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Social trading: do signal providers trigger gambling?

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Abstract

Social trading—also referred to as copy trading—is an interactive platform-based innovation facilitating visibility and traceability of signal provider trading activities. Based on published portfolio transaction and return track records, platform users can copy one or several signal providers, i.e. delegate their investment decisions, and thereby become signal followers. Allowing signal providers to administer purely virtual portfolios, in combination with a remuneration scheme based on performance fees and high watermarks, creates convex or option-like incentives (Carpenter, *J Finance* 55:2311–2331, 2000; Doering and Jonen, *SSRN J*, 2018). We argue that the incentive structure imposed by social trading providers, including a very limited monetary downside risk for signal providers, may motivate traders to gamble. In this context, we assess the factors that have an impact on signal provider lottery-like stock transactions (Bali et al., *J Financ Econ* 99:427–446, 2011; Kumar, *J Finance* 64:1889–1933, 2009). We provide empirical evidence that signal providers tend to increase the traded relative share of lottery-like stocks when being located at an extreme end of the relative performance spectrum. Furthermore, we provide evidence that underperforming signal providers increase their net exposure towards lottery-like stocks, in turn exposing signal followers to a lottery-like return structure—triggering gambling.

Keywords Lottery-like Stocks · Gambling · Social Trading

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JEL Classification G11 · G23 · G40

1 Introduction

Allowing private investors to interact, social trading—also referred to as copy trading—is a financial innovation which has been surfaced through modern-day financial markets. There are various platforms offering differentiated forms of social trading as an integral part of their business model.¹ All forms of social trading exhibit a distinction between signal providers and signal followers as a common defining feature. Regarding signal providers, social trading platforms enable visibility and traceability, i.e. their trading strategy specifications, conducted transactions, and resulting returns are published. Platform users can freely access the published information and subsequently subscribe to one or several signal providers. By delegating their investment decisions to another (mostly non-professional) trader, platform users become signal followers (Doering et al. 2015; Oehler et al. 2016).

Social trading involves severe asymmetries regarding the distribution of economic consequences between signal providers and signal followers. When an administered portfolio performs well, the corresponding signal provider is remunerated via performance fees. Furthermore, portfolios with good past performance are placed at the top of the platforms' selection lists and thus generate attention²—the increased attention leading to higher inflows and, in consequence, a continued eligibility for remuneration (Röder and Walter 2019). On the other hand, a failing portfolio barely bears any (monetary) consequences for the signal provider (Schneider and Oehler 2021).

Considering the present asymmetries, signal providers are exposed to a range of incentives which, in different contexts, have been shown to impact trading behavior. As elaborated by Carpenter (2000), portfolio managers face option-like (or convex) incentives, and thus may be led to increase risk after performing poorly.³ Furthermore, even though signal provider compensation may not be directly linked

¹ Major social trading platforms include, e.g. www.ayondo.com, www.etoro.com, www.wikifolio.com, and www.zulustrade.com. Platforms differ regarding e.g. tradable assets, compensation scheme, fee structure, and criteria for signal provider ranking.

² Regarding US stocks, Jacobs and Hillert (2016) provide evidence that stocks appearing near the top of an alphabetical listing exhibit higher trading activity.

³ Imposing considerable performance fees in combination with the high watermark principle, hedge fund managers are directly faced with option-like incentives (Ackermann et al. 1999; Brown et al. 2001). Ackermann et al. (1999) argue that excessive risk taking by hedge funds—induced by option-like incentives—is mitigated by the manager's investment of private financial resources into the fund as well as substantial liability in the case of bankruptcy (limited partnership structure). Brown et al. (2001) provide evidence that risk taking is more likely related to peer performance as well as the threat of fund termination rather than the motivation to take advantage of incentive contracts. On the other hand, for mutual fund managers whose compensation does not include performance fees, convex incentives arise from the asymmetric flow-performance relationship (Chevalier and Ellison 1997; Ferreira et al. 2012; Sirri and Tufano 1998). In contrast, assuming misspecifications in connection with empirical models described in pre-existing literature, Spiegel and Zhang (2013) argue that the flow-return relation is not convex but linear.

to a corresponding ranking, social trading compensation schemes indirectly impose tournament incentives as administered accounts have to occupy a relative position reasonably suited for generating attention from followers.⁴ In the presence of tournament incentives, there is empirical evidence that risk-taking is increased by underperforming traders (Kirchler et al. 2018). In the context of social trading, evidence that signal providers face convex incentives and thus increase risk when approaching their high watermark is provided by Doering and Jonen (2018).

Motivated by the present asymmetries, we assess whether signal provider transactions involving stocks which exhibit lottery characteristics (Bali et al. 2011; Kumar 2009) are driven by the relative past performance of their corresponding operated portfolios. By trading lottery-like stocks, signal providers expose their (perhaps unknowing) followers to a lottery-like return structure, i.e. trigger gambling. Regarding social trading, we are the first to our knowledge to explicitly analyze signal provider gambling with stocks.

Within the spectrum of social trading providers, the *wikifolio* platform seems most suitable to analyze stock gambling for several reasons. On the *wikifolio* platform, signal providers can choose from an extensive investment universe including stocks, funds, ETFs, investment certificates, and leverage products. However, when creating a portfolio (referred to as *wikifolio*), signal providers can choose to generally exclude leverage products from their trading activities; *wikifolios* which do not categorically exclude leverage products are permanently tagged with a warning label. Since leverage products are excluded within the vast majority of available *wikifolios*, stocks are being left as the only potential asset category for employing a lottery-like return structure.

There are social trading platforms like *Zulutrade* that primarily offer foreign exchange trading (Glaser and Risius 2018; Schneider and Oehler 2021) and thus cannot be employed to examine signal provider stock gambling. Other major social trading platforms like *ayondo* and *eToro* offer trading via Contracts for Difference (CFD) which in turn may be vastly levered (Berger et al. 2018; Dorfleitner et al. 2018; Pelster and Hofmann 2018). Hence, on platforms where every asset can be levered, it is unlikely that signal providers choose stocks to generate lottery-like payoffs, i.e. a relatively small probability of a large return (Bali et al. 2011; Kumar 2009).

First, we assess whether the monthly number of transactions within an administered *wikifolio*, as well as the respective transaction volume, depends on a corresponding *wikifolio*'s relative past performance. We provide empirical evidence for a U-shaped relation between trading activity within a corresponding *wikifolio* and previous peer performance.

Subsequently, in the course of our main analysis, we examine the factors that have an impact on signal provider gambling as depicted by the relative monthly share of transactions involving lottery-like stocks. By assessing signal provider trading behavior regarding lottery-like stocks, we add a new aspect to the relatively new research area on social trading. Our results indicate that signal providers tend

⁴ With regard to social trading, Röder and Walter (2019) provide evidence that investment flows follow past performance reflected by raw returns.

to increase the traded relative share of lottery-like stocks within an administered *wikifolio* when being placed at one of the extreme ends of the relative performance spectrum. These results are in line with Schneider and Oehler (2021), who report a similar pattern for traded currency pairs which exhibit extreme past daily returns. Furthermore, we provide empirical evidence that signal providers administering *wikifolios* with more moderate peer performance are more likely to trade nonlottery stocks, i.e. stocks exhibiting low idiosyncratic volatility and low idiosyncratic skewness.

As our previous results do not allow to derive a statement about the net exposure towards lottery-like return characteristics, we assess whether the net lottery flow—measured as the cumulative net investment into lottery-like stocks—is impacted by relative past *wikifolio* performance. The results from our analysis suggest that underperforming signal providers increase the net position of lottery-like stocks and therefore trigger gambling for their corresponding followers.

The present paper makes several contributions to pre-existing research. In the context of social trading, we are the first to our knowledge to analyze stock gambling, i.e. trading behavior regarding lottery-like stocks. Social trading forms a novel, information rich, and interactive digital environment—previously labeled as *scopic regime* (Gemayel and Preda 2018a, b). By linking behavioral patterns of traders, i.e. signal providers, in a social trading framework to pre-existing research in behavioral finance, we add to a more comprehensive understanding of actions, underlying motives, and aggregated outcomes. Signal providers on social trading platforms are subject to a limited monetary downside, as they may (partly) trade with virtual money. We discuss asymmetries regarding the distribution of economic consequences between signal providers and signal followers as well as how common social trading design features may drive signal providers to gamble—in turn triggering gambling for signal followers. When considering an investment in social trading, signal followers should be aware of the implied incentive structure and potential behavioral patterns displayed by signal providers. When introducing or adjusting design features, platform operators should carefully consider the resulting incentive structure for signal providers and the resulting consequences for signal followers.

The rest of the paper is structured as follows. In Sect. 2 we provide a short review on literature concerning stock market gambling as well as on social trading. The employed data and methodology are described in Sect. 3. Subsequently, in Sect. 4 we present and discuss our obtained results. In Sect. 5 we conduct and describe several tests regarding the robustness of our main results. Section 6 concludes.

2 Literature review

There are many similarities between lottery players and stock traders (Dorn et al. 2015; Statman 2002). Barberis and Huang (2008) show that under the assumption of investors behaving in accordance with Tversky and Kahneman's (1992) cumulative prospect theory, the skewness of a security can be priced—positive skewness being a key characteristic with regard to lottery-like payoffs (Kumar 2009). The idea that certain stocks are perceived and employed as lotteries is introduced by Kumar

(2009). In this context, Kumar (2009) shows that individual investors, at the aggregate level, exhibit a preference for stocks with lottery features. Furthermore, Kumar (2009) documents that lottery-like stocks underperform. In the context of stocks as lotteries, Bali et al. (2011) examine the role of extreme positive daily returns with regard to cross-sectional stock pricing. The evidence provided by Bali et al. (2011) suggests that investors may be willing to pay more for stocks with extreme positive returns, causing these stocks to exhibit lower returns in the future.⁵ Barinov (2018) argues that lottery-like stocks may act as insurance against unexpected increases in market volatility, and thus offers a rational explanation for the respective documented low expected returns. Bali et al. (2017) go so far as to suggest that the well documented beta anomaly (Black 1972; Black et al. 1972) is strongly driven by investors' demand for lottery-like stocks.⁶

There are several reasons why studying gambling behavior in the context of social trading, a financial innovation facilitating the interaction of private investors, is particularly interesting. One of the defining features of social trading is the distinction between signal providers and signal followers. The respective social trading platform enables visibility and traceability with regard to signal provider trading decisions and returns. Thus, social trading offers a population of majorly private traders to publicly display their investing abilities, a feature formerly reserved to professional asset managers. Based on the published information, platform users can subscribe to one or several signal providers and thereby become signal followers (Doering et al. 2015; Oehler et al. 2016). Motivated by private investor preferences for lottery-like stocks (Bali et al. 2011; Kumar 2009), we study gambling behavior in a context where traders, i.e. signal providers, can be observed by their peers as well as by (potential) followers.

