Rethinking the Stock Market Participation Puzzle: A Qualitative Approach

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Abstract

We revisit the limited stock market participation puzzle leveraging a qualitative research approach that is commonly used in many social sciences, but much less so in finance or economics. We conduct in-depth interviews of stock market investors and non-investors in Germany, a high-income country with a low stock market participation rate. Differently from a survey using preset questions based on theory, we elicit views in an open-ended discussion, which starts with a general question about "money", is not flagged as regarding stock market participation, and allows for probing and follow-up questions. Many of the factors proposed by the literature are mentioned by interviewees. However, non-investors perceive surprisingly high entry and participation costs due to a fundamental misunderstanding of the potential for selecting "good" stocks and avoiding "bad" ones and for market timing through frequent trading. Surprisingly, the investors we interview often share these views. However, they find a way to overcome these costs with the help of family, friends, or financial advisors they trust. While the insights from our qualitative interviews are based on a small number of interviewees, we find consistent evidence in a population-wide survey of investors and non-investors.

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1 Introduction

> *Any discipline creates a series of expectations; ultimately those expectations derive from theory. Hence the 'methodology' of looking for the surprise in the interviews, tracing its source in theory, and then trying to identify how the theory might be amended to incorporate the surprise is as applicable to social science in general as it is to economics.* (Piore, 2006, p. 20).

For several decades, financial economists have been puzzled by the relatively low rate of stock market participation, given the presence of an equity premium and the limited covariance of stock returns with consumption (Mankiw and Zeldes, 1991, Haliassos and Bertaut, 1995, Heaton and Lucas, 2000a). While many models and determinants have been proposed (for an overview see Guiso and Sodini, 2013 and Gomes et al., 2021), existing explanations originate from the introspection of the researcher, and they are then usually one at a time tested by examining model-implied relationships between a few variables observable in registry, survey, or experimental data. In this paper, we ask individual investors and non-investors in a structured, but undirected way to explain in their own words "why they do what they do" with regard to "money." Importantly, during 90-minute, in-depth interviews we let interviewees come up with their own statements regarding the stock market and explain their thought process regarding their decision to participate in the stock market or not. We analyze these statements using qualitative research methods, and we then assess their external validity through a population-wide survey. We do find a Piore (2006) "surprise", namely a significant misperception of the level of entry and participation costs required for stock ownership, which is rooted in the widely held belief even among stock market investors that through a lot of knowledge, effort, and time they can significantly shape returns and in particular avoid losses.

Our qualitative research approach, commonly used in many social sciences but much less so in economics or finance, does not restrict interviewees to selecting from pre-specified,

narrowly defined answers derived from existing academic literature. Instead, it allows for an open-ended and interactive dialogue. Rather than inferring likely mechanisms from estimated associations, in-depth interviews enable us to learn directly about interviewees' subjective assessments of relevant factors for investing in the stock market, based on their own experiences, expectations, and perceptions. The interviews provide insights into what is and is not on interviewees' minds when considering the stock market and how various factors interact in their decision-making processes.

We conduct our analysis in Germany, a financially developed country with an average saving rate between 2000 and 2019 of 6.19%, but with only 15% (21%) of households owning individual stocks (mutual funds), based on the ECB 2021 Household Finances and Consumption Survey. Stock market participation is low even among college-educated households with abundant financial resources and even at a time when objective transactions costs have decreased significantly, and when savings accounts offered interest rates of zero percent. The qualitative interviews were conducted at the end of 2021, while our population-wide survey was collected between July and August 2024, allowing validation to occur outside the particular time window and special stock market circumstances of the initial interviews.

We require that all potential interviewees are, in principle, capable of holding stocks, in the sense that they save regularly or have liquid financial assets, have a college degree or a completed apprenticeship, and are employed. We then conduct interviews until the point of data saturation, that is, when new data no longer add new insights regarding the stock market participation decision. Our final qualitative sample consists of 25 interviewees, 16 individuals that do not participate in the stock market and 9 that started investing within a few years before.

We elicit the views of these individuals in an open-ended interview, which starts with a general question about "money" and is not flagged as an interview regarding stock market participation. Interviews are semi-structured, that is, they follow a detailed interview guideline. Differently from a survey based on preset questions, however, interviews are in-

teractive and allow for probing and follow-up questions, using the wording of interviewees to understand the meaning of interviewees' responses (Cairns-Lee et al., 2022).

For each interview, which on average contains about 10,000 words, we match the specific reasons for or against stock market participation mentioned by the interviewee to a detailed coding scheme that we have built, based on factors identified in existing literature and complemented by new factors derived from the interviews.[1] Our scheme consists of three main categories: (i) entry and participation costs, (ii) preferences and beliefs, and (iii) the economic environment and intended equity holdings. Each category is further subdivided into more specific and detailed codes and possibly sub-codes.

The analysis of our coded interviews reveals three surprising insights. First, non-investors believe that a lot of knowledge is needed to enter the stock market and to invest successfully, especially to avoid losses. Before entering the stock market, it is necessary to acquire knowledge on how to identify "good" companies or funds and how to avoid "bad" ones, as well as when to buy and when to sell. According to our respondents, such knowledge exists and is obtainable, but is acquisition requires considerable effort and time.

Second, non-investors also expect that once one enters the market, one needs to be monitoring and trading almost continually to improve returns and avoid losses. This perception of necessary monitoring and trading seems to reduce the attractiveness of equity investing, due to the opportunity costs and mental load of monitoring and the expected high trading costs. Moreover, since costs associated with the selection and monitoring are specific to one stock, and fixed relative to the invested amount, they have the potential to limit the number of stocks non-investors envision to invest in and to thereby reduce the benefits of diversification.

Our third insight is that the recent investors we interview also often believe that knowledge, monitoring, and trading are required to participate successfully in the stock market.

[1]Given the large existing literature, we add only three factors to our coding scheme: "Interest and excitement" (1.2.2.), "Desire for control and independence" (1.2.3), and "Perceived irresponsibility" which we combine with the existing code for liquidity considerations (3.2.2).

Several investors mention the considerable amount of work involved in investing in the stock market, especially when they first start investing. Even when investors delegate portfolio management, they often assume that their advisors are monitoring and trading extensively on their behalf.

We argue that all three insights are rooted in a misunderstanding of how stock markets work, primarily in terms of market efficiency, stock return predictability, and buy and hold strategies versus the prospects for market timing. They potentially contribute to a misperception of the required level of entry and participation costs in the stock market, as well as to suboptimal behavior upon entering.

Our interviews of recent investors suggest that even individuals for whom entry and participation costs are high or who are concerned about the risk of losses can become investors by following the advice of those they trust. A lot of trust in financial matters is placed in close family members, like parents and siblings, as well as in close friends. Given the low participation rate in Germany and people's tendency to associate with others like themselves (homophily), these triggers are unlikely to be present for lower socio-economic status non-investors. Moreover, the prevalence of market misperceptions even among investors limits the possibilities for non-investors to learn about optimal behavior from their stock market active peers. At the same time, many individuals do not trust traditional financial institutions and financial professionals due to perceived high fees, lack of competence, or conflicts of interest. Nevertheless, investors and non-investors welcome relatively new online resources in the form of blogs, YouTube channels, or online discussion boards as well as new online brokers that offer ease of access, transparency, and low costs. The interviews confirm that individuals differ in their interest in learning about and following financial markets, with some finding it exciting and others cumbersome, therefore experiencing different degrees of perceived entry and participation costs.

To validate the key insights from our qualitative interviews, we survey a sample of 7,780 individuals that is representative of the German adult population below the age of 68. We

distinguish between non-investors who have never before invested in stocks and investors who participate in the stock market at the time of the survey, leaving aside past investors. We further make a distinction between recent investors and long-term investors with more than 10 years of equity investment experience.

To assess survey participants' beliefs about entry and participation costs, their understanding of market efficiency, and its implications for acquiring knowledge and information as well as monitoring and trading, we ask participants to agree or disagree with various statements. Some statements reflect the misconceptions emerging from our interviews, while others are grounded in views of market efficiency. We find that the majority of non-investors perceive entry and participation costs to be high and linked to the ability to shape investment outcomes. In response to several knowledge-related statements, especially non-investors indicate that acquiring the knowledge necessary to invest in the stock market requires considerable time and effort. Among investors, there is more heterogeneity, with some acknowledging that less knowledge and effort may be sufficient to enter and participate in the stock market. However, especially long-time investors, seem to also believe that knowledge has an important impact on their investment performance. When specifically asked how closely one has to monitor stocks, mutual funds, or ETFs, at least 70% of non-investors and 50% of investors state that an equity investment requires attention at least once a week.

Our final piece of evidence on non-investors' and investors' beliefs about the impact of knowledge and effort on investment outcomes comes from a vignette study. We present survey participants with three hypothetical investors, namely Analysis-P, Random-P, and Passive-P. All three investors are assumed to invest EUR 10,000 in the German stock market for 5 years. Analysis-P has a lot of financial knowledge and follows stocks and companies closely. Random-P randomly selects one company from each of 10 industries and does not adjust this initial allocation over the 5-year period. Finally, Passive-P knows little about the German stock market and therefore invests in an ETF that tracks the German blue-chip index DAX, which consists of the 40 largest companies. We ask respondents to rank all

three investors based on expected returns, risk, and loss probabilities, but we allow ties. The results suggest that non-investors and investors, in particular recent investors, believe that financial knowledge as well as stock selection and monitoring increase returns and reduce the probability of a loss.

Overall, our survey results are consistent with the insights from our qualitative interviews. Misconceptions about how stock markets work, combined with the difficulty and cost of acquiring financial knowledge and managing one's portfolio, create substantial perceived costs of stock market entry and participation. Many, if not most, investors start investing not because they are free of these fundamental misconceptions but rather because they find a way - through peers or trusted advisers - around these perceived costs of stock market participation.

We contribute new insights to the extensive literature on stock market (non)participation and reveal previously unknown connections to other financial puzzles. We demonstrate that fixed costs of entry and participation play a significant role in people's perceptions (Haliassos and Bertaut, 1995; Luttmer, 1999; Vissing-Jorgensen, 2002). However, these costs have an under-appreciated component linked to misperceptions about how stock markets function, particularly in terms of efficiency, predictability, and prospects for market timing. These misperceptions are present not only among non-investors but also within a subset of investors. The lack of understanding we document aligns with recent evidence from U.S. households and even financial professionals (Andre et al., 2023), indicating gaps in their mental models regarding the concept of equilibrium. This is also reflected in the ongoing importance of active investment recommendations and strategies among professionals (Schoar and Sun, 2024).

Our findings resonate with the results of Briggs et al., 2021, who, using a structural model estimated on Swedish registry data, show that large entry barriers are necessary to explain non-participation. While their model quantifies the distribution of implied entry costs, it does not specify the exact nature of these barriers. Our qualitative approach complements

their findings by providing deeper insights into the beliefs that drive these perceived barriers. Specifically, we highlight how misconceptions about asset selection, market timing, and loss aversion (Tversky and Kahneman, 1991) create a perceived need for research, monitoring, and trading, thereby inflating perceived entry and participation costs. This suggests that combining both structural and qualitative approaches can provide a fuller understanding of the barriers to stock market participation.

Additionally, we show that many investors share the same misperceptions as non-investors regarding the stock market. Our findings suggest that non-participation is linked to other puzzles, such as over-trading by participants (Barber and Odean, 2000, 2001), under-diversification (Blume et al., 1974; Huberman, 2001), and home equity bias (French and Poterba, 1991; Ivković and Weisbenner, 2005; Tesar and Werner, 1995). Our findings support much of the literature on factors that can mitigate perceived entry and participation costs and encourage stockholding, such as trust in the stock market (Guiso et al., 2008), social interactions with knowledgeable peers (Duflo and Saez, 2002; Hong et al., 2004), and advice from trusted financial advisors (Gennaioli et al., 2015).

With regard to risk-return trade-offs, we find that the vast majority of investors and non-investors perceive the equity premium to be positive. Additionally, we do not find strong evidence that the perceived covariance between stock returns and consumption plays a dominant role in stock-holding decisions, consistent with the findings of Chinco et al. (2022).

We also contribute to the growing interest in economics and finance in obtaining data directly from economic actors, often in terms of their preferences and beliefs, and typically through surveys to gain insights into what is on top of their minds (see Ferrario and Stantcheva (2022); Haaland et al. (2024) for an overview). Choi and Robertson (2020) use a survey to confront individuals with lessons from existing research on stock market participation. Our approach differs in that we use semi-structured interviews, allowing participants to articulate their own reasons for stock market non-participation within the broader context

of discussions on "money" and related matters. Throughout the interviews, follow-up questions are crafted using the interviewees' own expressions, particularly for terms that might otherwise be technical. This approach lets the actors speak, allows them to confirm insights also present in existing research, but also to surprise us with considerations that academics have not thought of to date. This provides deep insights into not only the importance but also the specific nature of factors discouraging stock market participation, encouraging overtrading among participants, and inducing under-diversification. In a follow-up study to this paper, Chopra and Haaland (2023) use a chatbot to explore the potential for automating and enriching the collection of open-text survey responses, using stock market participation as an illustration of their method.[2] They find that participants often provide 'superficial' explanations when asked only one open-ended question about barriers to stock market participation by a chatbot. However, when presented with follow-up prompts, some of which ask individuals to consider the "complexity of stock markets" or the "accessibility of resources and support", participants' responses align well with our findings.

Finally, we contribute to the relatively small body of qualitative research in finance and economics (Lintner, 1956; Blinder et al., 1998; Bewley, 1999; Lerner and Tirole, 2002; Brav et al., 2005; Tuckett and Taffler, 2012). As we discuss in detail below, the field's preference for deductive reasoning and reliance on quantitative data has likely limited the number of qualitative research studies. By applying rigorous qualitative research to stock market participation, we present a research approach that can also be adapted to other questions, in particular in household finance and behavioral economics.

[2]Initial findings from our interviews were presented and discussed during a PhD workshop at the University of Copenhagen, co-organized by Chopra and Haaland in March 2023.

2 Method: Background and Approach

Qualitative research serves as one of the fundamental approaches to improve the understanding of complex phenomena within the social sciences.[3] It typically involves the in-depth study of a small set of individuals, firms, or events, seeking detailed knowledge about these specific cases, often with the goal to understand why an actor does what she does or why and how something happened (National Science Foundation, 2004). Whereas many different paradigms and procedures co-exist under the umbrella term of qualitative methods, in-depth interviews as employed here are a common form to collect qualitative data.

In traditional, quantitative research in economics, researchers collect data to test specific hypotheses derived from existing theories or from the introspection of the researcher. Similarly, when designing surveys, the questions are predetermined in terms of both the information they seek to inquire about and the manner in which this information is obtained. These approaches rely on the assumption that the conceptual frameworks from which hypotheses or survey questions are derived are applicable and, in many cases, are known to and understood by survey respondents.

Most qualitative research in contrast approaches data collection without a preconceived framework but with the objective to learn directly from the economic actors about their beliefs, perceptions, and experiences, to understand their decision process, and to reconstruct the assumptions and mental models individuals use when making decisions. Data collection and preliminary analyses follow a circular process, and new data or cases are added until the patterns derived from the data reach a stage of saturation, meaning that additional data or cases do not reveal new aspects.

Such patterns can then be used as input to develop new models or theories where none exist as might be the case with new social phenomena. Alternatively, in a more deductive approach that we apply here, the patterns from qualitative research can be compared to

[3]Standard textbooks for qualitative research include Maxwell (2005) and Creswell (2014). For a recent survey, see Mohajan et al. (2018).

existing and possibly competing theories. While the limited number of cases studied and the non-random case selection typically do not allow for formal statistical testing, the consistency of the documented patterns with existing models and theories can be evaluated, and thereby increase or decrease support for specific theories. Even for well-researched phenomena, qualitative research can add to or refine established theories or models, when these fail to fully explain reality or when they are too coarse to provide policy guidance. The impact of qualitative research can be further increased, when - in a mixed-methods approach that we also leverage here - insights from qualitative research inform and are combined with the collection and analysis of new quantitative data from a larger and statistically representative sample.

We first provide a brief overview over the origins and evolution of qualitative research and discuss a few important application in economics research. We then present our application of qualitative research to better understanding individuals' stock market participation decisions.

2.1 Qualitative Research: Origin and Applications in Economics

Given the perceived dichotomy between qualitative and quantitative research, it is interesting to briefly consider the evolution of qualitative research. The origin of qualitative research as a research method can be found in Vienna of the 1920s, where psychologists like Karl and Charlotte Bühler were experimenting with extending the use of in-depth interviews and introspection from a few highly trained experts to man-in-the-street lay people (Hounshell, 2022). At the same time, economists such as Otto Neurath were keen to apply quantitative methods and statistical analysis to economic questions. Indeed, it was during a large quantitative study of the effects of unemployment in interwar Vienna, that Paul Lazarsfeld, a mathematician and later considered the father of modern empirical sociology, and his wife, Marie Jahoda, a psychologist, "uncovered" the importance of using face-to-face interviews

instead of preset survey questions when collecting data from the general population.[4]

While Lazarsfeld's objective was to collect better, i.e., more accurate, data for subsequent quantitative analysis,[5] his qualitative interview-based approach was at the time criticized by some economists like Neurath who doubted that researchers can trust what individuals tell them "about why they do what they do and why they think what they think" (Hounshell, 2022, p. 626). However, Hayek and other Austrian economists, who opposed the statistical analysis of economic data, endorsed Lazarsfeld's approach arguing - consistent with methodological individualism - that "the things are what the acting people think they are" (Hayek, 1955, p. 27-28).

As Lazarsfeld continued his research on in-person interviews and the "art of asking why" Lazarsfeld (1935), his student at Columbia University, Brian Glaser, developed "grounded theory" as an inductive approach that uses qualitative data not to test existing theories but to discover new theories through conceptualization of empirical patterns (Glaser and Strauss, 1967). While grounded theory has become the main application of qualitative research in the social sciences, it has been met with scepticism by economists given its unclear distinction between theory creation and theory verification as well as the dominance of the hypothetical-deductive paradigm in economics research.

Although this scepticism has likely limited the role qualitative research has played in economics or finance (Lenger, 2019), several important applications do exist (see Starr (2014) for a survey). In an early but important application, Lintner (1956) investigates the dividend policy of public firms. His interviews of 28 firms uncover a surprising reluctance of firms to change the level of dividends. Lintner uses the insights gained from the in-depth interviews to formulate a simple model of dividend policy. More recenlty, Brav et al. (2005) replicate Lintner's work using a mixed method approach consisting of in-depth interviews of small set

[4]Their (Jahoda et al., 1933) joint study "The Unemployed of Marienthal" is still considered a classic example of a mixed methods study.

[5]Friedman et al. (1963) and Romer and Romer (1989) also use qualitative data as input into quantitative analysis.

of firms as well as survey responses for a larger sample of firms.

Similarly, in labor economics, Piore (2006) uses qualitative research to generate new hypotheses, leaving the evaluation and testing to traditional quantitative methods. Bewley (1999) shows that even in the presence of multiple theories and models of downward rigidity of wages, qualitative research can uncover important factors, such as fairness, that are typically not recognized by standard economic models. Finally, Blinder et al. (1998) test different theories of price stickiness by first deriving the chains of reasoning implied by different economic theories and then comparing them to what 200 corporate decision makers say in in-depth interviews and thereby examining which theories have more or less support.

2.2 Our approach

We apply qualitative research to the question of stock market (non-)participation. Our goal is to understand to which extent the reasons revealed in a small number of in-depth interviews with both non-participants and recent stock market participants align with the models and determinants of stock market participation established by prior research. Additionally, we aim to identify new and unanticipated aspects that might arise if existing models are incomplete or mis-specified: To address concerns about the generalization of our most important findings, we use these findings to design and conduct a survey based on a large and representative sample enabling us to perform traditional statistical analysis.

Our approach thus combines qualitative and quantitative methods and consists of several distinct steps: i) qualitative sampling, ii) in-depth interviewing, iii) analysing the content, and iv) designing and conducting a representative survey. The first two steps are conducted in close collaboration with a market research firm with substantial qualitative research experience. The market research firm was responsible for recruiting interviewees, conducting the interviews and transcribing them.

2.2.1 Qualitative sampling

As is common in qualitative research, we apply a purposeful sampling approach. That is, our sampling is not determined by a desire to reflect societal representativeness but instead to better understand why even educated individuals that actively save do not invest in stock market. Therefore, in order to be included in our qualitative research study, interviewees must i) be between 25 and 54 years of age, ii) have completed college or a 2-3 year vocational training program, iii) be employed (including parental leave) and iv) actively save money every month or own financial assets. We also ensure a balanced gender representation.

Importantly, we include individuals that do not participate in the stock market, for short, non-investors, as well as stock market participants, for short, simply investors. The inclusion of investors allows us to understand whether and how the obstacles highlighted by non-investors are overcome by investors, or if investors have learned to cope with them in various ways. In particular, we require that investors in order to be included are recent investors, meaning that they have become investors within the two years prior to the interviews, so that they are more likely able to recall the circumstances of their decision to invest in the stock market.

Interviewees are recruited from a pool of individuals that occasionally participate in market research studies. Specifically, individuals are invited to participate in an approximately 90-minute-long online interview and conversation around money and finance. However, the invitation does not state our particular research topic of stock market participation. Individuals are offered a fixed compensation of EUR 55. Interested individuals can participate if their self-reported data meets our sampling criteria listed above.

Finally, the total number of interviewees is determined by the concept of saturation. That is, interviews continue until new data begin to echo previously mentioned themes and potential mechanisms related to stock market (non-)participation (Saunders et al., 2018; Glaser and Strauss, 1967). We provide a detailed description of the 25 interviewees that

participated in the data section below.

2.2.2 Interviewing

All interviews are conducted via video conference by one of two experienced interviewers from the market research firm Seissmo, Mannheim, Germany. The interviews are in the form of guided conversations following a semi-structured interview guide that we developed with input from the experienced interviewers from the market research company (see Appendix B.1 for an English translation of the interview guide).

Following a brief introduction, interviewees are asked about their associations with the word "money." Their answers which are noted on several post-its on a flip chart serve as introductions to the three topic areas i) spending money, ii) saving money, and iii) participating in the stock market. While interviewers are prepared to introduce investing in the stock market, if necessary, in all cases interviewees mention stocks or equity funds on their own.

Interviewees are then asked about their associations with the stock market, stocks, or equity funds, using open-ended questions and interviewees' own words and labels. Non-investors as well as investors are asked about the opportunities and concerns they perceive when considering investing in the stock market and how concerns could be addressed. While interviews are free flowing and conversation-like in style, the interviewer directs the conversation to certain questions, such as how interviewees would explain the stock market to an elementary school student or an alien (Guitard et al., 2005). Investors are also asked how they became investors and how they evaluate their experience as stock market investors up to the point of the interview.

It is important to note that interviewers are careful to use the wording and expressions interviewees introduce and ask follow-up questions to understand what is meant and to explore interviewees' feelings, assumptions, and reasons associated with their financial choices as well as to understand interviewees' relevant experiences, including during their child-

hood, the information sources they consult, as well as the influence of their peers or their environment more broadly. That is, differently from empirical work with field, survey, or experimental data, we do not have to make assumptions about interviewees' mental models, information sets, or the rationality of their preferences and beliefs. For example, when an interviewee states that a lot of knowledge is needed to invest in the stock market, we inquire about the type of knowledge she believes is important, what knowledge she has and does not have, and, most importantly, why she believes a lot of knowledge is necessary and what the consequences of investing without sufficient knowledge are. Finally, our 90-minute long interviews also enable us to observe how the complex interplay of, for example, personal traits, past experiences, peers, and social media shapes the decision whether to participate in the stock market.

2.2.3 Analysing the content

The objective of our analysis is to compare the determinants of stock market participation suggested by our interviewees to those proposed by existing research (Hyde, 2000). This approach allows us to gauge the support our interviews provide for existing models and hypotheses as well as to detect reasons for participation that might have been overlooked by existing research. Our analysis also aims to characterize the nature and the origin of determinants of stock market (non-) participation, which can have important policy implications for how to address them.

