Home- Market- Bias! Investment behavior from the perspective of behavioral economics in the Germany stock market

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Abstract
Studies of the investor culture of both private and institutional German investors show a clear overweighting of German equity portfolios compared with international equity portfolios. This overweighting does not stop at institutional investors. It reduces returns and leads to increased risks in the long run. Explanations for this lie in heuristics and distorted perceptions, also called home bias and overconfidence effect, which lead to this investor behavior. This article describes these phenomena from the perspective of behavioral economics using heuristics.

Keywords: *German Stock Market; Private and Institutional Investment Portfolios; Home- Bias; Heuristics; Behavioral Economics; Behavioral Finance*

Classification-JEL: *D91, G17, G41*

Case Study

INTRODUCTION

At the end of 2021, the newspaper test (test, 2022) reported one of the best stock market years since 1970 for investors[i] on the global capital market. But by 2022, the war in Ukraine and higher inflation rates were already dampening the global stock markets again.
A study from 2021 used data from the German Bundesbank to examine the asset allocation of German private investors. The study concluded that equity purchases of German companies were significantly overweighted compared to international companies. German private investors invested 45.7 billion euros in German equities between 2016 and 2021, while 50.3 billion euros (excluding funds and ETFs) were invested abroad.
This was also reflected in the investment result. Since 2016, German equities have generated an average of 3.3% p.a. compared to the rest of the world with an average of 9.6% p.a. Thus, an international portfolio generated almost three times more in returns.
Taking a deeper look, German private investors retrospectively invested 42% of their assets in international equities and 58% in German equities at the expense of investment returns (Whitebox-Redaktion, 2021). From an investment advisory perspective, international diversification across all asset classes and sectors is recommended for long-term investment. This also achieves an optimal risk/return ratio.
The behaviour described is also called home bias. The home bias is shown by a bias in overweight investment activity of a portfolio in the home market compared to a theoretically possible global portfolio. The investment activity is dominated by this behavioral aspect.
German investors, private or institutional, are not subject to government restrictions on the investments they make, as is the case in China or India. In these countries, investors do not have the opportunity to invest internationally and are bound to the domestic market. There are also no tax incentives, such as in Australia, to invest preferentially in the domestic market (Global Investor Portfolio Study | Morningstar, 2022).
Institutional investors also show a similar overweighting in the domestic stock market. German securities law distinguishes between private investors (natural persons) and institutional investors (companies). Institutional investors include credit institutions, investment companies, insurance companies, funds, hedge funds, pension funds, foundations, etc. (BaFin, 2010).
Another study from 2022 (September/October) examined the investment behavior of institutional investors. This study, conducted by the Frankfurt School of Finance and Management, commissioned by Nomura Asset Management Europe KVG mbH. determined the lost return p.a. of institutional investors due to the home bias.
To show the home bias, the share of the German stock market in the world portfolio was determined as a starting point. Using portfolio theory (CAPM model based on Sharpe, Sharpe, 1964), a share of the world portfolio in the German stock market of 2.28%[ii] was calculated. According to this method, investors should hold comparable shares in their portfolios on average over time.
In fact, the share of German equities in the mutual funds and special funds held for August 2022 was 15.25%. The resulting home bias of 12.97% is the difference between the weighting of individual countries according to the market capitalization of domestic equities in investor portfolios and the weighting of the country in a global portfolio (e.g., MSCI World). With regard to investments in the euro area, the following picture emerged: 37.98%

shares from euro countries were invested in institutional portfolios in August 2022. If invested according to the world equity portfolio, the share would only be 9.49%. This results in a home bias of approx. 29%. In 2021, this share was still 33%, but this is due to the significant underperformance of the German stock market compared to the MSCI World. In terms of costs or loss of return, this means 2.7% p.a. for the average institutional investor (Nomura Asset Management Group and Frankfurt School of Finance and Management gemeinnützige GmbH, 2022).

The author's experience as a professional investment advisor is also that German clients like to invest in their own country. Preference is given to investing in shares of the employer based in Germany, in the German share index DAX[iii] and in the rented property in their own city. Although in the event of a weakening of the domestic economy, their own assets, their job and an empty apartment are at stake.

Preferred investments in one's own country are not a new phenomenon but have been studied and confirmed many times in the last decades. Kenneth French and James Poterba (French and Poterba, 1991) already confirmed in their paper that the degree of diversification in the international stock markets is very low and that there is a preference to invest in the domestic market. This was followed by many publications of various researchers who try to explain the phenomenon in their studies. Harald Hau and Helene Rey (Hau and Hey, 2008) provide a good summary. Domestic investors see themselves in an information advantage as well as familiarity effects and information costs of the domestic market explain in summary the home bias best.