Furthermore, in the face of relative performance-based selection lists composed by social trading platforms, signal providers have to compete for the attention of signal followers. As followers are prerequisite for receiving compensation (see Sect. 3.4), social trading indirectly exposes signal providers to tournament incentives (Kirchler et al. 2018). Considering this dynamic between attention and remuneration, we study when signal providers utilize lottery-like stocks, which offer an unlikely but possible major return and, thus, may catapult an administered account to the top.

Studies by Oehler et al. (2016) and Dorfleitner et al. (2018) show that, on average, social trading participants do not outperform the market.

Venturing into the behavioral finance paradigm, Glaser and Risius (2018) note that signal providers on social trading platforms are subject to behavioral biases (Tversky and Kahneman 1974)—in this regard, signal providers do not differ from other (private) investors. Oehler et al. (2016) argue that the signal followers' role on social trading platforms represents herding behavior. Gemayel and Preda (2018b) argue that a

⁵ Nguyen and Truong (2018) show that extreme positive daily returns are not subject to lower future returns when they are triggered by earning announcements.

⁶ Other studies assessing lottery-like stocks and investors' gambling preferences are provided by Blau et al. (2016), Doran et al. (2012), Gao and Lin (2015), Hsu et al. (2016), Kumar and Page (2014), and Meng and Pantzalis (2018).

scopic information-rich environment, as given by a social trading platform, produces excess and perpetual herding behavior.⁷ With regard to signal providers on social trading platforms, Glaser and Risius (2018) and Pelster and Hofmann (2018) assess the disposition effect (Shefrin and Statman 1985) and the impact of receiving attention from signal followers. Pelster and Hofmann (2018) report an increase of the disposition effect with the number of investors copying a signal provider's trading strategy. Glaser and Risius (2018) provide evidence that the disposition effect intensifies with the amount of capital entrusted to a signal provider. In contrast, Gemayel and Preda (2018a) find evidence of a weaker disposition effect among signal providers compared to traders in a traditional setting. Addressing trader visibility, Pelster and Breitmayer (2019) suggest that signal providers receiving attention from their peers exhibit increased trading activity and are more prone to take risks. Doering and Jonen (2018) argue that signal providers face convex incentives (Carpenter 2000) and thus increase risk when approaching their high watermark.⁸

Pelster and Breitmayer (2019) relate social trading to research on private investor (stock) trading driven by excitement (Dorn and Sengmueller 2009; Taffler 2018) as well as the desire to gamble (Dorn et al. 2015; Gao and Lin 2015; Kumar 2009). Using a social trading framework, Schneider and Oehler (2021) study gambling behavior with currency pairs. In the context of this paper, we are the first to our knowledge to explicitly combine research on social trading and stock gambling. We argue that the unique environment for traders established by social trading may have an impact on gambling behavior and, in this regard, assess the factors that affect signal provider stock gambling. Based on the incentive structure that signal providers face (Doering and Jonen 2018), we analyze if signal provider transactions involving stocks with lottery characteristics (Bali et al. 2011; Kumar 2009) are driven by the relative past performance of their administered portfolios. When investing in lottery-like stocks, signal providers expose their followers to a lottery-like return structure. Thus, our analysis yields valuable implications for investors delegating their investment decisions via social trading.

3 Data and methodology

3.1 Platform selection

Out of the spectrum of social trading providers, the *wikifolio* platform seems most suitable to analyze stock gambling. Signal providers on the *wikifolio* platform can choose from an extensive investment universe including stocks, funds, ETFs, investment certificates, and leverage products. When creating a *wikifolio*, most signal providers choose to generally exclude leverage products, thereby communicating

⁷ Building on the concept introduced by Cetina Knorr (2003), Gemayel and Preda (2018a; 2018b) argue that social trading platforms are governed by a *scopic regime* reflecting a state of constant reciprocal observation and scrutiny.

⁸ Further studies assessing social trading are conducted by Berger et al. (2018), Kromidha and Li (2019), Röder and Walter (2019), and Wohlgenuth et al. (2016).

mitigated portfolio risk to potential followers. The initial decision regarding the inclusion of leverage products is final and may not be adjusted during the life cycle of a corresponding *wikifolio*. Moreover, *wikifolios* which do not categorically exclude leverage products are permanently tagged with a warning label, even when all funds are temporarily allocated to non-leveraged investments. Thus, for the majority of signal providers, stocks are left as the only potential assets for employing a lottery-like return structure.

The *wikifolio* platform contains several further design peculiarities which make it an interesting research subject for studying stock gambling behavior: Administered signal provider portfolios are purely virtual, i.e. signal providers do not actually hold the corresponding assets. In consequence, transactions are not executed as in traditional market environments. Thus, signal providers are not subject to any transaction costs and therefore do not reduce returns by (excessive) trading (Barber and Odean 2000; 2001; Odean 1999). Furthermore, signal providers are compensated via performance fees which are self-imposed when creating the *wikifolio*. Performance fees are calculated depending on the high watermark principle, i.e. signal providers may only receive remuneration if a corresponding *wikifolio* reaches a new high. Hence, signal provider compensation is not substantially different to the remuneration of hedge fund managers and commodity trading advisors (Ackermann et al. 1999; Brown et al. 2001). As a further specification, signal providers are only eligible for remuneration when the capital invested by followers in a corresponding *wikifolio* exceeds a certain threshold. Finally, signal providers may simultaneously administer several *wikifolios* which can be closed—and potentially replaced—at any time. In combination with the depicted remuneration scheme, the option to simultaneously administer several *wikifolios* and close unsuccessful projects without consequences may have a severe impact on signal provider behavior, especially with regard to gambling.

3.2 Wikifolio data

We obtain data on signal provider portfolios, i.e. *wikifolios*, from the *wikifolio* platform. For each *wikifolio* daily prices as well as transaction data regarding all conducted transactions are freely accessible.

Wikifolios go through different life cycle stages⁹: *Test*, *Published*, *Investable*, *Closing*, and *Closed*. When reaching the status *Closed*, *wikifolios* remain visible on the profile of their corresponding signal provider, however, they no longer appear when using the platform's search function. We therefore download the names of all

⁹ Status *Test*: Only visible to the corresponding signal provider. Status *Published*: Released by the corresponding signal provider, i.e. transactions and returns are accessible for all registered platform users. Status *Investable*: An open-ended index certificate reflecting the underlying *wikifolio*'s price development has been issued by *Lang & Schwarz*, i.e. the *wikifolio* is available for investment. To attain this status, a minimum term of 21 days must have passed since the *wikifolio*'s creation, ten or more platform users have intended their willingness to invest, the indicated investment amount has exceeded 2,500 Euros, and the corresponding signal provider's personal data and trading approach specifications have been checked by the platform. Status *Closing*: Open positions are sold and fees are suspended. Investors may sell their corresponding *wikifolio* certificate at the last established price. Status *Closed*: There are no more outstanding *wikifolio* certificates.

signal providers who manage *wikifolios* which appear on the dashboard, i.e. signal providers who can be found using the search function. Afterwards, we assess each signal provider's profile and download data for all accessible *wikifolios*. Thus, we include all *Closed wikifolios* associated to signal providers who manage at least one *wikifolio* exhibiting the status *Published*, *Investable*, or *Closing*. *Closed wikifolios* associated to signal providers who are not active anymore, i.e. their corresponding *wikifolios* have all been closed, are not accessible and thus cannot be included in our analysis. We download *wikifolio* data at the beginning of February 2019 which leads to a comprehensive dataset of 30,279—divided by status into 15,341 *Published*, 7696 *Investable*, 55 *Closing*, and 7187 *Closed*—*wikifolios*.

As data for signal providers who have completely disappeared from the platform is not available, the composed dataset is subject to a certain survivorship bias. When exhibiting good peer performance, there is no apparent incentive for signal providers to cease activities (see Sect. 3.4). Therefore, signal providers who have altogether vanished from the platform had likely been administering underperforming *wikifolios*, placing them at the lower end of the performance spectrum.

In the further course of our analysis, we limit the dataset to *wikifolios* which encompass data over at least six months; the dataset is thereupon reduced to 24,101 entities. The earliest data points go back to December 2011. Data after February 2019 is not included.

Volatility and skewness characteristics of *wikifolios* included in our analysis are displayed in Table 1. Idiosyncratic volatility (*IVol*) and idiosyncratic skewness (*ISkew2F*) are computed following Kumar (2009) and Harvey and Siddique (2000). In addition, we compute idiosyncratic skewness (*ISkew3F*) following Boyer et al. (2010). For the computation of idiosyncratic volatility and idiosyncratic skewness, we use regional daily factors obtained from the *Kenneth French Data Library (KFDL)*.¹⁰

We further estimate monthly *wikifolio* alphas, α , using the Fama and French (1993) three-, the Carhart (1997) four-, the Fama and French (2015) five-, and the Fama and French (2018) six-factor model:

$$R_{i,t} - R_{F,t} = \beta_1 * RMRF_t + \beta_2 * SMB_t + \beta_3 * HML_t + \alpha, \quad (1)$$

$$R_{i,t} - R_{F,t} = \beta_1 * RMRF_t + \beta_2 * SMB_t + \beta_3 * HML_t + \beta_4 * WML_t + \alpha, \quad (2)$$

$$R_{i,t} - R_{F,t} = \beta_1 * RMRF_t + \beta_2 * SMB_t + \beta_3 * HML_t + \beta_4 * RMW_t + \beta_5 * CMA_t + \alpha, \quad (3)$$

¹⁰ *Wikifolios* may include a label indicating a geographical focal point on Germany (*Focus GERMANY*), Europe (*Focus EUROPE*), or the US (*Focus USA*). *Wikifolios* focusing on Germany or Europe are merged with the European factors, while *wikifolios* focusing on the US are merged with the respective North American factors obtained from the *KFDL*. As in Oehler et al. (2016), *wikifolios* which do not exhibit a label indicating a geographical focus are treated as if they follow a global investment strategy—correspondingly, we apply the *KFDL* Developed factors.

