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Abhandlungen

Long-Run Performance Evaluation of Journalists' Stock Recommendations

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I. Introduction

Private investors are having a hard time when it comes to investing their funds, especially in times when private pension planning is becoming increasingly important. Not only do private investors usually lack knowledge about capital markets, but it is also difficult to make informed choices among thousands of different investment opportunities. Therefore, a whole industry providing professional investment advice has emerged. In general, private investors receive investment advice from financial experts, most prominently from security analysts of brokerage houses and from journalists. Both groups of financial experts usually provide, among other things, direct stock recommendations to investors. Although the immediate market reaction to financial experts' stock recommendations has been extensively analyzed for security analysts as well as for journalists, the question whether they provide valuable advice in the long run is far less intensely researched. Particularly, the question whether the second group of financial experts (journalists) has the ability to predict stock prices and, thus, publishes valuable recommendations in the long run is basically unexplored.

In order to examine the role of journalists as a source of investment advice for private investors, we evaluate stock recommendations of German *Personal Finance Magazines* (*PFMs*) such as, for instance, the *Effec-*

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ten-Spiegel and *Börse Online*. In contrast to other business media like television shows or daily newspapers, which often merely re-transmit stock recommendations of security analysts or prominent money managers, *PFMs* claim to employ selfcontained research procedures in order to derive original buy and sell recommendations for their readers. Although journalists of *PFMs* would not be willing to disclose their particular research procedures, we do have information concerning the educational and professional background of journalists working for *PFMs*. One editor-in-chief revealed that his journalists usually possess university degrees in economics or business. Often, journalists are former security analysts at brokerage houses. Thus, the educational and professional background of these journalists is similar to the one of security analysts. Although they might have limited access to various information sources, journalists working for *PFMs* should consequently be almost as competent to issue meaningful recommendations as security analysts employed by brokerage houses.

Our contribution to the literature is threefold: Firstly, we aim to close the gap in research concerning the long-run performance evaluation of journalists' stock recommendations. Besides the apparent lack of empirical evidence for this group of financial experts for international markets in general and for Germany specifically, analyzing the long-run performance of journalists' recommendations might be particularly interesting since this group of financial experts is, unlike security analysts, free from the usual conflicts of interest. Journalists do not have to consider a company's interests like investment banking activities. Secondly, prior research on long-run performance evaluation which employs a market index as a benchmark adjustment has been attacked on methodological grounds. By creating characteristic-adjusted reference portfolios we not only control for common characteristics of recommended stocks but we also account for the *new listing bias* and the *rebalancing bias*. In addition, we remedy the *skewness bias* by using bootstrapped skewness-adjusted *t*-statistics. Thirdly, we address for the first time the question whether self-contained research procedures of journalists work equally well concerning specific characteristics of stocks (market capitalization, price-to-book, prior performance, and listing at the *Neuer Markt*) or during several sub-periods of our investigation period.

Analyzing a large sample of buy and sell recommendations issued by *PFMs* on German stocks in the period from 1995 to 2003, our results indicate that stock recommendations of journalists seem to have substantial

investment value for private investors on the sell side. Private investors would have been guided correctly by the journalists if they sold respective stocks. With respect to the buy side, however, we have to conclude that buy recommendations do contain positive but economically and statistically insignificant investment value in general. This result of insignificant investment value on the buy side differs, however, from prior findings which predominantly document a negative investment value for buy recommendations transmitted through the business media. In contrast, we find that journalists seem to have some predictive abilities for subgroups of stocks on the buy side. In particular, buy recommendations on value stocks and on positive momentum stocks seem to contain investment value. In addition, if journalists had refrained from recommending *Neuer Markt* stocks for purchase, our results would allow us to assign to them predictive ability with respect to the remaining market segments.

The remainder of the paper is structured as follows. Section II gives a brief review of the related literature and presents our hypotheses. Section III describes the database and provides some descriptive statistics. The employed methodology to calculate reference portfolios and abnormal returns is also characterized in this section. Section IV presents our empirical findings. Finally, we conclude in Section V.

II. Related Literature and Hypotheses

1. Related Literature

The literature on performance evaluation of financial experts' advice can basically be separated into stock recommendations issued by security analysts of brokerage houses and stock recommendations distributed via the business media. With respect to the second category, one has to further distinguish between those recommendations which are mere restatements of, e.g., recommendations by security analysts (second-hand information) and those recommendations which are based on self-contained original research by journalists.

The vast majority of research on financial experts concentrates on recommendations issued by security analysts which work for brokerage houses. Since brokerage houses employ huge departments to perform this kind of research for their clients, only significant abnormal returns would justify the costs of preparing the reports and to work out stock recommendations. Starting with the work of *Cowles* (1933), researchers

have been eager to analyze the short- and long-run performance of such recommendations (see, among many others, *Bjerring* et al. (1983); *Elton* et al. (1986); *Stickel* (1995); *Womack* (1996); *Francis/Soffer* (1997); *Barber* et al. (2001, 2003); *Mikhail* et al. (2004); *Agrawal/Chen* (2005); *Asquith* et al. (2005); *Fang/Yasuda* (2005); and *Jegadeesh/Kim* (2006)). The studies almost unequivocally find a significant market reaction associated with the release of a recommendation in the short run. In terms of the long-run investment value, Womack (1996) analyzes for the US market abnormal returns up to six months subsequent to the publication of the recommendation. In contrast to modest returns following buy recommendations, he finds a significant negative price drift subsequent to the publication of sell recommendations. Thus, only sell recommendations seem to have significant investment value for investors. Similar evidence is reported by *Agrawal/Chen* (2005) who find an unambiguously significant continuing price drift over the subsequent twelve months for negative recommendations. Accordingly, *Fang/Yasuda* (2005) find more investment value in sell rather than in buy recommendations. They document that only high-profile All-American analysts who also work for top-tier banks are able to consistently earn abnormal returns with their buy recommendations, whereas all different kinds of analysts earn significant abnormal returns on their sell recommendations. With respect to international markets, *Jegadeesh/Kim* (2006) again document a more pronounced investment value for downgrades. In particular, in five of the G7 countries they find evidence for significant price drifts for downgrades, whereas only in two countries the price drift is significantly positive over the subsequent 132 trading days. For Germany, *Gerke/Oerke* (1998) and *Henze/Röder* (2005), among others, examine analysts' recommendations by various brokerage houses. The authors of the latter study find that both buy and sell recommendations lead to significant excess returns in the long run. In line with international evidence, sell and strong sell recommendations lead to more pronounced excess returns compared to buy and strong buy recommendations. Although the literature on security analysts' recommendations is quite comprehensive and the review above only scratches the surface, one can extract two major findings from prior research: Firstly, stock recommendations issued by security analysts seem to have investment value in the long run. Secondly, the investment value for sell recommendations is higher than for buy recommendations.

