Tiwari, 2006, for an assessment of possible consequences).

From a gender perspective, findings by Niessen and Ruenzi (2006) underline obvious differences between male and female asset managers in performance distribution and possibly underlying performance ambitions. While female professionals are rather found on medial performance ranks and additionally can be proud of higher performance persistence than their male colleagues, male professionals are more often found among the very best, but also among the very worst, with individual manager's performance varying more strongly over time as well. Accordingly, in our survey tournament scenario we would expect female Italian asset managers to act both more risk averse in general, and also to be less inclined than their male counterparts to give all for a star performance rank in case of previous outperformance. This presumption, however, stays in contrast to behavior advised when considering results by Sirri and Turfano (1998). In their study of 20 years of U.S. equity fund data, the authors reveal star performing funds to receive disproportionately high new cash inflows, while bad performance is not similarly punished by outflows. Above described findings by Cesari and Panetta (2002) support similar recommendations to match the Italian market as well.

For a more detailed analysis in the following, we split the tournament situation in two separate scenarios, one reflecting previous outperformance and the other one assuming the case of underperformance so far. Table 6 displays the asset managers' response distribution.

### **TABLE 6. Tournament behavior**

In case of outperformance, the majority of both male and female Italian professionals decrease the risk level, i.e. they "lock in". When looking at the response numbers in more

detail, however, gender differences as expected are once more uncovered. While among female asset managers, 82% indicate to lock in and another 18% keep their strategy, in comparison only 57% of their male counterparts are willing to decrease risk. Almost 40% keep the previous strategy, and 5% of male asset managers even increase the risk level in order to become top performers.<sup>13</sup> Our gender specific findings from Italian mutual fund managers are not only statistically significant but also completely in line with findings derived for U.S. equity funds by Niessen and Ruenzi (2006) as presented above.

The underperformance scenario discloses further interesting findings. 59% Italian males and exactly half of the surveyed females keep their strategy in case of negative performance deviation from the benchmark near the end of the period. Being convinced of previous portfolio decisions and thus keeping a chosen strategy notwithstanding hitherto performance developments can quickly be linked to a certain degree of (over)confidence and risk taking. In line with that, at first sight, a slightly higher disclosed percentage among males in this respect matches with male overconfidence and higher female risk propensity. However, when looking as well at those asset managers who change their strategy, we find significantly less females than males to decrease the risk level. Far from it, 36% of the surveyed females (compared to only 18% of the male Italian professionals) even start to gamble by increasing their portfolio risk.

While this finding might seem surprising from the purely stereotyped gender perspective on risk behavior, it could be brought in line with findings from U.S. asset managers by Niessen and Ruenzi (2006) again. By increasing the risk level and using the chance to catch up, females might be successful in saving at least medial performance in the last moment.<sup>14</sup> Besides, Lütje (2006) provides matching evidence with his analysis of German financial market professionals' herd behavior. Although herding asset managers are found to be generally more risk averse, the latter also take more risk near the end of the valuation period after poor previous performance. Their tournament behavior can yet be explained when taking into account the also emphasized stronger orientation on their benchmark and possibly bigger fear of falling out of the herd.

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<sup>13</sup> Chevalier and Ellison (1997) differentiate between funds that are just slightly ahead of their benchmark and those that are 'well ahead'. While they find the former to decrease risk to assure performance, the latter tend to gamble, attempting to become top performers. We did not distinguish the degree of outperformance any further in our questionnaires, but left the commonly understood term open for individual assessment.

<sup>14</sup> Indeed, Carhart et al. (1999) disclosed a considerable number of analyzed U.S. equity mutual funds to earn large positive returns on the last day of the year; an investment behavior that is supposed to be motivated by both agency issues and the above described flow-performance relation.



When compared to aggregated data from Germany, Italian asset managers are considerably more cautious in their tournament behavior following previous outperformance on the one hand: significantly more German professionals keep their strategy in first priority instead of locking in as the Italians do in the majority. On the other hand, in case of underperformance, Italian professionals seem more afraid of the risk of deviating from the benchmark than their German counterparts: they are more willing to seize a chance of catching up by increasing the risk level than to keep a formerly chosen strategy.<sup>15</sup> While Anolli (2005) reveals only mild competition from the perspective of Italian mutual fund investors' cost perception and industry transparency, a higher diversification in distribution channels in Italy than in Germany (cf. Walter, 1999) as well as bigger competition induced by foreign competitors<sup>16</sup> might explain detected findings. More detailed research in this respect is clearly needed.