Table 1 Characteristics *wikifolios*

Measurement period	1 Month					6 Months				
	<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>	<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>
<i>Panel A: Mean wikifolio characteristics USD</i>										
All <i>wikifolios</i>	1.688	1.301	-0.032	0.012	-0.004	1.891	1.703	-0.072	0.044	0.026
<i>Leverage</i>	2.978	2.347	-0.014	0.017	0.002	3.608	3.352	-0.048	0.040	0.013
<i>w/o Leverage</i>	1.177	0.887	-0.039	0.010	-0.006	1.231	1.069	-0.081	0.045	0.031
<i>Published</i>	1.523	1.179	-0.022	0.025	0.007	1.725	1.562	-0.050	0.070	0.042
<i>Investable</i>	1.598	1.223	-0.048	-0.003	-0.020	1.836	1.640	-0.098	0.020	0.004
<i>Closing</i>	3.241	2.560	-0.008	0.036	0.003	3.404	3.059	0.083	0.165	0.173
<i>Closed</i>	2.764	2.153	0.010	0.043	0.035	2.911	2.672	-0.001	0.082	0.093
<i>Panel B: Monthly mean wikifolio characteristics USD</i>										
All <i>wikifolios</i>	1.574	1.200	0.015	0.062	0.045	1.725	1.540	-0.046	0.065	0.055
<i>Leverage</i>	2.598	2.019	0.030	0.062	0.045	3.017	2.788	0.029	0.109	0.093
<i>w/o Leverage</i>	1.186	0.888	0.007	0.059	0.042	1.242	1.076	-0.060	0.059	0.051
<i>Published</i>	1.445	1.101	0.026	0.066	0.049	1.590	1.422	-0.040	0.079	0.059
<i>Investable</i>	1.469	1.114	0.002	0.064	0.038	1.652	1.464	-0.045	0.071	0.060
<i>Closing</i>	2.606	2.044	0.017	0.065	0.032	2.784	2.479	0.023	0.150	0.145
<i>Closed</i>	2.678	2.128	0.019	0.066	0.058	3.189	2.958	-0.023	0.050	0.058

Notes: The table above reports monthly volatility and skewness characteristics with regard to the *wikifolios* in our dataset. Total volatility (*TVol*), idiosyncratic volatility (*IVol*), total skewness (*TSkew*), and idiosyncratic skewness (*ISkew2F/ISkew3F*) are computed using daily *wikifolio* returns of the previous month/previous six months. *IVol* and *ISkew2F* are computed following Kumar (2009) and Harvey and Siddique (2000). *ISkew3F* is computed following Boyer et al. (2010). Regional factor data for the computation of idiosyncratic volatility and idiosyncratic skewness are obtained from the *KFDL*. *Leverage* refers to the subgroup of *wikifolios* that do not generally exclude leverage products from their trading activities; *w/o Leverage* represents the subgroup of *wikifolios* where leverage products are generally excluded. *Published*, *Investable*, *Closing*, and *Closed* refer to the *wikifolios*' corresponding life cycle status. Following Oehler et al. (2016), daily *wikifolio* returns are converted into USD. *Panel A* reports the mean values for all available *wikifolio*-month observations. *Panel B* reports mean values based on equally weighted monthly means

$$R_{i,t} - R_{F,t} = \beta_1 * RMRF_t + \beta_2 * SMB_t + \beta_3 * HML_t + \beta_4 * RMW_t + \beta_5 * CMA_t + \beta_6 * WML_t + \alpha \quad (4)$$

$R_{i,t}$ denotes the return of portfolio (i.e. *wikifolio*) i , $R_{F,t}$ is the risk-free return, and $RMRF_t$ represents the return of the market portfolio net of the risk-free return regarding period (i.e. month) t . SMB_t and HML_t reflect the size and book-to-market factors as describes by Fama and French (1993). WML_t is a factor capturing momentum as identified by Jegadeesh and Titman (1993). RMW_t and CMA_t respectively represent the profitability and investment factor (Fama and French 2015). Regional monthly factors are obtained from the *KFDL*. The results are displayed in *Panel A* and *Panel B* of Table 2.

As the model fit is rather weak, the applied regional *KFDL* factors may not be an appropriate benchmark for analyzing *wikifolios*. Signal providers strongly focus on assets which have been issued in Germany (see Sect. 3.4). Thus, using local German factors may produce a more sound model (Hollstein 2021). We therefore match EUR-denominated *wikifolio* data with local German factors obtained from Richard Stehle's homepage.¹¹ As Dirx and Peter (2020) conclude that the profitability and investment factor (Fama and French 2015) have limited relevance with regard to the German market, we estimate alphas using the Fama and French (1993) three- and the Carhart (1997) four-factor model. The results are reported in *Panel C* and *Panel D* of Table 2. Applying local German factors does not substantially increase the model fit. We attribute the rather poor model fit to the variety of non-equity instruments which are included in the considered *wikifolios*.¹²

Contrary to Oehler et al. (2016), the conducted performance analyses do not yield significantly negative alphas, α , for the analyzed signal provider portfolios. Our results suggest that *wikifolios* neither under- nor outperform the equity benchmark. Differences in the performance of *wikifolios* depicted in Oehler et al. (2016) and our reported results may be caused by a longer observation period as well as a much broader data basis.¹³

3.3 Transaction data

Signal providers can choose from an extensive investment universe. Main groups of tradable assets are stocks, funds, ETFs, investment certificates, and leverage products. An overview of traded instrument categories is displayed in Appendix Table 7. When creating a *wikifolio*, signal providers can choose if they want to have access to the entire investment universe provided by the *wikifolio* platform or exclude leverage products from their trading activities. The tag *Attention: Might contain leverage products*—included in the summary information which appears when using the search function on the platform's front page as well as on the front page of the

¹¹ <https://www.wiwi.hu-berlin.de/de/professuren/bwl/bb/daten/fama-french-factors-germany>.

¹² Accordingly, the *wikifolio* characteristics reported in Table 1 are re-estimated with local German factors. The results are reported in Table 6 of the Appendix.

¹³ Oehler et al. (2016) analyze data corresponding to 1084 *wikifolios*; we extend the dataset to 24,101 entities.

Table 2 Performance *wikifolios*

Panel A: Raw returns USD		Panel B: Panel regression estimates USD							
		α	<i>RMRF</i>	<i>SMB</i>	<i>HML</i>	<i>RMW</i>	<i>CMA</i>	<i>WML</i>	R^2
<i>All wikifolios</i>									
Mean	0.5076	0.0948	0.5543*** (6.51)	-0.0836 (-0.48)	-0.2484 (-1.30)				0.0013
Median	0.2083	0.1151	0.5470*** (6.47)	-0.0821 (-0.47)	-0.2782 (-1.40)			-0.0489 (-0.38)	0.0013
SD	51.0441	0.1520	0.5223*** (5.33)	-0.1589 (-0.95)	-0.2943 (-1.30)	-0.2792 (-0.93)	-0.1515 (-0.56)		0.0014
		0.1787	0.5144*** (5.34)	-0.1590 (-0.95)	-0.3434 (-1.49)	-0.2952 (-1.00)	-0.1340 (-0.48)	-0.0581 (-0.44)	0.0014
		0.0085	0.5749*** (6.16)	-0.1450 (-0.59)	-0.0435 (-0.17)				0.0004
Mean	0.3756	0.0085	0.5749*** (6.16)	-0.1450 (-0.59)	-0.0435 (-0.17)				0.0004
Median	-0.0364	0.0224	0.5676*** (6.08)	-0.1437 (-0.58)	-0.0703 (-0.28)			-0.0400 (-0.22)	0.0004
SD	95.2699	0.1267	0.5352*** (5.08)	-0.2840 (-1.44)	-0.2789 (-1.13)	-0.5917 (-1.14)	0.0032 (0.01)		0.0004
		0.1556	0.5223*** (4.87)	-0.2846 (-1.44)	-0.3434 (-1.13)	-0.6124 (-1.14)	0.0220 (0.06)	-0.0724 (-0.37)	0.0004
		0.1306	0.5492*** (6.02)	-0.0623 (-0.37)	-0.3254 (-1.70)				0.0971
Mean	0.5600	0.1306	0.5492*** (6.02)	-0.0623 (-0.37)	-0.3254 (-1.70)				0.0971
Median	0.3042	0.1507	0.5428*** (5.85)	-0.0608 (-0.36)	-0.3522 (-1.78)			-0.0457 (-0.34)	0.0974
SD	6.0386	0.1681	0.5203*** (5.10)	-0.1168 (-0.67)	-0.3063 (-1.28)	-0.1715 (-0.60)	-0.2047 (-0.77)		0.0988
		0.048	0.5203*** (5.10)	-0.1168 (-0.67)	-0.3063 (-1.28)	-0.1715 (-0.60)	-0.2047 (-0.77)		0.0988
<i>w/o Leverage</i>									
Mean	0.5600	0.1306	0.5492*** (6.02)	-0.0623 (-0.37)	-0.3254 (-1.70)				0.0971
Median	0.3042	0.1507	0.5428*** (5.85)	-0.0608 (-0.36)	-0.3522 (-1.78)			-0.0457 (-0.34)	0.0974
SD	6.0386	0.1681	0.5203*** (5.10)	-0.1168 (-0.67)	-0.3063 (-1.28)	-0.1715 (-0.60)	-0.2047 (-0.77)		0.0988

Table 2 (continued)