After reviewing the vast literature on stock market participation, we distinguish between three main categories of determinants: i) entry and participation costs, ii) preferences and beliefs, and iii) the economic environment and the intended equity holding. Entry and participation costs, which include both monetary and non-monetary costs as well as skills and knowledge needed to participate, play a particularly important role as they can explain non-participation for rational agents with standard risk preferences. Preferences essentially model the transformation from mainly monetary quantities, such as returns, into comparable units

of utility, thereby accounting for an individual's attitudes towards risk, losses, time as well as cultural norms. Beliefs capture individuals' assumptions about the distribution of returns as well as individuals' trust, including in financial institutions. Finally, the last category encompasses background risks, consumption commitments, and borrowing constraints as well as the explicit comparison with other asset classes or the mention of (low) intended holdings, which is, of course, an intermediate outcome in the final decision whether to participate in the equity market.

We subdivide each category further into the sub- and sub-sub-categories suggested by the literature (see Appendix B.2 for details). We then use these categories, which we also refer to as codes, as labels to the transcribed content of our interviews that specifically relates to the stock market and the decision to participate or not. In particular, we review each statement by interviewees, consisting of one or multiple sentences, and label it with all applicable codes.[6] When during this process we discover new determinants of stock market participation or new aspects of existing determinants, we revise the coding scheme accordingly and revisit and, if necessary, recode previously coded sections. Given the large existing literature on stock market participation, we identify only three determinants of stock market participation. We therefore modify our coding scheme by adding two codes "1.2.2. Interest and excitement" and "1.2.3. Desire for control and independence" and by combining "3.2.2. Perceived irresponsibility" with the existing code for liquidity considerations.

While the frequency distribution of the labels applied to interviews of non-investors and investors are suggestive of the determinants of stock market participation among our interviews, we use qualitative content analysis and typification to analyse the contents of the interviews in greater depth (Mayring, 2010, 2015, 2021; Kuckartz, 2019). To assure accuracy of the analysis, at least three authors independently review all statements assigned to each

[6] All coding is performed in MaxQDA, a standard software package for qualitative research. The maximum context unit is a section, delineated by the space between a question or comment by the interviewer and the subsequent response of the interviewee. For clarity, certain sections that may not be fully understood without additional context are enriched with comments regarding the preceding question or contextual information.

code, paraphrasing and summarizing them. Furthermore, each of the three authors identifies typical and surprising statements for each code. In addition to analysing the interview content through the perspective of the coded categories, we also apply a case perspective which examines the interaction of different categories within one interviewee.

In a final step, the individual results of the qualitative content analysis and typification are discussed among the authors. After achieving intersubjective agreement of the interpretation, the findings are synthesized into the main conclusions with respect to the alignment with existing theories and models as well as the novel insights into existing or new determinants of stock market participation as well as their interactions.

2.2.4 Designing and conducting a representative survey

Even though our conclusions are based on consistently observed patterns, our qualitative sample is small and not representative. We therefore design a population-wide survey to verify whether in particular the novel insights emerging from our qualitative analysis apply to the stock market participation decision in general.

In the survey, we ask survey respondents to agree or disagree with statements as well as arguments made by the interviewees in our qualitative interviews. We also test the paradigms and mechanisms we reconstruct from the qualitative interviews. The large number of observations as well as the representative sampling framework allow us analyse the survey data, including comparisons between investors and non-investors, with traditional statistical methods.

3 Data and Institutional Setting

We conduct our qualitative research project in Germany at the end of 2021. We briefly discuss the institutional and macro-economic environment around the time of our qualitative research. We then introduce the 25 individuals that participate in our qualitative interviews.

Finally, we present summary statistics for our survey sample.

3.1 Institutional Setting

Germany is high-income country with a GDP per capita of USD 58,757 in 2021 (based on purchasing power parity (PPP)) and a savings rate of the household sector of 10.30% (averaged between 2000 and 2019 (OECD, 2024)). For comparison, U.S. GDP per capita is USD 69,227 in 2021, and the average saving rate between 2000 and 2019 is 6.19%. Even though Germany has a high saving rate, stock market participation is low. Based on an annual survey of about 28,000 individuals, the Deutsche Aktieninstitut (DAI) estimates that only about 17% participate directly or indirectly through mutual funds or ETFs in the stock market in 2021 (German Stock Institute, 2023).[7] The ECB's Household Finance and Consumption Survey reports that in 2021 about 15% (21%) of households in Germany own individual stocks (mutual funds), suggesting a somewhat higher participation rate (European Central Bank, 2023).[8]

Low stock market participation is not unique to Germany. According to ECB survey data, the Euro zone participation rates are 11% and 13% for individual stocks and mutual funds respectively.[9] In comparison, according to the Survey of Consumer Finances, about 53% (58%) of U.S. households participate directly or indirectly in the stock market in 2019 (2022), while the Investment Company Institute reports that 46% (52%) of U.S. households own mutual funds in 2019 (2022), most often as part of their tax advantaged retirement savings plans.

[7]Participation is particularly low among individuals in former East German states who account for about 15% of the total population. However, even among those living in former West Germany the participation rate is only about 20% in 2021.

[8]Using 2013 data from the Survey of Health, Ageing and Retirement in Europe (SHARE) that focuses on households with heads older than 50, Kaustia et al. (2023) report household-level participation rates in Germany of about 30% for direct and indirect participation and 12% for direct stock ownership. At the same time, for 2021, the DAI reports individual-level participation rates of 7% for stocks and of 13% for mutual funds and ETFs.

[9]Within the Euro zone, only Finland and Luxembourg have higher participation rates than Germany. Outside the Euro zone, Sweden, Denmark, and Switzerland have direct and indirect participation rates close to or exceeding 50% of households (Kaustia et al. (2023)).

Retirement income in Germany is based on three pillars: i) the pay-as-you-go public pension insurance, with mandatory contributions for all employees and their employers and an average income replacement rate of about 55%, ii) optional employer-sponsored pension plans covering about 50% of the working-age population, including traditional defined benefit plans that have become rare as well as less generous employer-subsidized pension insurance products with average monthly contributions of about EUR 120, and iii) individual retirement savings and private pension products.

To increase individual retirement savings, in 2002 Germany introduced a capital-based government-subsidized private pension program with tax-deferred contributions, known as "Riester Rente". While the program is modest with a maximum annual contribution of EUR 2,100, a mutual-fund based strategy is one of the available investment options. However, according to official statistics, in 2020, only about 25% of working-age Germans contribute to this pension program and receive government subsidies or tax benefits, and only about 20% of contributions go to mutual fund providers, leaving the stock market participation rate largely unchanged (Federal Ministry of Finance (2023)). Instead, life and pension insurance products as well as traditional savings products receive about 55% and 20% of all contributions. The general preference of German households for insurance products is also apparent from the ECB's Household Finance and Consumption Survey, according to which in 2021 about 40% of households in Germany have a private voluntary life or pension insurance.

Finally, even though stock market participation is relatively low, public equity markets have existed in Germany for more than 150 years. According to World Bank data, in 2021, there were approximately 450 publicly listed firms in Germany, with a total market capitalization amounting to about 50% of the country's GDP. The average realized annual equity premium between 1980 and 2021 is 6% for the German equity market, and German households have access to a large number of equity mutual funds and increasingly ETFs that offer access to German, European, and global equity markets.

3.2 Data: Interviews

Our interviewees are sampled with the purpose to learn about individuals' decision to participate in the stock market. As discussed in Section 2, all interviewees have to meet certain education and income levels. In addition, we select only interviewees that reside in former West Germany to abstract from the possible impact of past exposure to communism (Laudenbach et al., 2024).

Table 1 lists all 25 interviewees, consisting of 16 non-investors in Panel A and 9 recent investors, that is, investors that entered the stock market within two years before the interview, in Panel B.[10] For each interviewee, we state their pseudonymized first name, their gender, and age. We also report characteristics we learned from the interviews, including their marital status, the number of children, household size, their highest education, their occupation at time of the interview, as well as their approximate monthly savings amount.

In the last column of the table, we provide the word count for each interview. All interviews are conducted in December 2021 and last 90 minutes on average ranging from 85 to 95 minutes. The interviews are recorded and the recordings are transcribed word-for-word, with notations of special expressions and interruptions. While the number of words varies across interviews, the average interview consists of about 10,000 words, without a noticeable difference between the averages for non-investors and investors. As the last column reveals, we apply slightly more than 100 codes to the average interview, with the number of codes being about 20% higher for investors compared to non-investors.

3.3 Data: Survey

To test which insights from our interviews apply to the wider population, we survey 7,780 individuals living Germany via the polling firm Bilendi between July and August 2024. Bilendi

[10] One of the investors, Uta (17) states during the interview that she has been participating for seven years and therefore longer than our preferred two-year window. We also learn during the interview that Oliver (16) was born in former East Germany but now lives in former West Germany and is going through bankruptcy at the time of the interview. We decide to keep both subjects in the sample.

operates an online panel of about 300,000 individuals out of which it draws customized samples for its clients. Participation is compensated and incentivized through a bonus program, resulting in an average response rate of 35%. A registration key ensures that no respondent polls in the survey multiple times.

To ensure that survey participants pay attention to the details of each our questions, we incorporate two attention checks in the survey. Participants that fail the first attention check receive a warning and must correct their response in order to continue. For all participants that fail the second attention check the survey is terminated, their incomplete answers are removed from the survey, and participants do not receive any compensation for their participation.

Participants are selected based on specific quota such that the survey is representative of the adult population below age 68 in Germany regarding gender, age profile (18-29, 30-39, 40-49, 50-59, 60-67 years), residency by state, including former East Germany, and net household income per month (<€1,000, €1,000-€2,000, €2,000-€3,000, €3,000+).

We label an individual an investor if the individual participates in the equity market directly (through the ownership of stocks) or indirectly (through the ownership of equity mutual funds or ETFs) at the time of the survey. Among investors, we further distinguish between recent investors with up to two years of experience, intermediate investors with 3 to 10 years experience, and long-term investors with more than 10 years of experience. Individuals that do not invest in the equity market at the time of the survey are either non-investors that have never invested in the equity market or past investors that participated in the past but no longer do. In most of our analysis below, we contrast investors and non-investors.

Table 2 reports summary statistics and reveals that about 39% of individuals surveyed are investors. The relatively high participation rate seems to be due to the almost 10% of participants that entered the stock market recently as well as to the exclusion in our survey of individuals older than 67 whose participation rate is low. About 50% of individuals have

never invested in the stock market, while about 11% are past investors. Comparing investor and non-investors, we can see that non-investors are less likely to be men, married, college-educated, or employed, and have lower income and lower net-worth.

4 Results

Before presenting our main results based on the qualitative content analysis of our in-depth interviews as well as on the quantitative findings from our large-scale survey, we provide an overview over the codes which we apply to our 25 interviews in preparation of the qualitative content analysis.

Table 3 reveals that all codes and therefore all aspects that prior research on stock market participation has suggested are applied at least once across all interviews, as a result of statements made by interviewees, who are not prompted on the basis of existing theories. Of course, the frequency with which different codes are invoked varies. In line with common modeling practice as well as prior survey results, codes belonging to Item 1: Entry and Participation costs, in particular in non-monetary form as well as in form of the perceived need for knowledge, feature prominently in the interviews of investors as well as non-investors.

Furthermore, in addition to preferences, in particular attitudes towards risk, losses, and time, interviewees discuss the returns as well as risks associated with stock market participation quite frequently (Item 2). Finally, among the codes belonging to Item 3, the size of the intended equity holdings is mentioned most frequently.

While the results from our first step confirm and support existing and new determinants of stock market participation, the most surprising aspect emerging from the qualitative content analysis of our interviews is that interviewees perceive entry and participation costs to be extraordinarily high as they misunderstand how equity markets work. This misunderstanding of equity markets seems to also contribute to the under-diversification and over-trading puzzles that the previously literature has documented among many stock market investors.

Our insights into what determines entry and participation costs and what allows some but no others to enter the stock market emerges from our analysis of the back and forth between interviewer and interviewee. Of course, these new insights are derived from a small set of individuals, and we therefore employ our much larger survey sample to test their generalizability. We group these insights into two main themes related to i) the perception of entry barriers and of net benefits of stock market participation and ii) the path to becoming an investor. In each case, we first provide evidence from the qualitative content analysis of our in-depth interviews, followed by results from our representative survey.

4.1 The perception of entry barriers and of net benefits of stock market participation

4.1.1 Qualitative evidence

Our interviews are conducted under the theme of money and finance without an explicit reference to stock market or equity investing. However, all interviewees, including all non-investors, mention equities as one possible form of investment. We first discuss the perspective of non-investors before turning to the views of investors.

Non-investors seem generally aware of the higher returns equity investing can offer, but also acknowledge the price fluctuations and potential losses associated with investing in the equity market. Many non-investors believe that annual equity market returns are between 5 to 10% (Resit (14, 246), Ralf (10, 181), Ingrid (9, 210), Pia (6, 204-205)), which they perceive as attractive, in particular given the zero-percent interest rate environment at the time of the interviews in late 2021. Our interviewee Ralf (10, 179) expresses the general positive perception of expected stock market returns well:

> *Yes, in that respect of course, because it's simply the only form of investment at the moment, from what we're seeing, where it's also possible to get a good return at the end of the day or year. All other forms of savings are worth almost*

nothing, due to this interest rate policy and all that. Paying negative interest yourself, penalty interest..., when you read all that, my goodness.

Perceived entry costs

Many non-investors correctly describe stocks as firm ownership shares that pay dividends and are traded on stock markets. However, non-investors express a lack of confidence in their financial knowledge and the need to educate themselves more about the stock market before investing in it (Bianca (2, 305)). For example, Luise (4, 155), college educated and financially literate, expresses that:

Stocks are a very complex thing that you really must deal with before you start investing in stocks. It's not something where I say, yes, I'll do it today. Maybe I'll just pick up a stock or something. You can't do that. (Shakes head). There has to be a lot of preparation

Before investing in stocks, non-investors therefore stress the importance of acquiring expertise by studying (Madeline (1, 172)), searching the internet (Esther (13, 252)), and talking to as many people as possible (Luca (5, 426)), such that they achieve an acceptable starting point to invest in the stock market.

This plan to acquire information, however, is combined with a misperception of what is knowable in the stock market. Underlying the emphasis on learning about and being prepared for the stock market is the assumption that algorithms to select the "right" stocks at the right time exist, are known to investors, and can be uncovered at cost by non-investors who have some ability to handle financial matters. With the knowledge of such algorithms, it becomes possible to distinguish between good and bad companies or stocks (Nadine (7, 159)), to predict future price movements (Pia (6, 151), Nadine (7, 137)), avoid losses (Madeline (1, 8), (Luise (4, 136-137)), to anticipate market trends and to time the market (Oliver (16, 214)).

Some like Ingrid (9, 206) compare the necessary preparation for distinguishing between good and bad companies to the research they undertake before purchasing kitchen appliances based on customer ratings and the experience of others:

> *What would have to happen is that I would have to look into it more intensively. I would never invest in stocks with the knowledge I have now. But if I did, then I would look into it. Just like when I buy a new kitchen appliance, I look into it first. How it works or what the reviews are like, what the experience is like and so on.*

Some non-investors believe that they need to study the fundamentals of different corporations, such as the likely future demand for their product, the way the business is run, and its corporate strategy for successful stock market participation (Kirstin (8, 250)). For example, Luca (5, 446) explains:

> *And if you have studied it well, let's say how stocks work. Then you know your way around it. For example, to see which product or which stock will be really good in two or three years' time.*

Several non-investors believe that it is possible to predict the likely future movements of individual stocks and assign great value to being able to time the market. When asked what specifically one must learn, Oliver (16, 266) says:

> *Strategies. When is the best time, when is it better or worse to buy, when does it go up or down? A lot of economics and math to master. I only have the basics, but you have to master more than that.*

Some hope that intensely reading the newspaper or specialized stock market newsletters will eventually allow them to recognize stock price trends (Silke (12, 107)). Jacob (15, 88), expresses the quest for clairvoyance needed to succeed in the stock market as follows:

Yes, in principle you must know, because you can't be clairvoyant, but somehow you must know how shares will develop if you could be clairvoyant. So what should you buy and for what reasons? Could it make sense for the share to rise further now? You must inform yourself somehow, I would perhaps do this via stock market magazines or something like that.

Regardless of how non-investors plan to prepare themselves for the stock market, investing in stocks without being fully prepared is considered "dangerous" (Luise (4, 135)) and acts as a deterrent to stock market participation. Indeed, several non-investors seem to have a guilty conscience because they have not educated themselves (yet or enough) about the stock market (Silke (12, 109)).

Insight 1: Non-investors believe that much knowledge is needed to enter the stock market and to invest successfully, in particular to avoid losses. Acquiring this knowledge requires substantial effort and time.

Expected benefits from participation

In addition to the perceived entry costs, the expected net benefits from participating are an important consideration of whether to participate in the stock market. Several non-stockholders compare costs and benefits of participation and find that the latter are not worth the former. Kirstin (8, 228), for example, states:

Although I could invest, the risks and effort just aren't worth it.

Risk and effort seem to be connected in the perception of non-investors, who - not surprisingly - dislike the risk and, in particular, the possibility of losses associated with equity investing. In particular, non-investors believe that the dynamic nature of the stock market would require them to keep an eye on the market (Ingrid (9, 170)). As Bianca (2, 396) explains, continued engagement is necessary to avoid losses:

Nothing really, but you must be after it. I don't know, I think if you let it slip, things can go wrong quickly, but you can lose money, and some people can cope with that better than others.

Michaela (11, 141) refers to investing as "Sudoku for advanced players" which requires time and effort, and according to Luise (4, 143), participating in the stock market necessitates active engagement:

You must predict very much in advance, so you have to know what developments to expect now. How will the market behave? When do I take my stock, when do I sell it? So that's really the predictive aspect and you really must be very active.

Given that some of these participation costs scale with the number of investments, for Oliver (16, 288), they directly conflict with the goal to hold a diversified portfolio:

Three companies are enough for me. With 10 companies, I have to find out even more about each individual company. 10? No. I don't have a good gut feeling about it. I can lose sight of everything. No, no.

Some non-investors recognize that mutual funds and ETFs can reduce the perceived costs associated with trading and monitoring stocks (Resit (14, 296)). Luise (4, 185) describes the distinction as follows:

With trading and stocks, I have the feeling that it is very dynamic. So you must sit at it every day and say, I look at the market every day. So I'm up-to-date on a daily basis and I take care of it. Whereas with funds, I have the feeling that it's more of a monthly thing. So I pay my monthly salary or my monthly money into it and then I'm fine. So it doesn't involve as much work as trading or stocks...

However, despite the delegation that investing in a mutual fund allows, even the selection of the right fund and when to buy or sell appears daunting to some non-investors (Resit (14, 231-236)).

Some non-investors directly compare stocks to other asset classes and find that the latter are a superior choice (Cathleen (3, 309). Indeed, from the perspective of non-investors, one of the advantages of traditional savings or annuity products is that, once set up, they do not require constant engagement. As Silke (12, 155) explains, substantial ongoing participation costs distinguish equity investing from more traditional savings products:

> *I mean, you must be on your toes if you have stocks. Because there are an incredible number of external factors that influence that. So political or historical. That something happens. Environmental influences, so I can't just sit back and say, ah, I'll wait until the Schwäbisch Hall*[11] *building society savings contract is fully saved, but I really must keep a regular eye on what's happening. What are the risks? Looking ahead and being informed. And that's all something that takes time, of course.*

In addition to participation costs, the riskiness of stocks is directly compared to the absence of (nominal) risk in other products, for example, by Silke (12, 91):

> *So you see, I have a savings account. I have a very classic alternative, i.e. tried and tested, conservative things. So I have a savings account, and I have a building society savings contract. That means I don't lose any money.*

Insight 2: Non-investors assume that equity market investments require almost constant attention to improve returns and avoid losses.

Perspective of investors

Interestingly, the investors in our sample often confirm the perception of the non-investors. For example, on the need for collecting company information, David (20, 219A) recalls:

[11]The authors do not necessarily share the views of the interviewees reported here regarding any of the companies, banks, or influencers mentioned. There is no warranty that these statements are backed by evidence or are factually accurate.

> *In the beginning, you're overwhelmed, or you're told by respect that you must pay attention to so many things, look at how the company is doing, what are the figures, do I have to be able to read the balance sheet, what does the balance sheet tell me?*

Dennis, who invests in individuals stocks, confirms the importance of participation costs. Specifically, he states that he checks news about the stocks in his portfolio about twice a month and then decides whether to hold or sell a given stock (Dennis (18, 71)). Uta, who invests in ETFs, compares equity investing to a work project (Uta (17, 353)), stresses the need to understand what one invests in (Uta (17, 27)) and confirms that an ETF investment requires more monitoring than a traditional life insurance product (Uta (17, 369)).

Adam delegates the monitoring and trading to an asset manager, as he does not have the time nor expertise to manage his investments himself (Adam (24, 96 and 104)). However, only few investors seem to pursue a passive buy and hold strategy. David and Manuel appear to be two outliers. David (20, 219B) describes his experience over time as follows:

> *But at some point I realized that I didn't need to go that deep, or that it wouldn't do me any good to go that deep, because I can't see what will happen to the stock tomorrow or the day after tomorrow either way.*

And when asked what he will do with the stocks in his portfolio, Manuel (25, 163) replies:

> *You simply let them rest for a longer period of time. You keep track of it. And when you know you're in the positive zone, you're happy and buy yourself an ice cream, for example.*

Insight 3: Investors often share non-investors' beliefs that knowledge, monitoring, and trading are needed for successful participation in the stock market.

Heterogeneity across participants

While many non-investors and quite a few investors believe that successful investing in

equity requires thorough preparation and ongoing attention, individuals differ in how they evaluate these activities, where evaluations include mental aspects such as fun or stress.

Some non-investors, like Bianca (2, 220), find the topic generally interesting:

> *That's why I find it very interesting. You also have to deal with it a lot, speculatively, observe market developments. Corporate policy plays a big role here, which influences the stock price, which ultimately influences the stock price and so on and so forth. Very interesting.*

Luise goes further and thinks that following the stock market is fun and exciting and that it provides new experiences similar to following sports (Luise (4, 143, 163)). Oliver (16, 224) believes that basic knowledge about the stock market makes himself more interesting when meeting new people.

However, for other non-investors, equity markets are associated with a headache (Esther (13, 216)). Some believe that the lack of interest in the topic explains why they either do not fully understand it or why they do not get to it (Ingrid (9, 117), Pia (6, 466)).

Many non-investors stand in the middle, and they seem ambivalent about familiarizing themselves with companies and following the stock market, as Resit (14, 294) explains:

> *Sometimes people say, I don't want to have anything to do with the whole thing. Do you understand? Why do you have to deal with it as a normal person? Sometimes you get this feeling that you just want to be left alone. And then you see completely different ordinary people. He knows almost every big company with their short-term stories and all that.*

Finally, even among investors there is considerable variation. Some develop a keen interest in the topic (Oscar (21, 14)), while others, like Uta, who holds ETFs that her sister recommended, generally dislike the topic of finance (Uta (17, 6)).

Summary: The content analysis of our in-depth interviews suggests that a significant mis-

perceptions of entry and participation costs arise due to a common misunderstanding of how equity markets work. Many interviewees do not appreciate that as long as equity markets are informationally efficient screening and monitoring of equity investments will not significantly alter returns. Instead, they assume that knowledge and active management allow them to improve returns and to reduce risk and losses. Given risk and loss aversion, first acquiring knowledge how to choose investments and how to time the market and then actively managing one's portfolio seem the responsible and necessary but costly approach to investing in the stock market.