## 7 Conclusion

Based on survey data of Italian asset managers, this paper offers new insights into the Italian mutual fund industry. It does not only confirm stereotyped gender differences in terms of overconfidence and risk behavior but also reveals divergence from German counterparts.

While disclosing Italian asset managers' (obviously biased) overly positive self-assessment, evidence for a strong "better-than-average" effect among male professionals is detected in particular. Findings for Italian asset managers' overconfidence are slightly mediated when additionally considering the overconfidence measure of control illusion: Excessive overconfidence and gender differences are not confirmed for the level of information Italian asset managers possess. Their on average somewhat more modest self-assessment in this respect in comparison to their German colleagues is approvable from the Italian investor's perspective when taking into account the fiduciary mandate investment managers accomplish, and former theoretical and empirical studies that relate overestimation of the own information level to excessive trading activity and detrimental performance impact.

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<sup>15</sup> Once again, we control for a possible "female bias" in overall results. In case of previous outperformance country differences remain significant at the 1% level, even when only comparing German and Italian males' behavior. Taken the scenario of underperformance, we indeed also find more Italian than German male professionals to increase the risk level (18% vs. 8%) and thus fewer to keep a formerly chosen strategy, but statistical significance is lost.

<sup>16</sup> For Italy, Savona (2006a) accounts the foreign firm market share to one third of total assets under management by the end of 2005. In contrast, the German Investment Management Association "BVI" just recently changed their statistics and now also considers funds offered by foreign firms of explicitly non-German provenance. Although considerably growing, by September 2006, in Germany the latter have only reached a market share in terms of assets under management of 6% (cf. [www.bvi.de](http://www.bvi.de)).

When considering asset managers' risk taking behavior, in comparison to their German colleagues, Italian asset managers as a group are found to be more sensitive to risk and losses in both abstract gambles and the simulated tournament scenarios near the end of the investment period. Possible interdependencies of these findings with the industry's transparency, distribution channels and competitive environment are open to future research.

Besides, clear gender differences according to the stereotype of women to be more risk averse than men are revealed in the Italian fund management industry. Despite the somewhat surprising observation that surveyed Italian female professionals manage equity and not bonds or money market funds in the majority, female managers indeed do not only assess themselves as more risk averse than their male colleagues, they also prefer a more passive trading style than their male counterparts, taking into account the level of active portfolio management they are allowed to. Furthermore, in a competitive tournament scenario that asset managers typically face in their business, female Italian asset managers do not try to become the ultimate top performer in case they outperformed their peer group so far. Moreover, in case of underperformance, the risk of deviating from the benchmark makes female professionals more willing than their male counterparts to seize a chance of catching up.

These findings taken together, Italian female professionals seem to be less prone to achieve extreme performances and instead put more emphasis on performance stability. Again, individual investors who entrust parts of their wealth to asset managers' funds might prefer this behavior in comparison to more aggressive and less stable investment styles. On the other hand, by acting not only more risk averse than their male colleagues but also than allowed by the given investment frame of their managed funds, female asset managers might forgo a chance of achieving higher return levels.

When finally looking from the perspective of individual private investors, as a consequence, although at first sight being often attracted by extreme performance ranks, the former should sharpen their perception of the own financial priorities, of what they expect from their chosen funds and individual fiduciaries in Italy, and how the latter view and accomplish their professional task. This research intends to contribute to a better understanding in this respect.