		Panel B: Panel regression estimates USD							
		α	RMRF	SMB	HML	RMW	CMA	WML	R ²
<i>Published</i>		0.1907 (0.58)	0.5143*** (5.06)	-0.1167 (-0.67)	-0.3448 (-1.50)	-0.1841 (-0.67)	-0.1901 (-0.70)	-0.0466 (-0.35)	0.0990
Mean	0.3981	-0.0025 (-0.01)	0.5256*** (5.86)	-0.0854 (-0.50)	-0.2730 (-1.44)				0.0204
Median	0.1904	0.0090 (0.03)	0.5216*** (5.60)	-0.0845 (-0.49)	-0.2896 (-1.45)			-0.0277 (-0.20)	0.0204
SD	12.4578	0.0229 (0.07)	0.4957*** (4.95)	-0.1307 (-0.76)	-0.2078 (-0.85)	-0.1054 (-0.36)	-0.2510 (-0.95)		0.0208
		0.0339 (0.11)	0.4924*** (4.86)	-0.1307 (-0.76)	-0.2276 (-0.96)	-0.1118 (-0.39)	-0.2445 (-0.92)	-0.0241 (-0.18)	0.0208
<i>Investable</i>		0.1516 (0.44)	0.5824*** (7.05)	-0.1387 (-0.82)	-0.3405* (-1.79)				0.0018
Mean	0.5917	0.1537 (0.47)	0.5816*** (7.27)	-0.1385 (-0.82)	-0.3435* (-1.71)			-0.0052 (-0.04)	0.0018
Median	0.2536	0.1977 (0.57)	0.5661*** (5.91)	-0.1924 (-1.16)	-0.4328* (-1.96)	-0.2496 (-0.93)	-0.0162 (-0.06)		0.0018
SD	48.0254	0.2056 (0.62)	0.5636*** (6.11)	-0.1925 (-1.16)	-0.4470* (-1.90)	-0.2544 (-0.96)	-0.0116 (-0.04)	-0.0177 (-0.14)	0.0018
<i>Closing</i>		-0.2782 (-0.35)	1.2438*** (4.27)	0.6929 (1.28)	0.1242 (0.26)				0.0188
Mean	0.4536	0.0118 (0.02)	1.1162*** (4.67)	0.7405 (1.38)	-0.4283 (-0.81)				0.0217
Median	0.4765	-0.5721	1.2280***	0.9744	1.4049	1.7762	-1.2576	-0.8894 (-1.64)	0.0214
SD	31.2105								

Table 2 (continued)

		Panel B: Panel regression estimates USD							
		α	RMRF	SMB	HML	RMW	CMA	WML	R ²
<i>Closed</i>									
Mean	0.5162	0.1909	0.5003***	0.1765	0.4884				0.0002
Median	0.0361	(0.26)	(3.27)	(0.39)	(0.81)				
SD	117.6044	0.3020	0.4579***	0.1852	0.3036				0.0002
		(0.37)	(3.04)	(0.40)	(0.64)				
		0.6669	0.3302**	-0.3856	-0.0727	-1.7022	-0.0681		0.0004
		(0.65)	(2.26)	(-1.25)	(-0.22)	(-1.16)	(-0.13)		
		0.8442	0.2834*	-0.3832	-0.4516	-1.8187	0.1367	-0.3282	0.0004
		(0.73)	(1.72)	(-1.24)	(-0.82)	(-1.18)	(0.19)	(-0.85)	
		Panel D: Panel regression estimates EUR							
		α	RMRF	SMB	HML		WML	R ²	
<i>All wikifolios</i>									
Mean	0.3788	0.1530	0.4264***	-0.1439*	-0.0956			0.0013	
Median	0.2127	(0.65)	(7.18)	(-1.86)	(-0.58)				
SD	51.7708	0.3004	0.4584***	-0.0801	-0.1036			0.0014	
		(1.21)	(7.57)	(-0.99)	(-0.66)			(-2.09)	
<i>Leverage</i>									
Mean	0.2571	0.0300	0.3990***	-0.1560	0.0985			0.0004	
Median	-0.0487	(0.08)	(4.43)	(-1.13)	(0.29)				
SD	96.7035	0.1658	0.4317***	-0.0822	0.0892			0.0004	

Table 2 (continued)

		Panel D: Panel regression estimates EUR					
Panel C: Raw returns EUR		α	RMRF	SMB	HML	WML	R ²
<i>w/o Leverage</i>							
Mean	0.4272	(0.40)	(5.22)	(-0.67)	(0.27)	(-1.32)	
Median	0.3292	0.2003	0.4374***	-0.1389*	-0.1741		0.1134
SD	5.6197	(0.91)	(7.37)	(-1.89)	(-1.56)		
		0.3532	0.4695***	-0.0781	-0.1816*	-0.1643**	0.1184
		(1.56)	(7.74)	(-0.99)	(-1.73)	(-2.25)	
<i>Published</i>							
Mean	0.2701	0.0728	0.4201***	-0.1388*	-0.1738		0.0220
Median	0.1700	(0.34)	(7.36)	(-1.78)	(-1.47)		
SD	12.2547	0.2187	0.4530***	-0.0729	-0.1817	-0.1673**	0.0231
		(0.97)	(7.79)	(-0.89)	(-1.62)	(-2.38)	
<i>Investable</i>							
Mean	0.4812	0.2332	0.4854***	-0.1051	-0.2065*		0.0018
Median	0.2997	(1.02)	(7.83)	(-1.34)	(-1.76)		
SD	48.5424	0.3348	0.5080***	-0.0560	-0.2107*	-0.1223	0.0019
		(1.45)	(7.73)	(-0.65)	(-1.87)	(-1.49)	
<i>Closing</i>							
Mean	0.3622	0.0489	1.0187***	-0.3227	-0.6806*		0.0193
Median	0.4191	(0.06)	(4.12)	(-1.03)	(-1.74)		
SD	31.0383	0.8001	1.2253***	0.2611	-0.7041**	-1.1890**	0.0268
		(1.12)	(4.52)	(0.63)	(-2.02)	(-2.08)	
<i>Closed</i>							
Mean	0.2913	0.0581	0.1423	-0.3639	0.8070		0.0004

Table 2 (continued)

Panel C: Raw returns EUR		Panel D: Panel regression estimates EUR					R ²
	α	RMRF	SMB	HML	WML		
Median	-0.0287	(0.83)	(-1.61)	(1.06)			
SD	119.7828	0.1901	-0.2997	0.7743	-0.2340	0.0004	
		(1.30)	(-1.52)	(1.05)	(-1.26)		

Notes Panel A and Panel B: The table above reports performance characteristics with regard to the *wikifolios* in our dataset. *Panel A* reports monthly raw return characteristics. *Panel B* reports panel regression estimates with standard errors clustered by month and *wikifolio* (Peterson 2009); alphas, α , are estimated by applying the Fama and French (1993) three-, the Carhart (1997) four-, the Fama and French (2015) five- and the Fama and French (2018) six-factor model. *RMRF*, *SMB*, *HML*, *RMW*, *CMA* and *WML* respectively denote the exposure to the market, size, value, profitability, investment, and momentum factor. *Leverage* refers to the subgroup of *wikifolios* that do not generally exclude leverage products from their trading activities; *w/o Leverage* represents the subgroup of *wikifolios* where leverage products are generally excluded. *Published*, *Investable*, *Closing*, and *Closed* refer to the *wikifolios*' corresponding life cycle status. Following Oehler et al. (2016), monthly *wikifolio* returns are converted into USD. Regional factor data are obtained from the *KFDL*.

Notes Panel C and Panel D: The table above reports performance characteristics with regard to the *wikifolios* in our dataset. *Panel C* reports monthly raw return characteristics. *Panel D* reports panel regression estimates with standard errors clustered by month and *wikifolios* (Peterson 2009); alphas, α , are estimated by applying the Fama and French (1993) three-, the Carhart (1997) four-factor model. *RMRF*, *SMB*, *HML*, and *WML* respectively denote the exposure to the market, size, value, and momentum factor. *Leverage* refers to the subgroup of *wikifolios* that do not generally exclude leverage products from their trading activities; *w/o Leverage* represents the subgroup of *wikifolios* where leverage products are generally excluded. *Published*, *Investable*, *Closing*, and *Closed* refer to the *wikifolios*' corresponding life cycle status. Monthly *wikifolio* returns are, as provided by the *wikifolios* platform, denominated in EUR. Local factor data for Germany are obtained from *Richard Stehle*'s homepage; as these data end in June 2016, for the remaining period we apply the KFDL European factors which we convert into EUR. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

respective individual *wikifolios*—informs signal followers whether leverage products are potentially traded.

The number of conducted transactions is not evenly distributed among all administered *wikifolios*. There is a vast number of *wikifolios* where no transaction is conducted for several continuous months, indicating that the corresponding signal providers pursue a plain buy-and-hold strategy or have abandoned the administered *wikifolio* without closing. On the other hand, there are *wikifolios* continuously exhibiting a great number of monthly transactions. To account for abandoned or inactive *wikifolios*, we drop *wikifolio*-month observations after the signal provider has conducted the last transaction within a corresponding *wikifolio*. Table 3 provides an overview regarding the distribution of transactions after accounting for inactive entities.

For each transaction, the *International Securities Identification Number (ISIN)*, the change in quantity, and the price of the respective traded asset is provided by the *wikifolio* platform. In order to provide an overview of signal providers' geographical preferences with regard to traded assets, we sort the obtained transaction data on the two initial letters of each transaction *ISIN* which indicate the issuing country. The analysis reveals that signal providers strongly focus on assets which have been issued in Germany. Results are displayed in Appendix Table 8. 70 percent of all transactions conducted by signal providers involve assets issued in Germany. Regarding transaction volume, the focus on German assets is even more severe, accounting for a total share of 87 percent. The results indicate that, when considered together, *wikifolios* lack international diversification. However, missing spatial diversification might be caused by the peculiarities of the *wikifolio* platform; about 85 percent of assets which are available to signal providers have been issued in Germany. Thus, the selection process of signal providers might be biased by the (wide yet spatially pooled) range of available assets.

3.4 Compensation of signal providers

As described by Gemayel and Preda (2018a), the monetary incentive structure established by a social trading platform may have a substantial impact on signal provider behavior. Generally, there is no restriction on who can become a signal provider on the *wikifolio* platform. The majority of signal providers is composed of private traders. Furthermore, there are labels indicating if an asset manager or a media company, i.e. a professional trader, is in charge of the *wikifolio*. Regarding private traders, the maximum number of simultaneously administered *wikifolios* is limited to eight, on the other hand, asset managers and media companies may simultaneously manage any given number.

The portfolios which underlie the *wikifolio* certificates, regardless of their assigned status, are purely virtual, i.e. signal providers do not actually hold the corresponding assets. In order to directly mirror the performance of their own administered *wikifolios*, signal providers need to buy corresponding *wikifolio* certificates (which is in accordance with the copy-trading approach of signal followers on the *wikifolio* platform). *Wikifolios* can obtain the label *Real Money* when a certain amount is invested in the corresponding *wikifolio* certificates by the administering signal provider.