Furthermore, the perceived need to screen and monitor investments closely not only reduces stock market benefits directly, but potentially also indirectly through reduced diversification (due to the perceived high costs of selecting "good" stocks) and through increased trading costs (due to the perceived possibility of trading at the "right" time).

While investors appear more confident of their financial knowledge, they nevertheless share non-investors' perceptions of significant entry and participation costs and often also believe that selection and active management add value.

The lack of understanding market efficiency therefore creates are previously unrecognized common explanation of stock market non-participation, under-diversification, and overtrading.

4.1.2 Survey evidence

We use our survey to test whether the insights regarding the misconceptions of the stock market that emerge from the analysis of our in-depth interviews hold in the broader population and to which extent insufficient knowledge of market efficiency increases entry and participation costs in form of necessary knowledge and expected effort.

Overview

Only 12% of the non-investors in our survey state that they are unfamiliar with all forms

of equity investments, i.e., stocks, mutual funds, or ETFs. When asked to assess the average return of the equity market compared to a savings account, non-investors estimate an average annual return of 3.25% which is very similar to the estimate of recent investors (3.27%), but lower than the estimate of long-term investors (4.54%) (see Table 2).

When asked to distribute 100 points across various positive aspects associated with the stock market (see Table 4 Panel A), non-investors and investors alike emphasize the return potential of equity investments, with non-investors' putting most weight on "making money fast" and investors' valuing the preservation of capital and the risk-return trade-off in the long run.

When asked about the future, about one third of non-investors can imagine investing in stocks, mutual funds, or ETFs in the future. Indeed, 41% report that they have at some point looked into participating in the stock market. In order to understand what non-investors perceive as the biggest obstacles to investing in the stock market, we ask them to distribute 100 points across various negative aspects of investing in the stock market. Panel B of Table 4 reveals that entry and participation costs, in particular in form of the necessary knowledge, as well as fear of losing money are the dominant concerns. Investors' relative ranking of negative aspects of investing in equities is broadly similar.

While these initial survey results align well with the frequency distribution of the codes from our qualitative interviews, we want to better understand the nature of and the reasons for these misperceptions of entry and participation costs among our survey participants. In particular, we wish to test to which extent the perceived need for financial knowledge as well as the need to monitor and update one's portfolio are indeed rooted in a misperception of how equity markets work.

To do so, we adopt two approaches. First, we pose a large number of standard survey questions, eliciting participants' views about entry and participation costs. Second, we conduct a vignette study about the investment success of three different investor types: an active, a passive, and a random investor.

Survey questions

In a first step, we select 19 quotes from our qualitative interviews. We augment these with 7 quotes that we obtained from finance colleagues and that are grounded in an understanding of market efficiency. We ask randomly assigned subsets of survey participants whether they (strongly) agree, disagree or neither agree nor disagree with a given quote.

Table 5 reports the results. In Panel A, we test our approach by using two quotes from our interviews that capture the heterogeneity across individuals: a quote from Luise (4, 143) who states that she enjoys following the stock market and a quote from Resit (14, 294) who concludes that, sometimes, he does not want to have anything to do with the stock market. Based on a Wilcoxon signed-rank test investors are significantly more likely to agree than to disagree with Luise's statement, while non-investors take the opposite view. On the other hand, non-investors are significantly more likely to agree with Resit's resigned view. Interestingly, recent investors tend to agree, while long-term investors disagree.

In Panels B, we present corresponding results for 12 quotes from our interviews supporting the view that a lot of knowledge is needed to enter the stock market and that participation requires a lot of time and effort. We sort the quotes based on the difference between the fractions of non-investors that (strongly) agree and those that (strongly) disagree with the quote. In all 12 cases, significantly more non-investors agree than disagree with the quote. Investors are similarly more likely to agree than to disagree. Only for the quote that a lot of economics and math are needed, the difference between agreeing and disagreeing investors is insignificant.

Finally, in Panel C, we present results for 12 quotes grounded in views of market efficiency, seven of theses quotes (in italics) are not from the in-depth interviews but are added by us. While non-investors agree with some of the statements, significantly so in 5 cases, compared to Panel B, the difference between the fraction of those agreeing and of those disagreeing is much smaller. In 6 out of the 12 cases, non-investors are significantly more likely to disagree than to agree. We find more support for views of market efficiency among investors who

agree with 8 of these 12 quotes, in particular with views that anyone can participate in stock markets and that it easy to open a brokerage account. However, at least half of them disagree that it is not necessary to collect information about firms or the economy or that checking one's portfolio once a year could be sufficient.

In sum, among non-investors, we find substantial support for the insights from our qualitative interviews that non-investors perceive entry and participation costs to be large and to be linked to the ability to shape investment outcomes. For investors, there is more heterogeneity with some of them appreciating that less knowledge and effort might be sufficient.

Given the perceived importance of knowledge to participate in stock market, we pose several knowledge-related statements to a subset of randomly selected survey participants. The statements mainly reflect our understanding of how interviewees think about the nature and the purpose of knowledge. We again include a few statements (in italics) that are based on the assumptions that equity markets are efficient and knowledge has limited value.

Table 6 lists for each statement the percentage survey participants that agree and disagree. We group statements into three groups: Panel A for statements about the importance of knowledge to participate, Panel B for statements about acquiring knowledge, and Panel C for statements about the purpose of knowledge in the context of investing in equity markets. Within each panel, statements are sorted based on the difference between the fractions of non-investors that agree and those that disagree. We again test whether the fractions of those agreeing and disagreeing differ statistically using a Wilcoxon signed-rank test

Panel A reveals that the vast majority of non-investors agree that a lot of knowledge is necessary to participate in equity markets, while more disagree than agree that one can participate in the stock market with little knowledge. While investors agree that it is irresponsible to participated without knowledge as knowledge can avoid losses, they seem to be divided about the importance of knowledge, with about half agreeing that a lot of knowledge is needed and half agreeing that one can participate with little knowledge.

When it comes to the acquisition of relevant knowledge, Panel B shows that both investors and non-investors are more likely to agree than to disagree that while it is in principle possible to acquire the necessary knowledge, doing so takes a lot of time and effort. Neither non-investors nor investors seem to be convinced by our statement that the necessary knowledge can be acquired quickly through learning by doing.

Finally, Panel C lists several statements related to what can be accomplished with knowledge in the stock market. Overall, at least half of the non-investors and investors agree with statements that suggest that knowledge allows one to avoid losses, time the market, and select better performing assets; typically at most 10% disagree with such statements. Interestingly, agreement among investors tends to be even higher than among non-investors. Similarly, there is substantial support for views that knowledge allows one to understand the risks of investing in the equity market better, to be prepared for eventual outcomes, and thereby to experience less stress. Consistent with the strong belief that knowledge matters for outcomes, there is overall rather limited support for statements reflecting the view that knowledge matters little.

Taken together, the results in Table 6 confirm that survey participants, in particular non-investors, believe acquiring the necessary knowledge to invest in the stock market takes substantial time and effort. Survey participants, in particular investors, believe that knowledge has important consequences for their investment experience and performance.

In our last set of survey questions, we investigate survey participants' assumptions related to the management of an investment in stocks, mutual funds, or ETFs. Specifically, Table 7 reports results regarding the frequency with which – according to a random subset of survey participants – one needs to manage an investment in stocks (Panel A) or in equity mutual funds or ETFs (Panel B) after the investment has been made. As Table 7 shows at least 70% of non-investors and 50% of investors believe that an equity investment requires attention at least once per week. About 25% of non-investors and about 10% of investors even believe that daily management of one's portfolio is necessary. These results are again consistent with

the wide-spread assumption that equity investing requires significant ongoing effort. Finally, when asking investors and non-investors about how they (would) invest in the equity market, 58% of investors state that they mainly participate by holding individual stocks as opposed to mutual funds or ETFs. As Table 8 Panel A shows, out of those investors that invest in individual stocks 14% report that they hold exactly one stock, while 42% hold more than one but less than five stocks. Only 18% hold more than ten stocks. When asked what keeps them from investing in a larger number of different stocks, the most common answer, selected by 43% (see Panel B), is "the effort involved in following many companies," followed by "the difficulty of selecting additional companies" as well as trading costs. When we ask non-investors how they would invest in the stock market, 57% report that they do not know, while only 11% state that they would invest in individual stocks. However, among those non-investors that select individual stocks, Table 8 reveals very similar results compared to the investors: 86% expect to hold less than 5 stocks and effort of following many companies as well as the trading costs are selected by 51% as reasons preventing a more diverse portfolio. Overall, these results are consistent with the insight from the our in-depth interviews that perceived ongoing participation costs reduce the number of stocks investors might hold and thereby the benefits of diversification.

Vignette study

Evidence from our survey questions is broadly consistent with the misconception that equity market outcomes can be shaped by knowledge of how and when to invest as well as through active management.

We therefore provide final evidence from a vignette study to test survey participants' assumptions of how equity markets work. To do so, we introduce three hypothetical investors, Analysis-P, Random-P, and Passive-P, to a subset of randomly selected participants. These hypothetical investors are described in a gender-neutral manner. Survey participants are told to assume that all three investors invest EUR 10,000 for a period of 5 years in the German

equity market. Analysis-P has a lot of financial knowledge and follows the blue-chips of the German stock market closely. She reads related media reports and studies firms' published financial statements. She then selects the 10 "best" firms and invests EUR 1,000 in each. Over the course of the 5 years, she monitors her portfolio closely and makes adjustments based on news reports and corporate reports. Random-P. while broadly familiar with the German blue chips does not follow any of them closely. In order to construct her portfolio, she randomly selects one firm from each of 10 industries. She initially invests EUR 1,000 in each firm but does not make any adjustment to this initial allocation over the 5-year period. Finally, Passive-P knows little about the German stock market and therefore invest EUR 10,000 in an ETF that tracks the German blue chip index DAX, consisting of the largest 40 firms.

We ask survey participants to rank all three investors based on expected returns, risk in form of variance, and loss probabilities, from highest to lowest. However, we allow participants to rank two or all three investors equally.[12]

Table 9 Panel A reports the results related to returns. 87% of non-investors and 73% of investors expect that Analysis-P will have the highest (or one of the highest) portfolio returns, while only 17% of non-investors and 31% of investors believe this to be the case for Passive-P. Comparing recent investors to long-term investors, we observe a substantial drop in the fraction of those ranking Analysis-P first, from 85% to 63%, while we observe a corresponding increase in the fraction of those ranking Passive-P first, from 22% to 38%.

These conclusions with respected to the expected returns remain unchanged, when we consider the fraction of participants that rank Analysis-P strictly higher than Passive-P as well as the fraction that rank both investors the same. Finally, we also ask participants to quantify the expected return difference (in EUR) between Analysis-P and Passive-P at the end of the five-year period. We find that conditionally on ranking Analysis-P's return higher

[12]To ensure that participants understand the task and its implementation they have to first participate in a sports-related practice task.

than that of Passive-P, non-investors on average expect a return difference of EUR 607, while investors expect Analysis-P to outperform Passive-P by more than twice that amount.

In Panel B, we report results for the perceived riskiness of each of the three portfolios. We report the fraction of participants that rank a given investor's portfolio as the lowest-risk portfolio. Almost half of non-investors (47%) believe that Analysis-P has the least risky portfolio, while 42% believe this to be true for Passive-P. However, investors, in particular long-term investors, seem more likely to rank the riskiness of Passive-P's portfolio lowest.

Finally, in Panel C, we report corresponding results for loss probabilities, which we describe as the probability that after five years the portfolio is worth less than EUR 10,000. We again report the fraction of survey participants that rank a given portfolio lowest with respect to its loss probability. Among investors, 53% believe that Analysis-P's portfolio has the lowest loss probability, while 39% believe this to be the case for Passive-P. In the case of investors, the results are mixed. As a group, 51% rank Passive-P lowest in expected loss probability, while 43% rank Analysis-P lowest. However, a majority of recent investors (52%) does believe that Analysis-P has the lowest loss probability compared to 45% who believe that this is case for Passive-P.

We also report the estimated loss probabilities assigned to each portfolio. The average loss probability for Analysis-P's portfolio is about 15% for non-investors as well as investors. However, non-investors on average believe that the loss probability of Passive-P's portfolio is almost twice as high (28%), while investors on average estimate the loss probability of Passive-P's portfolio to be 18%. Figure 1 shows how the difference in estimated loss probability between Passive-P and Analysis-P decreases as the investment experience increases.

In summary, our vignette study provides further evidence that non-investors and investors believe that financial knowledge as well as selecting and monitoring investment assets will increase returns and lower loss probabilities. While the views of long-term investors are closer to those consistent with efficient markets, for recent investors and, in particular, non-investors the misconception of how equity markets work combined with the difficulty and

costs of acquiring financial knowledge and managing one's portfolio create substantial stock market entry and participation costs.

4.2 The path to becoming an investor

Our interviews and supporting survey data reveal that both non-investors and investors often share a fundamental misunderstanding of market efficiency. Specifically, the belief that high involvement — through screening, monitoring, and market timing — can significantly improve returns is pervasive among both groups. This misconception fosters the idea that a substantial knowledge base and active oversight are necessary to minimize risks and losses, leading to perceived high entry and ongoing participation costs in the stock market. The fact that this perspective is present among both those who have not invested and those who have recently become investors raises the important question of what ultimately helped investors overcome these barriers and start investing. In the following, we analyze this question with the help of our interview and survey data.

The Role of the Social Environment - Family, Friends, and the Workplace

Interviewee responses of investors confirm the importance of family and peers in both reinforcing and overcoming barriers to participation, as well as guiding trading behavior in the stock market. These dynamics have been the subject of considerable recent literature on peer effects in household finance (Balakina, 2022; Haliassos et al., 2020; Kaustia and Knüpfer, 2012; Ouimet and Tate, 2020), though establishing them firmly remains challenging.

In our interview data, Uta is an example of someone who entered the stock market with the support of her family, acknowledging her own knowledge gap and delegating decision-making. Her parents had been investing in the stock market for a long time, and her sister, a former business consultant, played a key role in guiding her toward equity ETFs. Despite initially not understanding what ETFs were, Uta followed her sister's advice and became an equity investor (Uta (17, 229)). This example illustrates how family can facilitate market

participation.

In general, both non-investors and investors frequently cite their families as key influences on their financial attitudes and behaviors, but not always in an pure encouraging way like Uta. For instance, Oscar (21, 77), an investor, describes how his father's negative view of stocks initially deterred him from investing. However, it was ultimately friends who helped him overcome this negative attitude

> *I only became aware of stocks through friends because my father always said, "Stocks are no good," "You lose money, you can lose everything." That always left such a negative impression in my head that I never did it. Then friends told me that you can do it monthly, and that it limits the risk a bit.*

For Oscar, casual discussions with college friends introduced him to stock market investing, eventually leading him to open an account with Trade Republic, a discount broker, and to begin investing. However, even when peers provide positive information, it does not always result in active investing. For instance, Bianca (2, 275), a law school graduate, received information from college friends about ETF investing and opened an account. Yet, she (2, 283) did not follow through due to her perfectionism and desire to fully understand what she was doing.

> *Yes, I want to do it right too, I want to understand what I'm doing. I don't want to just invest blindly because everyone says you should just invest in ETFs or stocks.*

It appears that when peers positively influence investment decisions, their role may need to extend beyond merely transmitting information; they may also need to actively assist in getting others started with investing.

However, the interviews also reveal significant heterogeneity in access to social circles that invest. For example, David (20, 95) notes that investing is uncommon among his

family, friends, and acquaintances, limiting his exposure to these kinds of conversations. Also non-investors like Resit (14, 266) and Madeline (1, 220) express a desire to discuss equity investing with peers, but such conversations remain relatively rare. Due to historically low stock market participation in Germany, many people, like Pia (6, 462), grew up without any family exposure to equity investing. Traditional savings products were more commonly discussed, as Pia (6, 466) explains:

> *Yes, you hear a lot about building society savings contracts. A lot of people have them. Parents have been doing it since childhood and it's advertised. You see it in the bank and less about stocks. So that's not something you're made aware of.*

Particularly among those of lower socio-economic status, some individuals may need to seek advice from superiors at work or acquaintances they do not know well. Anika (22, 156) reflects on this dynamic:

> *Only my boss has stocks. Don't ask me where, but he keeps track of it. Funds? My girlfriend also has this fund. She was advised in exactly the same way, so she also paid into the Volksbund fund or pays into it every month. Apart from that, I don't have any other approaches among my acquaintances, which is probably also due to the shift. So I think if I'm at managing director or manager level, I can imagine that more of them invest in stocks and funds than the middle class or the poorer class. Because they simply don't understand it. My father never had a stock. He wouldn't do that either.*

In that vein, Kirstin (15, 288) expresses a desire to talk to someone personally—a contact person who is not high-ranking but a simple individual who understands and can explain how things should proceed. The heterogeneity in peer access and influence also points to the distributional consequences arising from homophily, or the tendency to associate with people like oneself.

The Role of Financial Institutions

If delegation is a solution to the high perceived knowledge necessary to start investing, an alternative to relying on one's social network is to trust and follow advisors, akin to the "money doctors" concept introduced by Gennaioli et al. (2015). Monique (19, 89) exemplifies this. She became an investor after an appointment with her advisor at a local savings bank, starting with a monthly savings plan of 25 euros allocated to an equity fund managed by the bank's in-house fund company. Another example is Manuel (25, 271-273), who became an investor by relying on the expertise and personalized service of his long-term bank advisor. The advisor created a tailored portfolio for him, which Manuel approved, with the bank handling the purchasing and management of investments. This allowed Manuel to participate in the stock market without needing to be deeply involved in the specifics of buying and selling stocks. He trusts his advisor's knowledge and values the human touch in their relationship, as he explains:

> *Yes of course, you could also look it up online. You could also look it up. But it's just not the same. It's just that the focus is on people, which brings us back to the entrance. And I also have a lot to do with people in my job. Machines and lists and so on can tell you everything, do everything for you. But people are inviolable. And they will always elicit emotions from you. No machine can do that. No Google can do that. No list, no Excel list can do that either. But a human being can certainly suggest that to you. If you are in a very, very good position, then a person can also convey this well. The voice is higher, for example, or lower or whatever. And that's also important these days.*

If delegation is a good solution to overcome (perceived) participation costs - why are not more non-investors take financial advice? In line with existing literature on financial advice that highlights conflicts of interest and potential lack of superior knowledge among advisors (Bucher-Koenen et al., 2023; Egan et al., 2019; Inderst and Ottaviani, 2009, 2012),

many non-investors are reluctant to seek advice, especially from traditional banks or savings institutions (Resit (14, 266)). Interviewees question their incentives (Luca (5, 524)) or their competence with respect to equity investing (Bianca (2, 325), Pia (6, 279-280)). Uta, who is investing, but is supported by her family, adds that even finding a good advisor and then having to engage with the advisor requires effort and can be exhausting (Uta (17, 263, 357)).

An interesting aspect that emerged during the interviews with investors is that concerns about the limited usefulness and trustworthiness of financial advisors can be effectively reduced through personal recommendations or longer-term interactions that build trust. For example, Anika (22, 117-126) started investing in an equity-based fund through an insurance agent recommended by a friend. She trusts the agent's assurance that there is no downside risk with the investment, and while she had been an investor for several years at the time of the interview, she did not know how her fund had performed. While Anika's trust might be extreme, Manuel followed the advice of his long-term bank advisor just before the pandemic, deciding to invest at least a small part of his savings in equities.

Financial advice does not necessarily need to come from humans. Adam, who first started investing on his own but exited the stock market during the internet bubble after losing money on individual tech stocks, returned to equity investing through a robo-advisor. He (24, 146) describes his experience:

> *Yes, and now more than 20 years later, I've become a bit wiser and have realized for myself that asset management is so chic when they take care of it. I dare to doubt that I can do it better than they can. And I mean, I've been with them for seven years, I can see what they do on average. I'm completely satisfied. It's not the best you could achieve if you knew what you were doing. But for the fact that I don't have to do anything, it's brilliant.*

In sum, financial advice, like support from peers and family, can be a successful tool to overcome perceived entry barriers into the stock market. However, many non-investors

do not trust financial advisors and, similar to the access problem with peers, lack someone in their social circle who can recommend a good advisor. For some investors, personal recommendations have been crucial in overcoming the trust barrier.

Own Research and Planning and the Role of Social Media

As already mentioned, for some people there is a strong desire to not delegate financial decisions and maintain control over their finances (Dennis (18, 4)). Like Silke (12, 111) explains:

> *So I don't want to go somewhere and say, yes, by the way, I'm interested in stocks or something. I'll give you €10,000 now, go ahead. That's too much for me, so I either want to bear the risk alone or not.*

To address the perceived need for continuous self-education in order to enter and participate in the stock market, both investors and non-investors highlight the value of online information sources. These resources allow them to search for information, compare options, and access videos and blogs (Oscar (21, 209), Madeline (1, 151), Luise (4, 129)).

Investor David (20, 93) took the initiative to educate himself by watching videos and reading books about investing, initially fearing the possibility of losing all his money. However, he learned about investment strategies and options that involve less risk, especially over the long term. Additionally, he felt some pressure to invest due to concerns about inflation eroding his savings if left idle in a bank account. This combination of self-education and the desire to protect his money from inflation motivated him to start investing.

Also Monique (19, 101-102) became an investor with the help of social media. She explains how she began following the German influencer Madame Moneypenny and joined a women-focused finance group on Facebook, which ultimately led her to open an online brokerage account and invest in an MSCI World ETF:

> *The MSCI World, the fund always came up, I saw it a lot, then I looked at the*

performance, which was also very good, and then I thought it was a common fund that many people have and then I took it.

Investor Dennis (18, 75) also confirms that social media with its ability to connect individuals with similar interests and to foster the exchange of ideas is important for his investing activity:

Wall Street Bets is one group. I take a bit of inspiration from them.

Also some non-investors make use of social-media to inform themselves. Resit (14, 186), who has not started investing, describes his experience with Youtube videos by financial influencers such as Tim Schäfer:

And the way they explain it, this world of finance and so on, they're experts and so on, that really convinced me. I changed my mind a lot. Because they don't do any advertising. Or they don't try to sell anything. They just talk about their own, simple lives.

In sum, social media might play an important role in overcoming investment barriers, especially for those who lack access to peers who invest, do not trust financial advisors, or prefer not to delegate their financial decisions. To get started — especially for younger investors — interviews reveal that online brokerage accounts are perceived as an inexpensive and intuitive entry point into equity investing. These platforms allow for experimentation with low-stakes investments and appear to be free from conflicts of interest (Monique (19, 102), Oscar (21, 151)).

Life events

Beyond the influence of the social environment, financial institutions, or personal research and planning, external shocks or life events also have the potential to trigger financial decisions and, consequently, to play a crucial role in shaping investment behavior. In this context,

expected reductions in the German public pension (Dennis (18, 161), Luise (4, 239)) and the very low returns offered by traditional savings accounts during Covid (Madeline (1, 20)) were frequently mentioned as motivations to consider investing in the stock market.

In the context of specific life events, Uta mentions receiving a large gift from her family that needed to be invested (Uta (17, 269)). Dennis, on the other hand, had a rather unusual experience: during a longer illness and sick leave, he found the time to review his public pension statement, which is mailed annually to all participants aged 27 or older. Realizing the need to improve his retirement income, he familiarized himself with different investment options and decided to invest in individual stocks through a monthly savings plan (Dennis (18, 21, 57)).

In summary, life events seem in some cases serve as powerful motivators for individuals to begin exploring and engaging in equity investing.

Survey Evidence

In our survey, we ask investors to identify up to three of the most important factors that led to their initial participation in the stock market, choosing from a provided list of options including friends, family, the workplace, social media, or their own research. We then group these responses into five categories: Social Environment, Financial Advice, Own Research and Planning, Life Events, and Stock Market Development at the Time of the Initial Investment. The results are presented in Table 10.