As shown above, actual stock portfolio holdings show a strong bias toward domestic stocks despite described advantages of international portfolio diversification. Another study by Michael Kilka and Martin Weber (2000) explains the bias by stock return expectations expressed in probability judgments. Pfister (Pfister, Jungermann, and Fischer, 2016, p. 383) even sees in this a plausibility that home state shares are held disproportionately, and employee shares are not sold after the binding period. Emotional attachment to one's own country or to the company are seen as triggers.

The ability to assess shares more competently is also based on the investor's feeling that he knows more about his country's own company. This behavior is also attributed to the overconfidence effect (Pfister et al. 2016, p.383). Overconfidence occurs when the subjective confidence in one's own abilities is greater than the actual objective, actual performance (Pallier, Wilkinson, Danthiir, Kleitman, Knezevic, Stankov, and Roberts, 2002).

METHOD

Previous studies and results on investments in stock portfolios since 1991 result in weighting biases in favor of the home country- in the so-called home bias (French and Poterba 1991; Hau and Rey, 2008; Kilka and Weber, 2000). Home bias can often also occur in association with the overconfidence effect. Diversifications around the world play an underweighted role, as investments are more concentrated in one's own country, firm, etc. (Sercu and Vanpee, 2007).

The availability heuristic provides further explanations that investors invest more in securities of their own country (Daxhammer and Facsar, 2018 p. 189 ff.; Beck H. 2014, p. 358).

Excursus heuristics

Especially in complex decision problems, humans use heuristics to simplify decisions - a heuristic is a simple rule of thumb. Heuristics also help to form judgments. It is applied spontaneously and intuitively and supports the automatic formation of judgments. However, under certain circumstances, heuristics can also systematically lead to incorrect judgments - so-called biases (Pfister et al. 2016, p.133).

In 1971 and 1972, the availability heuristic was part of the research field of Daniel Kahneman and Amos Tversky. Among the classical heuristics are also the representative and the anchoring/adjustment heuristic. These heuristics were used to explain typical misjudgments (Pfister et al. 2016, p. 133).

The researchers examined what people do when they want to estimate the frequency of a particular category, "such as people who divorce after age sixty" or "dangerous factories." They found that people retrieve examples from each category. A category is judged to be great when recall is easy and fluid. Both researchers defined this heuristic as the process of estimating frequency based on the ease with which example cases are recalled (Kahneman and Schmidt, 2016 p. 164).

Determinates of availability heuristic

Public visibility- coverage of divorce among celebrities can lead to overestimation of divorce rates.
Context of the information- things are better remembered in a particular context.
Time horizon- the memory of an event fades over time.
Personal experience- those who have been involved in a car accident overestimate the likelihood of accidents.
Particularly dramatic incidents- terrorist attacks
Subjective effort- If you ask people to write down 12 situations where they were assertive, those people feel less assertive than people who had to write down six situations. The idea of 12 situations is more difficult than six. People with only six situations thus feel easier and think they are more assertive.

Personal judgment- those who think they have little knowledge of a subject do not rely on their ability to recall examples (Beck H. 2014; Schwarz and Vaughn, (2002); cf. Beck, H, 2014 as cited in Biller et al. 1992).
With a view to the investment behavior of private investors in the context of this heuristic, it becomes apparent (see Daxhammer and Facsar, 2018 p. 198 ff.):

- **Investment selection based on easily retrievable information, such as advertising, recommendation**

Investor no longer subjects the investment to detailed analysis

- **Investment selection based on categorical characteristics such as industry or geographic regions**

The investor, anchored by his personal experiences, directs according to the availability of the category and consequently considers other industries/regions less. Diversified investing becomes very unlikely as a result. Portfolios become unbalanced and portfolio detriment or home bias develops due to the cluster risk created.
According to Daxhammer and Facsar (2018, p. 199 ff.), home bias is less present among institutional investors (among active managers), but still occurs. (As evidenced by studies mentioned above). Inaccurate research on the actual investment activities of invested firms, such as geographic sales distribution can lead to inaccuracies and thus biased asset allocation. Analysis of the respective market environments is also expensive.

OVERCONFIDENCE

People overestimate themselves and their abilities. They judge themselves selfishly and egocentrically. This is evident in certain characteristics, such as driving, as well as in the professional environment, where they consider themselves to be above average in relation to others. Their own contribution to certain results is thus overestimated. People even believe that good things happen to them above average and bad things happen to them below average.