Signal providers are compensated via performance fees—ranging from 5 to 30 percent—which are self-imposed when creating the *wikifolio*. Receivable performance fees are calculated depending on the high watermark principle, meaning that signal providers only become eligible for remuneration if their corresponding *wikifolio* reaches a new high for the year, i.e. a new high watermark is set. The basis for calculating the performance fee is the return of the administered *wikifolio*, i.e. the difference between the current and the last peak of the *wikifolio* equivalent value.¹⁴ High watermarks are reset to the current index level of each *wikifolio* at the end of each calendar year. Contingent on the amount of capital invested in a respective *wikifolio* via certificates, signal providers are (only) entitled to claim a pre-defined share of the amount derived from value appreciation and performance fee. The maximum share signal providers may receive is 50 percent.¹⁵ Signal providers trading *wikifolios* of *wikifolios* are compensated differently—since their respective *wikifolios* are not included in our main analysis, we do not elaborate the corresponding approach.

3.5 Sorting criteria for wikifolios

By default, *wikifolios* are sorted on so-called *wikifolio points* which are calculated from twelve criteria. In addition to risk and return, the respective underlying criteria are meant to reflect the *wikifolio*'s popularity, as well as the corresponding signal provider's activity and commitment. A complete breakdown regarding the calculation method of *wikifolio points* as described on the *wikifolio* platform is provided in Appendix Table 8. Furthermore, platform users may sort available *wikifolios* on the following 14 individual criteria: *Date created*, *Date of issuance*, *Performance ever*, *Performance since first issuance*, *Performance YTD*, *Performance 12 months*, *Performance 6 months*, *Performance 3 months*, *Performance 1 month*, *Sharpe Ratio (365 Days)*, *Maximum loss (to date)*, *Invested capital*, *Reservations*,¹⁶ and *Risk factor*.¹⁷

¹⁴ The *wikifolio* equivalent value is derived from the sum of cash and all other assets held. Daily closing prices (assessed by *Lang & Schwarz*) are applied for the high watermark calculation.

¹⁵ When less than 10,000 EUR are invested in a corresponding *wikifolio*, signal providers are not compensated.

¹⁶ The criterion *Reservations* indicates the number of signal followers observing the *wikifolio*, i.e. signal followers keeping the *wikifolio* on their respective watchlist.

¹⁷ The *Risk factor* is represented by the covariance of the respective *wikifolio* and the *Eurostoxx 50* index. Covariances are computed using daily closing price of the last two years. For each *wikifolio*, the highest covariance value of the last 200 days is displayed. This indicator is only provided for *wikifolios* which exclude leverage products.

Table 3 Deciles distribution transactions

	<i>D1</i>	<i>D2</i>	<i>D3</i>	<i>D4</i>	<i>D5</i>	<i>D6</i>	<i>D7</i>	<i>D8</i>	<i>D9</i>	<i>D10</i>
Number	7	16	26	39	58	87	136	230	460	3,085
Volume	1	3	7	12	21	37	67	102	210	50,552

The table above reports deciles regarding the monthly number and volume of trades after accounting for inactive *wikifolios*. The data is listed according to deciles (*D1* to *D10*). Volume is reported in thousand EUR

3.6 Stock market data and definition of lottery-like stocks

We employ all stocks that are included within the *wikifolio* investment universe, i.e. stocks that can be traded by signal providers, as benchmark for the classification of lottery-like stocks. This leads to a dataset of 7308 stocks which are henceforth used as benchmark. Following Kumar (2009), we classify stocks in the lowest k th stock price percentile (measured in the previous month), highest k th idiosyncratic volatility percentile, and highest k th idiosyncratic skewness percentile as lottery-like stocks. For the conducted analysis, we set $k = 50$.¹⁸ Volatility and skewness characteristics with regard to the sorted portfolios are displayed in Appendix Table 9.

We compute idiosyncratic volatility and idiosyncratic skewness as in Kumar (2009). Accordingly, idiosyncratic volatility is determined as the standard deviation of the residuals obtained by fitting a four-factor model—comprising the market, size, book-to-market (Fama and French 1993), and momentum (Carhart 1997) factors—to a time-series of daily stock returns. Idiosyncratic skewness is measured as the third moment of the residuals obtained by regressing daily stock returns on a two-factor model employing the market excess return and the square of the market excess return as respective factors (Harvey and Siddique 2000). The regressions providing the residuals for the computation of idiosyncratic volatility and idiosyncratic skewness are run for each respective stock-month combination, employing daily stock returns of the corresponding previous six months (i.e., months $t - 6$ to $t - 1$). Different definitions of lottery-like stocks are applied as part of the robustness checks in Sect. 5. For all stocks included in the *wikifolio* investment universe, the corresponding regional daily factors—Fama and French (1993) factors and momentum factor (Jegadeesh and Titman 1993)—are obtained from the *KFDL*; stocks issued from countries which cannot be sorted into regions with available factors are paired with the Developed ex US factors from the *KFLD*.

3.7 Regression model

3.7.1 Selection of main independent variables

Regarding signal providers, the incentive structure stems from the *wikifolio* platform's established incentive scheme. As described in Sect. 3.4, signal provider

¹⁸ According to Kumar (2009), stocks in the highest k th stock price percentile, lowest k th idiosyncratic volatility percentile, and lowest k th idiosyncratic skewness percentile, during month $t - 1$, are categorized as nonlottery-like stocks. As before, we set $k = 50$.

compensation depends on the success of the administered *wikifolio*, i.e. attainment of new high watermarks, and the amount of capital invested in the corresponding *wikifolio*'s certificates. In order to generate invested capital, *wikifolios* need to be visible, i.e. obtain good positions on the lists which are presented to signal followers (Jacobs and Hillert 2016). The default sorting criteria, as well as seven out of the 14 additional sorting options which may be selected, directly depend on past *wikifolio* performance (see Sect. 3.5). In this regard, it is interesting to assess if the number/volume of transactions conducted by signal providers is related to the past performance of their administered *wikifolios*. Additionally, within the elaborated conditions set by the *wikifolio* platform, past *wikifolio* returns may affect signal providers' intention to engage in gambling. In this context, we assess whether the relative transaction number/volume with regard to lottery-like stocks relates to past *wikifolio* returns.

We set the *wikifolio* raw return of the previous month as well as the average monthly *wikifolio* raw returns over the previous six months as past performance measures. For each of the employed performance measures, each *wikifolio* is then assigned a number from 1 to 10, indicating its according relative monthly performance ranking.¹⁹ The variables are depicted as follows:

$$RR_{i,t-1} / \overline{RR}_{i,t-6}^{-t-1} \quad (5)$$

All variables included in the regression analyses are displayed and described in Appendix Table 11.

The independent variable of interest, the relative performance ranking, is based on raw returns instead of abnormal returns (alphas). In the context of social trading, Röder and Walter (2019) provide evidence that investment flows follow raw returns instead of factor model alphas. Hence, basing the independent variable of interest on raw returns seems to be the coherent approach.

3.7.2 Monthly transactions

At first, we assess whether the monthly transaction volume generated by a signal provider for an administered *wikifolio*, as well as the corresponding number of transactions, depend on the *wikifolio*'s past performance. The according relevant dependent variables are the monthly number/volume of assets traded within each *wikifolio* ($T_{i,t}^{num} / T_{i,t}^{vol}$).

¹⁹ Monthly deciles with regard to the different past performance measures are employed as threshold values for the ranking procedure.

Even when eliminating abandoned or inactive *wikifolios* as described in Sect. 3.3, there is a substantial number of *wikifolio*-month observations in the dataset where no transaction is conducted. Consequently, for these cases the respective variables take the value zero. Deriving from that, the dependent variables are highly positively skewed. Thus, for our regression analyses we transform the dependent variables as follows:

$$\ln T_{i,t}^{num} = \ln\left(1 + T_{i,t}^{num}\right) / \ln T_{i,t}^{vol} = \ln\left(1 + T_{i,t}^{vol}\right). \tag{6}$$

By adding the constant 1 to the initial variables before applying the natural logarithm, we assure that *wikifolio*-month observations with no respective transactions can be included into the regression analyses. As described in the previous section, relative past *wikifolio* performance ($RR_{i,t-1} / \overline{RR}_{i,t-6}^{-t-1}$) depicts the relevant independent variable. The baseline regression model is as follows:

$$DV = \alpha + \beta_1 \times RR + Controls + \epsilon \tag{7}$$

DV is a stand-in for the dependent variable reflecting the number ($T_{i,t}^{num}$)/volume ($T_{i,t}^{vol}$) of transactions conducted within *wikifolio* *i* in month *t*. *RR* is a stand-in for the relative past return variable of the *wikifolio*, measured over the previous month ($RR_{i,t-1}$)/previous six months ($\overline{RR}_{i,t-6}^{-t-1}$). *Controls*²⁰ depicts a vector of control variables. All variables are described in Appendix Table 11.

3.7.3 Monthly relative transactions lottery-like stocks

As main analysis, we assess the impact of past *wikifolio* performance on relative lottery-like stock transactions. We set the relative monthly number/volume of lottery-like stocks traded ($RTL_{i,t}^{num} / RTL_{i,t}^{vol}$) as the according dependent variable. The variables are defined as follows:

$$RTL_{i,t}^{num} = \frac{TL_{i,t}^{num}}{T_{i,t}^{num}} / RTL_{(i,t)}^{vol} = \frac{TL_{(i,t)}^{vol}}{T_{(i,t)}^{vol}}, \tag{8}$$

$TL_{i,t}^{num} / TL_{i,t}^{vol}$ denote the monthly number/volume of lottery-like stocks traded. Since we employ relative shares of traded lottery-like stocks, all *wikifolio*-month observations with no conducted transaction—indicating abandoned *wikifolios* or the implementation of a plain buy-and-hold strategy—are excluded. In order to establish

²⁰ Control variables include a dummy variable indicating if the *wikifolio*'s signal provider may trade leverage products (*Leverage_i*), a dummy variable indicating if the signal provider has invested a certain amount of his own money in certificates reflecting the corresponding *wikifolio*'s performance (*Real-Money_i*), dummy variables indicating the status of the *wikifolio* (*Published_i*, *Investable_i*, *Closing_i*, and *Closed_i*), a dummy variable indicating if the corresponding signal provider only invests in other *wikifolios* (*wow_i*), dummy variables indicating if the *wikifolio* is administered by a professional asset manager (*Manager_i*), a media company (*Media_i*), or follows a predefined theme (*Theme_i*), a variable indicating the total number of *wikifolios* corresponding to each signal provider per status (*wikiNumber_i*), a variable indicating if the *wikifolio* has reached a new high watermark in month *t* (*HWM_i*), a variable indicating the level of the self-imposed performance fee of the *wikifolio* (*Fee_i*), and a variable indicating the *wikifolio*'s age in months (*Age_{i,t}*). All variables are displayed and described in Table 11 of the appendix.

coherence, we transform the introduced dependent variables for the constituent regression analyses by adding the constant 1 and then applying the natural logarithm:

$$\ln RTL_{i,t}^{num} = \ln(1 + RTL_{i,t}^{num}) / \ln RTL_{i,t}^{vol} = \ln(1 + RTL_{i,t}^{vol}). \quad (9)$$

Relative past *wikifolio* performance ($RR_{i,t-1} / \overline{RR}_{i,t-6}^{t-1}$) depicts the relevant independent variable. The baseline regression model is depicted in Eq. 7. As before, *DV* is a stand-in for the dependent variable reflecting the relative number ($\ln RTL_{i,t}^{num}$) / volume ($\ln RTL_{i,t}^{vol}$) of lottery-like stock transactions conducted within *wikifolio* *i* in month *t*. *RR* is a stand-in for the relative past return variable of the *wikifolio*, measured over the previous month ($RR_{i,t-1}$) / previous six months ($\overline{RR}_{i,t-6}^{t-1}$). *Controls*²¹ depicts a vector of control variables. Appendix Table 11 displays and describes all variables employed in the regression analyses.