Based on insights gathered from the interviews, investors' responses underscore the significance of peer effects in lowering barriers to stock market participation: 53% of investors indicate that their social environment—such as family, friends, or the workplace—played a decisive role in their initial decision to invest. Furthermore, 24% emphasize the importance of professional advice. Notably, 64% of respondents highlight the critical role of personal research and planning, which includes forward-looking considerations, self-education, and the use of media sources such as social media, books, podcasts, or online articles. Interestingly,

life events appear to play a smaller role, with only 7% of participants ranking this among their important factors.

From the interviews, we have already learned that it is often not just one factor, but rather an interaction of several factors that trigger investment decisions. In our survey, 23% of respondents select only one aspect as important for their decision to enter the stock market. Among these respondents, only 21% (compared to 64% in the overall data) choose own research and planning, indicating that while personal research planning are significant, they rarely act as the sole deciding factor. This contrasts with the social environment and financial advisors. Among those who selected just one factor, 47% still identified their social environment as the most important, with family being the single most significant aspect.

The emergence of social media as a relevant factor becomes particularly evident when we examine these factors based on when investors began participating in the market. Comparing recent investors, who started investing within the last two years, to long-term investors who made their initial investment over ten years ago, the influence of social media increases markedly from almost 2% to 21%. Despite this shift, the relative ranking of our group indicators remains largely consistent over time, with one notable exception. The most significant difference is the role of stock market developments as a trigger, which is selected by only 16% of recent investors but by 39% of long-term investors.

Overall, the survey results confirm the impression from the investor interviews that delegating decisions has been, and continues to be, a strong trigger for overcoming barriers to entering the stock market. The interviews also confirm that many non-investors lack access to factors that seem to reduce these entry barriers, such as peers and advisors. We test this hypothesis on a larger scale using the survey data, where we pose specific categorical questions regarding access to peers and financial advice, as well as quotes selected from the interviews.

We begin our analysis with a structured question asking both non-investors and investors about their access to people in their social environment — specifically friends and family —

who invest (see Table 11). Among non-investors in our sample, 51% state that they do not know anyone who is invested in the stock market - these numbers go even up to 70% for respondents with low education or a monthly income below 2000 euros. In contrast, only 10% of investors (11% among recent investors) report the same. Furthermore, 25% of recent investors even state that one-third or more of their peers are invested. This significant difference in access to a social environment that could help overcome barriers is further emphasized by the responses of non-investors to quotes from our interviews (see Panel A of Table 12). Regarding the importance of the social environment, 65% of non-investors agree that investing is not common among their peers, while only 13% disagree. Additionally, only 37% of non-investors agree with the statement, "I hear more and more people around me talking about stock market participation (SMP) or informing themselves about it," a figure that is not significantly different from the 29% who disagree. This contrasts sharply with recent investors, where 60% agree with the statement. Notably, 56% of non-investors express a desire to have someone in their network—a straightforward, approachable person—with whom they could discuss investing, with only 17% disagreeing.

These survey results suggest that the lack of access to investor peers is likely a significant factor hindering the reduction of entry barriers to the stock market. But what about financial advisors as an alternative means of delegating decisions? On average, non-investors significantly agree that finding a good advisor is exhausting, yet they also believe that an advisor could be instrumental in helping them enter the stock market (see Panel B of Table 12).

To gain more insights into how advisors might reduce participation costs, we explored participants' perceptions of what financial advisors do on their behalf with the help of structured questions. Results are reported in Table 13. The data reveals that both investors and non-investors have strong perceptions of financial advisors to be actively engaged in managing their investments. A significant majority (more than 65%) agree with various quotes from the interviews emphasizing that advisors consistently stay informed about individual stocks

and company news, frequently monitor and evaluate portfolios, and promptly inform them when it's time to buy or sell products. In contrast, there is broad disagreement with the idea that advisors take a more passive approach, such as only reviewing the portfolio once a year around the time of a client meeting. Even though investors are slightly less likely to perceive this passive approach as inaccurate (56% disagree compared to 63% of non-investors), the overall sentiment indicates that both investors and non-investors generally expect advisors to actively manage their investments. They believe advisors are consistently engaged in seeking better opportunities rather than adopting a "buy and hold" approach, which aligns with their perception on how to handle the way markets work.

In summary, access to external influences and circumstances plays a key role in overcoming entry barriers to investing. Many individuals, as revealed by both interviews and survey results, did not enter the stock market independently but were informed, supported, guided, or encouraged by family, peers, or financial advisors perceived as knowledgeable. In some cases, life events also act as catalysts, pushing individuals to take the first step into investing.

Furthermore, own research and the growing role of social media in disseminating financial information serve as supportive factors, reinforcing the decision to invest. While not typically the sole motivator, these channels help reduce entry barriers and illustrate the various paths through which individuals transition from non-investors to investors.

5 Conclusion

Our results from qualitative interviews and a large scale survey indicate that many non-investors possess a basic understanding of equity markets, the equity premium, and diversification. However, they often fail to appreciate that in informationally efficient markets — where prices reflect all known information — screening and monitoring equity investments are unlikely to significantly affect returns and loss probabilities. Two key misconceptions emerge:

the belief that asset returns are predictable through detailed analysis of a company's past, current practices, and future demand, and the ignorance of buy-and-hold strategies, coupled with the belief that stockholding requires continual monitoring and frequent trading. Our findings also emphasize the critical role of external influences, such as family, peers, and financial advisors, in helping potential investors navigate the complexities of the stock market. Additional emerging sources of support, such as online resources and social media, also play a significant role in facilitating the transition from non-investor to investor, though they are less likely to be the sole motivators, as confirmed by our survey results.

To address these misconceptions, information campaigns and educational programs should focus on dispelling the myths around market predictability and the necessity of constant trading. A potentially more effective strategy would be to direct individuals toward well-diversified, simpler products, such as index funds and ETFs, where professional management is handled by well-incentivized and knowledgeable professionals. These products could even be offered as "default options" for those who do not make explicit investment choices, similar to the default options available in some pension systems. Additionally, our findings suggest that chance events prompting individuals to gather information about stock holding can be powerful triggers for engagement. Policymakers might consider creating such trigger events to encourage financial planning, especially for long-term goals like retirement. Given the importance of peer effects and social media, it is crucial to ensure that high-quality information is accessible to all, particularly to those who are less likely to benefit from informed peers. Efforts could include a certification process for financial advisors to mitigate conflicts of interest and the strategic use of social media to educate and empower individuals in their financial decisions, with special attention to disadvantaged groups who may lack access to informed networks.

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Figure 1: Vignette Study: Estimates of Loss Probabilities by Investor Experience

This figure shows the estimated loss probabilities from the vignette study in the survey, assigned to two of the hypothetical investors, Analysis-P and Passive-P, across varying levels of stock market experience as reported by respondents in a structured question on investment experience.

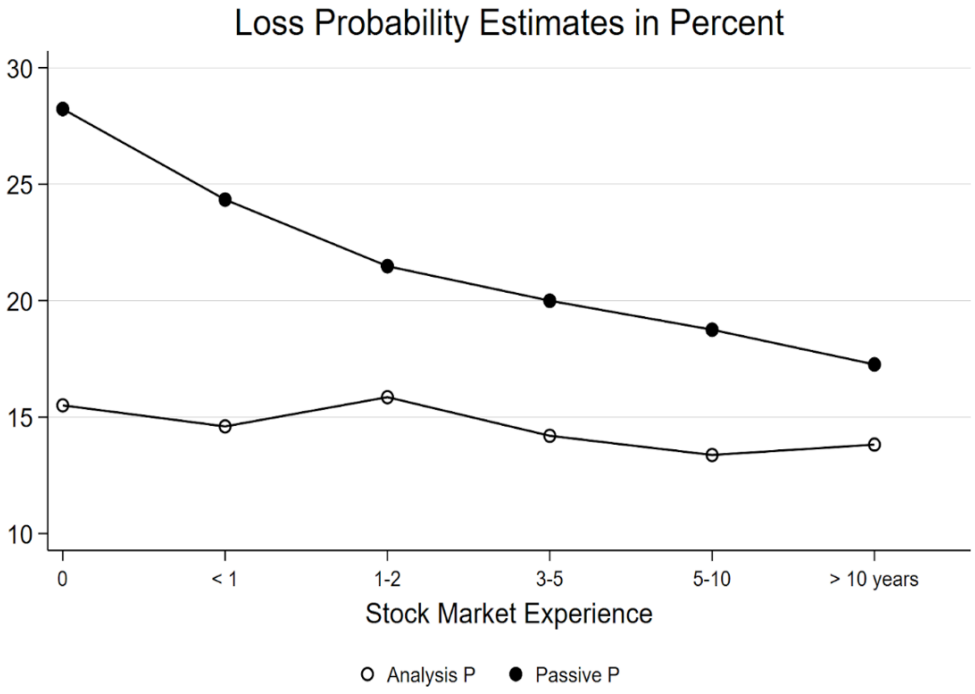


Table 1: Overview Interviewees

This table describes participants in the interviews. The information was collected prior to the interviews or revealed during the meeting. FT and PT indicate whether the profession is full-time or part-time, PL means parental leave.

Panel A: Non-Participants

ID	First Name	Gender, Age	Marital Status Children, Hh size	Education Occupation	Monthly Savings (EUR)	Word Count Interview	Assigned Codes
1	**Madeline**	Female, 51	N.A. 2, 2	Apprenticeship FT: IT Sales	50-100	10,492	85
2	**Bianca**	Female, 27	Single 0, 1	College (Law) FT: Attorney	100-200	9,722	137
3	**Cathleen**	Female, 41	Single 0, 1	College PT: Retail, Eldercare	50-100	11,112	61
4	**Luise**	Female, 25	Single 0, 3	College (Sport) FT: PhD Student	300-400	10,556	93
5	**Luca**	Male, 40	Divorced 1, 3	Apprenticeship FT: Carpenter	100-200	9,077	138
6	**Pia**	Female, 35	Married 2, 4	Apprenticeship PT: Pub. Sector Accountant	50-100	11,316	157
7	**Nadine**	Female, 25	Single 0, 2	Apprenticeship PT: Pub. Sector Student	150-200	8,592	82
8	**Kirstin**	Female, 52	Single 4, 3	Apprenticeship PT: Administrative Clerk	100-200	11,292	99
9	**Ingrid**	Female, 51	Married 0, 2	College PT: Sales Medical Devices	300-350	10,503	70
10	**Ralf**	Male, 51	Single 0, 2	Apprenticeship FT: Sports Coach	100-200	10,919	100
11	**Michaela**	Female, 31	Single 0, 2	College FT: Legal Administrator	100-200	6,498	72
12	**Silke**	Female, 45	N.A. N.A., 2	College (Teacher) FT: Teacher	>400	10,638	145
13	**Esther**	Female, 45	Married 5, 3	Apprenticeship PT: Accounting Manager	100-200	12,779	95
14	**Resit**	Male, 44	Single 0, 2	College FT: Sales Tech. Sector	>200	9,519	132
15	**Jacob**	Male, 47	Married 2, 4	College FT: Self-employed City Guide	N.A.	9,784	72
16	**Oliver**	Male, 31	Single 0, 1	Apprenticeship FT: Employee in Textile Industry	100-200	7,636	98
Average						10,027	102

Table 1 (continued): Overview Interviewees

Panel B: Participants

ID	First Name	Gender, Age	Marital Status Children, Hh size	Education Occupation	Monthly Savings (EUR)	Word Count Interview	Assigned Codes
17	**Uta**	Female, 48	Divorced 0, 1	Apprenticeship FT: Printing House	100-200	12,868	119
18	**Dennis**	Male, 32	Single 0, 1	Apprenticeship FT: Geriatric Nurse	>100	8,073	119
19	**Monique**	Female, 34	Married 1, 3	Apprenticeship PL: Flight Attendant	>200	9,235	122
20	**David**	Male, 36	Single 0, 1	Apprenticeship FT: Office Clerk in Logistics	>200	7,231	99
21	**Oscar**	Male, 25	Single 0, 1	College (Tourism Management) FT: Hotel Employee	50-100	9,911	135
22	**Anika**	Female, 40	Married 0, 2	Apprenticeship FT: Secretary in Real Estate	>200	9,930	140
23	**Lukas**	Male, 38	Married 1, 2	College FT: Public Sector Officer	>200	9,910	90
24	**Adam**	Male, 45	Single 0, 2	College FT: Employee in Tourism	N.A	12,153	152
25	**Manuel**	Male, 50	Married N.A., 3	College FT: HR Manager	100-200	11,995	151
Average						10,145	125

Table 2: Summary Statistics Survey

This table presents the means for various variables derived from the survey data, segmented by different participant groups. The categories include all participants, as well as distinct investor groups. Non-investors are individuals who have never invested in the stock market. Investors encompass all individuals actively investing at the time of the survey - within this group, recent investors are a subgroup who began investing within the last two years, and long-term investors are a subgroup who started over ten years ago. Past investors refer to individuals who have invested in the stock market at some point in the past but are not currently invested. The indication Mainly hold ETF/MF for non-investors is a hypothetical scenario of what they would choose if they participated in the stock market.

	All	**Non-Investors**	**Investors**			**Past Investors**
				Recent	Long-term	
Number of Participants	7,475	3,703	2,967	739	916	805
Fraction (in %)	100.00	49.54	39.69	9.89	12.25	10.77
Male	48.51	35.97	63.03	54.40	70.31	52.67
Age	45.51	45.80	43.79	35.86	54.42	50.56
College	22.54	11.94	36.84	29.09	35.04	18.63
Apprenticeship	62.89	67.73	54.13	50.74	61.46	72.92
Married	45.94	40.13	52.44	38.97	62.23	48.70
Employed	67.22	58.71	78.23	72.12	76.31	65.84
Self-employed	3.72	3.19	4.08	1.89	6.11	4.84
Unemployed	3.72	5.83	1.15	1.89	0.66	3.48
Retired	11.02	13.61	6.77	2.57	13.21	14.78
Income: < €3k	43.37	56.98	25.72	36.94	20.85	45.84
Income: €3k < €7k	51.18	41.13	63.63	53.59	67.36	51.55
Income: > 7k	5.44	1.90	10.65	9.47	11.79	2.61
Saves regularly	62.42	52.69	86.72	79.84	88.65	64.10
Saves occasionally	15.90	20.85	8.10	14.48	6.99	18.51
Net worth: <€50k	47.34	65.87	25.04	42.90	14.19	44.35
Net worth: €50-200k	24.82	19.77	30.23	28.96	26.20	28.07
Net worth: €200-450k	13.06	8.43	18.71	12.58	23.91	13.54
Net worth: €450-950k	10.10	4.64	16.82	9.34	22.82	10.43
Net worth: >€950k	4.68	1.30	9.20	6.22	12.88	3.60
Homeowner	38.11	27.09	50.59	35.05	67.58	42.86
Mortgage	23.32	17.90	30.03	26.12	28.60	23.48
Consumer credit	20.03	20.47	19.41	21.79	14.74	20.25
Fin. literacy, out of 3	2.15	1.83	2.48	2.23	2.71	2.37
Confidence fin. knowl.	47.95	29.25	71.05	55.62	78.82	48.82
Trust others	29.54	22.74	38.86	37.21	37.45	26.46
Exp. equity premium	3.47	3.25	3.67	3.27	4.54	3.73

Table 3: Code Frequencies

Code	All	All %	Non-Investors %	Investors %
ITEM 1: Entry and Participation Costs	**1,269**	**45.9%**	**44.9%**	**47.4%**
1.1 Financial expenditure	35	1.3%	0.5%	2.4%
1.1.1 Fixed monetary entry costs	3	0.1%	0.1%	0.1%
1.1.2 Fixed monetary participation costs	12	0.4%	0.1%	0.9%
1.1.3 Proportional monetary costs	20	0.7%	0.2%	1.4%
1.2 Non-monetary costs and benefits	294	10.6%	11.6%	9.3%
1.2.1 Opportunity costs (time) and effort	196	7.1%	8.2%	5.5%
1.2.2 Interest/excitement	62	2.2%	2.4%	1.9%
1.2.3 Desire for control/independence	31	1.1%	0.7%	1.7%
1.2.4 Status quo bias	5	0.2%	0.2%	0.2%
1.3 Abilities and Knowledge	940	34.0%	32.9%	35.7%
1.3.1 Cognitive, recall, and math skills	12	0.4%	0.4%	0.5%
1.3.2 Financial literacy	527	19.1%	18.5%	19.8%
1.3.3 Confidence in financial ability and knowledge	44	1.6%	2.0%	1.1%
1.3.4 Peer effects (operating through fixed entry or participation costs)	144	5.2%	5.1%	5.4%
1.3.5 Information sources	213	7.7%	6.9%	8.9%
ITEM 2: Preferences and Beliefs	**1,055**	**38.2%**	**38.7%**	**37.4%**
2.1 Preferences	430	15.6%	16.5%	14.2%
2.1.1 Risk and ambiguity	59	2.1%	2.4%	1.8%
2.1.2 Loss aversion	78	2.8%	2.8%	2.8%
2.1.3 Disappointment, regret aversion	4	0.1%	0.1%	0.2%
2.1.4 Time horizon and preferences	118	4.3%	4.0%	4.7%
2.1.5 Peer effects (operating through preferences)	37	1.3%	1.8%	0.7%
2.1.6 Religion, culture, values, political orientation, stereotypes	134	4.8%	5.4%	4.0%
2.2 Beliefs	625	22.6%	22.2%	23.2%
2.2.1 Return perception	266	9.6%	9.4%	10.0%
2.2.2 Risk perception	187	6.8%	7.8%	5.2%
2.2.3 Past exposure to adverse stock market events	42	1.5%	1.4%	1.7%
2.2.4 Perceived probability of disaster or significant loss of wealth	19	0.7%	0.3%	1.2%
2.2.5 Peer effects (operating through subjective beliefs)	40	1.4%	1.4%	1.5%
2.2.6 Trust	71	2.6%	1.9%	3.5%
ITEM 3: Economic Environment and Intended Equity Holding	**439**	**15.9%**	**16.3%**	**15.2%**
3.1 Life cycle and background risks	52	1.9%	1.8%	2.0%
3.1.1. Life-cycle aspects	27	1.0%	0.9%	1.2%
3.1.2. Health status and risk	11	0.4%	0.2%	0.6%
3.1.2. Unemployment and labor income risk	14	0.5%	0.7%	0.3%
3.2 Constraints	48	1.7%	2.1%	1.2%
3.2.1. Borrowing constraints	1	0.0%	0.0%	0.1%
3.2.2. Perceived irreversibility and liquidity considerations	40	1.4%	1.8%	1.0%
3.2.3. Consumption and financial commitments	7	0.3%	0.3%	0.2%
3.3 Substitutes, comparisons to other classes and liabilities	141	5.1%	5.1%	5.0%
3.4 Intended holdings	198	7.2%	7.3%	6.9%
Sum	**2,763**	**100%**	**100%**	**100%**

Table 4: Positive and Negative Aspects of Equity Investing

This table reports respondents' answers to a question about positive (Panel A) and about negative (Panel B) aspects of investing. For each question, participants are asked to allocate 100 points among pre-selected factors: in the positive question, participants focused on what makes stock market investing more appealing than saving in a savings account; in the negative question, they highlighted concerns that make a savings account preferable to stock market investing. The order of the two questions was counterbalanced.

Panel A: Positive Aspects				
	Non-Investors	**Investors**		
			Recent	Long-term
Financial Returns	**56.79**	**60.17**	**56.80**	**64.81**
Earn lot's of money quickly	19.15	10.01	12.36	7.70
Regular dividend pay-outs	13.59	13.91	12.51	16.06
Long-term preservation of capital	13.14	15.89	15.40	16.86
Attractive long term returns relative to risks	10.91	20.37	16.53	24.19
Entry and Participation	**21.78**	**26.03**	**28.55**	**22.73**
Fun, interest, and excitement	6.46	7.05	7.61	6.44
Low effort to participate	6.40	6.99	7.82	5.87
Simple and easy access to the stock market	5.99	8.36	8.65	8.32
Ability to discuss the stock market with peers	2.94	3.63	4.47	2.10
Others				
Get money back quickly if necessary	16.85	9.93	10.10	9.80
Have a say in corporate policies through voting rights	4.58	3.87	4.55	2.65
N	3,703	2,967	739	916

Panel B: Negative Aspects				
	Non-Investors	**Investors**		
			Recent	Long-term
Entry and Participation Costs	**42.36**	**42.36**	**45.01**	**39.84**
Knowledge required for participation	14.21	12.50	13.73	11.37
Dealing with topics that do not interest me	8.68	5.45	6.38	4.45
Concern that I cannot do it on my own and have no support	8.21	6.05	8.72	3.69
Brokerage and trading fees	5.83	12.38	10.03	15.53
High effort of participating in the stock market	5.43	5.98	6.16	4.80
Risks and Losses	**30.84**	**27.51**	**25.45**	**30.59**
Fear of having less money at the end than at the beginning	24.72	20.03	18.32	22.79
Unattractive long term returns relative to risks	6.12	7.48	7.12	7.80
Others				
Very difficult to get my money back if I need it	11.51	7.98	8.27	7.60
Necessary investment amount	6.31	6.99	7.77	5.70
Need for a long-term investment horizon	5.21	10.54	8.27	12.40
Conflict with my values	3.77	4.63	5.23	3.87
N	3,703	2,967	739	916

Table 5: Quotes on Entry and Participation Costs and Market Efficiency

This table reports respondents' (dis-)agreement with quotes that were taken from our qualitative interviews or obtained from finance colleagues and that are grounded in an understanding of market efficiency. We randomly assigned subsets of survey participants to a subset of quotes to avoid survey fatigue. Regarding entry and participation cost we grouped quotes with respect to proof of concept (Panel A), Need for Knowledge, Market Timing, and Monitoring (Panel B), and Market Efficiency (Panel C)

Panel A: Proof of Concept

Quote	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Enjoy following the stock market	**Non-Investors**	**350**	**18.57**	**50.86**	**-32.29**	***
"And I enjoy following the stock market, and I have a lot of interest in it and find it exciting in general. It's a bit like a sport. I experience a lot of new things."	**Investors**	**325**	**58.15**	**19.38**	**38.77**	***
	- Recent	71	54.93	16.90	38.03	***
	- Long-term	109	57.80	20.18	37.61	***
I don't want to have anything to do with the stock market	**Non-Investors**	**439**	**52.85**	**13.90**	**38.95**	***
"Sometimes you say, I don't want anything to do with the whole thing.' Do you understand? Why should an ordinary person necessarily deal with it? Sometimes you get this feeling that you just want to have peace and quiet."	**Investors**	**410**	**38.29**	**35.12**	**3.17**	
	- Recent	93	47.31	24.73	22.58	**
	- Long-term	120	25.00	47.50	-22.50	***

Panel B: Need for Knowledge, Market Timing, and Monitoring

Quote	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Knowledge: Research just like Kitchen Applicance	**Non-Investors**	**379**	**89.71**	**2.37**	**87.34**	***
"Before investing in stocks, one should familiarize oneself with them. Just like I would research a new kitchen appliance before buying it—how it works, its reviews, user experiences, and so on."	**Investors**	**303**	**87.79**	**4.62**	**83.17**	***
	- Recent	60	90.00	3.33	86.67	***
	- Long-term	99	73.23	7.87	65.35	***
Knowledge: Stocks are complex	**Non-investors**	**453**	**80.35**	**3.97**	**76.38**	***
"Stocks are a very complex matter that you should really look into before you start investing in them."	**Investors**	**392**	**87.79**	**4.62**	**83.17**	***
	- Recent	81	90.00	3.33	86.67	***
	- Long-term	127	73.23	7.87	65.35	***
Knowledge: Want to understand	**Non-investors**	**349**	**75.64**	**9.74**	**65.90**	***
"Yes, I want to do it right; I want to understand what I'm doing. I don't want to just invest blindly just because everyone says you should just invest in ETFs or stocks."	**Investors**	**318**	**79.56**	**7.23**	**72.33**	***
	- Recent	60	70.00	11.67	58.33	***
	- Long-term	109	86.24	7.34	78.90	***
Monitoring: Read balance sheets	**Non-investors**	**355**	**71.83**	**7.32**	**64.51**	***
"You have to pay attention to so many things, look at how the company is doing, what are the figures, do I have to be able to read the balance sheet, what does the balance sheet tell me?"	**Investors**	**308**	**57.79**	**18.83**	**38.96**	***
	- Recent	83	49.40	22.89	26.51	**
	- Long-term	83	62.65	16.87	45.78	***
Monitoring: Have to keep up with it	**Non-investors**	**474**	**69.83**	**5.70**	**64.14**	***
"But you have to keep up with it. If you let it slide, things can go wrong quickly, and you can lose money."	**Investors**	**384**	**58.07**	**16.93**	**41.15**	***
	- Recent	91	53.85	16.48	37.36	***
	- Long-term	126	60.32	15.08	45.24	***