As mentioned before, the business media regularly publishes stock recommendations. However, one has to distinguish between two strands of

the literature. Firstly, there is a number of studies which evaluate the performance of second-hand information re-transmitted through the business media. Those studies do not analyze financial advice generated by journalists themselves, but examine the investment value of re-statements of other financial experts' recommendations like those of security analysts or financial gurus published by the business media. For example, *Lloyd-Davis/Canes* (1978), *Syed* et al. (1989), *Liu* et al. (1990, 1992), *Beneish* (1991) and *Huth/Maris* (1992) find short-run abnormal returns based on stock recommendations issued in the "*Heard on the Street*" (*HOTS*) column of the *Wall Street Journal* (*WSJ*). *Kiymaz* (2002) performs a similar analysis with recommendations of the *HOTS* column of the Turkish magazine *Ekonomik Trend,* supporting U.S. results. *Barber/Loeffler* (1993), *Metcalf/Malkiel* (1994), *Wright* (1994) and *Liang* (1999) report significant abnormal returns associated with recommendations issued in the "*Dartboard*" column of the *WSJ*. Whereas *Pari* (1987), *Beltz/Jennings* (1997) and *Ferreira/Smith* (2003) analyze recommendations issued by panelists in the *Wall Street Week* television show, *Desai/Jain* (1995) focus on recommendations issued by prominent money managers at *Barron's Annual Roundtable*. All studies find excess returns around the event triggered by price pressure. A recent study by *Brixner/Walter* (2007) has also confirmed the existence of price pressure due to second-hand information for Germany. The study finds that the market reacts to re-statements of stale security analysts' recommendations in the column *Tendenzen & Tips* of the daily newspaper *FAZ*. However, when it comes to long-run analyses, various studies suggest that second-hand information have negative investment value (see, e.g., *Shepard* (1977); *Dimson/Marsh* (1986); *Pari* (1987); *Desai/Jain* (1995); *Sant/Zaman* (1996); and for an excellent review, *Schuster* (2003)). As a consequence, private investors lose money if they follow second-hand information distributed via the business media.

Apart from studies on second-hand information and gossip re-transmitted via the business media, empirical evidence on stock recommendations issued by journalists using self-contained research procedures is rather limited. Some studies exist on the short-run market reaction associated with the initial publication of stock recommendations. *Lidén* (2007), for example, finds a market reaction on the publication day in accordance with the type of recommendation for the Swedish market. For the German market, *Pieper* et al. (1993), *Röckemann* (1994), and *Kerl/Walter* (2007) analyze the short-run investment value of stock recommendations issued by *Personal Finance Magazines* (*PFMs*). All studies

find positive abnormal returns around the event day for buy recommendations. In terms of the long-run performance of journalists' stock recommendations, *Lidén* (2006) compares stock recommendations from security analysts and *PFMs*. He finds that for the Swedish market buy recommendations from *PFMs* mislead investors. In particular, the mean market-adjusted return over a two-year period is (insignificantly) negative at 6.01 %. Thus, buy recommendations of Swedish journalists do not seem to contain investment value at all. Sell recommendations, however, have investment value as stock prices display a continuous negative drift in the months subsequent to the publication. *Yazici/Muradoğlu* (2002) focus on recommendations of the *Investor Ali* column of the weekly economics journal *Moneymatik* and thus on the Turkish market. In their long-run study of buy recommendations, they state that the recommendations do not add any long-term value to small investors. In contrast, the average two-year cumulative abnormal return is –13.9 %.[1]

2. *Hypotheses*

If the efficient market hypothesis (*EMH*) proposed by *Fama* (1970) holds, we should not observe any price drifts in the months subsequent to the release of the recommendations; no matter whether journalists are capable of producing relevant information or not. In contrast, stock prices should adjust instantaneously or at least rapidly to new information. As a consequence, in the absence of a price drift private investors should not be able to profit from the recommendations in the long-run. Thus, building on the foundations of the *EMH,* we predict in our *first hypothesis* that stock recommendations of journalist do not contain investment value. In particular, we predict buy and sell recommendations to yield abnormal returns in the months subsequent to the release of the respective recommendation which are indistinguishable from zero.

Although the traditional view on capital markets assumes market efficiency, the *EMH* has come under attack from both the theoretical as well as the empirical side recently. As far as theoretical papers are concerned,

[1] For Germany, to the best of our knowledge, no academic study exists which analyzes the investment value of buy recommendations in the long run. However, Reinhart Schmidt earned merits for sensitizing private investors with respect to the performance of stock recommendations. Based on his work, the *Manager-Magazin* published a series of studies on the profitability of buy recommendations issued by German *PFMs* in the early 1990s. The analyses, which focused more on practical issues, found a poor long-run performance for the analyzed magazines.

the literature primarily argues that the premises for market efficiency are not fulfilled. In contrast, researchers argue that the existence of limits of arbitrage and investor sentiment prevents markets from being efficient.[2] The empirical evidence against the *EMH* can be separated into two categories. On the one hand, a large number of empirical studies have found an initial underreaction to news since long-run post-event returns are significantly positive, including dividend initiations (*Michaely* et al. (1995)), earnings announcements (*Ball/Brown* (1968); *Bernard/Thomas* (1990)), share repurchases (*Lakonishok/Vermaelen* (1990); *Ikenberry* et al. (1995); *Mitchell/Stafford* (2000)); and stock splits (*Dharan/Ikenberry* (1995); *Ikenberry* et al. (1996)).[3] On the other hand, there is also ample evidence that stock prices overreact since long-run post-event returns are significantly negative. This evidence has been documented for IPOs (*Ibbotson* (1975); *Loughran/Ritter* (1995)), mergers (*Asquith* (1983)), dividend omissions (*Michaely* et al. (1995)), and new exchange listings (*Dharan/Ikenberry* (1995)).

The empirical evidence concerning financial experts' stock recommendations can be attributed to both camps. Whereas the literature on financial analysts primarily finds an initial underreaction as price drifts usually continue in the direction of the recommendation, second-hand information distributed via the business media is basically associated with an initial overreaction. Thus, in the case in which we have to reject our first hypothesis as long-term returns are different from zero, two scenarios have to be distinguished. On the one hand, if we observe a price drift in the subsequent months according to the direction of the recommendation, this would indicate that stock recommendations of journalists are somehow similar to stock recommendations of security analysts. On the other hand, if we find a significant long-run return contrary to the recommendation, this would indicate that original stock recommendations by journalists do not systematically differ from second-hand information distributed via the business media.

Our *second hypothesis* is motivated by the finding in the literature that sell recommendations are usually associated with a higher investment value than buy recommendations. As far as security analysts are concerned, the literature (see, e.g., *Dugar/Nathan* (1995); *Womack* (1996);

[2] See, e.g., *Kent* et al. (1997); *Barberis* et al. (1998); and *Hong/Stein* (1999) for theoretical models which explain over- and underreaction of stocks prices.

[3] For an excellent discussion concerning the issue of over- and underreaction see *Fama* (1998).

