

# Generation Stupid or Generation Smart? An Analysis of Young Investors in Germany and Austria

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## ABSTRACT

*Using data from a European app-based investment funds aiming at younger and first-time investors, we find that this group acts surprisingly “smart” when it comes to investing: The analyzed group of mostly under-30 German and Austrian investors clearly prefers a long-term continuous buy-and-hold approach paired with relatively high monthly savings contributions; the market downturn in 2020 was used to even increase investments, which led to a significant outperformance (13.7% p.a. from 2017-2021) compared to the underlying funds (4.6% p.a.). At the same time these investors seem to prefer a high frequency of almost daily interaction with their investments through small-sized news, which seems however to be used rather for entertainment or long-term evaluations rather than short-term trading.*

*Keywords: young investors, household finance, investment performance, investor relations*

*JEL-Classification: G01, G11, G41*

## Uncertainty about young investors

The economic literature is full with evidence on the poor performance of individual investors. Weber et al. (2014) show that factors such as under-diversification and lottery-stock preferences (meaning a preference to low-value, high risk stock) lead to losses of 4% and 3% annually, contributing to an overall underperformance over the risk free rate of about 6.3% p.a. before costs and a loss of 7.7% p.a. after costs for investors in individual stocks. This is in line with older studies such as Barber and Odean (2000) that report an annual underperformance of 1.1% which drops even further to 3.7% when adjusted for risk exposure. This phenomenon is revisited by Barber and Odean (2011), who state that entertainment purposes and sensation seeking lead to losses from overtrading and overconfidence.

With the advent of exchange-traded funds (ETFs) it was assumed that many of these factors would at least be reduced as ETFs would allow for simpler diversification, reduction of costs through passive investments and generally would reduce stock-picking. The above-mentioned study by Weber et al. (2014) has already shown an improvement of the under-performance when regarding investors into funds rather than individual stocks. Here the under-performance after costs improved from -7.7% p.a. for the investors in individual stocks to -2.8% p.a. relative to the risk free rate. However, recent literature such as Elton, Gruber and Busse (2004) have suggested that the advent of speciality or niche ETFs has actually further decreased investor performance, while problematic behaviour, such as overtrading seems to persist, even when investing in ETFs. This overtrading has also been noted by Bhattacharya et al. (2013), which noted that ETF turnover for Germany is almost identical to stocks.

The recent advent of (social) trading platforms, such as Robin Hood, and trader user-groups, such as Reddits r/wallstreetbets, aimed particularly at younger investors, has sparked a particular interest in the investment styles and performance of younger investors. Some rather anecdotal evidence such as Tokic (2020) suggests that younger investors through those novel platforms follow a positive feedback model, rushing into “big-name” stocks such as Apple or Tesla. The preference of big „household-name” stocks for Robin Hood investors or discussants on Reddits r/wallstreetbets has also been noted by Khanna (2020). In a more detailed analysis of the average portfolio of Robin Hood investors, Welch (2020) states that while some rather irrational overweigh in obscure stocks and sectors such as the cannabis industry exists, the bulk of the investment is much more traditional and yielded a substantial positive return.

Most of the available data is based on US investors and specifically analyse trading platforms that advertise a high-frequency trading style. In contrast, this paper will focus on some of the largest European retail investment markets and specifically analyse the behaviour of younger long-term investors that follow more a buy and hold paradigm. Contrary to frequent trading, this strategy is often seen the dominant investment strategy both, from empirical analyses such as Elton et al. (1993) or Carhart (1997) but also from the theoretical arguments presented for example by Berk and Green (2004). In addition, new app-based investment forms that often only offer a single or very limited number of funds have not yet been the focus of the current literature, yet are often an inroad for young or unexperienced investors. The current paper thus connects the existing analysis of platforms that advocate rather frequent trading and offer a wide selection of stocks to these newer “single-fund-platforms”.

**German and Austrian Data**

The analyzed funds was set up in 2017 in Austria and one year afterwards in Germany and explicitly aims to provide investors a simple, well-diversified investment opportunity in order to “participate in the economic development”. To achieve this, investors are only offered one single broad funds that reflects their regions economy and matches (more or less) the industry diversification in the developed markets.

The funds can be only accessed through a dedicated app, which also provides the investors with news about the companies into which the funds is invested. Additionally, the app also offers some form of interaction through forums, votes, and the possibility to collect bonus points which can be converted into fund shares. As a special feature, the funds does not charge any fees for transactions or for the management of the funds (these costs are covered through content marketing revenues in the app) and offers full flexibility in terms of buying and selling shares at any time and at no cost.

Since the inception in August 2017, the funds has attracted around 12,000 active investors and an investment volume of around 21 million EUR as per March 2021, see figure 1:

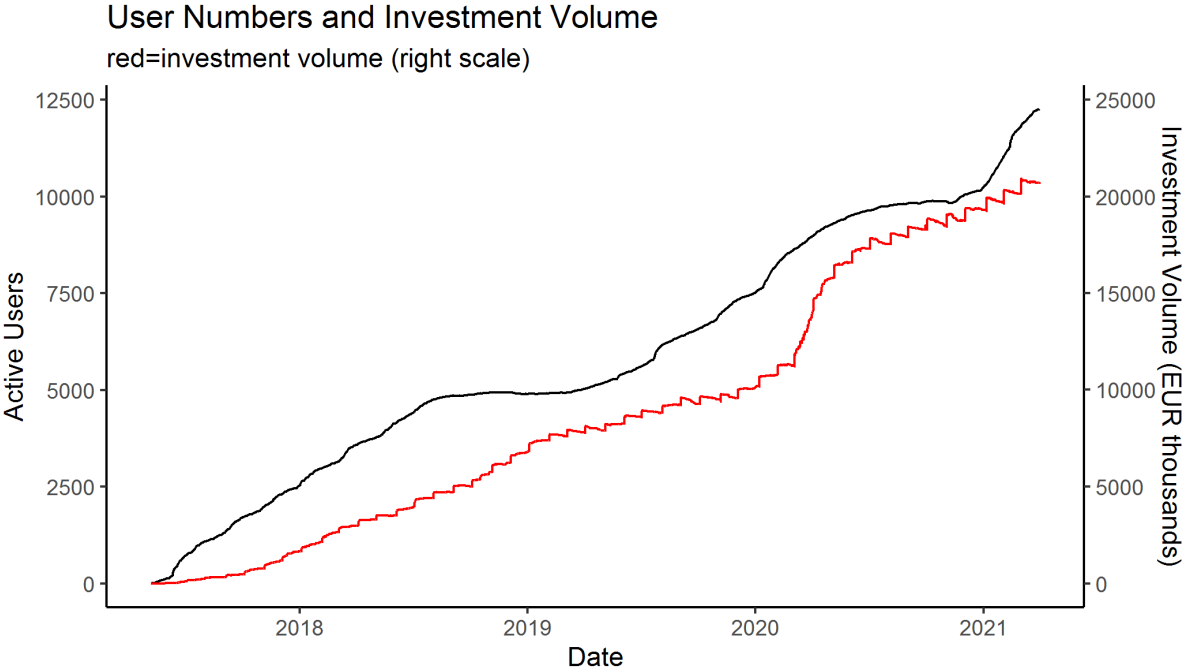


Figure 1: Active User and Investment Volume over time

The proposed fund clearly caters for the younger investors as can be seen in figure 2. At the time of the analysis, 40.7% of all active users were 30 years old or less.

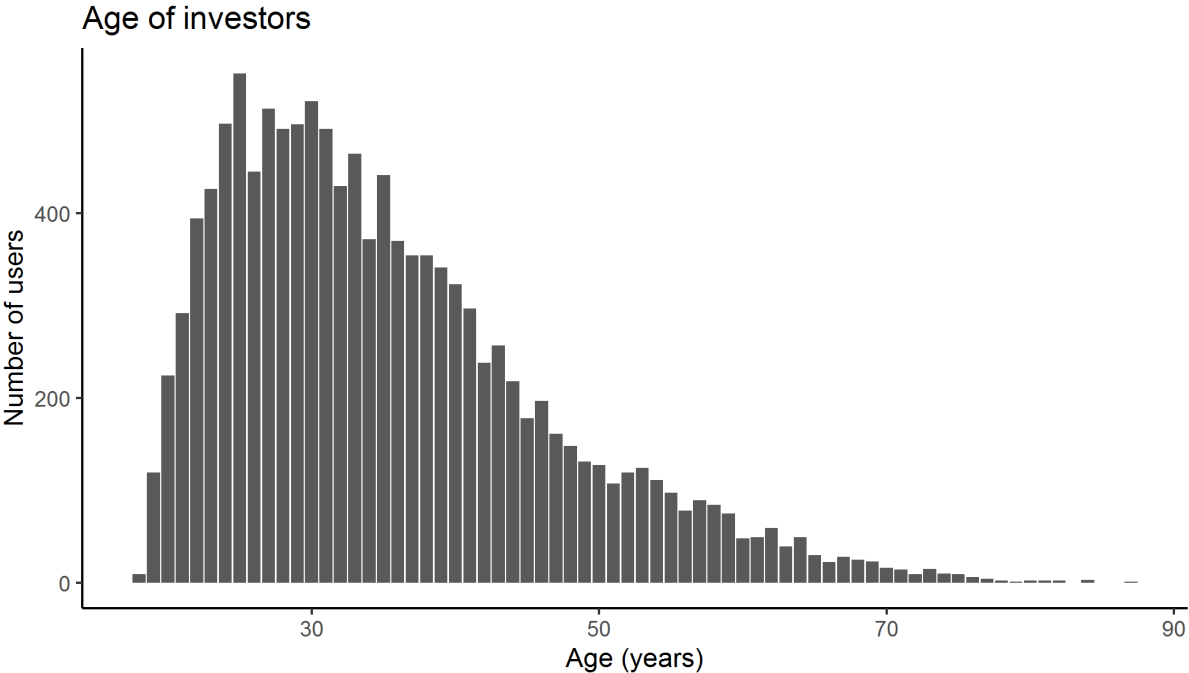


Figure 2: Age of users (approximated by year of birth)

The average age of the accounts is 21 months, which is largely due to the strong growth of investors. The average investment volume is 2,191 EUR and thus significantly lower than in other studies (e.g., Bhattacharya et al. 2013 [p. vi]) which regarded classical stock portfolios with a median volume of 50,000 EUR or Glaser (2003) which regarded German online broker investors with a median portfolio value around 37,000 EUR Overall the portfolio value is heavily skewed towards smaller investment volumes, see table 1.

portfolio value (in EUR)	Share of investors
≤ 100	27.8%
≤ 1000	61.9%
≤ 10,000	95.6%

Table 1: Distribution of portfolio value

**Timeframe and Underlying Funds**

Following the funds public availability in May 2017, the funds aim was to reflect the average performance of large stock-exchange traded companies that have a relevant business stake in Germany and Austria respectively. This does explicitly not exclude foreign companies doing business in said countries. The aim of the funds was such to provide a broad reflection of the overall economic development in the respective region. Together with the app that provides news about the companies invested into, the investment approach reflects the “invest in what you know” strategy advocated by Peter Lynch and described by Crawford (1997).