Table 5 (continued): Quotes on Entry and Participation Costs and Market Efficiency

Panel B (continued): Need for Knowledge, Market Timing, and Monitoring

Quote	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Monitoring: Always have to do research	**Non-investors**	**467**	**68.74**	**6.85**	**61.88**	***
"You have to inform yourself about which stocks you can buy... So you always have to research. It's about research, it's about diligent work. You have to deal with it and make a concrete plan."	**Investors**	**373**	**64.88**	**10.19**	**54.69**	***
	- Recent	91	67.03	7.69	59.34	***
	- Long-term	117	63.25	10.26	52.99	***
Monitoring: Keep an eye on	**Non-investors**	**453**	**64.02**	**5.96**	**58.06**	***
"Because I also think ETFs (or mutual funds) are not a sure-fire thing like a building society savings contract or life insurance. Investments in the stock market are something you should at least keep an eye on."	**Investors**	**375**	**68.00**	**14.40**	**53.60**	***
	- Recent	96	70.83	12.50	58.33	***
	- Long-term	114	73.68	12.28	61.40	***
Market Timing: Need to know how stocks will develop	**Non-investors**	**457**	**66.08**	**8.32**	**57.77**	***
"Yes, you basically need to know that since you can't see the future, you need to somehow know how stocks will develop if you could see the future. So, what should you buy and for what reasons? Could it be sensible that a certain stock will continue to rise? You have to inform yourself somehow."	**Investors**	**381**	**66.67**	**7.87**	**58.79**	***
	- Recent	88	67.05	9.09	57.95	***
	- Long-term	110	66.36	5.45	60.91	***
Knowledge: Need to know which firms inside fund	**Non-investors**	**368**	**66.30**	**10.33**	**55.98**	***
"In the case of funds/ETFs, I would still like to know which companies are behind them. So I wouldn't do without research completely."	**Investors**	**293**	**74.74**	**10.92**	**63.82**	***
	- Recent	75	81.33	6.67	74.67	***
	- Long-term	91	76.92	8.79	68.13	***
Knowledge: Lots of economics and math	**Non-investors**	**361**	**53.74**	**14.40**	**39.34**	***
"A lot of economics and math that you have to master if you want to invest in stocks."	**Investors**	**328**	**39.02**	**37.50**	**1.52**	
	- Recent	83	43.37	33.73	9.64	
	- Long-term	96	31.25	44.79	-13.54	*
Knowledge: What is a safe stock	**Non-investors**	**425**	**47.06**	**24.00**	**23.06**	***
"Stocks are really like playing with fire if you don't know what you're doing. That's why I'm spending a lot of time on it because I want to understand what is a safe investment in stocks and what is not."	**Investors**	**404**	**53.96**	**17.33**	**36.63**	***
	- Recent	95	49.47	14.74	34.74	***
	- Long-term	121	52.07	19.83	32.23	***
Market Timing: Study how the market works	**Non-investors**	**456**	**34.87**	**18.42**	**16.45**	***
"Once you have studied how the stock market works, you can see which product or stock will be really good in two or three years."	**Investors**	**381**	**35.70**	**27.82**	**7.87**	**
	- Recent	87	35.63	21.84	13.79	
	- Long-term	121	23.14	35.54	-12.40	*
Average (dis-)agreement across Quotes	**Non-investors**		**60.67**	**9.00**	**51.68**	
	Investors		**58.48**	**14.10**	**44.39**	

Table 5 (continued): Quotes on Entry and Participation Costs and Market Efficiency

Panel C: Market Efficiency

Quote	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Everybody can invest	**Non-investors**	**465**	**45.38**	**16.99**	**28.39**	***
"Today, anyone can invest. There are many ways to open a portfolio online even as a layperson. I think it is now open to the general public."	**Investors**	**400**	**77.75**	**5.75**	**72.00**	***
	- Recent	95	76.84	7.37	69.47	***
	- Long-term	124	76.61	5.65	70.97	***
Fluctuations are unavoidable	**Non-investors**	**444**	**40.77**	**20.05**	**20.72**	***
"Fluctuations in the stock market are hard to predict and unavoidable, so it is not necessary to monitor the companies in your portfolio or the economy. These fluctuations (the risk of the stock market) are the reason that, in the long term, the stock market yields higher returns than a savings account."	**Investors**	**398**	**56.78**	**19.10**	**37.69**	***
	- Recent	111	53.15	17.12	36.04	***
	- Long-term	117	47.86	24.79	23.08	***
Can't predict what will happen	**Non-investors**	**432**	**35.88**	**20.83**	**15.05**	***
"But eventually I realized that I don't need to go so deep because it doesn't help me to go so deep since I can't predict what will happen with the stock tomorrow or the day after."	**Investors**	**400**	**52.00**	**16.50**	**35.50**	***
	- Recent	85	44.71	18.82	25.88	***
	- Long-term	122	45.90	17.21	28.69	***
No perfect time to buy or sell	**Non-investors**	**437**	**39.82**	**24.94**	**14.87**	***
"There is no perfect time to buy or sell. In hindsight, you know better, but you can't predict it. Even professionals can't predict which stocks will perform best next year. Therefore, it is unnecessary to inform yourself about companies or economic forecasts."	**Investors**	**393**	**47.84**	**23.92**	**23.92**	***
	- Recent	86	44.19	26.74	17.44	*
	- Long-term	118	52.54	24.58	27.97	***
Let the portfolio rest	**Non-investors**	**382**	**31.15**	**22.77**	**8.38**	
"You simply let the portfolio rest on its own for a longer period of time. You keep track of it. And when you know you're in positive territory, you're happy and buy yourself an ice cream, for example."	**Investors**	**297**	**52.86**	**18.52**	**34.34**	***
	- Recent	72	61.11	13.89	47.22	***
	- Long-term	87	41.38	21.84	19.54	**
Active vs. passive	**Non-investors**	**460**	**18.04**	**11.30**	**6.74**	**
"Funds are managed, so there is a fund manager, and ETFs are unmanaged. So you really only have the index, but you have lower fees. The performance of ETFs is usually just as good, if not better."	**Investors**	**380**	**52.37**	**8.42**	**43.95**	***
	- Recent	78	48.72	12.82	35.90	***
	- Long-term	133	48.12	6.02	42.11	***
Opening a brokerage account is easy	**Non-investors**	**370**	**26.76**	**34.05**	**-7.30**	**
"I think opening a brokerage account would be quite easy for me. It's basically like opening a bank account, I suppose. You just have to submit an application, probably through an app or something like that."	**Investors**	**305**	**69.18**	**11.48**	**57.70**	***
	- Recent	67	56.72	10.45	46.27	***
	- Long-term	107	78.50	9.35	69.16	***

Table 5 (continued): Quotes on Entry and Participation Costs and Market Efficiency

Panel C (continued): Market Efficiency						
Quote	**Investor Type**	**N**	**Fraction (in %)**		**Diff.**	**Sig.**
			Agree	**Disagree**		
Low-cost ETF & better off than most	**Non-investors**	**471**	**21.87**	**30.57**	**-8.70**	***
"It's pretty simple. You don't have to be a stock market guru. Boring is better. Just automatically save through a savings plan into a low-cost ETF, and you'll already be ahead of most people."	**Investors**	**379**	**59.89**	**15.30**	**44.59**	***
	- Recent	86	62.79	12.79	50.00	***
	- Long-term	110	54.55	16.36	38.18	***
Can't predict prices	**Non-investors**	**464**	**23.28**	**42.24**	**-18.97**	***
"Since I can't predict stock prices anyway, I don't need to inform myself about individual companies or the economy."	**Investors**	**376**	**26.60**	**53.46**	**-26.86**	***
	- Recent	93	29.03	49.46	-20.43	**
	- Long-term	121	24.79	60.33	-35.54	***
Participating is easy	**Non-investors**	**347**	**15.56**	**47.84**	**-32.28**	***
"Participating in the stock market is easy and not stressful: You buy a well-diversified fund or ETF, leave it alone, and only need to select the products once at the beginning or when making new investments. After that, minimal effort is required."	**Investors**	**309**	**51.46**	**16.83**	**34.63**	***
	- Recent	84	50.00	16.67	33.33	***
	- Long-term	79	54.43	17.72	36.71	***
Only little knowledge is needed	**Non-investors**	**451**	**16.63**	**54.99**	**-38.36**	***
"To participate in the stock market, you don't need to be informed about individual companies or the overall economy. You only need a little knowledge: diversify widely, choose low-cost products, trade little - and you're done."	**Investors**	**374**	**33.69**	**38.77**	**-5.08**	*
	- Recent	88	35.23	34.09	1.14	
	- Long-term	111	27.93	47.75	-19.82	***
Look at portfolio once a year	**Non-investors**	**363**	**10.47**	**58.68**	**-48.21**	***
"It's enough to look at your stock or fund/ETF portfolio once a year. And that's just for information, not to trade."	**Investors**	**314**	**26.43**	**50.96**	**-24.52**	***
	- Recent	67	26.87	52.24	-25.37	***
	- Long-term	96	19.79	55.21	-35.42	***
Average (dis-)agreement across Quotes	**Non-investors**		**27.81**	**27.25**	**0.56**	
	Investors		**46.57**	**21.45**	**25.12**	

Table 6: Role of Financial Knowledge

This table reports answers to knowledge-related statements to a subset of randomly selected survey participants. Statements are grouped by topic - the importance of knowledge for participation (Panel A) the acquisition of knowledge (Panel B) and the purpose of knowledge in the context of investing (Panel C). Within each panel, statements are sorted based on the difference between the fractions of non-investors that agree and those that disagree. Differences of the fractions of those agreeing and disagreeing are tested using a Wilcoxon signed-rank test, which is displayed in the last Column

Panel A: Importance of Knowledge

Statement	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Irresponsible without knowledge	**Non-Investors**	**1,891**	**72.92**	**5.45**	**67.48**	***
Participating in the stock market without	**Investors**	**1,417**	**62,24**	**9.88**	**52.36**	***
the necessary knowledge is irresponsible	- Recent	378	57.41	12.17	45.24	***
because with the required knowledge, losses can be avoided.	- Long-term	438	63.47	8.22	55.25	***
Lot's of knowledge required	**Non-Investors**	**1,891**	**68.27**	**7.30**	**60.97**	***
Participating in the stock market requires a	**Investors**	**1,417**	**49.12**	**19.97**	**29.15**	***
lot of knowledge.	- Recent	378	49.47	20.63	28.84	***
	- Long-term	438	45.89	21.00	24.89	***
Knowledge does not matter that much	**Non-Investors**	**1,891**	**21.68**	**24.11**	**-2.43**	**
The return you can achieve does not depend	**Investors**	**1,417**	**46.58**	**16.37**	**30.20**	***
so much on your own knowledge of the	- Recent	378	41.53	17.99	23.54	***
subject as long as you pay attention to a few basic aspects.	- Long-term	438	47.95	13.70	34.25	***
Little knowledge required	**Non-Investors**	**1,891**	**19.04**	**43.52**	**-24.48**	***
You can participate in the stock market	**Investors**	**1,417**	**53.35**	**17.57**	**35.78**	***
with a little knowledge.	- Recent	378	51.06	20.37	30.69	***
	- Long-term	438	54.79	15.30	39.50	***

Panel B: Acquisition of Knowledge

Statement	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Acquisition is time consuming	**Non-Investors**	**1,891**	**66.79**	**5.61**	**61.18**	***
Acquiring the knowledge required to	**Investors**	**1,417**	**51.16**	**17.50**	**33.66**	***
participate in the stock market takes a lot	- Recent	378	52.91	17.99	34.92	***
of time.	- Long-term	438	45.21	20.32	24.89	***
Acquisition requires a lot of work	**Non-Investors**	**1,891**	**64.78**	**6.56**	**58.22**	***
Acquiring the knowledge required to	**Investors**	**1,417**	**49.75**	**17.71**	**32.04**	***
participate in the stock market requires a	- Recent	378	50.26	17.46	32.80	***
lot of work.	- Long-term	438	45.43	20.32	25.11	***
Acquisition is possible	**Non-Investors**	**1,891**	**64.04**	**6.13**	**57.91**	***
It is generally possible to acquire the	**Investors**	**1,417**	**80.73**	**3.95**	**76.78**	***
knowledge required to participate in the	- Recent	378	74.60	7.14	67.46	***
stock market.	- Long-term	438	86.99	1.14	85.84	***
Acquisition through "learning by doing"	**Non-Investors**	**1,891**	**17.66**	**38.60**	**-20.94**	***
The knowledge required to participate in	**Investors**	**1,417**	**39.59**	**26.18**	**13.41**	***
the stock market can be acquired relatively	- Recent	378	36.77	26.19	10.58	***
quickly through trial and error ("learning by doing").	- Long-term	438	36.99	27.17	9.82	***

Table 6 (continued): Role of Financial Knowledge

Panel C: Purpose of Knowledge

Statement	Investor Type	N	Fraction (in %) Agree	Fraction (in %) Disagree	Diff.	Sig.
By acquiring the necessary knowledge, one can on the stock market: ...						
better understand the possible risks.	**Non-Investors**	**1,891**	**69.96**	**5.13**	**64.83**	***
	Investors	**1,417**	**83.98**	**2.47**	**81.51**	***
	- Recent	378	79.37	4.23	75.13	***
	- Long-term	438	91.78	0.46	91.32	***
better determine when to buy and sell.	**Non-Investors**	**1,891**	**63.72**	**6.40**	**57.32**	***
	Investors	**1,417**	**72.62**	**6.49**	**66.13**	***
	- Recent	378	74.07	6.61	67.46	***
	- Long-term	438	73.29	5.71	67.58	***
be better prepared for all possible scenarios that may come your way.	**Non-Investors**	**1,891**	**54.52**	**10.63**	**43.89**	***
	Investors	**1,417**	**64.50**	**8.96**	**55.54**	***
	- Recent	378	61.64	9.52	52.12	***
	- Long-term	438	69.63	6.39	63.24	***
avoid stocks, ETFs and funds with a high probability of loss.	**Non-Investors**	**1,891**	**49.07**	**7.83**	**41.25**	***
	Investors	**1,417**	**69.23**	**6.92**	**62.31**	***
	- Recent	378	69.84	7.67	62.17	***
	- Long-term	438	67.81	7.53	60.27	***
select stocks, ETFs and funds with particularly high returns.	**Non-Investors**	**1,891**	**46.38**	**8.41**	**37.97**	***
	Investors	**1,417**	**65.35**	**6.00**	**59.35**	***
	- Recent	378	63.23	6.35	56.88	***
	- Long-term	438	64.84	7.76	57.08	***
avoid losses.	**Non-Investors**	**1,891**	**49.39**	**13.43**	**35.96**	***
	Investors	**1,417**	**60.13**	**9.67**	**50.46**	***
	- Recent	378	62.43	10.05	52.38	***
	- Long-term	438	57.08	10.27	46.80	***
have less stress.	**Non-Investors**	**1,891**	**49.44**	**13.91**	**35.54**	***
	Investors	**1,417**	**66.90**	**8.12**	**58.79**	***
	- Recent	378	63.23	11.90	51.32	***
	- Long-term	438	69.41	6.39	63.01	***
hardly influence the return of the portfolio.	**Non-Investors**	**1,891**	**24.01**	**18.09**	**5.92**	***
	Investors	**1,417**	**30.77**	**34.44**	**-3.67**	
	- Recent	378	33.33	29.63	3.70	
	- Long-term	438	26.71	39.50	-12.79	***
reduce price fluctuations.	**Non-Investors**	**1,891**	**27.71**	**26.92**	**0.79**	
	Investors	**1,417**	**44.95**	**24.56**	**20.40**	***
	- Recent	378	44.18	26.98	17.20	***
	- Long-term	438	46.58	23.52	23.06	***

Table 7: Frequency of Managing Stocks, Mutual Funds, and ETFs

This table reports responses to a structured question on how often respondents believe an investment in stocks (Panel A) or mutual funds/ETFs (Panel B) needs to be monitored after the investment has been made. Each respondent was randomly assigned to answer questions about only one of the two investment products (either single stocks or mutual funds/ETFs)

Panel A: Individual Stocks

Investments need to be monitored (Fraction in %)	**Non-Investors**	**Investors**	Recent	Long-term
Daily	25.46	11.86	13.92	12.62
At least once per week	47.06	49.14	51.55	42.52
At least once per month	14.20	23.57	24.74	22.43
At least once per half-year	5.17	11.86	6.70	15.89
Once per year or less	8.11	3.57	3.09	6.54
Observations	986	700	194	214

Panel B: Mutual Funds or ETFs

Investments need to be monitored (Fraction in %)	**Non-Investors**	**Investors**	Recent	Long-term
Daily	23.98	9.48	15.22	6.25
At least once per week	49.83	40.31	44.02	34.82
At least once per month	13.70	26.50	25.00	26.79
At least once per half-year	5.30	16.32	11.41	20.98
Once per year or less	7.18	7.39	0.43	11.16
Observations	905	717	184	224

Table 8: Number of Stocks Invested In and Barriers to Diversification

This table reports the number of companies respondents would invest in (Panel A) and the reasons that prevent them from investing in a larger number of companies (Panel B). The responses are divided between non-investors, investors, and further split into recent and long-term investors.

Panel A: Number of Companies Invested In

How many different companies would you choose/did you choose	**Non-Investors**	**Investors**		
			Recent	Long-term
Exactly 1	16.39	14.26	16.44	17.35
More than 1 but less than 5	69.60	42.17	53.08	29.64
Between 5 and 10	11.64	25.33	21.23	26.27
More than 10	2.38	18.24	9.25	26.75
Observations	421	1,283	292	415

Panel B: Barriers to Investing in More Companies

What prevents you from investing in a larger number of companies?	**Non-Investors**	**Investors**		
			Recent	Long-term
Fees associated with buying and selling	50.61	28.88	32.08	24.67
Difficulty of selecting additional companies	23.36	33.37	37.74	25.33
Effort involved in following many companies	50.61	42.61	42.64	34.87
Concentration on existing companies	28.71	24.79	19.62	25.33
Lack of knowledge of other companies	10.41	11.15	9.43	16.45
Satisfied with current companies	16.79	13.46	11.81	25.99
Uncertainty about timing to buy/sell stocks	-	21.45	27.55	17.43
Waiting for the right time to buy/sell	-	21.64	16.98	26.32
Other	4.14	3.81	3.02	7.24
Observations	411	1,049	265	304

Table 9: Vignette Study: Investor Types

This table reports results from a vignette study, in which we describe three potential investors (Analysis-P, Random-P and Passive-P and asked participants to rank their portfolios with regard to returns (Panel A), risk (Panel B), and loss probabilities (Panel C)

Panel A: Expected Returns

	Non-Investors	**Investors**	Recent	Long-term
Highest Ranked: Fraction (in %)				
Analysis-P	86.70	73.10	85.32	63.18
Random-P	16.39	14.26	13.57	11.51
Passive-P	17.11	31.03	22.16	37.66
Active vs. Passive: Fraction (in %)				
Analysis-P > Passive-P	80.91	67.74	77.01	60.88
Analysis-P = Passive-P	10.04	9.74	10.80	6.07
If Analysis-P > Passive-P				
Expected Return Difference (in €)	607.64	1,287.20	1,360.39	1,520.23

Panel B: Risk

	Non-Investors	**Investors**	Recent	Long-term
Lowest Ranked: Fraction (in %)				
Analysis-P	47.02	35.29	44.04	31.80
Random-P	20.47	19.23	18.28	19.67
Passive-P	41.67	53.16	46.26	56.49
Active vs. Passive: Fraction (in %)				
Analysis-P < Passive-P	47.35	35.35	39.89	33.47
Analysis-P = Passive-P	10.87	9.48	12.74	7.11

Table 9 (continued): Vignette Study: Investor Types

Panel C: Loss Probabilities

	Non-Investors	**Investors**	Recent	Long-term
Lowest Ranked: Fraction (in %)				
Analysis-P	53.48	42.90	51.52	41.00
Random-P	16.72	14.77	17.17	12.55
Passive-P	38.85	51.42	44.88	53.56
Active vs. Passive: Fraction (in %)				
Analysis-P < Passive-P	53.97	39.81	45.43	38.08
Analysis-P = Passive-P	11.37	12.39	17.17	10.25
Subjective Loss Probability				
Analysis-P	15.67	14.02	15.84	13.31
Random-P	30.99	27.88	30.34	25.90
Passive-P	28.46	18.20	20.13	16.71
Observations	1,812	1,550	361	478

Table 10: Aspects leading investors to initial participation

This table reports answers to a structured survey question in which respondents were asked to identify up to three of the most important factors that led to their initial participation in the stock market (Panel A) for all investors (Column 1), and separetely for the subsamples of recent investors (Column 2) and long-term investors (Column 3). Panel B displays the subset of respondents who selected only one of the available factors.

Panel A: Choosing several aspects

	Investors		
		Recent	Long-term
Social Environment	**53.19**	**59.40**	**48.25**
Influence of or support from my family	22.65	29.36	15.39
Influence of or support from friends/acquaintances	22.21	28.69	14.52
My work, my employer (employee stocks)	13.45	7.98	19.87
Training/studies	8.39	8.39	9.61
Financial Advice	**24.10**	**21.11**	**25.00**
Own Research and Planning & Social Media	**63.90**	**67.12**	**57.64**
I have been thinking about the future	35.52	36.40	33.62
Researching how best to invest money	32.52	30.04	35.59
Traditional media (e.g. books, internet-without social media)	15.47	15.43	14.74
Social media	13.41	20.84	1.53
Life Events	**7.11**	**6.50**	**5.79**
Stock Market Development at the Time of Initial Investment	**27.57**	**16.10**	**39.08**
Observations	2,967	739	916

Panel B: Subsample choosing one aspect

	Investors		
		Recent	Long-term
Social Environment	**46.93**	**55.88**	**46.64**
Influence of or support from my family	18.57	30.00	13.45
Influence of or support from friends/acquaintances	12.72	17.06	8.40
My work, my employer (employee stocks)	13.74	7.65	21.85
Training/studies	1.90	1.18	2.94
Financial Advice	**15.50**	**14.71**	**13.45**
Own Research and Planning & Social Media	**21.05**	**22.94**	**15.13**
I have been thinking about the future	4.97	5.88	4.20
Researching how best to invest money	7.75	5.29	7.56
Traditional media (e.g. books, internet-without social media)	3.80	4.71	3.36
Social media	4.53	7.06	0.00
Life Events	**2.05**	**0.59**	**2.10**
Stock Market Development at the Time of Initial Investment	**7.31**	**1.18**	**12.18**
Observations	684	170	238

Table 11: Respondents' Estimates of Friends and Family Investing in Stocks, Funds, or ETFs

This table reports the distribution of respondents' estimates in the survey regarding the proportion of their friends and family members who invest in individual stocks, stock funds, or ETFs.