Lin/McNichols (1998); *Michaely/Womack* (1999); *Agrawal/Chen* (2005); and *Fang/Yasuda* (2005)) frequently explains higher abnormal returns for sell recommendations by "conflicts of interest". E. g., *Agrawal/Chen* (2005) state that returns for sell recommendations are higher for analysts with investment banking relations since respective sell recommendations tend to be more credible if they are willing to voice an unfavorable opinion. However, the "conflicts of interest" argument does not apply to our sample, since journalists of *PFMs* do not have to take into account a company's interests, such as investment banking. However, the result of higher investment value of sell recommendations is also documented in the study of *Lidén* (2006) who analyzes the buy and sell recommendations for Swedish journalists. Obviously, journalists are not subject to the usual "conflicts of interest". So, how can one explain this finding for journalists? Firstly, an explanation could be found in the potentially infrequent occurrence of sell recommendations. If the number of sell recommendations is smaller compared to the number of buy recommendations, each rare sell recommendation potentially contains more information value. Secondly, an explanation for a more pronounced initial underreaction for sell recommendations might be found in the fact that private investors are exposed to short sale constraints.[4] Hence, implementing sell recommendations is only possible if a stock is part of an existing portfolio which might only be the case for a rather restricted number of investors. Thus, prices might adjust slowly to new information, since private risk arbitrageurs are restricted in their trading opportunities. This rationale is supported by a model of *Diamond/Verrecchia* (1987) who show the effects of short-sale constraints on the speed of adjustment to private information on stock prices. They find that these constraints reduce the adjustment speed of prices, especially with respect to bad news, thus sell recommendations. Hence, information efficiency is reduced. *Hong* et al. (2000) explain the obvious asymmetry between buy and sell recommendations through the analyst coverage of stocks. They claim that low-coverage stocks react more slowly to bad news than to good news since the former will only be revealed by analysts, whereas the latter will also be made public via increased disclosures, e. g., by the company itself. In consequence, in case we have to reject our *first hypothesis* as stock prices might initially underreact, we predict in our *sec-*

[4] In Germany, online brokerage houses and commercial banks only rarely allow private investors to engage in short-selling activities. Hence, we conclude that within our investigation period, from 1995 through 2003, short-selling was not an option within reach of a common private investor.

ond hypothesis that the absolute value of long-run investment value is higher for sell recommendations as opposed to buy recommendations.

III. Data and Methodology

1. Description of Database

We analyze a sample of all German *Personal Finance Magazines* (*PFMs*) which provide direct stock recommendations in an easy-to-see recommendation box. Within our investigation period from 1995 to 2003, we identify five *PFMs* which fulfill this requirement.[5] Within these five *PFMs,* we hand-collected explicit stock recommendations, i.e., direct buy and sell recommendations of stocks with a German *International Securities Identification Number* (*DE-ISIN*).[6] Since one objective of the study is to analyze whether journalists of *PFMs* are prone to momentum investment strategies (i.e., if they recommend past winners for purchase and vice versa), we further restrict our analysis to stocks which have at least a performance history of six months. Additionally, for each recommended stock, monthly performance data, market capitalization and the price-to-book ratio has to be available via *Datastream*.

Based on the above-mentioned criteria, we hand-collected 2,637 buy recommendations and 1,168 sell recommendations.[7] Table 1 displays descriptive statistics for these recommendations with respect to the number of recommendations, the percentage of stocks listed at the *Neuer Markt,* the average market capitalization tertile and the average price-to-book tertile of a recommended stock in each year as well as for the entire in-

[5] In particular, these are *Wertpapier, Effecten-Spiegel, Börse Online, Telebörse* and *Capital (Capitaldepesche)*. Except one magazine, the *Telebörse,* all publications existed within the entire investigation period. Including the *Telebörse,* however, helps to control for survivorship bias with respect to the analyzed sample of *PFMs*.

[6] In order to construct reference portfolios on size and price-to-book ratios, we had to limit our analysis to the well-specified group of German stocks with a *DE-ISIN*.

[7] Diverging from *Kerl/Walter* (2007) where 2,860 buy recommendations are analyzed, we had to restrict our sample to stocks with a *DE-ISIN* which reduces our sample of buy recommendations to 2,637. In contrast, *Kerl/Walter* (2007) analyze all buy recommendations with a primary listing on the German stock market. Hence, e.g., *Thiel Logistics,* which is a constituent of the MDAX but has a *LU-ISIN,* is not a member of the sample. We selected this procedure for consistency reasons since our characteristics-based benchmark portfolios are populated exclusively by *DE-ISIN* stocks.

vestigation period. A stock recommendation is, e. g., classified in market capitalization tertile three (one) if it belongs to the tertile of the biggest (smallest) stocks as measured by market capitalization of all listed stocks with a *DE-ISIN* at the beginning of a given year. Accordingly, a price-to-book tertile of, e. g., three (one) is assigned if a stock is part of the tertile with the highest (lowest) price-to-book ratios of all listed stocks with a *DE-ISIN* at the beginning of a given year.

As can be seen in Table 1, the number of buy recommendations (2,637) is approximately twice as high as the number of sell recommendations (1,168) for the entire investigation period. Column (1) displays the total number of buy and sell recommendations for each year. This reveals an increasing trend, especially from 1998 to 2001, where the number of recommendations rose from 324 to 552. This increase in recommendations is somehow associated with the increasing relevance of the *Neuer Markt*.[8] Column (4) reveals the importance of *Neuer Markt* stocks during the period mentioned. Whereas in 1998 only 7.41 % of the recommended stocks were listed at the *Neuer Markt,* this percentage increased to 34.96 % in 2001. Thus, as analysts' coverage was low for *Neuer Markt* stocks, our data suggests that it were basically journalists who filled that gap and provided private investors with information on these stocks. Interestingly, when splitting the sample into buy and sell recommendations, 27.23 % of the sell recommendations are stocks listed at the *Neuer Markt,* whereas only 11.83 % of the buy recommendations belong to this group. This might be an interesting finding as anecdotal evidence would suggest that *Neuer Markt* stocks were primarily recommended for purchase and not for sale.

With regard to market capitalization, journalists focus on heavyweights when publishing their recommendations. Furthermore, stocks recommended for purchase are considerably larger than stocks recommended for sale (market capitalization tertile 2.62 as opposed to 2.26). Taking the dynamics of the development into consideration, we can perceive a trend towards recommending big stocks for purchase in the course of our investigation period (the mean market capitalization tertile increases from 2.36 to 2.79). A similar trend, however, cannot be detected for sell recommendations. Finally, the table displays results for the mean group allocation in terms of price-to-book ratio. It is a surprising fact that (contrary to anecdotal evidence) buy as well as sell recommendations are not is-

[8] According to DAI (Deutsches Aktieninstitut e. V.) the number of IPOs at the *Neuer Markt* steadily increased from 14 in 1996 to 174 in 1999.

Table 1

Descriptive Statistics for Buy and Sell Recommendations

Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	No. of Recommendations			% of *Neuer Markt* Recommendations			Mean Market Cap. Tertile		Mean Price-to-Book Tertile	
	All	Buys	Sells	All	Buys	Sells	Buys	Sells	Buys	Sells
1995	342	225	117	n/a	n/a	n/a	2.36	2.42	1.97	2.06
1996	354	247	107	n/a	n/a	n/a	2.32	2.26	1.98	1.95
1997	367	267	100	1.09	1.50	0.00	2.48	1.93	1.74	1.68
1998	324	229	95	7.41	5.24	12.63	2.62	2.22	1.84	1.95
1999	351	259	92	17.66	13.13	30.43	2.68	2.24	1.83	2.10
2000	460	349	111	25.87	16.33	55.86	2.67	2.31	1.74	2.14
2001	552	394	158	34.96	24.11	62.03	2.74	2.27	1.85	2.01
2002	545	346	199	30.83	22.83	44.72	2.75	2.24	1.94	1.83
2003	510	321	189	11.76	9.66	15.34	2.79	2.37	1.79	1.91
1995–2003	3805	2637	1168	16.56	11.83	27.23	2.62	2.26	1.85	1.95

sued on high price-to-book ratio stocks, which are usually associated with fast growing companies. In fact, the mean tertile rank over the entire investigation period is 1.85 (1.95) for buy (sell) recommendations.