Incorrect estimation of probabilities
Empirical studies among investment bankers, lawyers, doctors and businesspeople show that probabilities are incorrectly estimated via own made answers. Example studies asked for population of cities and contemporaneous estimation of answer between 50%-100%.

Self- Serving Bias
Failures are written off as coincidence and successes are attributed to oneself.

Illusion of control
People estimate the probability of personal success to be higher than they objectively are.

Hubris
People are overly optimistic in their expectations of their own future. This is reflected in the fact that people believe that certain health and safety risks will happen to them less (Beck H. 2014, p. 58 ff).

Overconfidence is evident in investment behavior:

- In the context of asset allocation, investors overestimate their level of knowledge and underestimate the risks. With exaggerated belief, they also tend to be able to control market movements (Daxhammer and Facsar, 2018 p. 379-380).
- Already successful transactions from the past lead to perception distortion and estimate objective probabilities higher and lose risk awareness in return (Daxhammer and Facsar, 2018 p. 164).
- Successful investment behavior is attributed to self-attribution and thus even reinforces the frequency of trading activity. In turn, this investment behavior can be attributed to overestimating one's own knowledge (Daxhammer and Facsar, 2018 p.249; 289)

Professional investors are also subject to overconfidence when making business decisions. Thus, the characteristics listed above and those described further can lead to home bias (Daxhammer and Facsar, 2018 p.299 ff):

- Overinvestment in the shares of one's own company as well as of one's employer.
- Avoided dividend distributions of the companies of the home country

INTERPRETATION OF THE RESULTS

The availability heuristic is a good way to explain the home bias. As an investor, both private and institutional, one assumes that one has more information about one's own country. Even if this is often only a feeling to know more about companies of one's own country or about the company one works for.
The frequency of reports from companies in one's own country can also lead to one being more aware of them and making investments more quickly. This information is also easier to access. For example, increased reports or

newspaper articles about good profits and stock market results in the media lead to more purchases and generate a more competent valuation.
In the context of the conviction to be able to evaluate something more competently, the overconfidence effect also shows up.
More information gives the investor a feeling of security. One knows what one is investing in.
Emotional attachment and familiarity with one's own country and company also play a role (Beck, H. 2014, p 358; Pfister et al. 2016, p.383).

CONCLUSIONS / DISCUSSION

It has been shown that there have been no changes in investment behavior since the recognition of the home bias in the 1990s. Private investors prefer to invest more in their own country. Institutional investors are also subject to the home bias.
From the perspective of availability heuristics, this is an expected behavior. Companies in the home country are easier to call up because they are known locally or have a stronger media presence. A possible trust advantage is obvious. International diversification is neglected for lack of further often cost-intensive research and time. Studies have shown this for many years and it is also reflected in the professional experience of the author.
Reasons for increased investment in German companies could possibly be preferred dividend stocks. German companies often pay out more dividends, and more regularly, than international companies. In periods preceding such distributions, such stocks are also increasingly advertised in the media.
Private investors often also own employee shares in the company they work for. Employees receive shares in addition to their salary from their company, often as an incentive for above-average performance. Company shares have holding periods. What happens to the shares after the holding period is largely unknown. For reasons of loyalty, they may remain in the possession of the employee.
Cross-country taxes (withholding taxes) on the sale of international shares could also discourage international investment.
Solutions to prevent or mitigate the home bias of private investors include better education of investors about the capital market. This also means better advice from the investment industry.
Institutional investors should not be afraid of the costs of proper research into corporate activity in the respective countries. Thus, the geographical distribution of sales in portfolio structuring and the impact should be carefully surveyed (Daxhammer and Facsar, 2018 p.199-200).
However, the availability heuristic is also a rational strategy in terms of lack of information, relying on familiar and known things, in this sense, therefore, the availability heuristic is not irrational behavior, but an efficient heuristic (Beck, H. 2014 p. 359). Not all decisions made in this way need lead to bias.