Fraction	**Non-Investors**	**Investors**		
			Recent	Long-term
I don't know of any	55.63	10.16	11.38	11.87
A Few	30.09	31.62	35.45	33.11
Some	9.20	27.52	28.57	27.63
One third	3.07	13.83	11.90	11.64
About half	1.06	9.53	8.73	7.31
Two thirds	0.16	4.87	2.91	5.48
Almost all	0.79	2.47	1.06	2.97
Observations	3,703	2,967	739	916

Table 12: Overcoming

This table reports respondents' (dis-)agreement with quotes that were taken from our qualitative interviews or obtained from finance colleagues and refer to the role of peers (Panel A) or advisors Panel B) in the context of equity investing. We randomly assigned subsets of survey participants to a subset of quotes to avoid survey fatigue.

Panel A: Social Environment

Statement	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Rarely discuss finances - it's private	**Non-investors**	**443**	**45.60**	**22.12**	**23.48**	***
"We don't talk much about finances. Many friends think it's a private matter. Everyone does it their own way"	**Investors**	**366**	**47.27**	**25.96**	**21.31**	***
	- Recent	86	44.19	29.07	15.12	
	- Long-term	114	47.37	23.68	23.68	***
Few approaches in my circle — likely tied to social class	**Non-investors**	**455**	**51.87**	**15.38**	**36.48**	***
"Besides, I don't have many approaches in my social circle, which probably also depends on the social class. I believe that if I were at the executive or managerial level, there would be more investments in stocks and funds than in the middle or lower class."	**Investors**	**402**	**54.98**	**18.41**	**36.57**	***
	- Recent	84	61.90	13.10	48.81	***
	- Long-term	122	50.82	23.77	27.05	***
Investing not common by peers	**Non-investors**	**445**	**65.62**	**13.03**	**52.58**	***
"In my family, friends, and acquaintances, investing (in the stock market) is not very common."	**Investors**	**423**	**53.19**	**22.70**	**30.50**	***
	- Recent	114	64.91	17.54	47.37	***
	- Long-term	131	47.33	25.19	22.14	***
We don't talk much about finances, dry	**Non-investors**	**469**	**56.50**	**16.84**	**39.66**	***
"We don't talk much about finances with friends or family. It's also very dry."	**Investors**	**359**	**41.23**	**30.64**	**10.58**	**
	- Recent	77	38.96	31.17	7.79	
	- Long-term	111	40.54	28.83	11.71	
Some people in my circle are very involved with stocks	**Non-investors**	**477**	**23.06**	**48.64**	**-25.58**	***
"Some people in my circle are very involved with stocks. They've really worked their way into it. They really take care of their finances accurately. And they really get it."	**Investors**	**361**	**52.91**	**23.55**	**29.36**	***
	- Recent	78	53.85	24.36	29.49	***
	- Long-term	120	50.00	25.83	24.17	***
The topic of stocks also makes for good conversations	**Non-investors**	**455**	**22.86**	**39.78**	**-16.92**	***
"The topic of stocks also makes for good conversations. When you meet people and say, 'I recently read this and that,' it scores points with many people if you at least have basic knowledge. You get a positive response for having read up on it."	**Investors**	**393**	**39.95**	**25.95**	**13.99**	***
	- Recent	102	40.20	23.53	16.67	
	- Long-term	111	32.43	33.33	-0.90	
Investing in stocks has become fashionable, also for middle class	**Non-investors**	**446**	**43.72**	**17.26**	**26.46**	***
"Investing in stocks has become fashionable. It used to be something for the rich, but today it is quite normal for a middle-class household to invest in such portfolios."	**Investors**	**396**	**75.51**	**6.06**	**69.44**	***
	- Recent	81	75.31	6.17	69.14	***
	- Long-term	123	73.98	8.13	65.85	***

Table 12 (continued): Overcoming

Panel A (continued): Social Environment

Statement	Investor Type	N	Fraction (in %) Agree	Fraction (in %) Disagree	Diff.	Sig.
I hear more and more people around me SMP or informing themselves about it	**Non-investors**	**434**	**37.33**	**28.80**	**8.53**	
"Yes, but I have to say, I hear more and more people around me getting stocks or funds or getting advice on them. And then I personally think, there must be something to it."	**Investors**	**400**	**57.00**	**15.75**	**41.25**	***
	- Recent	100	60.00	11.00	49.00	***
	- Long-term	124	43.55	21.77	21.77	**
I would like to talk to some simple person personally	**Non-investors**	**463**	**56.16**	**17.71**	**38.44**	***
"Yes, but I have to say, I hear more and more people around me getting stocks or funds or getting advice on them. And then I personally think, there must be something to it."	**Investors**	**389**	**45.76**	**25.96**	**19.79**	***
	- Recent	92	44.57	19.57	25.00	***
	- Long-term	126	33.33	39.68	-6.35	

Panel B: Financial Institutions and Financial Advice

Statement	Investor Type	N	Fraction (in %) Agree	Fraction (in %) Disagree	Diff.	Sig.
Bank advisors are not independent, serving bank	**Non-investors**	**451**	**61.64**	**11.31**	**50.33**	***
"With bank advisors, I always have in mind that they are not independent because I feel like they serve their bank more than the customer."	**Investors**	**395**	**73.92**	**8.86**	**65.06**	***
	- Recent	79	63.29	12.66	50.63	***
	- Long-term	125	79.20	6.40	72.80	***
Finding a good advisor is exhausting	**Non-investors**	**442**	**56.11**	**11.54**	**44.57**	***
"So first find a good advisor. It's all exhausting."	**Investors**	**381**	**30.18**	**39.63**	**-9.45**	**
	- Recent	89	32.58	34.83	-2.25	
	- Long-term	114	25.44	42.98	-17.54	**
Bank advisors can be very helpful	**Non-investors**	**466**	**40.34**	**18.67**	**21.67**	***
"Bank advisors can be very helpful. As I said, they are knowledgeable, they have experience with the whole matter. They can also give appropriate recommendations to people, to laypeople who may be less familiar with the subject."	**Investors**	**402**	**44.78**	**22.89**	**21.89**	***
	- Recent	104	49.04	17.31	31.73	***
	- Long-term	122	34.43	31.97	2.46	
Wealth management - not the best you do not to do anything	**Non-investors**	**459**	**27.45**	**23.31**	**4.14**	
"Wealth management is so nice when they take care of it. It's not the best you can achieve if you knew what you were doing yourself. But for not having to do anything, it's great."	**Investors**	**379**	**38.79**	**25.86**	**12.93**	***
	- Recent	84	41.67	23.81	17.86	*
	- Long-term	119	27.73	32.77	-5.04	

Table 12 (continued): Overcoming, Panel C

Panel C: Own Research and Planning

Statement	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
Either I want to bear the risk myself or not at all	**Non-investors**	**456**	**37.06**	**25.00**	**12.06**	***
"I don't want to go somewhere and say, 'By the way, I'm interested in stocks. Here's €10,000, do your thing.' Either I want to bear the risk myself or not at all."	**Investors**	**385**	**54.03**	**16.88**	**37.14**	***
	- Recent	101	47.52	19.80	27.72	***
	- Long-term	113	52.21	11.50	40.71	***
For me, it's always easier to do it myself	**Non-investors**	**436**	**30.73**	**33.49**	**-2.75**	
"For me, it's always easier to do it myself and get information online rather than going to a consultation. I don't feel like doing that."	**Investors**	**394**	**60.66**	**15.23**	**45.43**	***
	- Recent	84	54.76	13.10	41.67	***
	- Long-term	119	60.50	16.81	43.70	***
YouTube experts	**Non-investors**	**451**	**13.30**	**46.56**	**-33.26**	***
"And the way they explain the financial world on YouTube, those are experts. That really convinced me. I changed my opinion a lot because they don't do advertising. They're not trying to sell anything."	**Investors**	**375**	**29.87**	**41.60**	**-11.73**	***
	- Recent	89	28.09	34.83	-6.74	
	- Long-term	118	16.95	55.08	-38.14	***
No investing without understanding, just because others say	**Non-investors**	**368**	**75.64**	**9.74**	**65.90**	***
"Yes, I want to do it right too, I want to understand what I'm doing. I don't want to just invest blindly because everyone says you should just invest in ETFs or stocks."	**Investors**	**293**	**79.56**	**7.23**	**72.33**	***
	- Recent	75	70.00	11.67	58.33	***
	- Long-term	91	86.24	7.34	78.90	***

Table 13: Role of Advisors

This table presents respondents' levels of (dis-)agreement with various expectations of financial advisors in supporting stock market investments elicited in the survey.

Statement	Investor Type	N	Fraction (in %)		Diff.	Sig.
			Agree	Disagree		
An advisor who constantly informs herself/himself	**Non-Investors**	**1891**	**68.54**	**8.51**	**60.02**	***
He/she is constantly informed about the individual stocks and follows the news about the respective companies.	**Investors**	**1417**	**68.88**	**11.15**	**57.73**	***
	- Recent	378	64.55	13.76	50.79	***
	- Long-term	438	71.69	10.50	61.19	***
An advisor who often monitors	**Non-Investors**	**1891**	**74.19**	**5.71**	**68.48**	***
He/she often monitors the composition of the portfolio and regularly checks whether there are more suitable products.	**Investors**	**1417**	**77.77**	**4.94**	**72.83**	***
	- Recent	378	74.07	5.82	68.25	***
	- Long-term	438	81.05	3.88	77.17	***
An advisor who checks yearly	**Non-Investors**	**1891**	**13.70**	**62.93**	**-49.23**	***
He/she leaves the portfolio lying around and looks at it once a year when a customer appointment is due.	**Investors**	**1417**	**25.90**	**55.75**	**-29.85**	***
	- Recent	378	24.60	55.29	-30.69	***
	- Long-term	438	21.69	60.96	-39.27	***
An advisor who informs immediately about buy/sell possibilities	**Non-Investors**	**1891**	**71.55**	**5.87**	**65.68**	***
He/she informs me immediately if I should buy other products or sell products.	**Investors**	**1417**	**71.49**	**6.35**	**65.14**	***
	- Recent	378	71.69	8.73	62.96	***
	- Long-term	438	70.78	5.94	64.84	***

Online Appendix

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The appendix contains the following sections: A. Interview Quotes Referenced in the Results Section, presenting the indirect quotes used in the results. Section B covers Interviews: Data Collection and Coding, starting with B.1, Interview Guide, which outlines the questions and structure used during the in-depth interviews, followed by B.2, Coding Scheme, describing the framework used to categorize and analyze the interview data.

A Interview Quotes Referenced in Results Section

The direct quotes are arranged in the order in which they are mentioned in the results section. Notes on the behavior of interviewees are provided in round brackets, and context summaries are enclosed in square brackets. Short questions or comments from the interviewer are written in plain type after the mention of the interviewer.

The perception of entry barriers and of net benefits of stock market participation

Qualitative evidence

Resit (13, 246) *So I think an average of five percent a year, in two years you have ten percent, a little more than ten percent, so five percent increase in value.*

Ralf (10, 181) [Light laughter] *Yes, always double it. No, it should - I'll tell you, a good savings account used to yield 5% or something like that, 5 points if I remember vaguely. Sure, anything higher than that. Between 5 and 10% over the year.*

Ingrid (9, 210) [100 euros today, return in a year]

Well, probably not too much. I don't know, I don't know. If you're lucky, I don't know, €105 €110. Something like that.

Pia (6, 204-205) *Yes, I would hope for around €30 35* [out of €1,000]*, and of course it would be great if it were 3%. If it was 6%. 6% would be great, of course. Yes. 6, 7%.*

Perceived entry costs

Bianca (2, 305) [Reference to the situation that Bianca has a trading app, deposited money there but does nothing more because she finds it very complicated]

Yes, I want to do it properly, I want to understand what I'm doing. I don't want to just blindly invest in ETFs or shares because everyone says you just have to.

Madeline (1, 172) *Requires specialist knowledge and expertise. Not transparent and actionable for the normal checking account user. You must familiarize yourself. You must gather information. You need to have a basic understanding of how things are connected. You need to have a sense of the relationship between risk and return.*

Esther (13, 252) *Sure. I think you just must deal with it, observe it. There are so many networks where you can definitely look at it. Or if I'm interested in a stock now, I google it. Nowadays you can google all sorts of things. As I said, you really must sit down and observe it for a while, one or two weeks or maybe months, to see how it varies. Does it rise, does it not rise? Does it remain constant? Are they being sold, are they not being sold? So that's how I would do it now, to decide ok, which way do I go, where do I get in now.*

Luca (5, 426) *Well, I think, no idea, talk to as many people as possible who have experience with it or do research on the internet. Read reports.*

Nadine (7, 159) *What are the best low-risk stocks? Or with lower risk.*

Pia (6, 151) *I would perhaps look at the stock performance over the last few years. What the curves are like. I think you can look at that, and then you can see whether it's a steady company or whether there have been very jumpy years where you might lose a lot of money.*

Nadine (7, 137) Interviewer: So it's better not to have all the small stocks, but rather the two big ones (...)

Yes. Or you put 50 [out of 100] *into one big one and then two times 25 into two small ones. Depending on how they're doing. I mean, you must find out beforehand how they have changed over the years, you can also look at tables like this.*

Madeline (1, 8) *You have to be half a financial professional by now to invest your money profitably or profitably without incurring losses.*

Luise (4, 136-137) Interviewer: What is the danger there or why is it so bad if someone approaches it ignorantly?

As I said, on the one hand it can be good, but on the other hand it can go in a different direction very quickly and then I lose the money I invested and that can also be large sums.

Oliver (16, 214) (...) *So, when there are current topics, whether it's Deutsche Bahn, General Motors, which used to be in the media, or BP, where the oil has tipped over, you can read a bit about how the stocks are developing, performing. And you can influence it yourself. I suspect that more and more. That you can profit from it if you pay attention to it and read about it.*

Kirstin (8, 250) *Yes, which product is in demand, so what are people asking for? What is going up? Look at the position. What is also for later life? For example, small things like computers are on the rise at the moment, where you might be able to make more profit. Or everything that has to do with technology is on the rise and you should find*

out about it. Because there are lots of areas and you need to find out where it's going up or down and check every day to see whether it's always going up or whether it can go down.

Silke (12, 107) *Well, I'm not so good at it yet, I have to say, but I'd like to. As I said, I've listened to a few podcasts and read a book on the subject of women and finance. But to be honest, I haven't made any progress yet. Because if I did, I'd like to do it on my own. So that I have a bit of an eye on it on my own. I also read a lot of newspapers, so I hope that at some point I'll know where some of the trends are going. So, in my naivety, I say that now and that I know what's going on with HelloFresh. I've already noticed that it's been bought a lot, and then the stock has risen incredibly. In other words, if you had invested there, you could have won. That you recognize trends beforehand, so to speak.*

Silke (12, 109) *But I would have to be fit enough to manage it myself somehow. In other words, I would have to know where to get the stocks. How quickly can I sell them? And I don't know any of that.*

Expected benefits from participation

Ingrid (9, 170) *On the one hand, you should keep an eye on these things to see how the market is developing. Nowadays you can see how stocks rise or fall or whatever. On the one hand, and yes, I mean that nowadays you don't necessarily invest in one stocks or one company. Instead, these are so-called share packages, which then perhaps also simply minimize the risk somewhat. In other words, there's only one stock where the risk is a little higher and the other shares are relatively safe. So I can't tell you which stocks are safer and which are risky. I just don't know the stock market well enough for that or...*

Resit (14, 296) Interviewer: But you said that ETFs are already a mixture of stocks. That

means there is little risk.

Yes.

Interviewer: But you wouldn't feel sure that you've chosen the right ETFs?

Yes, exactly, maybe you want the optimum, the best. Of course, an ETF will always be good. But if you do invest your money, you probably want the best. You want to do a bit of groundwork to find the best product for you.

Interviewer: That means a lot of research, as you said, and a lot of hard work to find the optimal product.

Exactly.

Cathleen (3, 309) *So that would certainly be something for longer-term planning. But as I said, I would first go for real estate. So that I also have something tangible. Because with a stock, of course it can be a good investment, but at some point there can be a slump and then I've lost out. That's why real estate is something tangible that I have for security if I then perhaps change my mind or think about moving, something bigger, something smaller, yes. It also gives you the opportunity to get additional support from the bank. No.*

Perspective of investors

Dennis (18, 71) *That's why for me it's more a case of regularly checking what has happened to the investments I have made. And also, partly look at what is written about these companies in the media. I do that twice a month. And from this I try to work out whether I should keep the stock or sell the stock savings plan.*

Uta (17, 27) *And that's what I've always had in the back of my mind. Because that seems logical to me. Always invest in something you understand.*

Uta (17, 369) *Yes, yes indeed, because I don't think ETFs are a sure-fire success like building society insurance or life insurance, but it's something that's already in my head. That's something you should at least keep an eye on.*

Adam (24, 96) *So I give them a mandate for the sum, I roughly define the parameters and then I have nothing more to do with the actual investment decisions. They take care of that. They carry out all the purchases and sales. I have access at all times and can see what they're doing. But that's exactly why I entrust them with the money, so that I don't have to deal with it.*

Adam (24, 104) *I don't have the time, the knowledge or the fees that I would have to pay every time I buy or sell. The sums involved would make it exciting for me.*

Heterogeneity across participants

Luise (4, 143) *And I enjoy following this kind of thing, and I'm also very interested in it and find it exciting in general.*

Luise (4, 163) *It's a bit like sport. So I experience a lot of new things. Yes.*

Oliver (16, 224) *In general. It's just that I think it also makes for good conversations. When you meet people and get to know someone from the financial sector and you say "I recently read this and this", that also scores points with a lot of people if you have at least basic knowledge, you're often surprised or get a positive response that you've read up on it.*

Esther (13, 216) *Headache, for me it's a headache.*

Ingrid (9, 117) *So it's often the case that you can understand things you're interested in. I'm not interested in that, which is why I don't understand it.* (laughs)

Pia (6, 466) *So, if you're not interested in it yourself, you won't get to it.*

Oscar (21, 14) *Since then, I've been reading newspapers online, such as Aktionär, an online newspaper, and I've actually become interested in it personally.*

Uta (17, 6) *Because I'm now at an age where I'm due an inheritance. It's not just money, it's also property. And although I find the subject terrible, I have to deal with it. Because of course I don't want to squander my parents' life's work somehow or lose it again through unwise decisions, when it really took them decades to build up their assets. That's why, even though I'd rather sit in a café or cuddle with my cat or watch TV and go out or drive a convertible, I have to deal with it now.*

Luise (4, 143) *And I enjoy following this kind of thing, and I'm also very interested in it and find it exciting in general.*

The path to becoming an investor

The Role of the Social Environment - Family, Friends, and the Workplace

Uta (17, 229) *Yes, that was a tip from my sister at the time and because I think she's such a financial genius, I was happy to do it. And then I was delighted to see that the value of my portfolio was increasing and I didn't know what ETFs were at the time.*

Bianca (2, 275) *One is an economist and works at Merck and has always been very interested in math. And the other is an IT specialist and both earn very well and I don't know how we came to this. But I think I once asked one of them if he could help me or if he would look with me at what I could invest and how, because I have no idea how it works. And then he said yes of course, I'll send you a few YouTube videos and then you can watch them and then we'll do it sometime. And yes, I think it was more of a coincidence, I think I told him on my own that I would like to invest and I know from both of them that they use it.*

David (20, 95) *So in my circle of family, friends and acquaintances, investing is not so widespread, although my father has also started to buy more stocks in recent years. Also due to the zero interest rate policy.*

Resit (14, 266) *Preferably simple people like us. So not now... I mean, I don't want to offend anyone. Preferably not from some institution or bank or something, but a completely normal person, a completely normal, average person, who perhaps only earns something a month as a worker, and thinks about it just like we do, and doesn't get paid for it. Private people.*

Madeline (1, 220) *Well, the people I know who are in roughly the same financial situation as me have similar support from their family in most cases, and then it's more of a side issue. There's a brief exchange of opinions: "Does it make more money to buy a vacation home on Sylt Westerland or in the south of France? What are the rental prospects? How much will the family use it?" Such discussions do take place from time to time, but not much more. Or there is simply nothing to talk about.*

Pia (6, 462) *My parents don't have anything to do with it either, so my family isn't the one who pointed it out to me. Exactly, and apparently I don't have so little money that I haven't thought about investing before. Yes, maybe you don't dare to do that because there are so many technical terms and foreign words and yes.*

Kirstin (15, 288) *So I would like to speak to someone in person, someone who is not upmarket, but a simple person who is understanding and nice, who can explain to me a bit about how to proceed.*

The Role of Financial Institutions

Monique (19, 89) *That came from an appointment with the advisor at the savings bank, I was about 18. It was 25 or 50 euros, I think I started with 25, then 50 euros and the*

savings bank's partner is DEKA and then I put it into a savings plan, but exactly how long it ran for, maybe three years or so.

Manuel (25, 271) *So the knowledge, that's profound knowledge. It's broad and profound knowledge at the same time. You have to imagine it like a doctor performing surgery. Not just anyone can operate on a person. Only a doctor can do that, because they have learned it. And they also know their way around in terms of experience. It's just like a banker. Of course there are bankers who are just crooks. And others are also very good bankers. As I said, they know their stuff, they have experience with the whole matter. They can also make appropriate recommendations to people, to laypeople, who are perhaps less familiar with the subject matter.*

Interviewer: How can I tell the difference? When you say there are good ones and bad ones, how can I tell?

Well, you can tell quickly by simply seeing that if someone arrives and says ok, I want your money, we can invest it, then you will make millions in profit. If someone is very quick, hasty and not at all interested in the person, it's a sign right from the start that it's all just a surface. That it's all just an act. If a banker is genuinely interested in you as an investor, then he will approach you again and again and even call you. Discreetly, not in the exaggerated sense. Because you have given your permission for him to contact you. And so at some point, if he has the appropriate form, the opportunity to invest money for you, as you have described it to him, then you will come together. And that may be over a longer period of time. Then you can see very clearly that he is making an effort for you. And you can see that immediately, you can see that quickly.

Resit (14, 266) *Preferably simple people like us. So not now... I mean, I don't want to offend anyone. Preferably not from some institution or bank or something, but a completely normal person, a completely normal, average person, who perhaps only earns something*

a month as a worker, and thinks about it just like we do, and doesn't get paid for it. Private people.

Luca (5, 524) *Oh well* (laughs). *Well, even though I've been with Deutsche Bank for I don't know how many decades, the bank always thinks of itself first and foremost, yes. How they make money. That's the way it is, that's why I, as a beginner* (makes quotation marks with hands), *where I don't know my way around, where I don't know my way around at all, then I first want to find out from closer people, from closer people who don't, how should I put this, who don't want to make a profit from me, with me. Let's put it this way, that's actually. Yes.*

Bianca (2, 325) Interviewer: But intuitively the saving bank is not the right place to buy stocks, yes?

N*o, I don't think so. I've never been told anywhere that I could buy stocks there and I don't think that the normally trained bankers, maybe that sounds arrogant, but I don't see why they should know anything about stocks. It seems a bit like that to me. For me, a savings bank is a typical suburban bank, normal, like a Volksbank. You invest your money there. You have a savings book, maybe a fixed-term deposit account, credit cards, but that's nothing now. Of course you can also apply for loans, everything at the moment, but not something like this. That's what I think.*

Pia (6, 279-280) Interviewer: Postbank, what do you think they are capable of? What would you ask them about stocks?

Maybe what shares they might recommend. To be honest, I wouldn't do any shares through them. That's also because I don't feel that I'm getting very good advice.

Uta (17, 263) S*o that's my personal aspiration, which I've only developed in recent years, is that if you don't want to support companies that aren't sustainable, then it becomes difficult because you have to be incredibly selective. And then it's really a question of*

yes, do I invest in Merck stocks, for example, that do animal testing but also save people? For me, there's a bit of a question of conscience, and of course, you can also buy stocks and then look back in 30 years to see how things have actually developed. Of course you can do that too, especially if you don't need the money, yes. But it's something where you have to at least observe the market, yes. Or you have people who do it for you. And that's just or you're a customer and you should also be aware that I think sometimes many advisors aren't advisors, they're salespeople. So first you have to find a good advisor. It's all exhausting.