4 Results and discussion

4.1 Monthly transactions

The initial results obtained from the regression analysis are ambiguous. The regression models where standard errors are simultaneously clustered by month and *wikifolio* as well as by month and signal provider do not indicate a statistically significant relationship between relative past performance and the number or volume of conducted transactions. When including fixed effects,²² all regression specifications yield significantly positive coefficients for the relative performance variable. In order to determine whether a non-linear model describes the relation between trading activity and relative past performance more appropriately, we include squared terms of the established relative return variables: $(RR_{i,t-1})^2$ and $(\overline{RR}_{i,t-6}^{t-1})^2$. Estimating regression models including squared terms indicates a U-shaped relation between relative past performance and trading activity which is statistically significant in the specifications including clustered standard errors and within the contrived fixed effects models. Regression results corresponding to the quadratic model are displayed in Appendix Table 12.²³

²¹ We use the control variables employed in the regression model described in the previous Section (Sect. 3.7.2). In addition, we include dummy variables indicating if an ETF, ETP, or Derivative is traded within *wikifolio* *i* in month *t* ($ETF_{i,t}$, $ETP_{i,t}$, or $Derivative_{i,t}$). Furthermore, we include the natural logarithm of the number/volume ($\ln T_{i,t}^{num} / \ln T_{i,t}^{vol}$) of assets traded within *wikifolio* *i* in month *t* as a control variable (employed as dependent variable in Sect. 3.7.2). Table F of the appendix displays and describes all variables employed in the regression analyses.

²² We estimate the following five distinct regression specifications including fixed effects: Time (i.e. month) fixed effects, portfolio-level (i.e. *wikifolio*-level) fixed effects, trader-level (i.e. signal provider-level) fixed effects, time and portfolio-level fixed effects, as well as time and trader-level fixed effects.

²³ When measuring relative past performance over the previous six months (Panel B), there are two specifications where the regression model does not yield corresponding statistically significant coefficients. However, measuring relative past performance over the previous 3 months in order to check for robustness, yields corresponding significant coefficients within all specifications.

Regarding the upper end of the relative performance spectrum, i.e. signal providers who have previously outperformed their peers, an increase in trading activity seems to be in line with previous research. Gervais and Odean (2001), Odean (1999), and Statman et al. (2006) provide evidence that past returns have a positive impact on investor overconfidence, and thus on trading activity. Within the framework of a social trading platform, performing well relative to peers might induce a surge in signal provider overconfidence which causes increased trading activity. Since portfolios on the *wikifolio* platform are virtual, and thus there are no transaction costs for signal providers, the effect might be particularly pronounced.²⁴ As described, the considered independent variables, $RR_{i,t-1}$ and $\overline{RR}_{i,t-6}^{-t-1}$, capture the relative performance of all *wikifolios* for which data could be attained; literature on overconfidence primarily focuses on absolute performance. Although based on performance relative to peers, the composed variable covers absolute performance, it is reasonable to assume that outperforming peers is connected to generating net profits. Measuring relative performance over the previous month, in less than two percent of all *wikifolio*-month observations a negative return is generated when the *wikifolio* is assigned to one of the top three percentiles. Measuring relative performance over a 6-month period leads to positive returns in more than 99.5 percent of all *wikifolio*-month observations when the *wikifolio* has outperformed 70 percent of its peers.

Apart from overconfidence, excitement may be cited as an explanation for the reported results. The role of excitement in investing is elaborated by Taffler (2018). Trading as entertainment has been depicted by Dorn and Sengmueller (2009).

In the context of social trading, Pelster and Breitmayer (2019) show that signal providers who receive attention (from signal followers) increase their trading activity due to increased levels of excitement. Furthermore, Pelster and Breitmayer (2019) provide evidence, that past performance is the main determinant for a signal provider to be followed. Performing well relative to peers might boost signal provider attractiveness which will lead to a larger number of signal followers investing in the corresponding *wikifolio*. The enhanced excitement which is caused by additional followers may encourage signal providers to be more active, i.e. increase their trading activity.

Regarding the lower end of the relative performance spectrum, i.e. underperforming signal providers, an increase in trading activity may be caused by traders trying to restructure their losing *wikifolios*. The incentive to restructure a losing entity might be amplified by the lack of transaction costs and the very limited monetary downside risk for signal providers. Restructuring a *wikifolio* may be implemented by including new assets. Furthermore, contrary to what is suggested by the disposition effect (Shefrin and Statman 1985), signal providers may decide to get rid of losing positions. So far, regarding the occurrence and magnitude of the disposition effect in social trading, there is contradictory evidence (Gemayel and Preda 2018a; Glaser and Risius 2018; Pelster and Hofmann 2018).

²⁴ It is well established, that individual investors severely reduce their returns by (excessive) trading (Barber and Odean 2000; 2001; Odean 1999). In this context, not being subject to transaction costs might have an impact on signal provider trading behavior.

4.2 Transactions lottery-like stocks

As depicted in Sect. 3.7.3, we conduct regression analyses for dependent variables reflecting the relative share of transactions involving lottery-like stocks: monthly relative number of traded lottery-like stocks ($\ln RTL_{i,t}^{num}$) and monthly relative volume of traded lottery-like stocks ($\ln RTL_{i,t}^{vol}$). Our regression analysis does not yield a statistically significant relation between relative past *wikifolio* performance and the traded share of lottery-like stocks. In order to determine whether there is a non-linear relation between the relative share of transactions involving lottery-like stocks and previous performance, we include squared terms of the respective performance measures: $(RR_{i,t-1})^2$ and $(RR_{i,t-6})^2$. Results are displayed in Table 4 (Panel A and Panel C).

The results suggest a highly significant quadratic relation between the traded share of lottery-like stocks and past *wikifolio* performance. The regression coefficients relating to the employed *wikifolio* performance measures are significant throughout all conducted analyses. The considered coefficients remain statistically significant when computing standard errors simultaneously clustered by month and *wikifolio*, as well as when computing standard errors simultaneously clustered by month and trader (Petersen 2009). Moreover, all models including fixed effects yield statistically significant coefficients corresponding to the relative performance variables.

The signs of the respective coefficients—negative sign of the past performance measure and positive sign for the squared term—suggest a U-shaped relationship, i.e. signal providers increase the traded share of lottery-like stocks when exhibiting relatively good or relatively bad performance. These results are not particularly surprising. Schneider and Oehler (2021) report a similar pattern for traded currency pairs which exhibit extreme past daily returns.

The dummy variable indicating whether a signal provider has invested his own money in the corresponding *wikifolio* certificate (*RealMoney_i*) is significantly positive in all regression specifications, i.e. signal providers with an investment in their own *wikifolio* are more likely to trade a higher share of lotteries. The dummy variables indicating whether an ETF (*ETF_{i,t}*), ETP (*ETP_{i,t}*) or derivative (*Derivative_{i,t}*) is traded within *wikifolio* *i* in month *t* are significantly negative in all conducted regressions. Signal providers trading ETFs, ETPs, or Derivatives may, on average, be less likely to trade stocks due to their pursued trading strategy focusing on non-stock instruments. Furthermore, signal providers trading derivatives do not depend on stocks when intending to trade assets with lottery-like payoffs. Although not significant in all models, the regression analyses yield positive coefficients relating to the variable depicting the level of a *wikifolio*'s performance fee (*Fee_i*). As described in Sect. 3.4, performance fees are determined by signal providers when creating the *wikifolio*. In this context, the following applies: The higher the performance fee, the better the prospect of high compensation. Signal providers with self-selected high performance fees might have a stronger focus on receiving a certain level of benefits from the *wikifolio* platform, and thus try to substantially exceed previous high watermarks by trading lottery-like stocks more frequently.