In Section II.1 we distinguish between two strands of literature concerning the business media: (i) second-hand information re-transmitted through business media and (ii) original stock recommendations based on self-contained research procedures by journalists. Although one editor-in-chief told us that his employees perform original analyses, it might be questionable whether this statement is credible or just cheap talk. Specifically, it might be that journalists just copy the reports of security analysts and claim the recommendations to be original. Thus, to analyze if journalists primarily copy analysts' research reports, we randomly selected 10 % of the recommendations of our sample and checked via the *Investext* database if they were preceded by analysts' reports within the week prior to the recommendation. However, as far as our random sample is concerned, with 82.16 % the vast majority of the recommendations are not preceded by an analyst report by any of the 450 investment banks, brokerage houses and independent research companies which act as information providers for *Investext*. Additionally, *Elton* et al. (1986) found that only 11.6 % of analysts' recommendations are subject to a change in the recommendation level and that only a change in a recommendation provides markets with new information.[9] Thus, we feel confident to place our work in the second category which analyzes original stock recommendations of journalists.

2. Methodology

In order to analyze whether journalists have predictive abilities when recommending stocks for purchase and sale, one needs to examine the long-run performance of the recommended stocks measured by buy-and-hold abnormal returns (*BHARs*).[10] As a traditional method, researchers

[9] Please note that a related paper, *Kerl/Walter* (2008), looks closer into the decision process of journalists. The paper basically finds that journalists are affected by attention stimuli similar to that of individual investors like recent news, prior performance and unusually high trading volumes.

[10] For calculation of returns, we download the datatype *RI* from *Datastream* which includes adjustments for dividends and stock splits. Throughout the paper, we calculate discrete returns. Additionally, when reporting long-run (abnormal) returns, we never include the return of the event month. Although starting return calculations at the day of publication would mirror an investor perspective more

adjust the buy-and-hold return of the recommended stock itself (referred to as "actual return" in the remainder of the text) by the overall market development to assess whether financial experts possess valuable forecasting abilities in addition to the movement of the market as a whole. To proxy this market development, we choose the Composite DAX (CDAX) and refer to resulting buy-and-hold abnormal returns (*BHARs*) as "market-adjusted returns".[11]

However, this practice of using a broad market index as benchmark has been intensively criticized in the literature recently (see, e. g., *Barber*/*Lyon* (1997); and *Lyon* et al. (1999)). Not only does a broad benchmark ignore characteristics of stocks like the size and the price-to-book ratio of a stock, but in addition *Lyon* et al. (1999) name several causes for misspecification in traditional long-run performance measurement. With respect to the misspecification of the benchmark and, thus, the calculation of normal buy-and-hold returns, the authors primarily discuss the *new listing bias* and the *rebalancing bias*.[12] To avoid these biases, they propose to carefully construct reference portfolios as benchmarks for normal return calculation and thereby obtain well-specified test statistics in random samples. As suggested by the study mentioned above, we use company size and price-to-book ratios as characteristics for the

closely, we refrained from this procedure for two reasons. Firstly, calculating daily returns for the characteristic-adjusted reference portfolios would be prohibitively cumbersome from a computational point of view. Secondly and more importantly, prior research by *Kerl*/*Walter* (2007) has documented severe non-information based price-pressure effects within the initial market reaction of stock recommendations issued by journalists. Hence, by displaying buy-and-hold returns starting with the first complete calendar month subsequent to the recommendation month, we mostly circumvent the problem of biased results due to price-pressure. However, although not included generally in our *BHARs* computation we do specifically report the *BHAR* from the day of publication of a recommendation to the end of the calendar month, named "Eventmonth" in Table 2.

[11] For the calculation of "actual returns" and "market-adjusted returns", in the case of a delisting of one of the recommended stocks subsequent to the publication of the recommendation, we replace the missing post-event return of the sample firm by the return of the broad market index Composite DAX (CDAX).

[12] Firstly, the *new listing bias* arises because in event studies of long-run abnormal returns, sample firms are tracked for a long time, but firms that constitute the broad market index typically include firms which went public subsequent to the event. Since IPOs frequently underperform the market (see, e. g., *Ritter* (1991)), this leads to deflated normal buy-and-hold returns, thus inflating buy-and-hold abnormal returns and creating a positive bias. Secondly, the *rebalancing bias* exists because the compound return of a broad market index is typically calculated assuming periodic rebalancing, whereas the return of a sample firm is compounded without rebalancing, creating a negative bias in *BHARs*.

reference portfolios to control for common characteristics of recommended stocks. The construction of reference portfolios is done as follows.

Firstly, at the beginning of each year in the period from 1995 to 2003, we rank every listed stock with a German *International Securities Identification Number* (*DE-ISIN*) according to its market capitalization. Specifically, we partition our sample into tertiles according to market capitalization. The stocks with a size rank in the first tertile are assigned to the portfolio of small stocks while stocks with a size rank in the second and third tertile belong to the portfolio of medium and big stocks. Secondly, each size portfolio is further partitioned into three price-to-book ratio tertiles at the beginning of each year. For example, stocks of the small stock portfolio are assigned to three portfolios (small value, small blend and small glamour portfolio) according to their price-to-book ratio. Similar procedures are performed for stocks placed within the medium and big stocks portfolio. For each year, the whole procedure results in nine portfolios of equal numbers of stocks.[13] We then follow *Lyon* et al. (1999) to calculate buy-and-hold returns for each reference portfolio. The return of each portfolio represents a passive, equally weighted investment in all stocks constituting the reference portfolio.

To calculate these *BHARs,* we match each sample (or recommended) stock based on its two-dimensional ranking with the appropriate matching reference portfolio.[14] These *BHARs* will subsequently be called "characteristic-adjusted returns". Although this procedure helps to control for the *rebalancing* and *new listing bias,* it does not address the *skewness bias*. For example, *Barber/Lyon* (1997) found that long-run buy-and-hold abnormal returns are positively skewed, which leads to a negative bias in test statistics. To remedy the *skewness bias,* the authors recommend the use of a bootstrapped skewness-adjusted *t*-statistic. Closely following this suggested method, we first calculate a skewness-adjusted *t*-statistic itself. Additionally, we bootstrap these skewness-ad-

[13] The type and number of constituents of each of the nine portfolios in each year remains the same, independently of the period *BHAR* is calculated for. Only if stocks are delisted subsequent to their inclusion in the reference portfolio, we assume that the proceeds are invested in an equally weighted reference portfolio which is rebalanced monthly (see *Lyon* et al. (1999)).

[14] In case of one the recommended stocks being delisted subsequent to the publication of the recommendation, we replace the missing post-event return of the sample firm by the return of the matching portfolio. This assumes that investors decide to place the proceeds of a delisted stock in a portfolio of stocks with similar stock characteristics.

justed *t*-statistics by drawing 10,000 resamples of size m/2 from the original sample of *m* recommended companies.[15] We then use the percentile confidence intervals of the empirical bootstrapped distribution as critical value for the lower and upper bounds.