The available data varies: Funds performance is available for Austria from April 2017 to March 2021 while the German counterpart was launched later in February 2018. The funds' performance relative to potential benchmarks (DAX30 and STOXX600) is shown in figure 3.

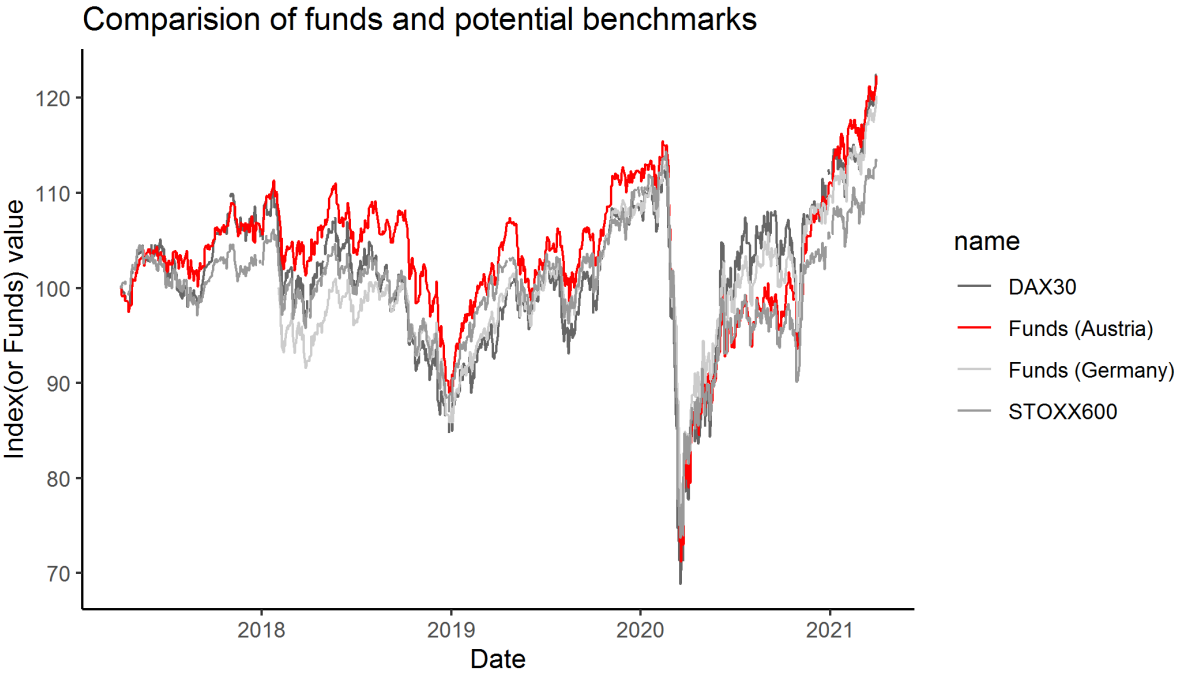


Figure 3: Funds and index performance

Generally, both funds as well as the potential benchmarks all perform similarly with a high degree of correlation, as can be seen in table 2. For further analysis, the Austrian funds (which covers the longest timespan) will thus be used and subsequently referred to as “the funds”.

	Funds (Austria)	Funds (Germany)	DAX30	STOXX600
Funds (Austria)	1	0,85	0,85	0,94
Funds (Germany)		1	0,93	0,88
DAX30			1	0,88
STOXX600				1

Table 2: Correlation of funds and relevant indices

The analyzed timespan covers the COVID-Crisis, which started early 2020 and resulted in a strong market downturn during February 2020, followed by a moderately slow recovery. The analyzed funds is no exception and figure 4 indicates the increased volatility of the stock market early 2020, which is mirrored by the funds. This timeframe provides an opportunity to study investor behavior during times of dramatic market volatility and a fundamentally negative outlook on the economy – something that is unfortunately missing in other studies such as Barber and Odean (2020) which mostly regarded times with almost continuous positive returns.