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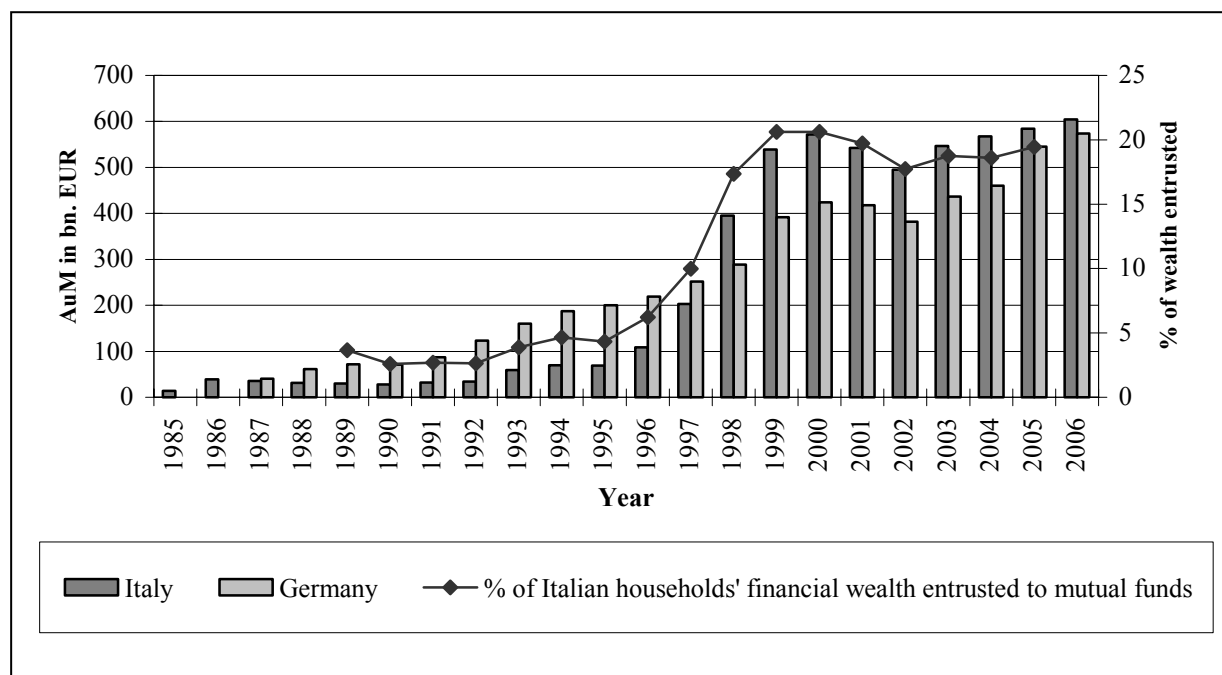
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**FIGURE 1. Development of the Italian mutual fund industry<sup>1</sup>  
(assets under management, % of households' wealth entrusted)**



<sup>1</sup> Numbers on assets under management (AuM) and households' wealth entrusted are provided on the websites of the Italian and the German Investment Management Associations "Assogestioni" and "BVI".

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

	Italy	Germany
Investment firm participation rate	58.2%	77.3%
<i>Structure of the survey sample in relation to country's asset management industry</i>		
Covered firms' market share	$H_0$ : no difference <sup>2</sup>	$H_0$ : no difference <sup>2</sup>
- by assets under management	96.6% -0.403 (0.687)	91.8% -0.669 (0.503)
- by numbers of funds	89.7% -0.385 (0.700)	81.8% -0.821 (0.412)

<sup>1</sup> The market data for Italy is taken from the Italian Investment Management Association' Website "Assogestioni". We refer to aggregated data by investment firm for January 2004, July 2004 and January 2005. For eleven out of 112 received Italian questionnaires, we are unable to ascribe them to the considered investment firms. Numbers in the following thus refer to 101 out of our total of 112 Italian questionnaires. For Germany, market data is taken from the annual report 2003 of the "BVI". Eight out of 263 questionnaires remain anonymous and are thus not attributable.

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

**TABLE 2. Italian asset managers' personal characteristics clustered by gender<sup>1</sup>**

Age (in years)	< 31	31 – 35	36 – 40	41 – 45	46 – 50	> 50	Mean
	18.8%	32.9%	16.5%	18.8%	7.1%	5.1%	~37
	34.8%	52.2%	13.0%	0.0%	0.0%	0.0%	~32
Prof. experience (in years)	< 4	4 – 6	7 – 9	10 – 12	13 – 15	> 15	
	16.9%	19.3%	24.1%	6.0%	20.5%	13.3%	~9
	21.7%	34.8%	26.1%	13.0%	0.0%	4.3%	~6
Marital status / Educational level	<i>Single</i>	<i>Married</i>	<i>Other</i>		<i>Non-academic</i>	<i>Academic</i>	
	42.9%	57.1%	0.0%		8.3%	91.7%	
	63.6%	27.3%	9.1%		0.0%	100.0%	
Occupational level / Bonus	<i>Junior manager</i>	<i>Senior manager</i>	<i>Head of AM team</i>	<i>CIO / CEO</i>	<i>Median bonus</i>	<i>Std. dev.</i>	
	13.8%	41.3%	18.8%	31.3%	35.0%	41.5%	
	28.6%	52.4%	9.5%	9.5%	31.0%	26.6%	
Major investment segment / Working hours and info research	<i>Equities</i>	<i>Bonds</i>	<i>Money market</i>		<i>Mean weekly working hours</i>	<i>Mean info research</i>	
	48.4%	43.0%	8.6%		~49	~21	
	67.5%	32.5%	0.0%		~47	~22	

<sup>1</sup> Regarding each item, the first row displays response of male asset managers (survey participation rate: 78.9%), whereas the second row displays response of female asset managers (participation rate: 21.1%).