IV. Empirical Results

1. Investment Value of Stock Recommendations

Table 2 displays (adjusted) returns for several periods prior to and past the publication of a recommendation. The first vertical panel addresses actual returns, whereas the second and the third panel address market-adjusted and characteristic-adjusted returns, respectively.

We first discuss some interesting findings regarding the prior performance of recommended stocks. To this end, we focus on the second vertical panel of Table 2 where market-adjusted returns for both buy and sell recommendations are displayed for the 6-month period and 3-month period prior to the month of publication. For buy recommendations, the table reveals a tendency for journalists to recommend those stocks for purchase which performed better compared to the market in the months prior to publication. For example, the 6-month market-adjusted return prior to the publication is significantly positive at 1.79 %.[16] The analogous tendency of the editorial staff to put underperforming stocks on the sell list is even more apparent. Referring to the 6-month market-adjusted return prior to the publication, journalists recommend stocks for sale which underperform the market by a significant 11.03 %. Thus, we find evidence of editors following momentum investment strategies while recommending stocks both for purchase and sale. However, this tendency is much more pronounced for sell recommendations.

When looking at market-adjusted returns subsequent to publication, we observe, for buy recommendations, a modest but significant market-adjusted return of 4.83 % in the long-run, i. e., in the 24-month period

[15] *Lyon* et al. (1999) state that the sample size of $m/4$ and $m/2$ yield well-specified results. However, in absolute terms, they use a sample size ranging from 200 to 4,000. Thus, for computing the bootstrapped *t*-statistics, we use the sample size of $m/2$ or at least 200.

[16] For the remainder of the text, we will refer to a return as being statistically significant if the respective skewness-adjusted *t*-statistics is statistically significant at least at the 5 %-level (two-tailed test) when comparing it to the bootstrapped, empirical distribution.

Table 2

Long-Run Investment Value for Buy and Sell Recommendations

	Actual Returns			Market-Adjusted Returns (CDAX)			Characteristic-Adjusted Returns (Size, Price-to-book)		
	Mean	*t*-skew	*bs*	Mean	*t*-skew	*bs*	Mean	*t*-skew	*bs*
Panel A: Buy Recommendations ($N = 2{,}637$)									
6-Month Period Before Event	4.03 %	7.02	***	1.79 %	3.41	***	n/a	n/a	
3-Month Period Before Event	2.41 %	6.04	***	1.17 %	3.26	***	n/a	n/a	
Eventhmonth	1.12 %	6.48	***	0.96 %	6.03	***	n/a	n/a	
3-Month Period After Event	0.61 %	1.45		–0.91 %	–2.38	**	–0.19 %	–0.49	
6-Month Period After Event	1.98 %	3.11	***	–1.04 %	–1.84		0.22 %	0.42	
12-Month Period After Event	7.39 %	7.76	***	0.80 %	0.91		1.66 %	1.96	**
18-Month Period After Event	13.38 %	11.23	***	3.60 %	3.12	***	2.29 %	2.03	**
24-Month Period After Event	20.05 %	14.53	***	4.83 %	3.24	***	2.10 %	1.42	
Panel B: Sell Recommendations ($N = 1{,}168$)									
6-Month Period Before Event	–9.83 %	–2.42	**	–11.03 %	–2.50	**	n/a	n/a	
3-Month Period Before Event	–5.84 %	–2.03		–6.91 %	–2.14		n/a	n/a	
Eventhmonth	–2.13 %	–4.07	***	–2.04 %	–4.13	***	n/a	n/a	
3-Month Period After Event	–5.38 %	–4.42	***	–6.81 %	–5.85	***	–6.32 %	–5.69	***
6-Month Period After Event	–5.67 %	–3.32	***	–8.86 %	–5.26	***	–8.34 %	–5.19	***
12-Month Period After Event	–1.19 %	–0.48		–8.86 %	–3.52	***	–9.24 %	–3.78	***
18-Month Period After Event	4.14 %	1.42		–8.62 %	–2.51	**	–11.41 %	–3.22	***
24-Month Period After Event	13.06 %	4.03	***	–7.43 %	–2.01		–12.63 %	–3.35	***

***, ** indicate statistical significance at the 1 %- and 5 %-level (two-tailed test) according to a bootstrapped empirical distribution (based on 10,000 resamples).

after the publication. For sell recommendations, we calculate strictly negative market-adjusted returns for all investigated periods. In particular, the market-adjusted return in the long run is –7.43 % but insignificant. However, all market-adjusted returns between three and 18 months are similar in magnitude and statistically significant. Thus, our results support the finding in *Lidén* (2006) that sell recommendations do contain investment value when investment value is measured by market-adjusted returns.

However, as mentioned before, abnormal return calculations using a broad market index are subject to several biases discussed above. Thus, in the remainder of the paper we focus exclusively on characteristic-adjusted returns to measure the investment value of journalists' recommendations. For buy recommendations, we observe less pronounced characteristic-adjusted returns in the long run compared to market-adjusted returns. The 24-month characteristic-adjusted return, for instance, drops to 2.10 % compared to the market-adjusted return of 4.83 %. In addition, characteristic-adjusted returns are now, although still mostly positive, statistically insignificant for the majority of analyzed periods (with the exception of the 12-month and 18-month period after publication). Hence, we now find much weaker evidence for an investment value in buy recommendations compared to a naïve benchmark adjustment with a broad market index. Thus, with respect to buy recommendations we find support for our *first hypothesis* since abnormal returns are not consistently significantly positive in the months subsequent to the release of buy recommendations. However, unlike the finding in *Lidén* (2006), who documents for Swedish journalists negative market-adjusted returns while employing value-weighted industry indexes as benchmarks, journalists of German *PFMs* at least do not lead readers in the wrong but in a rather neutral direction.

With regard to sell recommendations, employing characteristic-adjusted returns emphasizes that sell recommendations contain tremendous investment value, hence, that journalists have predictive abilities when issuing sell recommendations. In particular, characteristic-adjusted returns in all analyzed periods display large negative and statistically significant returns with a peak in the long run corresponding to –12.63 %. Consequently, our *first hypothesis* has to be rejected for sell recommendations. In contrast, stock prices seem to initially underreact to sell recommendations. As one looks at the magnitude of long-run returns, we find strong support for our *second hypothesis* which predicts the invest-

ment value for sell recommendations to be higher than for buy recommendations. In particular, the absolute value of the investment value is about six times higher for sell recommendations compared to buy recommendations. With respect to the *second hypothesis*, the findings for German *PFMs* are in line with the international evidence for security analysts.

One might wonder why the usage of characteristic-adjusted returns lowers the investment value for buy recommendations and increases the investment value for sell recommendations. This is due to the fact that the value-weighted broad market index CDAX is heavily dependent on large capitalized stocks. As small stocks perform better than large stocks during our investigation period, returns of characteristic-adjusted reference portfolios are usually higher than respective returns of the CDAX. Thus, employing characteristic-adjusted returns affects abnormal returns for buy and sell recommendations asymmetrically.