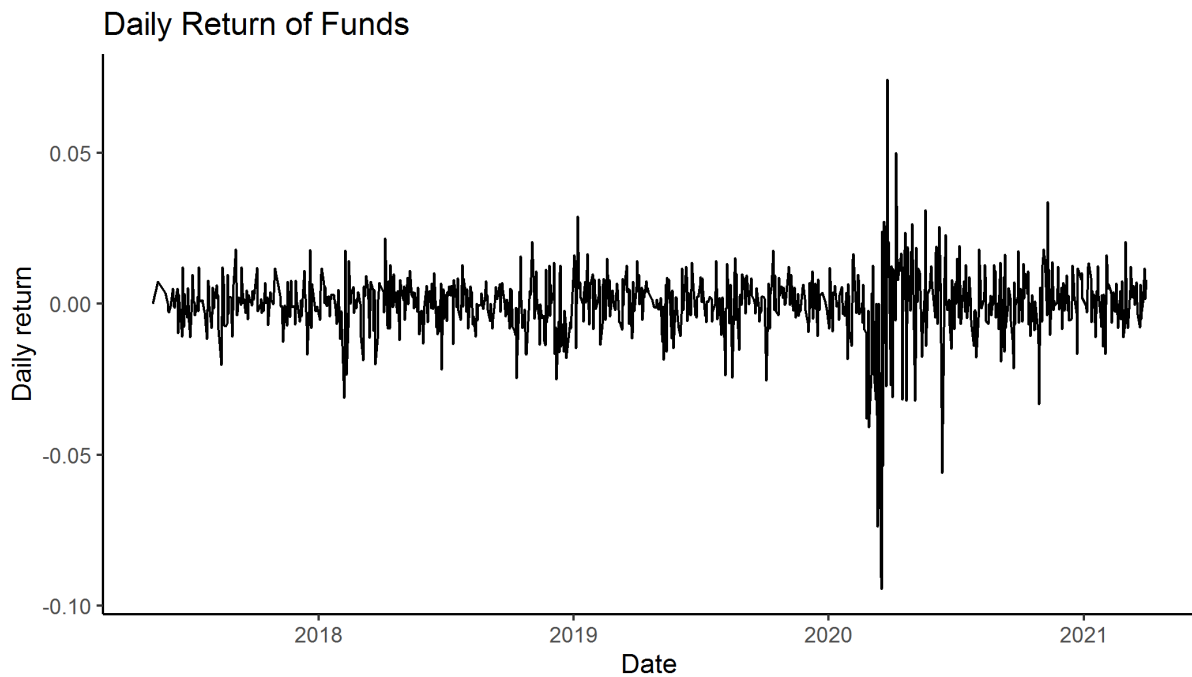


Figure 4: Daily return of funds

As noted before, the analysed funds does not incur any costs for the investors, both in terms of explicit fees such as monthly depot fees but also in terms of operating costs of the funds such as management fees that are typically subtracted at the funds' level. Rather the funds is compensated in content marketing fees, that companies pay to place content and promote products in the apps news feed. Given this fee structure, before and after-cost performance is identical.

### **Finding 1: High involvement of (young) investors**

The analyzed investors show a very high interest into their investments. An analysis of the latest complete month available in the data (March 2021) shows that investors log into the app on average around 0.87 times a day with translates into 27 times per month. This might of course be driven by some very frequent users but is still remarkable, particularly, since the single funds does not allow in any form of trading apart from buying and selling. In that line also around 30% of all logins to the app are purely news-based (without access of the personal balance statement). This shows an exceptional high interest of these investors in their own investments and could be an inroad for companies both from an investor-relations standpoint but also from a sales or recruiting perspective.

While the younger age group up to 30 years makes up the majority of the investors, it is also noticeable, that this behaviour is similar within each analysed age group (see figure 5). All age groups prefer short bits of information that is directly presented in each session. The more elaborate "stories" that are also offered within the app are only marginally consumed throughout all age groups.

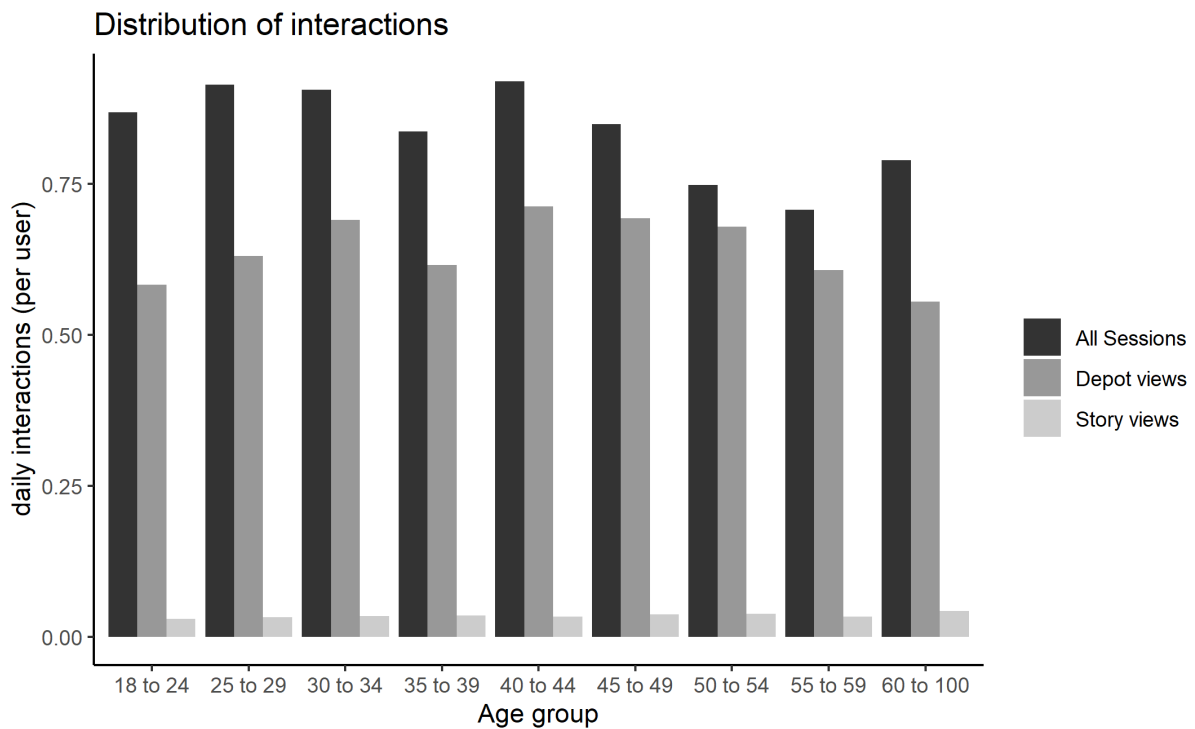


Figure 5: Distribution of interactions  
(Average Usage in March 2021)