**TABLE 3. Self-assessment of professional success**

<i>Performance and achievements</i>		Much better (in %)			Equally good	Much worse (in %)			$H_0$ : no specific difference <sup>1</sup>
[1] Risk-adjusted performance last year compared to your peer group	Italy ♂	9.4	30.6	32.9	22.4	4.7	0.0	0.0	-1.697*
	Italy ♀	5.0	25.0	20.0	35.0	15.0	0.0	0.0	(0.090)
	Italy total	8.5	29.2	31.1	24.6	6.6	0.0	0.0	-2.328**
	Germany total	6.9	17.7	33.1	35.5	4.8	2.0	0.0	(0.020)
[2] Achievement in asset management compared to your peer group	Italy ♂	6.0	29.8	41.7	22.5	0.0	0.0	0.0	-2.000**
	Italy ♀	5.0	25.0	15.0	45.0	10.0	0.0	0.0	(0.046)
	Italy total	5.7	28.6	36.2	27.6	1.9	0.0	0.0	-1.800*
	Germany total	5.2	18.5	41.0	30.9	3.6	0.8	0.0	(0.072)

<sup>1</sup> The table gives the z-value of the Mann-Whitney U test regarding gender specific differences in Italy as well as between responses from Italian and German asset managers. The p-value is given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.



**TABLE 4. Self-assessment of personal informational level**

<i>Perception of informational advantages compared to others</i>		Completely agree (in %)			Completely disagree (in %)			$H_0$ : no specific difference <sup>1</sup>
[1] Most of the published business news does not surprise me at all	Italy ♂	1.2	20.5	33.7	27.7	14.5	2.4	-1.142
	Italy ♀	0.0	4.8	42.9	33.3	14.3	4.8	(0.253)
	Italy total	0.9	17.0	35.8	29.2	14.2	2.8	-1.848*
	Germany total	1.9	21.0	39.3	28.2	8.0	1.5	(0.065)
[2] As a domestic asset manager I benefit from better information on domestic securities compared to market players overseas	Italy ♂	2.4	18.3	22.0	24.4	19.5	13.4	-0.874
	Italy ♀	4.8	19.0	33.3	19.0	9.5	14.3	(0.382)
	Italy total	2.9	18.1	25.7	22.9	17.1	13.3	-3.172***
	Germany total	5.1	24.9	35.2	15.8	14.2	4.7	(0.002)