2. *Determinants of Characteristic-adjusted Returns*

In this section, we analyze the determinants of characteristic-adjusted *BHARs*. This might not only be a decisive question from an academic point of view. Moreover, identifying characteristics of stocks for which journalists show the most predictive ability might help investors to make more educated investment decisions. In addition, although journalists are unable to generate investment value with their buy recommendations generally, it might be interesting to explore whether journalists show predictive abilities with respect to specific types of buy recommendations. This section is organized as follows. Firstly, in a univariate analysis in Table 3, we present *BHARs* for the 6-, 12- and 24-month period for specific sub-groups (with regard to company size, price-to-book, prior performance, sub-periods and stock listings at the *Neuer Markt*) in order to determine the magnitude and significance of characteristic-adjusted returns. Secondly, results derived from the univariate analysis are complemented with evidence from a multivariate regression which can be found in Table 4.

a) Company Size

As has been shown in numerous previous studies (see, e.g., *Banz* (1981); *Fama/French* (1993)), company size plays a decisive role in ex-

plaining (abnormal) returns. Thus, we partition our sample into SMALL stocks and BIG stocks, where SMALL stocks are defined as stocks belonging to the smallest quintile in terms of the market capitalization of the respective group of recommendations (e. g. buy recommendations) in a given year. Analogously, BIG stocks belong to the quintile with the largest market capitalization.

As displayed in Panel A of Table 3, we find mixed evidence for buy recommendations concerning company size as a determinant for *BHARs*. In the first year after the publication, abnormal returns are slightly lower for SMALL stocks than for BIG stocks. However, in the long-run we report a positive but insignificant $BHAR_{24}$ for SMALL stocks with 3.69 %, whereas buy recommendations on BIG stocks are associated with a significant negative $BHAR_{24}$ of –4.52 %. Interestingly, the three remaining quintiles (Others) display a similarly positive $BHAR_{24}$ of 3.76 % compared to SMALL stocks, which is statistically significant. Multivariate results emphasize the finding that BIG stocks are associated with mediocre returns. As can be seen from Table 4, the respective coefficient is significantly negative for the 12-month and 24-month horizon.

We find even clearer evidence in favor of small stocks for sell recommendations. As can be seen from Panel B of Table 3, the investment value for BIG stocks is negligible compared to SMALL stocks for all analyzed periods. Surprisingly, the long-run $BHAR_{24}$ is positive at 2.57 % for BIG stocks. SMALL stocks, however, experience large negative but insignificant $BHAR_{24}$ at –16.63 %. Similar evidence can also be documented for the three remaining quintiles (Others).[17] The key finding that BIG stocks do not have investment value is also supported by multivariate regression results where the coefficient for BIG stocks is positive for all analyzed periods. For the long run (thus $BHAR_{24}$), the effect even turns out to be statistically significant.

b) Price-to-Book

Previous research has documented a decisive role of the price-to-book ratio in explaining (abnormal) returns (see, e. g., *Fama/French* (1993); *Fama/French* (1995)). Thus, we separate recommendations according to

[17] Due to the higher number of constituents, the results of this group, although similar in the level of return compared to SMALL stocks, are found to be significant.

Table 3

Characteristic-adjusted *BHAR* for Specific Sub-Groups

		$BHAR_6$			$BHAR_{12}$			$BHAR_{24}$		
	N	Mean	*t*-skew	*bs*	Mean	*t*-skew	*bs*	Mean	*t*-skew	*bs*
Panel A: Buy Recommendations										
SMALL	523	–1.79 %	–1.32		–1.79 %	–0.75		3.69 %	0.77	
BIG	523	0.62 %	0.68		–0.26 %	–0.19		–4.52 %	–2.34	**
Others	1591	0.75 %	1.07		3.42 %	3.14	***	3.76 %	2.17	**
VALUE	521	3.26 %	2.77	***	4.70 %	2.54	**	8.65 %	2.88	***
GLAMOUR	521	–1.50 %	–1.08		–0.46 %	–0.19		–3.02 %	–0.85	
Others	1595	–0.21 %	–0.31		1.35 %	1.33		1.63 %	0.84	
POSPERF	1296	3.23 %	4.36	***	6.42 %	5.16	***	8.07 %	3.61	***
NEGPERF	1341	–2.68 %	–3.48	***	–2.94 %	–2.66	***	–3.67 %	–1.94	
1995–1997	739	2.50 %	3.17	***	7.08 %	4.85	***	9.29 %	3.04	***
1998–2000	837	–0.79 %	–0.80		1.42 %	0.96		–0.03 %	–0.01	
2001–2003	1061	–0.56 %	–0.60		–1.94 %	–1.40		–1.23 %	–0.48	
NEUER MARKT	312	–9.68 %	–4.34	***	–6.59 %	–1.85		–21.94 %	–5.24	***
Others	2325	1.55 %	2.96	***	2.76 %	3.28	***	5.33 %	3.44	***

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Table 3: Continued

	N	$BHAR_6$			$BHAR_{12}$			$BHAR_{24}$		
		Mean	*t*-skew	*bs*	Mean	*t*-skew	*bs*	Mean	*t*-skew	*bs*
Panel B: Sell Recommendations										
SMALL	230	–6.51 %	–1.40		–9.12 %	–1.54		–16.63 %	–1.47	
BIG	230	–3.34 %	–1.75		–2.11 %	–0.85		2.57 %	0.60	
Others	708	–10.55 %	–5.14	***	–11.59 %	–3.24	***	–16.27 %	–3.29	***
VALUE	227	–11.51 %	–2.33	**	–14.73 %	–2.37	**	–21.35 %	–1.75	
GLAMOUR	227	–5.71 %	–1.79		–5.92 %	–1.42		–4.73 %	–0.67	
Others	714	–8.16 %	–4.38	***	–8.54 %	–2.62	**	–12.37 %	–2.80	***
POSPERF	297	–2.23 %	–0.80		1.30 %	0.34		3.95 %	0.56	
NEGPERF	871	–10.42 %	–5.35	***	–12.83 %	–4.08	***	–18.29 %	–4.41	***
1995–1997	324	–4.36 %	–2.01	**	–6.50 %	–2.08	**	–7.75 %	–1.45	
1998–2000	298	–12.51 %	–2.90	**	–18.62 %	–3.44	***	–25.29 %	–3.26	***
2001–2003	546	–8.42 %	–3.41	***	–5.74 %	–1.46		–8.62 %	–1.37	
NEUER MARKT	318	–15.10 %	–3.80	***	–12.16 %	–2.41	**	–16.74 %	–2.35	**
Others	850	–5.80 %	–3.49	***	–8.14 %	–2.91	***	–11.10 %	–2.49	**

***, ** indicate statistical significance at the 1 %- and 5 %-level (two-tailed test) according to a bootstrapped empirical distribution (based on 10,000 resamples).