Figure 6 shows the Number of app-logins over time, which indicate a clear weekly pattern with notable lower number of logins during weekends (when no additional news are provided). Not surprisingly, there was an increase in app usage (and balance statement views) during the COVID crisis early 2020. This increase seemed however to be relatively modest and might be driven by several factors. First, (as we will show later) the investors used the market downturn to increase their investments, which could only be done via the app. Thus, some of the increased traffic might be driven by placing orders (and checking their completion). In addition, it might sound reasonable that the COVID crisis (and the market downturn) sparked an increased interest in news and the development of the stock market. Overall, the increased interest, as given by the app usage seems to be moderate and similar to other periods of increased interest – particularly the beginning of a new calendar (and fiscal) year.

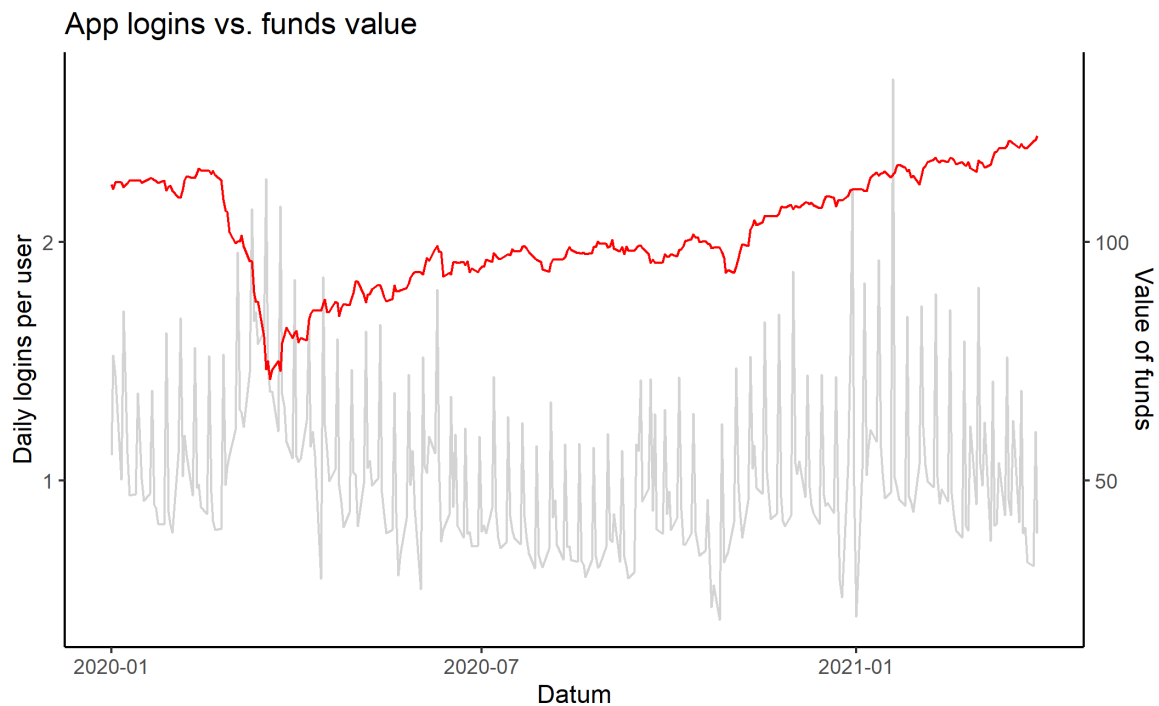


Figure 6: App logins vs. funds value

### **Finding 2: Smart continuous investment even during the COVID crisis**

The analysed, mostly younger, investors seem to follow a long-term perspective. Thus they reflect a „buy-and-hold“ investment strategy, as will be detailed below.

#### **2.a. Consistent savings plan deposits**

A notable feature of the analyzed funds is the fact that investors must hold an active monthly savings plan with a minimum contribution of 10 EUR (the investors could however withdraw this monthly deposit any time through the app at now cost). It is surprising that such a rigid investment scheme still has been able to attract a significant followership. In addition, it turns out that the majority of investors does not opt for the minimum savings contribution of 10 EUR (around 24% do); instead, the most frequent savings plan is 30 EUR, see figure 7.