Uta (17, 357) *Deal with the advisor, if you have an advisor, deal with the advisor, yes.*

Anika (22, 117-126) Interviewer: All right. You've received this annual overview two or three times now.

But I don't know how much is in there. Actually, I don't, I don't know. I can't tell you. I don't know how much we've accumulated.

Interviewer: Have you even looked at it? When the thing comes, the letter?

No. I always put it with the tax documents. Because I think to myself, you always hand everything in and have a look. I don't even know if I can pay tax on it or whatever. I always put the overview in there. I give the documents to my husband's friend who takes care of our taxes. And he always gives me back what he doesn't need. So it's always the same thing. I put everything I get into the documents. Do I need it for tax, yes, no. If I get it back, it gets filed. Period.

Interviewer: So you don't actually know whether it will be taxed or not. Was there anything like that?

I have absolutely no idea. As I said, the subject has always scared me. And I just said to Michael that if I save my money, if I at least have it there, and it doesn't get lost, then it's okay. Then do it, if it's good.

Interviewer: And how do you know that it won't get lost?

He told me that at least it would be returned. I really trusted that blindly. As I said, when you know a person, you trust them.

Interviewer: Yes, of course, that could be the case. I don't know anything about that either. In this fund, he told you that you would definitely get your money back. But you really don't know now...

How much more I'll make with it.

Own Research and Planning and the Role of Social Media

Dennis (18, 4) *When it comes to finances, I always like to have a lot in my own hands. I'm not the kind of person who trusts my bank advisor unconditionally.*

Oscar (21, 209) *Terminated, yes. I would never do anything there again, that was somehow - I don't know, I have the experience in local banks, they were somehow never that good, back then with Volksbank and Deutsche Bank. For me, it's always easier to just do it myself and get information online instead of going to a consultation or something, I don't feel like it.*

Madeline (1, 151) *The traditional ones like ING DiBa, Beta Invest, Trust Pilot, Weltsparen. They are more or less all connected. And then there are the higher-level portals that offer everything from A to Z, such as Check24, Verivox and what they are all called. You have to be a bit careful there. Ultimately, they are all interlinked. You simply take various comparison portals and enter your parameters. How much, how long, at what risk. And then you look at the three or four portals to see if they give you roughly the same results. Then you get a pretty good feeling for it. So if the Finnish xy Bank is mentioned in all the portals with a good interest rate for fixed-term deposits over three years, then there's probably something to it. They don't give each other anything. Then*

you have to look at the small print to see whether it's worth it in terms of VAT or tax exemption yes, no and what's attached to it. It's all become pretty much the same now.

Luise (4, 129) *I usually just use the search engine on Google and enter the relevant keywords. For example, shares, what to watch out for, share performance. And now I have an iPhone and I can also see shares, the individual trends a bit, so I also keep an eye on them to simply develop an understanding. OK yes, that day was rather better, that day was rather worse.*

David (20, 93) *Through finance books. There's something for all kinds of things. Stocks, real estate, general understanding of the financial system, etc. I still watch all sorts of topics on YouTube that interest me. Tutorials where I would like to know how to do it. And I've always done very well with that, getting smarter with it.*

Monique (19, 101) *So most of it came through Instagram and Facebook. The first one I followed is called Madame Moneypenny, she's an influencer, she wrote a book and she was the first one to deal with finance for women. And she also has a Facebook group, I don't know what it's called, I joined it and there are a lot of women in it. She also recommended ETFs. I read her book once. I also exchanged ideas with colleagues who somehow, by chance, came across the topic and also knew this person. And that was the first point of contact, I read it again and again, because you keep looking at postings and someone keeps asking what it is. And I didn't understand much about it then. Even today, I still don't feel like delving that deeply into the subject. Basically, I already know what the fund invests in, but I couldn't explain it to anyone in such detail.*

Monique (19, 102) *Then I opened my own brokerage account, which is now with Trade Republic, and I have it via an app on my phone and it was super easy to open on my own. You don't have to read through anything, it was so intuitive. And then as soon as you're authenticated, you can get started straight away. I tried it out first and only did 25. Then there are shares for women on Facebook, she also told me a bit about*

the funds, for example the MSCI World, the fund always came up, I saw it a lot, then I looked at the performance, which was also very good and then I thought it was a common fund that many have and then I took it. But I didn't look at many others at all. Now I'm reading more and more. For example, S&P 500, then you hear other fund names, then you take a look via the app to see what kind of fund it is and where it invests. I wouldn't be averse to splitting another 50 into four funds, but I'm still working on that.

Oscar (21, 151) *I thought it was good because I knew that I didn't have to invest 100 euros all at once, but that I could also divide it up. I can then really decide whether I want to invest 25 euros twice or split it up a bit. The fees are actually the same, so I thought the 25 euros was a good idea.*

Life events

Dennis (18, 161) *Well, fear also plays a role, simply because social security was no longer what your father's or my father's or grandfather's was at the time and somehow you're always being taught personal responsibility, personal responsibility, personal responsibility.*

Luise (4, 239) *So my parents both said, yes Luise, unfortunately you've grown up in a society where you won't have much of a pension. And your pension simply won't be much, so protect yourself. Protect yourself and don't spend all your money on unnecessary things, because in old age you'll have to pay medical bills. And I've also seen this with my grandmother, who is a craftswoman, so she worked as a craftswoman and now barely draws a pension and my parents have to support her a lot. And I don't want to end up like that, so I don't want to be paid by my children.*

Madeline (1, 20) *You used to put your money in your pocket somehow, slip it under your waistband and walk into the bank branch. And then you'd say "I've got something and*

I'd like to keep it safe". That's how people used to do it. Or you bought a few grams of gold and hid it under the mattress. That's how grandma and great-grandma used to do it. It's just no longer up to date today. Many things are losing value. It's become fashionable to invest in real estate or shares, something that wasn't talked about much or at all 30 or 40 years ago. At least not in the middle class. It was really only the very rich households that thought about such things. And today it is actually normal for a middle-class household to invest in such portfolios. You would actually have to do that today to avoid throwing money out of the window. The loss of value is immense if you don't do anything with your assets and leave them in an account and now have to pay negative interest on them or close them in a bank vault or something similar. This is no longer the method of choice. Things have changed rapidly in recent years.

Uta (17, 269) *I came into a large sum of money and I wanted to invest it well without having to deal with it too much. That's why I took the advice of someone who I consider to be very competent and whom I trust, and then I opened a custody account at a bank where I already had a call money account and did that.*

Dennis (18, 21) *First of all, I enjoyed life after my apprenticeship, I'd say, I didn't think too much about retirement provision. I earned my first real money, so I had a "work hard, party harder" mentality. Then I fell ill, had to stop working for quite a while and at some point I received my pension information and then it suddenly started to rattle. You can work out relatively reliably what you can expect in old age. Even with the current status, what amount is on there and then there's not much left. And that's when it started for me, you could say it was during the illness phase that I started to look at how I could organize my future so that I would have a future. Because of course I don't want to be dependent on the state for the rest of my life. And then it just started. Of course, you kept hearing in the media about old-age provision such as Riester and so on. Then you look at it, look at the remuneration, it doesn't even keep*

up with inflation, then you work out how old you have to be to get back roughly the money you've paid in.

Dennis (18, 57) *Then I looked at how I could open a brokerage account as cheaply as possible and also relatively unbureaucratically, which is an added bonus. The brokerage accounts at traditional banks are not necessarily cheap, due to issue front-end sales loads etc. Whether they are justified or not is not my job to judge. For me, cheap is simply the yardstick here: if, for example, I only pay three euros for a single share, but then have to pay five euros for the fact that I buy it via the brokerage account, then that's not the right thing for me. So I looked for alternatives. And then I ended up with Trade Republic, registered there and basically have my brokerage account there.*

B Interviews: Data Collection and Coding

B.1 Interview Guide

Introduction (5-10 minutes)

- Hello, my name is ... and I would like to thank you for taking the time to speak with me today.
- I am an **independent market researcher**, which means I do not work for a specific company or brand. I mention this because I want you to feel free to **speak openly with me**. There are **no right or wrong answers**, and **your statements will not be judged**.
- With your permission, I would like to record this interview for our research purposes. Even though I will be taking notes as we speak, I may not be able to capture everything, but it is important for me to gather all the details. The recordings will be deleted after the study is completed.

- Everything you say will be treated as **strictly confidential** and **evaluated in a strictly anonymized form**. Your name will never be mentioned in the results, meaning the results of this study will not allow any conclusions to be drawn about your personal data. Of course, we will not share any information with third parties. Are you comfortable with me recording the conversation?

- The interview will last **approximately 1.5 hours**. Is that okay with you? If so, I would suggest that you try to ensure we are undisturbed during our conversation so that you can fully focus on the interview.

- Do you have any questions at this point?

- The topic of today's interview concerns your living circumstances, habits, and your attitude and opinions on various **topics related to "money/finance".**

- **Brief introduction** of the participant.

Warm-Up (10-15 minutes)

Today, we're discussing the topic of **"money/finance"**

- What are your initial spontaneous thoughts when you hear the words "money/finance"? What comes to mind? (Allow free responses)

Now, I'd like to play a little game with you. In the center, we have the word MONEY. Surrounding it are Post-Its that you will fill out. It's super easy. Let's get started!

- What can you do with your money? You can... (e.g., "spend", "save", "invest", "give", "set aside", "buy things"... one thought per Post-It, exactly as stated). Empty Post-Its have already been prepared on the flip chart, and they will be labeled with the

participants' responses – one thought per Post-It. The keywords collected will be further explored in the following topic areas of "spending money & purchases" and "saving/money set aside/investing."

First, let's collect everything on these Post-Its, and we will return to them shortly.

Topic Area: "Spending Money & Purchases" (10-15 minutes)

Address the Post-Its that mentioned expenditures, consumption, or purchases.

You mentioned that **money** can be "**spent**". CAUTION: Use the exact wording of the participants.

- **When we think about the things you spend money on**.
  - What do you like to spend money on? (and why)
  - What don't you like to spend money on? (and why)
  - How do you **feel about it**? What do you **experience**?
- What else has **influenced** you when it comes to the topic **of "spending money"**? What was it like in your own **childhood home**?

You also mentioned that you can **acquire things/purchase with money**. CAUTION: Use the exact wording of the participants.

- Please tell me about **2-3 recent purchases you've made**.
- For each purchase, go through the following:
  - **What** did you purchase **exactly**? How did the idea come about?
  - How did you **feel about it**? What did you **experience**?
  - How did **people in your surroundings react**?

- Were there any **purchases you would have liked to make but did not**? What were the **reasons** for that?
- What else has **influenced** you when it comes to the topic of "**acquiring things/purchasing**"? What was it like **in your own childhood home**?
- Today, you will receive a **tax-free compensation of â‚¬55 for this conversation**. **What do you plan to do with the money?**

Topic Area: "Saving/Setting Money Aside/Investing" (20-25 minutes)

Disambiguation Return to the Post-It or Post-Its labeled "saving money" and/or "setting money aside" and/or "investing money" and/or other related terms:

You mentioned that you can: CAUTION: Use the exact wording of the participants and address each mentioned term separately:

- **"Save money"/"set money aside"/"invest money"...**
- **What comes to mind when you hear the term** ...? What do you think about?
  - What does it mean?
  - What do you personally do in this regard?

Existing Financial Products (Stockholders also go through this section when it comes to buying/deciding on their stocks)

You mentioned in the preliminary discussion that you currently own... Let's match the financial products from the screener and discuss 2-3 financial products individually.

- What exactly is it, and **how do you view it**? Which of the **terms we've just discussed would apply here**?

- **Since when have you owned**... (mention the specific financial product)?

Emergence of the need Let's go back even further to a time before you owned this financial product:

- Do you remember **how the idea of acquiring this financial product came about**?
  - What was the **trigger**?
- How, or through whom (by whom), did you even **discover** that such financial products exist?

Specification and decision for the acquired financial product **Please go back to that situation** and describe to me:

- **How did the decision in favor** of this specific financial product come about?
  - What was the **goal** here? What **specific objectives** did you want to achieve with it?
  - **How flexible** are you with this specific goal? (e.g., savings initially for a car but redirected to a new heating system)
- **How did you gather information**?
  - Which media did you use? The internet?
  - **Who did you discuss it with**? (e.g., Experts, friends/acquaintances. Do you always talk to the same people, or do you have different contacts or reference persons depending on the financial topic?)
- What **alternatives** did you learn about during this process?

- What was the **decisive factor** in choosing this specific financial product over the alternative(s)?
- What did this financial product have that the other **alternatives could not offer**?
- And **how and where did** you then **acquire** the financial product or conclude the contract?

Current status

- What **experiences have you had** since acquiring or signing the contract for this financial product? To what extent do you **discuss it with those around you**?
- How do you currently feel about this financial product? **Would you choose it again**?

Topic Area: "Participation in the Stock Market" (30-35 minutes) This section will either be "fluid" (for the control group of stockholders, as it was mentioned earlier) or may need support (possibly for the non-user group).

Scenario 1: Stocks were explicitly mentioned. Address this. "You also **mentioned stocks/stock funds**." CAUTION: Use the exact wording of the participants.

Scenario 2: Stocks/stock funds were not explicitly mentioned. Explore the topic with support. Alternatively (with support): "**There's also participation in the capital market through stocks or stock funds**."

- When you specifically think about the **stock market, i.e., stocks or stock funds, what comes to mind**?
- Imagine you had to **explain the stock market** (or what stocks or stock funds are) **to an elementary school child**. What would you say?

- Imagine I come from another planet and want to understand what people mean by the **term stock market, stocks, or stock funds**. How would you explain or make it understandable to me? What do people on earth do with them?

Projective

- How would you picture a **typical owner** of stocks or stock funds? Who are these people?
- **Whom** would you **recommend** stocks or stock funds to?
  - It would be suitable **for**... because...
- **Whom** would you **not recommend** stocks or stock funds to?
  - It **wouldn't be suitable for**... because...

Personal (Participants in the stock market/ control group)	Personal (Non-participants in the stock market/ core target group)
• How do you **personally view participation in the stock market**? – List all the **opportunities** one can expect from it, – ... as well as all the **concerns** one may have. – For all concerns: **How could they be alleviated**? • What else has **influenced** you when it comes to the topic of "**stocks or stock funds**"? – What was it like in your **own childhood home**? – And how do **those around you** behave? What kind of **exchange** do you have with with those around you about it? • What **conclusions** do you draw **from your stock ownership so far**?	• How do you **personally view participation in the stock market**? – List all the **questions** one can ask about it. – And also, all the **concerns** one may have. – What **opportunities** can one expect from it? – Review the concerns again: **How could they be alleviated**? • What else has **influenced** you when it comes to the topic of **"stocks or stock funds"**? – What was it like in your own **childhood home**? – And how do **those around you** behave? What kind of **exchange** do you have with with those around you about it?

Personal

For participants in the stock market/control group

- How do you **personally view participation in the stock market**?
  - List all the **opportunities** one can expect from it,
  - ... as well as all the **concerns** one may have.
  - For all concerns: **How could they be alleviated**?
- What else has **influenced** you when it comes to the topic of "**stocks or stock funds**"?
  - What was it like in your **own childhood home**?
  - And how do **those around you** behave? What kind of **exchange** do you have with with those around you about it?
- What **conclusions** do you draw **from your stock ownership so far**?

For Non-participants in the stock market/core target group

- How do you **personally view participation in the stock market**?
  - List all the **questions** one can ask about it.
  - And also, all the **concerns** one may have.
  - What **opportunities** can one expect from it?
  - Review the concerns again: **How could they be alleviated**?
- What else has **influenced** you when it comes to the topic of **"stocks or stock funds"**?
  - What was it like in your own **childhood home**?
  - And how do **those around you** behave? What kind of **exchange** do you have with with those around you about it?

Future Outlook

- What **plans** do you have for the future regarding financial products? What **thoughts** are you entertaining? (Core target group) To what extent are **stocks a part of that**?

Thank you for your participation!

B.2 Coding Scheme

Table A2: Coding scheme - structure

ITEM 1: Entry and Participation Costs
- 1.1. Financial expenditure
  - 1.1.1. Fixed monetary entry costs
  - 1.1.2. Fixed monetary participation costs
  - 1.1.3. Proportional monetary costs
- 1.2. Non-monetary costs and benefits
  - 1.2.1. Opportunity costs (time) and effort
    - 1.2.1.1. Entry
    - 1.2.1.2. Participation
  - 1.2.2. Interest and excitement
  - 1.2.3. Desire for control and independence
  - 1.2.4. Inertia and status quo bias
- 1.3. Abilities and Knowledge
  - 1.3.1. Cognitive, recall, and math skills
  - 1.3.2. Financial literacy
    - 1.3.2.1. Basic institutional and financial knowledge (method): Fixed entry costs
    - 1.3.2.2. Financial sophistication (parameters/info-inputs to the method): Participation costs
  - 1.3.3. Confidence in financial ability and knowledge
  - 1.3.4. Peer effects (operating through fixed entry or participation costs)
    - 1.3.4.1. Entry
    - 1.3.4.2. Participation
  - 1.3.5. Information sources
    - 1.3.5.1. Entry
    - 1.3.5.2. Participation

ITEM 2: Preferences and Beliefs
- 2.1. Preferences
  - 2.1.1. Risk and ambiguity
    - 2.1.1.1. Risk aversion
    - 2.1.1.2. Ambiguity aversion
    - 2.1.1.3. Unwillingness to take risk
  - 2.1.2. Loss aversion
  - 2.1.3. Disappointment and regret aversion
  - 2.1.4. Time horizon and preferences
    - 2.1.4.1. Time horizon
    - 2.1.4.2. Time preferences
  - 2.1.5. Peer effects (operating through preferences)
  - 2.1.6 Religion, culture, values, political orientation, stereotypes
- 2.2. Beliefs
  - 2.2.1. Return perception
  - 2.2.2. Risk perception
  - 2.2.3. Past exposure to adverse stock market events
  - 2.2.4. Perceived probability of disaster or significant loss of wealth
  - 2.2.5. Peer effects (operating through subjective beliefs)
  - 2.2.6. Trust
    - 2.2.6.1. Trust in others (generalized trust)
    - 2.2.6.2. Trust in financial markets, institutions (and their representatives)

ITEM 3: Economic Environment and Intended Equity Holding
- 3.1. Life cycle and background risks
  - 3.1.1. Life-cycle aspects
  - 3.1.2. Health status and risk
  - 3.1.3. Unemployment and labor income risk
- 3.2. Constraints
  - 3.2.1. Borrowing constraints
  - 3.2.2. Perceived irreversibility and liquidity constraints
  - 3.2.3. Consumption and financial commitments
- 3.3. Substitutes, comparisons to other classes and liabilities
- 3.4. Intended holdings

The coding scheme is developed based on an extensive review of the existing literature on stock market participation. It has been evaluated and refined to achieve sufficiently high intercoder reliability between three authors involved in the coding of at least some of the interviews.[1]

In addition to the codes in Figure before, the complete coding scheme provides an explanation as well as anchor examples from the interviews for each code. Below we provide an abbreviated version of the coding scheme, featuring a brief explanation and one anchor example.

ITEM 1: Entry and Participation Costs

1.1 Financial expenditure

1.1.1. Fixed monetary entry costs

Explanation: One-time monetary amounts which are needed to take part in the stock market. These costs can include expenses, for example, for the broker. Alan (2006, p. 590) states, concerning fixed entry costs: "It is important to note that this cost is paid (if ever paid) only once over the entire life cycle. Once it is paid, the household is free to re-enter the stock market (if exited some time after entry) without incurring any further cost."
Anchor example: "Yes, what I completely miss is that there is probably this brokerage fee. I still can't put a figure on it. Is it a one-off fee? What is it linked to? Who collects it in the end? Do I have to have access again?" (Madeline, ID: 1, sequence: 203)
Related literature: Haliassos and Bertaut (1995), Luttmer (1999), Vissing-Jorgensen (2002), Haliassos and Michaelides (2003), Gomes and Michaelides (2005), Alan (2006)

1.1.2. Fixed monetary participation costs

Explanation: Ongoing monetary amounts which are needed to take part in the stock market. These fixed amounts are independent of the size of the investment. This would include more

[1] A sufficiently high intercoder reliability is defined by a Cohen's Kappa of at least 0.60 evaluated at the coding term level.

complicated tax returns if filed through a tax advisor or continuous payments needed to manage a portfolio.

Anchor example: "Because I want to invest so that I get a return, not so that I have to pay fees somehow." (Oscar, 21, 223)

Related literature: Haliassos and Bertaut (1995), Luttmer (1999), Vissing-Jorgensen (2002), Haliassos and Michaelides (2003), Gomes and Michaelides (2005), Alan (2006), Andersen and Nielsen (2011)

1.1.3. Proportional monetary costs

Explanation: Varying costs, expressed as a percentage, are associated with activities on the stock market (transaction costs). The costs are proportional to the size of investment.

Anchor example: "So let me take an example now, total €1000, I bought securities for €1000 (...), I have, I don't know, a foreign market simply, but a total of €18 for this trade, (...) and as long as these securities are not at €1018, because at €1018 I am only at zero. I also have to add the costs of selling on this platform" (Adam, 24, 142)

Related literature: Vissing-Jorgensen (2002), Peress (2005)

1.2. Non-monetary costs and benefits

1.2.1. Opportunity costs (time) and effort

1.2.1.1. Opportunity costs (time) and effort – entry

Explanation: Opportunity costs associated with one time expenditure to participate in the stock market, such as the effort required to acquire knowledge and the potential stress connected to it.

Anchor example: "Of course an ETF will always be good. But if you do invest your money, you probably want the best. You want to do a bit of groundwork to find the best product for you." (Resit, 14, 234)

Related literature: Haliassos and Bertaut (1995), Bertaut (1998), Alan (2006), Basak and

Cuoco (2015)

1.2.1.2. Opportunity costs (time) and effort – participation

Explanation: Interview passages are coded when an ongoing effort is noted as other activities could be pursued during that time. This effort could involve acquiring knowledge and dealing with the associated stress. Furthermore, when there is a general reluctance, for example, towards finances, it should also be coded when stock market participation is encompassed under a term.

Anchor example: "You also have to deal with it a lot, speculatively, observe market developments. Corporate policy plays a big role here, which influences the stock price, which ultimately influences share prices and so on and so forth" (Bianca, 2, 220)

Related literature: Haliassos and Bertaut (1995), Bertaut (1998), Alan (2006), Basak and Cuoco (2015)

1.2.2. Interest/excitement

Explanation: Under this sub-code, references to (lack of) interest and excitement are included.

Anchor example: "I'm not interested, that's why I don't understand it (laughs)" (Ingrid, 9, 117)

1.2.3. Desire for control/ independence

Explanation: This sub-code refers to the desire to be independent and not rely on others, such as consultants or apps.

Anchor example: "Then there's really only something like that left [stocks], but as far as possible, I want to have it in my own hands. In principle, I want to manage it myself." (Ralf, 10, 229)

1.2.4. Status quo bias

Explanation: A general reluctance to think about finances (without time reference as an opportunity cost) is part of this code. It is important to distinguish this from other codes associated with costs. Individuals here generally do not want any change to the existing status quo and, therefore, do not include cost and benefit analyses.

Anchor example: "Sometimes people say I don't want anything to do with the whole thing. Do you understand? Why do you have to deal with it as a normal person? Sometimes you get this feeling that you just want to be left alone." (Resit, 14, 294)

Related literature: Kahneman et al. (1991), Samuelson and Zeckhauser (1988), Andersen and Nielsen (2011), Briggs et al. (2021)

1.3. Abilities and Knowledge

1.3.1. Cognitive, recall, and math skills

Explanation: This sub-code refers to statements where individuals themselves express or demonstrate that the hurdle in participating in the stock market persists because of their mathematical weaknesses, for example. It should encompass statements like "I can't do the math" or "it's too complicated to calculate," rather than statements like "I don't know about the stock market" or "I am not good with finances," which should be part of the sub-code "Financial literacy".