Table 4

Multivariate OLS Regression Results for Buy and Sell Recommendations

	$BHAR_6$		$BHAR_{12}$		$BHAR_{24}$	
	Coefficient	*t*-stat	Coefficient	*t*-stat	Coefficient	*t*-stat
Panel A: Buy Recommendations						
SMALL	–0.0267	–1.76	–0.0566	–2.19 **	0.0023	0.04
BIG	–0.0141	–1.20	–0.0475	–2.72 ***	–0.1178	–4.31 ***
VALUE	0.0359	2.60 ***	0.0399	1.77	0.0503	1.23
GLAMOUR	–0.0058	–0.38	–0.0219	–0.89	–0.0239	–0.60
POSPERF	0.0607	5.62 ***	0.1129	6.14 ***	0.1294	4.04 ***
1995–1997	0.0277	2.18 **	0.1090	4.67 ***	0.0900	1.98 **
1998–2000	0.0039	0.29	0.0540	2.54 **	0.0216	0.68
NEUER MARKT	–0.0935	–4.12 ***	–0.0457	–1.26	–0.2477	–5.78 ***
C	–0.0234	–1.81	–0.0641	–3.00 ***	–0.0276	–0.77
N	2637		2637		2637	
Adj. R^2	2.98 %		2.56 %		2.12 %	
Prob (*F*-statistic)	0.0000		0.0000		0.0000	
F-statistic	9.58		10.49		10.41	
Panel B: Sell Recommendations						
SMALL	0.0647	1.31	0.0582	0.90	0.0365	0.38
BIG	0.0355	1.32	0.0581	1.51	0.1360	1.99 **
VALUE	–0.0452	–0.93	–0.0580	–0.91	–0.0548	–0.55
GLAMOUR	0.0106	0.31	0.0004	0.01	0.0251	0.33
NEGPERF	–0.0659	–1.91	–0.1249	–2.34 **	–0.1880	–1.96 **
1995–1997	0.0173	0.54	0.0008	–0.01	0.0280	0.32
1998–2000	–0.0425	–1.18	–0.1246	–2.45 **	–0.1592	–2.05 **
NEUER MARKT	–0.0719	–1.80	0.0084	–0.14	0.0100	0.12
C	–0.0216	–0.62	0.0233	0.39	0.0158	0.14
N	1168		1168		1168	
Adj. R^2	1.02 %		0.88 %		0.74 %	
Prob (*F*-statistic)	0.0013		0.0006		0.0002	
F-statistic	3.21		3.47		3.80	

***, ** indicate statistical significance at the 1 %- and 5 %-level (two-tailed test) according to the parametric *t*-test employing robust standard errors (see White, 1980).

membership of the group of VALUE stocks or GLAMOUR stocks. VALUE stocks belong to the smallest quintile in terms of the price-to-book ratio of the respective group of recommendations (e. g. buy recommendations) in a given year. Analogously, GLAMOUR stocks belong to the quintile with the largest price-to-book ratio.

For buy recommendations, Panel A of Table 3 documents strong evidence in favor of a superior investment value for recommended VALUE stocks. In particular, *BHARs* for VALUE stocks are consistently positive and statistically significant for all analyzed periods. In the long run an average $BHAR_{24}$ of 8.65 % is found for buy recommendations. In contrast, recommended GLAMOUR stocks do not offer comparable returns, since respective buy recommendations earn an insignificant –3.02 % in the long-run. Analogous results can be found for the three remaining quintiles (Others). The finding that recommendations on VALUE stocks exclusively earn positive characteristic-adjusted returns is supported by multivariate results. In particular, the coefficient on VALUE is positive for all analyzed periods and significantly positive for the 6-month period.

With regard to sell recommendations, we find complementing evidence for a superiority of VALUE stocks over GLAMOUR stocks. For example, going short in sell recommendations on VALUE stocks will result in an average $BHAR_{24}$ of 21.35 % in the long-run. In contrast, executing sell recommendations on GLAMOUR stocks will result in a respective characteristic-adjusted return of 4.73 %. However, apart from short-selling recommended VALUE stocks, the remaining three quintiles (Others) are associated with high negative and statistically significant $BHAR_{24}$ of –12.37 % in the long run. Consistently, according to multivariate regression results, sell recommendations on VALUE stocks are associated with negative but insignificant coefficients for all analyzed periods.

One might find a reason for the superiority of value stocks over glamour stocks in the information environment of a firm. In particular, value stocks were pretty much out of favor during our investigation period, whereas glamour stocks attracted most of the attention from the financial community. Therefore, our results contradict the anecdotal evidence that profit opportunities arose for biotech and internet stocks. In fact, our results indicate quite the opposite. A reader of the analyzed magazines was well advised not to invest in glamour stocks but rather in value stocks, because the advice from journalists was particularly predictive for this sub-group.

c) Prior Performance

The literature on the momentum effect (see, e. g., *Jegadeesh/Titman* (1993); *Rouwenhorst* (1998)) shows that stock prices seem to be exposed to short-term and medium-term price drifts. As discussed in Section IV.1 of the paper, journalists seem to follow momentum investment strategies when deciding on stock recommendations, i. e., they have a tendency to recommend past winners for purchase and past losers for sale. Thus, we partition our sample into two sub-groups according to whether a stock has a positive (POSPERF) or negative (NEGPERF) market-adjusted return in the 6-month period prior to the month of publication.

Notably, past performance is a highly selective criterion for buy recommendations. Whereas buy recommendations on past winners are associated with significantly positive characteristic-adjusted returns for all analyzed periods, buy recommendations on past losers are associated with negative returns, statistically significant for most periods. In particular, buy recommendations of stocks with a positive prior market-adjusted return earn a $BHAR_{24}$ of 8.07 %, whereas we document a respective value of –3.67 % for stocks with a negative prior performance. This result is supported by multivariate regression results, which reveal consistently positive and statistically significant coefficients for the dummy variable POSPERF.

Analogously, past performance also serves as selection criterion with respect to the predictive ability of journalists for sell recommendations. For recommendations on past losers, we document both economically and statistically significant characteristic-adjusted returns for all analyzed periods with a peak for the 24-month period following the event. The respective $BHAR_{24}$ is –18.29 %. For sell recommendations on past winners, however, characteristic-adjusted returns are close to zero and turn even positive in the long run with an insignificant $BHAR_{24}$ of 3.95 %. Results are again backed by multivariate regressions as the dummy variable NEGPERF takes on negative and statistically significant coefficients for most analyzed periods.

Our finding that only buy recommendations on past winners earn abnormal returns, whereas sell recommendations are only profitable if a stock performed below average prior to the publication might indicate a very pronounced momentum effect for the German stock market. A number of papers has documented a momentum effect in terms of price drifts for the German market (see, e. g., *Schiereck* et al. (1999); *Glaser/Weber*

(2003)). In particular, *Schiereck* et al. (1999) state that results for the German stock market closely match the findings for other markets documented by *Jegadeesh/Titman* (1993) and *Rouwenhorst* (1998). However, the general momentum effect is very unlikely to explain our result, since we document differences of more than ten percent for buy recommendations and well above 20 percent for sell recommendations for the subgroups constructed on prior performance for the 24-month period. As a possible remedy to control for the momentum effect, one could construct reference portfolios about price-to-book ratio and company size as well as on momentum characteristics. However, we refrained from this three-factor approach for a simple reason: employing a momentum factor would have resulted in 27 reference portfolios instead of nine, hence, this procedure would clearly reduce the validity of results since the potential impact of outliers increases with the decreasing number of stocks in each portfolio.[18]

d) Sub-Periods

In order to assess temporal stability of our results, we partition our nine-year investigation period into three distinct sub-periods; from 1995 to 1997, from 1998 to 2000, and from 2001 to 2003. The first two sub-periods encompass bull markets, whereas the third sub-period is characterized by a bear market.