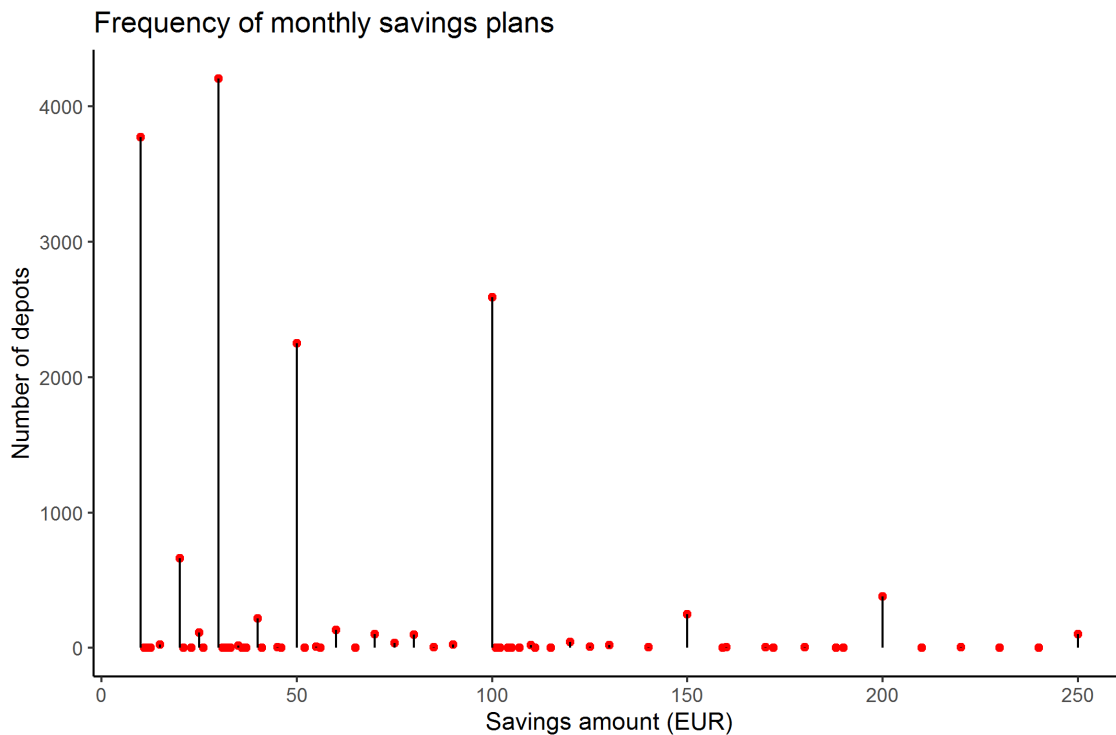


Figure 7: Frequency of monthly savings plans  
(excluding plans with more than 250 EUR monthly contribution)

The average monthly savings plan amounts to 61.72 EUR; an additional 74.44 EUR per month are added as discretionary savings, as investors can invest or sell at any time without any cost. This flexibility also contributes to an average monthly outflow of 47.79 EUR (which also includes investors closing their account). This brings the monthly savings in line with average ETF savings of around 130 EUR per month as of May 2018 based on data 700,000 German direct broker accounts (cf. ETF Extra May (2018)). This is a disproportionate high savings rate, given the small average investments of around 2.000 EUR and the relatively young maturity of the accounts of around 21 months.

Not surprisingly the savings plan contributions increase with age, however the effect is only moderate, as even the youngest age group (18 to 24 years old) contributes already on average 52.08 EUR every month (compared to the overall average of 61.17 EUR), as can be seen in figure 8.

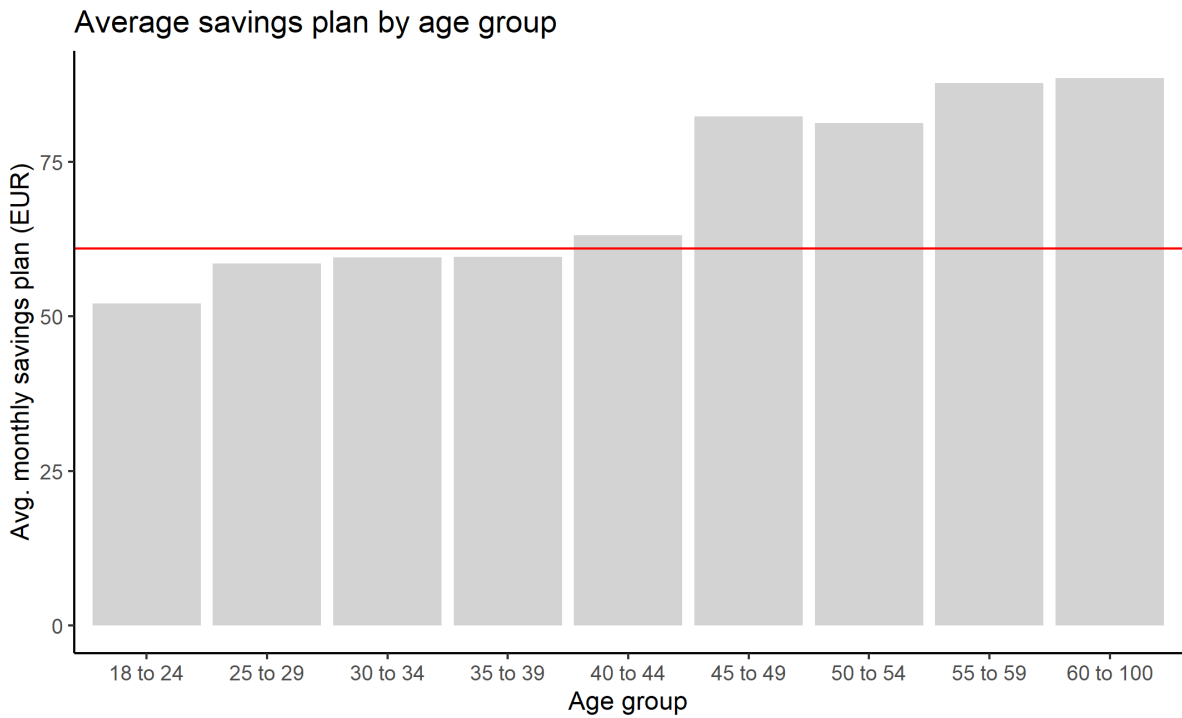


Figure 8: Average savings plans by age group  
(red line indicates weighted average over all investors)

### 2.b. Increased investments during times of market downturn

During the COVID recession in the first half of 2020, these investors actually took the chance to increase their investments during the stock market downturn, which led to a significant outperformance of the investors as a group compared to the funds' performance itself.