Anchor example: "With stocks, there are also different building blocks like Facebook, Amazon, that you have different playing cards that you play. And math, because it's complicated, exhausting, and stocks are also, if you don't really get behind it and read up on it properly and get advice, then they're also a bit difficult, complicated. I'm not that imaginative." (Nadine, 7, 131)

Related literature: Grinblatt and Keloharju (2001), Christelis et al. (2010), Dohmen et al. (2010), Korniotis and Kumar (2011), Lindqvist et al. (2018), Fagereng et al. (2020), Athreya et al. (2023), Kaustia et al. (2023)

1.3.2. Financial literacy

1.3.2.1. Basic institutional and financial knowledge (method): Fixed entry costs

Explanation: This subcode includes basic financial knowledge that would be necessary to navigate the stock market and influence their perception. It can be some basic financial sophistication regarding how one can participate, how the things are done, what to monitor and how to interpret it. This could refer to the time when one should invest, the stocks that one should choose or the process of learning by doing. The perception of required financial knowledge is also part of this code. Financial literacy serves as a prerequisite, representing a fixed entry cost for individuals seeking independence in the stock market.

Anchor example: "How a stock works at all or a fund, what does it all have to do with. I mean, before I invest in something, I need to know exactly how it works." (Luca, 5, 428)

Related literature: Guiso and Jappelli (2005), Campbell (2006), Lusardi and Mitchell (2007, 2008, 2011, 2014), Delavande et al. (2008), Calvet et al. (2009), Abreu and Mendes (2010), van Rooij et al. (2011), Hastings et al. (2013), Jappelli and Padula (2013), Almenberg and Dreber (2015), Balloch et al. (2015), Von Gaudecker (2015), Lusardi et al. (2017), Haliassos et al. (2020), Dong et al. (2023)

1.3.2.2. Financial sophistication (parameters/info-inputs to the method): Participation costs

Explanation: The financial knowledge (parameters/information as input for the method) includes the financial expertise and information that would have to be acquired repeatedly over time. This could be, for example, the tracking of economic developments or the examination of the offer for individual shares.

Anchor example: "So you should simply follow current events, the news situation, the world situation - you don't have to study the business section every day - but perhaps follow the world." (Ralf, 10, 155)

Related literature: van Rooij et al. (2011), Fagereng et al. (2017), Lusardi et al. (2017)

1.3.3. Confidence in financial ability and knowledge

Explanation: Lack of confidence in financial abilities includes doubts and questioning of one's knowledge to participate in the stock market. Entries are coded when references are made to self-confidence.

Anchor example: "Yes, maybe you don't dare [to buy stocks] because there are so many technical terms and foreign words and yes." (Pia, 6, 462)

Related literature: Almenberg and Dreber (2015), Bucher-Koenen et al. (2017), Bucher-Koenen et al. (2021)

1.3.4. Peer effects (operating through fixed entry or paticipation costs)

1.3.4.1. Peer effects (operating through fixed entry or paticipation costs) - Entry

Explanation: The peer effect (entry) refers to the communication of essential parameters, information, and recommendations related to the stock market, given by peers before or regarding the stock market entry. It can lower (/increase) perceived and actual costs. It is crucial to distinguish between "Peer effects (operating through fixed entry or participation costs)" from item 1 and "Peer effects (operating through preferences, such as keeping-up-with-the-Jones/operating through subjective beliefs)" from item 2. Furthermore, the advice provided by professionals should be included under the sub-code "Information sources".

Anchor example: "But that people also give each other tips? So especially when it comes to saving money, what options are there? Gosh, I do that, have you heard of it? Is that ever an issue?" Rather less so, I have to say. I haven't heard anyone say that yet, not even from the family, that you should do that. Well, not me." (Esther, 13, 324-325)

Related literature: Duflo (2002, 2003), Hong et al. (2004), Kaustia and Knüpfer (2012), Argan et al. (2014), Choi and Robertson (2020), Haliassos et al. (2020), Balakina (2022), Laudenbach et al. (2024)

1.3.4.2. Peer effects (operating through fixed entry or participation costs) - Participation

Explanation: The peer effect (participation) refers to the communication of essential parameters, information, and recommendations related to the stock market, given by peers on an ongoing scale/during the participation. It can lower (/increase) perceived and actual costs. It is crucial to distinguish between "Peer effects (operating through fixed entry or participation costs)" from item 1 and "Peer effects (operating through preferences/operating through subjective beliefs)" from item 2. Furthermore, the advice provided by professionals should be included under the sub-code "Information sources".

Anchor example: "I have to say, I always mention my son, for example, he has a lot of friends in his studies, and they say to him, do this, do that. He does that, so he does. They talk about it really openly and he gets advice from the others. Or one of them says, do this. He's also invested something somewhere. I don't know if it was a stock, I don't know. And he also took out insurance. He's very behind the times, so he is. They talk more openly, these young people, yes." (Esther, 13, 324-325)

Related literature: See in the code above.

1.3.5. Information sources

1.3.5.1. Information sources - Entry

Explanation: This code includes information that would be acquired through various sources before/during the stock market entry, such as newspapers, television, offer comparisons, social media, or professional advice (excluding peer effects). When there is a mention of trust in connection to information sources, both codes should be used.

Anchor example: "At some point, an ad from Trade Republic [online broker] actually popped up on YouTube. And then I looked into what they were doing." (Dennis, 18, 59)

Related literature: Loibl and Hira (2011), Jiao et al. (2020), Hu et al. (2021)

1.3.5.2. Information sources - Participation

Explanation: This code includes information that would be acquired through various sources following the participation on the stock market, such as newspapers, television, offer comparisons, social media, or professional advice (excluding peer effects). When there is a mention of trust in connection to information sources, both codes should be used.

Anchor example: "I think it was always on ARD or something, I don't know. They always show these stocks for five minutes. It's not on the news anymore, is it? I don't know. I kind of miss it. They used to tell you what was happening in the world, which shares were booming and which were plummeting. You already had the information." (Esther, 13, 210)

Related literature: See in the code above.

ITEM 2: Preferences and Beliefs

2.1. Preferences

2.1.1. Risk and ambiguity

2.1.1.1. Risk aversion

Explanation: Economic agents prefer certainty over uncertainty. In contrast to standard models: According to standard (second-order risk-averse) preferences, agents would always add some equity market investment to their wealth. If the prices of both possible products are the same, the risk-averse consumer prefers the proven product. A change could be possible when the person receives a risk premium. Higher risk-aversion is observed for women. How stocks contribute to riskiness of consumption is also included. Here, it is important to differentiate between "Risk aversion" and "Risk perception" under beliefs.

Anchor example: "I wouldn't necessarily invest in stocks right now, or I don't know, things that are too uncertain for me." (Michaela, 11, 83)

Related literature: Quiggin (1982), Yaari (1987), Epstein and Zin (1989), Haliassos and Hassapis (2001), Gomes and Smirnova (2021), Barberis et al. (2006), Halko et al. (2012),

Antoniou et al. (2015)

2.1.1.2. Ambiguity aversion

Explanation: In terms of stated ignorance of how stock market returns fluctuate, individuals prefer known risk. The difference lies in the statements: "I don't know how stock investments work" versus "I don't know how the market determines returns." The code should refer to the latter statement. The difference between risk aversion and ambiguity aversion is the distinction between risk and uncertainty. Risk assumes known probabilities (like rolling dice), while uncertainties require subjective probabilities (i.e., when the likelihood of a given outcome is unknown).

Anchor example: "Yes, a life insurance policy and a home loan and savings contract. That's a certain principle and a certain process that is actually fixed. And with a stock, you never know how it's going to work out." (Uta, 17, 347)

Related literature: Epstein and Schneider (2007), Bossaerts et al. (2010), Campanale (2011), Armantier et al. (2016), Dimmock et al. (2016)

2.1.1.3. Unwillingness to take risk

Explanation: The sub-code refers to the categorical refusal to accept a risk. In contrast to risk aversion, here no comparison to other investments or situations is made. Unwillingness to take risks implies that risk aversion is infinitely high, and there is no reward that can justify taking the risk.

Anchor example: "For example, I absolutely don't like that kind of thing, I want to have my money in a fixed place where I know I can fall back on it. These little games, that's too high for me then, no. Maybe people who are born rich or who have several buildings, factories, whatever, can do that. The, the, what do you call them, the business people in the end. They can do it more easily, but private people like that, so for me it would all be unsafe now. Yes." (Kirstin, 8, 216)

Related literature: See in the codes above.

2.1.2. Loss Aversion

Explanation: With an equal value of losses and gains, more impairment is attributed to the losses. It refers to the first-order risk-averse preferences, such as prospect theory (where the value function has a kink between gains and losses). The difference between loss aversion and risk aversion lies in their focus: Risk aversion pertains to aversion to variance (i.e., variation, rolling dice, roulette, etc., including cases where you always win but the outcome is uncertain). On the other hand, loss aversion focuses on the possibility of losing some or all of your investment.

Anchor example: "It would be important to me not to lose anything." (Bianca, 2, 396)

Related literature: Tversky and Kahneman (1986), Barberis and Huang (2006), Barberis et al. (2006), Dimmock and Kouwenberg (2010)

2.1.3. Disappointment, regret aversion

Explanation: Preference for choosing a certain reward rather than risking a higher reward is included in this code. It also encompasses the choice of a higher reward with a lower probability when both options are risky (Allais paradox). The disappointment or regret can be observed in relation to other aspects or investments.

Anchor example: ""Faceboook stock crashes because the site didn't work for two hours" Yes, if it's a lot of money. So if you're only investing five, six or seven hundred euros, that's fine. But there's a lot more money you could invest. That would of course be a real ..., yes, that would be a shame for the money. It's something you can't foresee, so. Many people made fun of it and didn't think anything of it, and then this news came out. And if I had €50,000 in there now and, I don't know, €35,000 would be gone or, I don't know how it works. That would be a pity." (Pia, 6, 329)

Related literature: Gul (1991), Ang et al. (2005)

2.1.4. Time horizon and time preferences

2.1.4.1. Time horizon

Explanation: One-time costs and risks will be relatively high if the investment horizon is short. A similar argument can be made concerning the amount someone wants to invest; that is, the total lifetime benefits might be too small. Nevertheless, it should be distinguished from remaining lifetime or age aspects. When there is a reference to age, the later code applies.

Anchor example: "But I think it makes sense in the longer term. Unless you're a gambler, right?" (Ralf, 10, 101)

Related literature: Bodie (1995), Gollier and Zeckhauser (2002), Kim and In (2010)

2.1.4.2. Time preferences

Explanation: This sub-code includes time preferences, procrastination and applies when people say that they should do something but prefer the easier option in the present. The present-biased time preferences describe that initial costs carry more weight than later benefits.

Anchor example: "Simply to take action. There are various steps. You have to go to a bank or first think about how I can buy shares. You have to take all these steps... You have to find out which shares I can... So you have to research again and again. It's about research, it's about hard work. You have to get to grips with it and make a concrete plan. Maybe channeling your thoughts and not just letting it all go up in the air... You have to make a plan, a structure, and concretize your thoughts. Maybe that's what it's all about, I would say." (Resit, 14, 210)

Related literature: O'Donoghue and Rabin (1999)

2.1.5. Peer effects (operating through preferences)

Explanation: Peer effects under preferences reflect preferences that depend on the consumption, wealth, income, or status of others. Examples include keeping-up-with-the-Joneses,

external habit or status concerns as well as social investors.

Anchor example: "So I don't know whether these people hang out with private individuals, with people who have no idea at all, they don't deal with them. So these are the people who only hang out with people who do this kind of thing, who know what they're talking about. They ask for more, but simple people like that, I don't think they have time for that (laughs)." (Kirstin, 8, 264)

Related literature: Manski (1993, 2000), Gali (1994) Duflo and Saez (2002, 2003), Hong et al. (2004), Brown et al. (2008), Li (2009) Roussanov (2010), Georgarakos and Pasini (2011), Bursztyn et al. (2014)

2.1.6 Religion, culture, values, political orientation, stereotypes (and inconsistency with the own identity)

Explanation: This code includes a broad range of aspects, such as religious and political orientations, value orientations, and attitudes towards participation in the stock market. Associated with these aspects, an attitude towards stock market participation can be formed. The code also encompasses other stock-market related aspects, not strictly financial, but important to individuals. For instance, the desire to have influence through stock ownership on firms represents a personal attitude. For example, Kaustia and Torstila (2011, p. 98) find that "a moderate left voter is 17–20% less likely to own stocks than a moderate right voter" based on data sets in Finland. Additionally, Bonaparte and Kumar (2013, p. 760) demonstrate that "irrespective of their political affiliation, politically active individuals are 9–25% more likely to participate in the stock market."

Anchor example: "So that's my personal aspiration, which I've only developed in recent years, is that if you don't want to support companies that aren't sustainable, then it becomes difficult because you have to be incredibly selective. And then it's really a question of yes, do I invest in Merck shares, for example, that do animal testing but also save people? For me, there's a bit of a question of conscience involved" (Uta, 17, 263)

Related literature: Guiso et al. (2003), Hong et al. (2004), Georgarakos and Pasini (2011), Kaustia and Torstila (2011), Bonaparte and Kumar (2013), Changwony et al. (2014)

2.2. Beliefs

2.2.1. Return perception

Explanation: Beliefs might manifest themselves in the form of lower/different return expectations (e.g., between participants and non-participants), higher loss probabilities for participants relative to non-participants or among individuals with low socio-economic status (often resulting in non-participation). Over-extrapolation, as an overweighting of recent returns, is also part of this code.

Anchor example: "Either the return opportunity is very small because they are supposedly companies like Tesla or similar, which are expanding globally anyway, in which case I also have a very low return. If so, I need an insider tip about a company that will make a real leap forward in the next few years, where I know I'll get something out of it. Or I go for the portfolios, the mixed funds that contain all kinds of Leipzig stuff. High-risk stocks. Stocks with a stable return. Even shares that have been tried and tested on the stock market for a long time and are hardly subject to any fluctuations. That's the reason why the average person should limit themselves to such a portfolio." (Madeline, 1, 185)

Related literature: Dominitz and Manski (2007), DellaVigna (2009), Greenwood and Shleifer (2014), Gennaioli et al. (2016), Fagereng et al. (2017), Kuhnen and Miu (2017), Briggs et al. (2021), Arrondel et al. (2022), Calvo Pardo et al. (2022), Chinco et al. (2022)

2.2.2. Risk perception

Explanation: This sub-code reflects the risk attitude. When it is stated that the person does not like risk, the codes for risk aversion and unwillingness to take risk should be considered.

Anchor example: "Yes, that is a risk, a risky business. It's not like a property where you have it within your grasp and you say, ok, I've got a property here now. I've got twelve

rental apartments in it or twelve tenants in it and then practically have the income from it every month, but it's simply also a risky business." (Cathleen, 3, 209)

Related literature: Arrow (1982), Weber and Milliman (1997), Huber et al. (2019), Zeisberger (2023)

2.2.3. Past exposure to adverse stock market events

Explanation: Especially exposure to negative shocks, possibly in the somewhat distant past, can lead to an overweighting of personal experiences.

Anchor example: "I think my father did stocks once and really fell flat on his face. Maybe that's what shaped me a bit." (Silke, 12, 117)

Related literature: Kaustia and Knüpfer (2008), Malmendier and Nagel (2011), Ampudia and Ehrmann (2017), Knüpfer et al. (2017), Malmendier et al. (2020)

2.2.4. Perceived probability of disaster or significant loss of wealth

Explanation: The sub-code refers to a perceived high probability of a simultaneous stock market crash and income decline. According to Fagereng et al. (2017), this represents a significant loss of financial wealth that has a low probability and can be observed every few decades. This aspect should be distinguished from common emergent events, such as individual job losses or liquidity shortages.

Anchor example: "I'm astonished that something like this could cause such a loss in value. Just because the technology doesn't work. I mean, we have so much cybercrime these days with Trojans and stuff. That can always happen." (Pia, 6, 327)

Related literature: Gollier (2001), Alan (2012), Wachter (2013), Fagereng et al. (2017), Choi and Robertson (2020)

2.2.5. Peer effects (operating through subjective beliefs)

Explanation: Peer effects operating through beliefs encompass perceptions, expectations,

and predictions that are shaped by others, through information, experiences, and or judgments of peers. Liang and Guo (2015, p. 884) refer to it as the "social multiplier effect of social interaction," which reflects that individuals are passively influenced by the average behavior (characteristics) of the community they live in. Cohort effect is also part of this code; it relates to education and experiences during formative years, while "Life cycle aspects" are more related to the remaining horizon and age, regardless of the generation to which one belongs.

Anchor example: "So I think I'm now moving away from just having a savings account and a building society savings contract and towards a more open way of thinking. Let's put it this way. I come from a very conservative home. So that means that's all I know. We invested in real estate. So in something manageable and only in the things I know." (Silke, 12, 117)

Related literature: Liang and Guo (2015), Arrondel et al. (2022)

2.2.6. Trust

2.2.6.1. Trust in others (generalized trust)

Explanation: Here, a distinction is made regarding whether trust is directed towards other fellow human beings or the institutions/system. Trust issues refer to the lack or limitation of the "act of faith (trust) that the data in our possession is reliable and that the overall system is fair" (Guiso et al., 2008, p. 2557). For instance, non-participation among the wealthy could be related to trust issues. It is also connected to the expected return being lower due to a positive probability of being cheated (Guiso et al., 2008, p. 2558).

Anchor example: "Five years ago, I wouldn't have thought much of the stock market. And in quotation marks I would have said it's just charlatanry, or it's just juggling with money, or having fun with other people's money. Certainly there will be people like that or companies and so on, a lot of fraudulent intentions. But there are also people or companies who handle it responsibly. I used to be skeptical about everything. Of course, skepticism is important and a good thing. But I also realize that you have to be a bit open-minded.

And not very conservative like me, very fearful, because then I see, as in my case, that you don't do anything, you don't do anything. Then you're just... You don't go one step further. Because everyone sees the disadvantage or the risk. And if you don't do anything, you don't get anything, you don't achieve anything. You could spend a lifetime saving. But then you haven't taken advantage of the possibilities or opportunities to perhaps increase your money or achieve something better." (Resit, 14, 180)

Related literature: Guiso et al. (2004), Guiso et al. (2008), Georgarakos and Pasini (2011), Changwony et al. (2014), Giannetti and Wang (2016), Balloch et al. (2015)

2.2.6.2. Trust in financial markets, institutions (and their representatives)

Explanation: Here, a distinction is made regarding whether trust is directed towards other fellow human beings or the institutions/system. Trust issues refer to the lack or limitation of the "act of faith (trust) that the data in our possession is reliable and that the overall system is fair" (Guiso et al., 2008, p. 2557). For instance, non-participation among the wealthy could be related to trust issues. It is also connected to the expected return being lower due to a positive probability of being cheated (Guiso et al., 2008, p. 2558).

Anchor example: "Yes, of course, who knows about it. The financial advisor in practice or whatever. It's a broker who's always involved and that's their job. Of course you trust them, of course you don't trust everyone. But that was a family member. You can say he had more trust. Where you say, ok, he knows what he's talking about." (Kirstin, 8, 238)

Related literature: see above, Georgarakos and Inderst (2011)

ITEM 3: Economic Environment and Intended Equity Holding

3.1. Life cycle and background risks

3.1.1. Life-cycle aspects

Explanation: Life cycle aspects refer to age effects, horizon effects, life events and retirement

issues. The sub-code is related to aspects of borrowing (not-investing) early in life, investing (accumulating assets) in the middle, and spending down one's assets in retirement. Beyond that there are risk sharing during e.g., marriage, the risks associated with divorce, and investing for college for one's children. Inheritance can play a role as well.

Anchor example: "When you're young, when you have nothing, you don't think as much [about financial products] as you do when you get older and you can call a really nice pile your own." (Madeline, 1, 215)

Related literature: King and Leape (1987), Poterba and Samwick (2001), Gollier (2002), Ameriks and Zeldes (2004), Cocco et al. (2005), Gomes and Michaelides (2005), Shum and Faig (2006), Love (2009), Christiansen et al. (2015), Fagereng et al. (2017), Gomes and Smirnova (2021), Bacher (2021)

3.1.2. Health status and risk

Explanation: The sub-code includes aspects of health status that promote or hinder investing in stocks.

Anchor example: "Yes, but I think I've become so curious that I'd still like to find out more. Because, as I said, I have time anyway due to my illness." (Luca, 5, 554)

Related literature: Rosen and Wu (2004), De Nardi et al. (2010), Yogo (2016), Böckerman et al. (2021), Gomes and Smirnova (2021)

3.1.3. Unemployment and labor income risk

Explanation: The code includes difficulties that could result from unemployment, decreased labor income or other background risks as well as the desire to (not) hedge human capital risk through equity markets. This aspect is to be distinguished from the sub-code of the "Perceived probability of a disaster or a significant loss of wealth", which does not include personal changes but events on a larger, non-individual level.

Anchor example: "I used to have a private pension, but I canceled it two years ago. Because

I was unemployed and needed the money. And apart from that, I'm not actively doing anything at the moment." (Ingrid, 9, 68)

Related literature: Guiso et al. (1996), Carroll (2003), Garibaldi and Wasmer (2005), Berk and Walden (2013)

3.2. Constraints

3.2.1. Borrowing constraints

Explanation: Current or expected borrowing constraints include the inability to raise liquid funds at short notice. This sub-code is used when pariticpants menion that they do not participate in the stock market because of perceived difficulty of borrowing, for example, at the moment of an economic downturn or to increase their desired investment amount.

Anchor example: "[Stockholders] They are definitely people who have money left over. Because otherwise you can't buy stocks"(Uta, 17, 235)

Related literature: Guiso et al. (1996), Davis et al. (2006)

3.2.2. Perceived irreversibility and liquidity constraints

Explanation: This sub-code is used when participants mention concerns about their ability to sell stock market investments.

Anchor example: "[Question to Google:] Whether you are somehow bound again because of the contract. That they say you have a contract, you only get out after 24 months like with a cell phone contract or something. Or they say ok, you can always switch stocks as you like." (Uta, 13, 268)

Related literature: Bertola and Caballero (1994), Choi and Robertson (2020)

3.2.3. Consumption and financial commitments

Explanation: These are amounts that people have committed to spending every regularly (e.g., per month/year) and their concern about meeting such payment obligations affects

their desired stock exposure.

Anchor example: "Because I've accumulated a bit of debt over the time. That's why I have to get to grips with it [credit] first" (Luca, 5, 410)

Related literature: Fratantoni (2001), Chetty and Szeidl (2007)

3.3. Substitutes, comparisons to other classes and liabilities

Explanation: This sub-code is used when participants mention other non-equity investments that crowd out stock investments. Household's desire to invest in real estate or other assets could lower their equity share but should not drive it to zero in the absence of other frictions. Other investments can include, for example, a focus on human capital (such as attending university rather than investing in stocks).

Anchor example: "So you see, I have a savings account. I have a very classic alternative, i.e. tried and tested, conservative things. So I have a savings book and I have a building society savings contract. That means I don't lose any money with it" (Silke, 12, 91)

Related literature: Fratantoni (1998), Heaton and Lucas (2000b), Cocco (2004), Kullmann and Siegel (2005), Flavin and Yamashita (2011), Vestman (2019), Choi and Robertson (2020), Athreya et al. (2023)

3.4. Intended holdings

Explanation: This sub-code is used when participants mention that the desired investment is too small relative to the cost or effort associated with stock market entry or participation. Perceived or actual minimum investments limitations are included there too, this means that if intended holdings are below those limitations, no investment takes place.

Anchor example: "But I think that only makes sense when you're talking about much higher amounts. So yes, it doesn't make that much sense if I buy stocks for €50. I don't get any added value from that and, at 27, I'm not yet at the point where I can say I've just got 10,000 to invest." (Bianca, 2, 220)

Related literature: Heaton and Lucas (2000b), Khorunzhina (2013), Vestman (2019), Choi and Robertson (2020)