REFERENCE LIST

[1] French, K., & Poterba, J. (1991). Investor Diversification and International Equity Markets. *NBER Working Paper Series*.
[2] *Global Investor Portfolio Study | Morningstar*. (2022, October 24). Morningstar, Inc. Retrieved December 10, 2022, from https://www.morningstar.com/lp/global-investor-portfolio-study
[3] Hau, H., & Rey, H. (2008). Home Bias at the Fund Level. *American Economic Review*, *98*(2), 333–338. https://doi.org/10.1257/aer.98.2.333
[4] Kilka, M., & Weber, M. (2000). Home Bias in International Stock Return Expectations. *Journal of Psychology and Financial Markets*, *1*(3–4), 176–192. https://doi.org/10.1207/s15327760jpfm0134_3
[5] Pallier, G., Wilkinson, R., Danthiir, V., Kleitman, S., Knezevic, G., Stankov, L., & Roberts, R. D. (2002). The Role of Individual Differences in the Accuracy of Confidence Judgments. *The Journal of General Psychology*, *129*(3), 257–299. https://doi.org/10.1080/00221300209602099
[6] Schwarz, N., & Vaughn, L. A. (2002). The Availability Heuristic Revisited: Ease of Recall and Content of Recall as Distinct Sources of Information. In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and Biases: The Psychology of Intuitive Judgment* (pp. 103–119). Cambridge University Press.
[7] Sercu, P. M. F. A., & Vanpee, R. (2007). Home Bias in International Equity Portfolios: A Review. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1025806
[8] Sharpe, W. F. (1964). Capital Asset Price: a Theory of Market Equilibrium under Conditions of Risk*. *The Journal of Finance*, *19*(3), 425–442. https://doi.org/10.1111/j.1540-6261.1964.tb02865.x

Non-English reference

[9] BaFin. (2010, April). *Rundschreiben 4/2010: Mindestanforderungen an die Compliance-Funktion und die weiteren Verhaltens-, Organisations- und Transparenzpflichten nach §§ 31 ff. WpHG für Wertpapierdienstleistungsunternehmen* [*Circular 4/2010: Minimum Requirements for the Compliance Function and the Additional Conduct, Organization and Transparency Obligations Pursuant to Sections 31 et seq. WpHG for securities services companies*] *(MaComp)*. Retrieved December 8, 2022, from https://www.bafin.de

[10] Beck. H. (2014). *Behavioral Economics: Eine Einführung* [*An Indroduction*] *(German Edition)* (2014th ed.). Springer Gabler.

[11] Biller, B., Bless, H., & Schwarz, N. (1992). Die Leichtigkeit der Erinnerung als Information in der Urteilsbildung: Der EinfluB der Fragenreihenfolge. [The ease of recall as information in judgement formation: The influence of question order] *Tagung Experimentell Arbeitender Psychologen*, *34.*, 380. https://doi.org/10.23668/psycharchives.2086

[12] Daxhammer, R. J., & Facsar, M. (2018). *Behavioral Finance* (2. überarb. u. erw. Aufl.). utb GmbH.

[13] Kahneman, D., & Schmidt, T. (2016). *Schnelles Denken, langsames Denken* [Thinking fast and slow] (Erstmals im TB ed.). Penguin Verlag.

[14] Nomura Asset Management-Gruppe & Frankfurt School of Finance & Management gemeinnützige GmbH. (2022, January 25). *"Home Bias kostet institutionelle Anleger jährlich 2,54 Prozentpunkte."* ["Home bias costs institutional investors 2.54 percentage points annually."] Retrieved December 8, 2022, from https://www.dfpa.info/maerkte-studien-news/home-bias-kostet-institutionelle-anleger-jaehrlich-2-54-prozentpunkte.html

[15] Pfister, H., Jungermann, H., & Fischer, K. (2016). *Die Psychologie der Entscheidung: Eine Einführung [The Psychology of Decision: An Introduction](German Edition)* (4. Aufl. 2017 ed.). Springer.

[16] test. (2022, January 4). *Aktienmärkte und Fonds: So verlief das Jahr 2021*. [Stock markets and funds: This is how 2021went] test.de. Retrieved 7 February 2022, from https://www.test.de/Aktienmaerkte-und-Fonds-So-war-das-Jahr-2021-5835833-0/

[17] Whitebox- Redaktion. (2021, October 6). *„Home Bias" kostet deutsche Anleger über 100 Milliarden Euro Rendite in fünf Jahren*. www.whitebox.eu. Retrieved 7 February 2022, from https://www.whitebox.eu/magazin/home-bias [„Home Bias" costs German investors over 100 billion euros in returns in five years]

Notes

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[i] For better readability, the generic masculine is used. Female and other gender identities are explicitly included as far as it is necessary for the statement.

[ii] Market capitalisation of the world portfolio in mid-August 2022 approx. 80.6 billion euros, the German stock market approx. 1.83 billion euros. This results in a share of 2.28% (=1.83/80.6) for the German stock market in the global portfolio.

[iii] https://www.bundesbank.de/action/en/729724/bbksearch?firstLetter=D