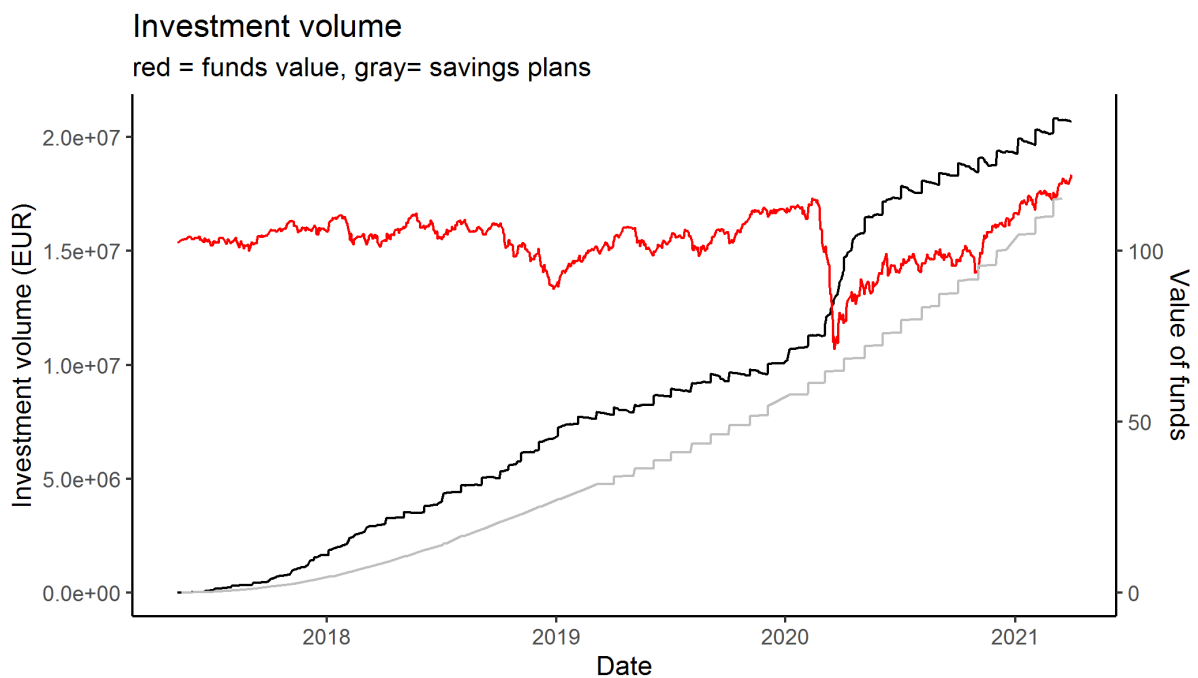


Figure 9: Funds value and invested capital

As can be seen in figure 9 by the widening gap between overall deposits and savings plan contributions, the majority of the increased investments was driven by ad-hoc investments. Based on the internal rate of return, for the timespan from August 2017 to March 2021, the performance of the underlying funds was +4.6% p.a. The investors however achieved a performance of +13.7% p.a. (see table 3)

<b>Timespan</b>	<b>funds return</b>	<b>investor return</b>
Whole (5.8.2017 – 31.3.2021)	4.6% p.a.	13.7% p.a.
Pre-COVID (5.8.2017-12.2.2020)	4.4% p.a.	8.5% p.a.
COVID recession (13.2.2020-31.3..2021)	5.5% p.a.	44.6% p.a.

Table 3: Annualized funds return (time-weighted) and investor returns (money weighted)  
(Note: As the funds does not incur any costs, returns before and after cost are identical)

This effect was mainly driven by a surge in investments that already happened during the market downturn in the first weeks of the COVID crisis and mainly through discretionary investments. Furthermore, these additional investments seem to have exhausted the financial capability of these young investors, as the discretionary investments were considerably lower during the times of market recovery (see Table 4)

<b>Timespan</b>	<b>daily inflow (EUR)</b>	<b>share savings plan</b>
Whole (5.8.2017 – 31.3.2021)	22,336	83.6%
Pre-COVID (5.8.2017-12.2.2020)	17,431	81.3%
COVID recession (13.2.2020-31.3..2021)	33,688	86.2%
downturn (13.2.2020-18.3.2020)	64,190	34.0%
recovery (19.3.2020-31.3.2021)	30,697	96.9%

Table 4: Average daily inflow and share of inflows through savings plans  
(Note: Average daily inflow is calculated excluding days with no in- or outflows)

The resulting performance is significantly higher than other studies, which regularly reported an underperformance of investors relative to the benchmark. Bhattacharya et al. 2013 [p. vi]) report a performance of -0.2% p.a. (after cost) of stock investors relative to the MSCI world. However also other authors have noted the “smartness” of young investors, such as Welch (2020) [p. 18] who noted that a similar group of young investors used the 33% percent stock market decline during the COVID crisis to increase their investments by around 37%. These numbers are very similar to the observed effect for our data (38% value decline and 34% increased investments during the following 3 months). Also Meyer et al. (2016) have shown that regular information on the investment performance substantially increases the investment performance. In the case of Meyer et al. (2016) receiving a monthly performance report increased annual performance by 5 percentage points.

Another interesting fact is that the COVID crisis and associated market downturn did not immediately spark an increase in account liquidations, as can be seen in figure 10. Running a loess smoother through the daily data of account terminations does not show any spike in account terminations during the COVID crisis. The most notable spike is in November 2020 and might be linked with the market turning down again but could also be associated with many young investors in need for cash due to financial constraints associated with the lockdown.