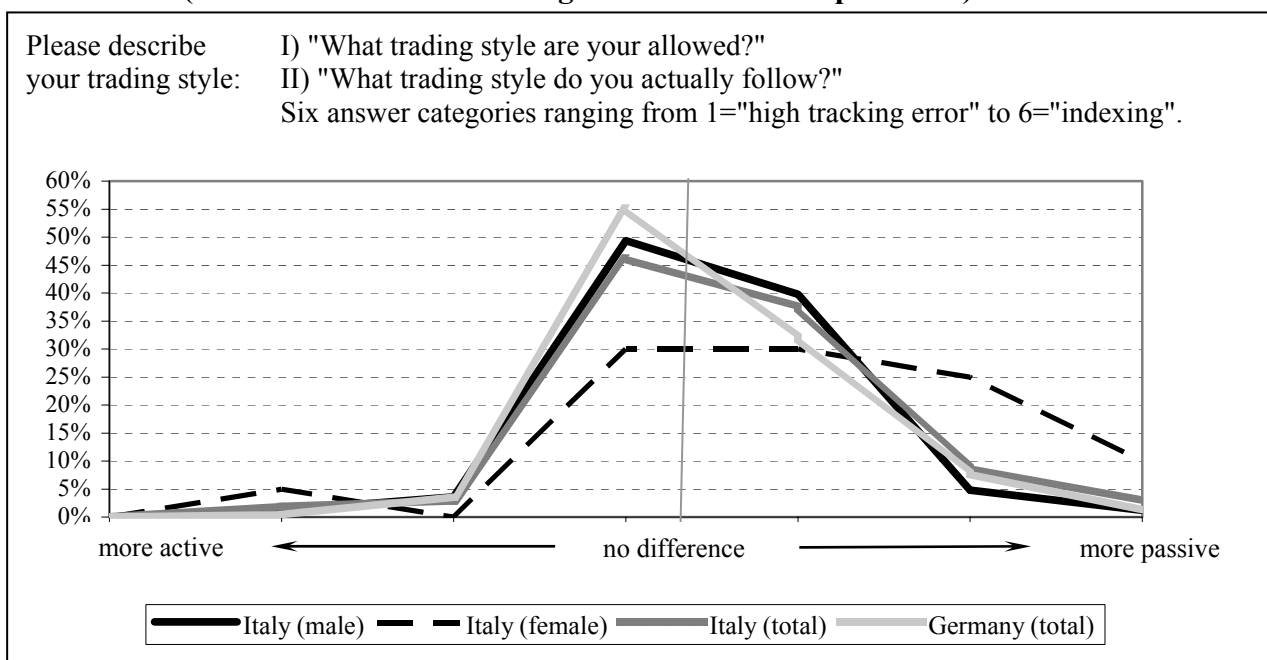
<sup>1</sup> The table gives the z-value of the Mann-Whitney U test regarding gender specific differences in Italy as well as between responses from Italian and German asset managers. The p-value is given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.

**TABLE 5. Self-assessment of risk taking behavior**

<i>Risk aversion and compensation for risk taking in simulated bet</i>		Very risk averse (in %)			Little risk averse (in %)			$H_0$ : no specific difference <sup>1</sup>
[1] In respect of professional investment decision, I mostly act...	Italy ♂	1.2	15.9	24.4	37.8	18.3	2.4	-1.671*
	Italy ♀	0.0	15.0	55.0	20.0	10.0	0.0	(0.095)
	Italy total	1.0	16.3	29.8	34.6	16.3	1.9	-0.317
	Germany total	1.5	9.2	36.9	42.7	8.5	1.2	(0.751)
[2] Imagine someone offers you a bet and the odds are fifty-fifty. You will have to pay 1,000 € if you lose. What would be the minimum amount you would expect to win to lure you into accepting the bet? At least...					Median answer			
	Italy ♂				2,001 €			-1.392
	Italy ♀				5,000 €			(0.164)
	Italy total				2,750 €			-3.451***
Germany total				1,750 €			(0.001)	

<sup>1</sup> The table gives the z-value of the Mann-Whitney U test regarding gender specific differences in Italy as well as between responses from Italian and German asset managers. The p-value is given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.

**FIGURE 2. Self-assessment of active management style  
(difference between tracking error allowed and practiced)<sup>1</sup>**



<sup>1</sup>  $H_0$ : no gender specific difference in Italy, z-value of the Mann-Whitney U test: -2.274\*\* (0.023).  
 $H_0$ : no difference between Italy and Germany, z-value of the Mann-Whitney U test: -1.273 (0.203).  
 The respective p-value is given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.

**TABLE 6. Tournament behavior**

<i>Risk taking behavior in simulated tournament scenarios</i>		Increase risk level	Keep strategy	Decrease risk level	$H_0$ : no specific difference <sup>1</sup>
[1] In case of <u>outperformance</u> near the end of the investment period...	Italy ♂	4.8%	38.6%	56.6%	-2.205**
	Italy ♀	0.0%	18.2%	81.8%	(0.027)
	Italy total	3.8%	34.9%	61.3%	-4.391***
	Germany total	0.8%	65.5%	33.7%	(0.000)
[2] In case of <u>underperformance</u> near the end of the investment period...	Italy ♂	18.1%	59.0%	22.9%	-1.750*
	Italy ♀	36.4%	50.0%	13.6%	(0.080)
	Italy total	21.7%	56.6%	21.7%	-1.765*
	Germany total	9.7%	69.0%	21.8%	(0.078)

<sup>1</sup> The table gives the z-value of the Mann-Whitney U test regarding gender specific differences in Italy as well as between responses from Italian and German asset managers. The p-value is given in parentheses. Asterisks refer to level of significance: \* 10%, \*\* 5%, \*\*\* 1%.