Table 4 Relative share lottery-like stocks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Panel A: Number lottery</i>														
α	0.0541*** (19.42)	0.0541*** (17.75)	0.0551*** (63.40)	0.0319*** (37.16)	0.0362*** (33.56)	0.0352*** (44.59)	0.0383*** (34.01)	0.0589*** (19.97)	0.0589*** (18.03)	0.0593*** (67.42)	0.0330*** (36.96)	0.0389*** (35.32)	0.0363*** (43.64)	0.0408*** (35.56)
RR	-0.0098*** (-13.43)	-0.0098*** (-12.23)	-0.0095*** (-34.49)	-0.0006*** (-2.13)	-0.0031*** (-11.02)	-0.0006*** (-2.20)	-0.0006*** (-10.88)	-0.0030*** (-14.18)	-0.0116*** (-12.79)	-0.0112*** (-39.95)	-0.0010*** (-3.41)	-0.0040*** (-13.75)	-0.0010*** (-3.37)	-0.0039*** (-13.46)
RR^2	0.0009*** (14.19)	0.0009*** (12.94)	0.0009*** (36.96)	0.0001*** (3.36)	0.0003*** (12.40)	0.0001*** (3.45)	0.0003*** (12.34)	0.0010*** (14.81)	0.0010*** (13.43)	0.0010*** (41.48)	0.0001*** (4.11)	0.0004*** (14.23)	0.0001*** (4.11)	0.0004*** (14.04)
$Leverage$	0.0023* (1.90)	0.0023* (1.80)	0.0027*** (5.00)	0.0027*** (5.00)	-0.0024*** (-3.25)	-0.0024*** (-3.25)	-0.0025*** (-3.40)	0.0018 (1.53)	0.0018 (1.45)	0.0022*** (4.20)	0.0022*** (4.20)	-0.0027*** (-3.62)	-0.0027*** (-3.62)	-0.0028*** (-3.74)
$RealMoney$	0.0081*** (3.01)	0.0081*** (2.65)	0.0080*** (9.86)	0.0080*** (9.86)	0.0074*** (5.26)	0.0074*** (5.26)	0.0075*** (5.36)	0.0079*** (2.92)	0.0079*** (2.58)	0.0077*** (9.51)	0.0077*** (9.51)	0.0072*** (5.15)	0.0072*** (5.15)	0.0073*** (5.23)
$Investable$	-0.0034*** (-3.46)	-0.0034*** (-3.01)	-0.0020*** (-4.64)	-0.0020*** (-4.64)	-0.0002 (-0.21)	-0.0002 (-0.21)	0.0009 (1.27)	-0.0035*** (-3.51)	-0.0035*** (-3.06)	-0.0021*** (-4.96)	-0.0021*** (-4.96)	-0.0002 (-0.33)	-0.0002 (-0.33)	0.0008 (1.11)
$Closing$	-0.0133*** (-2.58)	-0.0133*** (-2.48)	-0.0132*** (-4.37)	-0.0132*** (-4.37)	-0.0125*** (-3.11)	-0.0125*** (-3.11)	-0.0116*** (-2.88)	-0.0136*** (-2.68)	-0.0136*** (-2.58)	-0.0136*** (-4.51)	-0.0136*** (-4.51)	-0.0127*** (-3.15)	-0.0127*** (-3.15)	-0.0118*** (-2.93)
$Closed$	-0.0078*** (-6.14)	-0.0078*** (-5.44)	-0.0050*** (-7.67)	-0.0050*** (-7.67)	-0.0024*** (-2.79)	-0.0024*** (-2.79)	-0.0008 (-0.87)	-0.0078*** (-6.07)	-0.0078*** (-5.38)	-0.0051*** (-7.84)	-0.0051*** (-7.84)	-0.0025*** (-2.90)	-0.0025*** (-2.90)	-0.0009 (-1.01)
Fee	0.0106* (1.76)	0.0106 (1.47)	0.0109*** (4.25)	0.0109*** (4.25)	0.0221*** (4.95)	0.0221*** (4.95)	0.0213*** (4.78)	0.0098 (1.64)	0.0098 (1.37)	0.0101*** (3.94)	0.0101*** (3.94)	0.0215*** (4.82)	0.0215*** (4.82)	0.0208*** (4.66)
$Media$	-0.0143*** (-2.86)	-0.0143*** (-2.16)	-0.0140*** (-6.21)	-0.0140*** (-6.21)	-0.0135*** (-5.88)	-0.0135*** (-5.88)	-0.0135*** (-2.73)	-0.0135*** (-2.07)	-0.0135*** (-2.07)	-0.0133*** (-5.88)	-0.0133*** (-5.88)	-0.0133*** (-5.88)	-0.0133*** (-5.88)	-0.0133*** (-5.88)
$Manager$	-0.0106*** (-2.70)	-0.0106*** (-2.28)	-0.0106*** (-5.71)	-0.0106*** (-5.71)	-0.0101*** (-2.60)	-0.0101*** (-2.60)	-0.0101*** (-2.60)	-0.0101*** (-2.18)	-0.0101*** (-2.18)	-0.0096*** (-5.43)	-0.0096*** (-5.43)	-0.0096*** (-5.43)	-0.0096*** (-5.43)	-0.0096*** (-5.43)
$Theme$	0.0285 (0.79)	0.0285 (13.46)	0.0285*** (2.27)	0.0285*** (2.27)	0.0282*** (2.27)	0.0282*** (2.27)	0.0295 (0.81)	0.0295*** (16.29)	0.0295*** (16.29)	0.0287*** (2.31)	0.0287*** (2.31)	0.0287*** (2.31)	0.0287*** (2.31)	0.0287*** (2.31)
$wikiNumber$	-0.0001 (-0.0001)	-0.0001 (-0.0001)	-0.0001*** (-0.0001)	-0.0001*** (-0.0001)	-0.0001*** (-0.0001)	-0.0001*** (-0.0001)	-0.0001 (-0.0001)	-0.0001 (-0.0001)	-0.0001 (-0.0001)	-0.0001*** (-0.0001)	-0.0001*** (-0.0001)	-0.0001 (-0.0001)	-0.0001 (-0.0001)	-0.0001*** (-0.0001)

Table 4 (continued)

Panel A: Number lottery														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Int^{num}</i>	(-0.71) 0.0042***	(-0.44) 0.0042***	(-2.01) 0.0040***	0.0016*** (8.15)	0.0026*** (14.15)	0.0016*** (7.92)	0.0026*** (14.11)	0.0026*** (12.81)	(-0.98) 0.0042***	(-0.61) 0.0042***	(-2.59) 0.0040***	0.0026*** (8.15)	0.0016*** (14.22)	0.0026*** (7.91)
<i>ETF</i>	(-0.1959*** (-24.19)	(-0.0195*** (-20.87)	(-0.0187*** (-46.33)	(-0.0100*** (-17.79)	(-0.0137*** (-28.69)	(-0.0101*** (-18.03)	(-0.0137*** (-28.59)	(-0.0194*** (-23.98)	(-0.0194*** (-20.68)	(-0.0194*** (-45.92)	(-0.0186*** (-17.81)	(-0.0100*** (-28.70)	(-0.0137*** (-18.05)	(-0.0137*** (-28.60)
<i>ETP</i>	(-0.0040*** (-3.25)	(-0.0040*** (-2.98)	(-0.0027*** (-2.70)	(-0.0091*** (-8.36)	(-0.0083*** (-7.94)	(-0.0074*** (-6.74)	(-0.0065*** (-6.24)	(-0.0040*** (-3.24)	(-0.0040*** (-2.98)	(-0.0040*** (-2.65)	(-0.0026*** (-8.36)	(-0.0082*** (-7.89)	(-0.0074*** (-6.73)	(-0.0064*** (-6.19)
<i>Derivative</i>	(-0.0332*** (-22.91)	(-0.0332*** (-21.38)	(-0.0330*** (-55.74)	(-0.0192*** (-23.41)	(-0.0250*** (-35.83)	(-0.0180*** (-22.00)	(-0.0243*** (-34.83)	(-0.0336*** (-22.80)	(-0.0336*** (-21.28)	(-0.0333*** (-21.28)	(-0.0192*** (-23.43)	(-0.0250*** (-35.95)	(-0.0180*** (-22.02)	(-0.0244*** (-34.95)
<i>HWM</i>	(-0.0013*** (-0.98)	(-0.0013*** (-0.98)	(-0.0023*** (-5.29)	0.0012*** (3.37)	0.0002 (0.69)	0.0010*** (2.54)	(-0.0002 (-0.49)	(-0.0007 (-0.50)	(-0.0007 (-0.50)	(-0.0007 (-0.50)	(-0.0016*** (-3.81)	0.0007*** (4.32)	0.0014*** (2.01)	0.0003 (3.51)
<i>Age</i>	0.0001* (1.79)	0.0001 (1.63)	(-0.0001*** (-5.08)	0.0002*** (13.61)	0.0001*** (11.35)	0.0001*** (11.35)	(-0.0000 (-0.27)	0.0000 (2.58)	0.0001** (2.33)	0.0001** (2.33)	0.0000*** (-2.66)	0.0002*** (13.82)	0.0001*** (11.85)	0.0000 (0.17)
<i>R²</i>	0.0294 (1.79)	0.0294 (1.63)	0.0294 (1.63)	0.3015 (13.61)	0.2104 (11.35)	0.3048 (13.61)	0.2140 (11.35)	0.0307 (2.58)	0.0307 (2.33)	0.0307 (2.33)	0.0364 (2.66)	0.3015 (13.82)	0.2104 (11.85)	0.3048 (11.85)
Panel B: Number nonlottery														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>α</i>	0.1484*** (29.40)	0.1484*** (26.96)	0.1487*** (85.83)	0.1484*** (91.84)	0.1521*** (71.94)	0.1512*** (101.74)	0.1504*** (68.18)	0.1409*** (27.82)	0.1409*** (25.26)	0.1409*** (80.27)	0.1407*** (88.57)	0.1468*** (68.01)	0.1511*** (96.51)	0.1449*** (64.58)
<i>RR</i>	0.0377*** (30.25)	0.0377*** (27.89)	0.0375*** (68.35)	0.0064*** (12.05)	0.0178*** (32.72)	0.0064*** (12.05)	0.0177*** (32.64)	0.0405*** (30.97)	0.0405*** (27.97)	0.0406*** (73.01)	0.0061*** (10.72)	0.0196*** (34.67)	0.0062*** (11.12)	0.0197*** (34.90)
<i>RR²</i>	(-0.0034*** (-30.14)	(-0.0034*** (-27.81)	(-0.0034*** (-70.96)	(-0.0006*** (-13.67)	(-0.0016*** (-34.36)	(-0.0006*** (-13.68)	(-0.0016*** (-34.36)	(-0.0036*** (-28.31)	(-0.0036*** (-25.94)	(-0.0036*** (-74.75)	(-0.0006*** (-12.15)	(-0.0018*** (-35.54)	(-0.0006*** (-12.46)	(-0.0018*** (-35.79)
<i>Leverage</i>	(-0.0138*** (-5.00)	(-0.0138*** (-4.45)	(-0.0138*** (-13.23)	(-0.0141*** (-13.23)	(-0.0331*** (-22.94)	(-0.0331*** (-22.94)	(-0.0330*** (-22.93)	(-0.0126*** (-4.59)	(-0.0126*** (-4.09)	(-0.0126*** (-12.12)	(-0.0126*** (-12.12)	(-0.0321*** (-22.25)	(-0.0321*** (-22.25)	(-0.0321*** (-22.25)