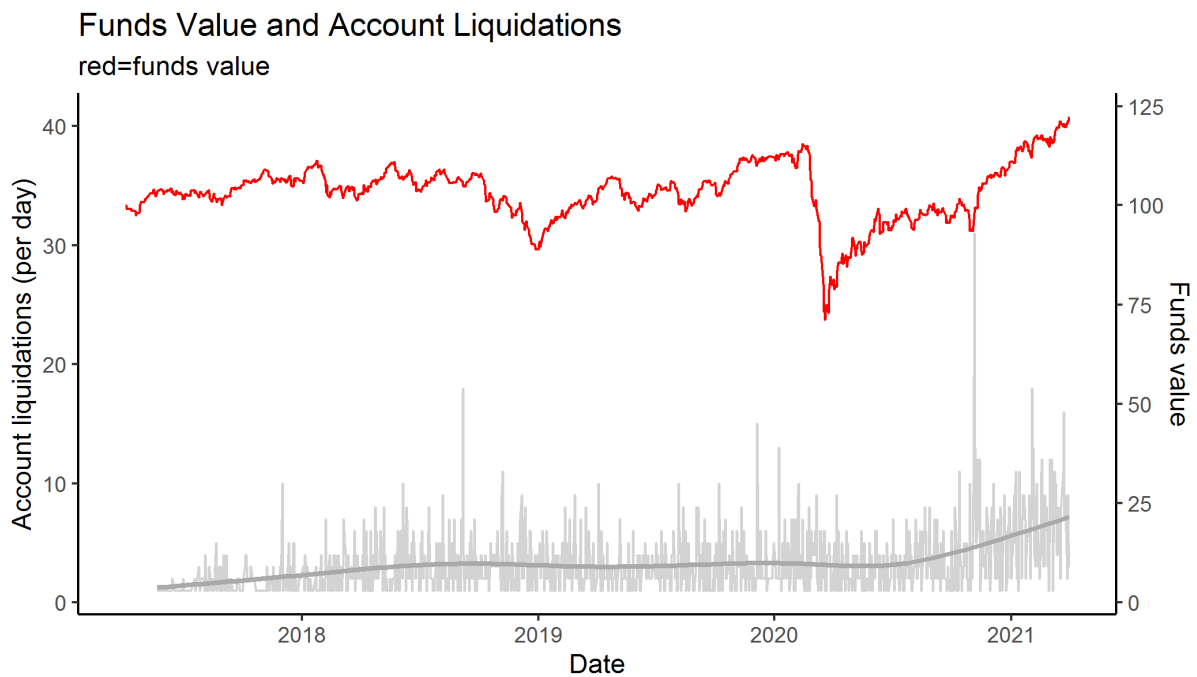


Figure 10: Funds value and account closures

### Key findings and takeaways

The analysed data is of course (like most other studies) a specialized case: We only regarded young German and Austrian investors that opted to invest into a single low-cost funds consisting of companies that are linked to regional everyday consumption. The investment could only be accessed through an app and required an active savings plan.

Still it could be shown that at least a substantial group of young investors exists, for which not only the above investment form is attractive but which also showed some very attractive investor characteristics for various stakeholders:

- *Investors themselves:* Similar to studies of Welch (2020) which analyses the Robin Hood investors, we saw that these younger investors seem to invest relatively “smart” and are able to outperform the market by aggressively investing during market downturns. These findings seem to contradict the established literature, which typically shows an underperformance of individual investors. This might be due to the unexpectedly rapid recovery of the stock markets. It is up to further research to analyse, if this outperformance also holds during different market scenarios.
- *Investor relations:* Studies, such as Barber and Odean (2008) [p. 802] or Cao et al. (2011), have shown that investors tend to invest in stocks from which they have received recent news or information. A highly interactive app like the analyzed funds does exactly that: Provide investors with a constant news stream on the invested stocks and thus should help to increase investor retention. At the same time, it seems that a high frequency of information is preferred over the classical annual or quarterly reporting as Moss et al. (2020) have shown that classical investor relation information is often irrelevant for trading decisions.

- *Sales of goods and services:* Similarly studies like Keloharju et al. (2012) [p. 22], show that shoppers tend to buy things from manufacturers into which they are also invested. In the above study, stock owners of a car manufacturer were twice as likely to buy a car of that manufacturers than investors who would not own the corresponding stock. Again, the high frequency of usage on interactive investment app might increase this spending preference even more, so it might be beneficial from a sales point of view to be present in such novel investment forms.
- *Recruiting:* Another interesting inroad might be to use link the increasingly younger age of first-time investors with recruiting opportunities. Gerhard (2009) has shown a high “own industry” bias of investors, but it is not clear if conversely investors might consider industries that they are invested in more attractive as employers.
- *Financial institutions:* Lastly, such an interactive investment app might provide financial institutions with a way to renew the business model. Elton, Gruber and Busse (2004) have shown that the advent of ETFs led to investment vehicles becoming more of a commodity, with low-cost ETFs actually outperforming more costly variants. The recent introduction of (temporarily or permanently) waived or greatly discounted investment fees are further undermining the classical fee-based revenue model of many financial institutions even further. Overall, many financial services have become a low-involvement, interchangeable product with financial institutions struggling to convey their value added and ensure a high-frequency and positive interaction with its customers. Again, the analyzed investment form might provide financial institutions with a new perspective of their role, increase customer interaction and provide new revenue streams in terms of content placement.

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