For buy recommendations, we exclusively observe strictly positive and statistically significant *BHARs* for the first sub-period from 1995 to 1997. In particular, buy recommendations in this period are associated with a large $BHAR_{24}$ of significant 9.29 % in the long run. For the two remaining sub-periods, however, Panel A of Table 3 does not display any statistically or economically significant characteristic-adjusted returns, indicating that buy recommendations in general do not contain investment value past 1997. As previously mentioned, buy recommendations in our first sub-period display particularly high *BHARs*; a fact also supported by multivariate regression results. Whereas the coefficient for the period from 1998 to 2000 is positive but mainly insignificant, the coefficient for the first sub-period from 1995 to 1997 displays significantly positive values for all analyzed *BHARs*.

[18] Increasing the number of portfolios by adding momentum as a third factor would result in 27 portfolios with a number of constituting stocks of each portfolio as low as 19.

A different picture emerges when we analyze sell recommendations. Here, we observe high buy-and-hold abnormal returns especially in the second sub-period from 1998 to 2000, a period of extreme market volatility. For this period, Table 3 displays a statistically significant $BHAR_{24}$ of –25.29 %. This is around three times higher than for the remaining sub-periods which display –7.75 % (–8.62 %) within the first (third) sub-period. Multivariate results reinforce the perception that we find most pronounced returns for sell recommendations in the sub-period from 1998 to 2000, since respective coefficients appear to be significantly negative for most analyzed *BHARs*.

e) Stock Listing at the *Neuer Markt*

As shown in Table 1, the number of recommendations of stocks which are listed at the *Neuer Markt* rises steeply between 1999 and 2001, due to booming stock and IPO markets. Stocks being listed in this market segment represent predominately high tech or internet firms with huge expected growth opportunities but little contemporaneous earnings. Since these stocks differ from traditional stocks, it seems reasonable to separate the results. We therefore partition our sample into those stocks listed at the *Neuer Markt* and those that are listed in other market segments.

We observe huge and negative *BHARs* for *Neuer Markt* recommendations on the buy side. After 24 months, these stocks, although recommended for purchase, lose a significant –21.94 %. Thus, investing in buy recommendations of *Neuer Markt* stocks was devastating for private investors' wealth. Journalists of *PFMs* entirely failed to provide valuable investment advice for this group of stocks. The finding of mediocre returns for buy recommendations of *Neuer Markt* stocks is also confirmed by multivariate regression results. In particular, the coefficients on the respective dummy variable are significantly negative for the 12-month and 24-month period. This evidence becomes even more important if one recalls the low research coverage from security analysts for the *Neuer Markt*. Note, however, that the sub-sample of *Neuer Markt* recommendations on the buy side is quite limited with 312 recommendations. In contrast, all other stock recommendations are associated with positive and significant 5.33 % in the long-run. Thus, the results for the *Neuer Markt* help to explain why it is only the first sub-period from 1995 to 1997 which produces significant abnormal returns for buy recommendations, since at this time recommendations on *Neuer Markt* stocks were virtually

inexistent (see Table 1). In consequence, our data reveals that one would have found a significant investment value also for buy recommendation if *Neuer Markt* recommendations were to be excluded. However, when computing the investment value for private investors, one needs to take all recommendations into account, not just a sub-sample which turns out to be profitable with the benefit of hindsight.

For sell recommendations, both stocks listed at the *Neuer Markt* and those stocks listed elsewhere display negative and, for all periods, significant abnormal returns. Whereas after 24 months and thus in the long run, the group of *Neuer Markt* stocks is associated with –16.74 %, the second group displays –11.10 %. Consequently, within multivariate regressions, the dummy variable for the *Neuer Markt* listings remains insignificant, supporting the notion of no difference between both groups. Thus, we can conclude that recommendations of *Neuer Markt* stocks seem to be unique for buy recommendations, whereas the investment value for respective sell recommendations does not differ significantly from other market segments. In contrast to buy recommendations journalists have provided investment value for *Neuer Markt* stocks on the sell side.

V. Conclusion

Analyzing a large sample of stock recommendations issued by *PFMs* in the period from 1995 to 2003, we find that buy recommendations exhibit significantly positive market-adjusted returns in the long-run when using a broad market index as benchmark (the 24-month market-adjusted return equals 4.83 %). However, these profits can be largely explained by common characteristics of the recommended stocks. Hence, they vanish when using a characteristic-adjusted benchmark (the respective characteristic-adjusted return equals insignificant 2.10 %). On the contrary, we find strong evidence that journalists generate valuable investment advice when issuing sell recommendations. Independently of the type of benchmark adjustment employed, returns are significant (the 24-month market-adjusted return equals –7.43 % and the respective characteristic-adjusted return equals –12.63 %). Thus we find that at least sell recommendations contain investment value for private investors. In addition, we also confirm that the investment value due to a more pronounced underreaction in the first place is higher for sell recommendations as opposed to buy recommendations.

Although buy recommendations contain little investment value in general, we find that buy recommendations on value stocks contain significant investment value for readers (24-month characteristic-adjusted return equals 8.65 %). For glamour stocks, in contrast, journalists show the no predictive ability. Another group of buy recommendations which provides investment value are those on stocks with a positive market-adjusted performance prior to publication. Specifically, buy recommendations which belong to the group of past winners are associated with a significant investment value (24-month characteristic-adjusted return equals 8.07 %). Finally, our results reveal that following buy recommendations for *Neuer Markt* stocks was hazardous for investors' wealth. The usual stock recommendations would have harmed private investors with a mean –21.94 % loss in the 24-month period subsequent to the publication. The remaining buy recommendations listed elsewhere, however, seem to contain some investment value.

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Summary

Long-Run Performance Evaluation of Journalists' Stock Recommendations

This paper evaluates the long-run performance of buy and sell recommendations issued by journalists at German *Personal Finance Magazines* for the first time. We find evidence for journalists providing significant investment value with their recommendations on the sell side since sell recommendations contain high investment value for readers. In contrast, buy recommendations generally contain only little investment value. However, we find that journalists' predictive abilities differ with respect to specific types of buy recommendations. On the one hand, buy recommendations on value stocks and stocks with a positive performance prior to the publication date are associated with significant investment value for readers. On the other hand, executing buy recommendations on stocks listed at the *Neuer Markt* would have resulted in serious losses for private investors. (JEL G11, G14)

Zusammenfassung

Langfristige Performance von Aktienempfehlungen deutscher Börsenmagazine

Der vorliegende Aufsatz untersucht erstmalig die langfristige Renditeentwicklung von Kauf- und Verkaufsempfehlungen deutscher Anlegermagazine. Die Untersuchungsergebnisse legen nahe, dass die Empfehlungen der Journalisten werthaltig sind. Insbesondere ist das Befolgen von Verkaufsempfehlungen anzuraten. Kaufempfehlungen verfügen hingegen im Allgemeinen lediglich über geringen Wert für Privatanleger. Allerdings zeigen die Journalisten besondere prognostische Fähigkeiten bei einzelnen Typen von Aktien. So lassen sich mit Kaufempfehlungen für Substanzaktien und für Aktien mit einem positiven Renditemomentum signifikante Überrenditen erwirtschaften.