Table 4 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Panel B: Number nonlottery</i>														
<i>RealMoney</i>	-0.0168*** (-3.05)	-0.0168*** (-2.86)	-0.0168*** (-10.61)	-0.0171*** (-10.61)	-0.0200*** (-7.30)	-0.0200*** (-7.30)	-0.0201*** (-7.36)	-0.0201*** (-7.36)	-0.0159*** (-2.74)	-0.0159*** (-10.05)	-0.0162*** (-10.05)	-0.0193*** (-7.03)	-0.0193*** (-7.03)	-0.0194*** (-7.09)
<i>Investable</i>	-0.0055*** (-2.37)	-0.0055*** (-2.12)	-0.0055*** (-6.25)	-0.0052*** (-6.25)	0.0016 (1.14)	0.0016 (1.14)	0.0011 (0.80)	0.0011 (0.80)	-0.0054*** (-2.33)	-0.0054*** (-5.77)	-0.0048*** (-5.77)	0.0020 (1.41)	0.0020 (1.41)	0.0017 (1.17)
<i>Closing</i>	-0.0138 (-0.91)	-0.0138 (-0.88)	-0.0137** (-2.27)	-0.0137** (-2.27)	-0.0210*** (-2.66)	-0.0210*** (-2.66)	-0.0205*** (-2.60)	-0.0205*** (-2.60)	-0.0131 (-0.86)	-0.0131 (-2.12)	-0.0127** (-2.12)	-0.0204** (-2.58)	-0.0204** (-2.58)	-0.0197** (-2.50)
<i>Closed</i>	-0.0109*** (-3.30)	-0.0109*** (-2.96)	-0.0109*** (-7.65)	-0.0100*** (-7.65)	-0.0069*** (-4.08)	-0.0069*** (-4.08)	-0.0075*** (-4.31)	-0.0075*** (-4.31)	-0.0112*** (-3.37)	-0.0112*** (-7.44)	-0.0097*** (-7.44)	-0.0067*** (-3.95)	-0.0067*** (-3.95)	-0.0070*** (-4.04)
<i>Fee</i>	-0.1543*** (-10.73)	-0.1543*** (-9.00)	-0.1543*** (-29.75)	-0.1521*** (-29.75)	-0.0694*** (-7.93)	-0.0694*** (-7.93)	-0.0683*** (-7.83)	-0.0683*** (-7.83)	-0.1537*** (-9.01)	-0.1537*** (-29.51)	-0.1508*** (-29.51)	-0.0675*** (-7.72)	-0.0675*** (-7.72)	-0.0663*** (-7.60)
<i>Media</i>	0.0258 (1.62)	0.0258 (1.49)	0.0246*** (5.46)	0.0246*** (5.46)			0.0234 (1.50)	0.0234 (1.50)	0.0234 (1.37)	0.0234 (4.90)	0.0221*** (4.90)			
<i>Manager</i>	-0.0289*** (-2.52)	-0.0289*** (-2.23)	-0.0289*** (-8.40)	-0.0296*** (-8.40)			-0.0302*** (-2.63)	-0.0302*** (-2.63)	-0.0302*** (-2.37)	-0.0302*** (-8.83)	-0.0310*** (-8.83)			
<i>Theme</i>	-0.0433 (-1.13)	-0.0433 (-1.11)	-0.0433*** (-1.75)	-0.0454* (-1.75)			-0.0476 (-1.23)	-0.0476 (-1.23)	-0.0476 (-1.06)	-0.0464* (-1.88)	-0.0464* (-1.88)			
<i>wikiNumber</i>	-0.0013*** (-7.19)	-0.0013*** (-5.19)	-0.0013*** (-19.22)	-0.0013*** (-19.22)			-0.0013*** (-6.91)	-0.0013*** (-6.91)	-0.0013*** (-4.99)	-0.0013*** (-18.42)	-0.0013*** (-18.42)			
<i>lnT^{num}</i>	0.0210*** (26.29)	0.0210*** (21.71)	0.0209*** (70.19)	0.0209*** (70.19)	0.0204*** (54.60)	0.0204*** (54.99)	0.0243*** (68.63)	0.0243*** (68.63)	0.0211*** (22.08)	0.0211*** (70.49)	0.0210*** (70.49)	0.0242*** (68.31)	0.0242*** (68.31)	0.0243*** (68.54)
<i>ETF</i>	-0.1090*** (-43.09)	-0.1090*** (-35.16)	-0.1090*** (-135.08)	-0.1090*** (-135.08)	-0.0528*** (-49.77)	-0.0528*** (-50.46)	-0.0885*** (-94.28)	-0.0885*** (-94.28)	-0.1093*** (-42.83)	-0.1093*** (-35.09)	-0.1092*** (-135.11)	-0.0878*** (-93.57)	-0.0878*** (-93.57)	-0.0885*** (-94.20)
<i>ETP</i>	-0.0326*** (-10.44)	-0.0326*** (-8.96)	-0.0326*** (-17.15)	-0.0337*** (-17.15)	-0.0254*** (-12.33)	-0.0254*** (-12.77)	-0.0345*** (-16.89)	-0.0345*** (-16.89)	-0.0332*** (-10.54)	-0.0332*** (-9.07)	-0.0343*** (-17.46)	-0.0337*** (-16.55)	-0.0337*** (-16.55)	-0.0349*** (-12.84)
<i>Derivative</i>	-0.1456*** (-10.44)	-0.1456*** (-10.44)	-0.1456*** (-14.64)	-0.1464*** (-14.64)	-0.0836*** (-11.97)	-0.0836*** (-12.77)	-0.1198*** (-11.98)	-0.1198*** (-11.98)	-0.1449*** (-10.44)	-0.1449*** (-14.57)	-0.1457*** (-14.57)	-0.1197*** (-11.97)	-0.1197*** (-11.97)	-0.1198*** (-11.98)

Table 4 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Panel B: Number nonlottery</i>														
<i>HWM</i>	(-46.99)	(-39.37)	(-123.87)	(-54.17)	(-87.70)	(-54.23)	(-87.66)	(-46.70)	(-39.17)	(-123.41)	(-54.31)	(-87.73)	(-54.36)	(-87.68)
	0.0038	0.0038	0.0068***	-0.0025***	-0.0002	-0.0018**	0.0013*	0.0029	0.0029	0.0058***	-0.0028***	-0.0008	-0.0022***	0.0005
	(1.51)	(1.50)	(7.95)	(-3.83)	(-0.24)	(-2.40)	(1.66)	(1.09)	(1.08)	(6.87)	(-4.37)	(-1.21)	(-2.99)	(0.64)
<i>Age</i>	0.0001	0.0001	0.0000	0.0002***	0.0002***	0.0002***	0.0003***	0.0000	0.0000	-0.0001***	0.0001***	0.0002***	0.0002***	0.0002***
	(0.79)	(0.71)	(0.30)	(6.69)	(8.07)	(8.07)	(5.72)	(-0.36)	(-0.33)	(-3.86)	(6.15)	(6.89)	(4.69)	(4.69)
<i>R²</i>	0.1871	0.1871	0.1918	0.4770	0.3616	0.4808	0.3655	0.1885	0.1885	0.1933	0.4769	0.3617	0.4807	0.3657
<i>Panel C: Volume lottery</i>														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>α</i>	0.0603***	0.0603***	0.0642***	0.0411***	0.0457***	0.0435***	0.0487***	0.0650***	0.0650***	0.0682***	0.0426***	0.0483***	0.0449***	0.0511***
	(17.07)	(15.52)	(53.82)	(27.85)	(31.06)	(30.73)	(31.74)	(18.56)	(16.75)	(57.42)	(28.73)	(32.73)	(31.56)	(33.24)
<i>RR</i>	-0.0098***	-0.0098***	-0.0095***	-0.0008***	-0.0032***	-0.0008***	-0.0032***	-0.0116***	-0.0116***	-0.0112***	-0.0014***	-0.0042***	-0.0014***	-0.0041***
	(-13.40)	(-12.30)	(-34.94)	(-2.82)	(-11.66)	(-2.86)	(-11.52)	(-14.56)	(-13.17)	(-40.40)	(-4.58)	(-14.63)	(-4.56)	(-14.37)
<i>RR²</i>	0.0009***	0.0009***	0.0009***	0.0001***	0.0003***	0.0001***	0.0003***	0.0010***	0.0010***	0.0010***	0.0001***	0.0004***	0.0001***	0.0004***
	(14.20)	(13.05)	(37.58)	(4.21)	(13.26)	(4.26)	(13.20)	(15.04)	(13.71)	(41.99)	(5.42)	(15.32)	(5.43)	(15.16)
<i>Leverage</i>	0.0020*	0.0020	0.0023***	-0.0017**	-0.0017**	-0.0019**	-0.0019**	0.0015	0.0015	0.0019***	-0.0020***	-0.0020***	-0.0021***	-0.0021***
	(1.73)	(1.65)	(4.38)	(-2.38)	(-2.38)	(-2.55)	(-2.55)	(1.36)	(1.28)	(3.60)	(-2.79)	(-2.79)	(-2.92)	(-2.92)
<i>RealMoney</i>	0.0077***	0.0077***	0.0076***	0.0054***	0.0054***	0.0056***	0.0056***	0.0075***	0.0075***	0.0073***	0.0052***	0.0052***	0.0053***	0.0053***
	(3.25)	(2.86)	(9.50)	(3.87)	(3.87)	(4.00)	(4.00)	(3.15)	(2.78)	(9.13)	(3.72)	(3.72)	(3.84)	(3.84)
<i>Investable</i>	-0.0017*	-0.0017*	-0.0002	0.0004	0.0004	0.0015**	-0.0017*	-0.0017*	-0.0017*	-0.0004	0.0003	0.0003	0.0014*	0.0014*
	(-1.81)	(-1.57)	(-0.57)	(0.61)	(0.61)	(2.06)	(2.06)	(-1.88)	(-1.64)	(-0.94)	(0.46)	(0.46)	(1.87)	(1.87)
<i>Closing</i>	-0.0100*	-0.0100*	-0.0098***	-0.0105***	-0.0105***	-0.0095**	-0.0103*	-0.0103*	-0.0103*	-0.0103***	-0.0107***	-0.0107***	-0.0098**	-0.0098**
	(-1.86)	(-1.79)	(-3.28)	(-2.61)	(-2.61)	(-2.38)	(-2.38)	(-1.95)	(-1.87)	(-3.43)	(-2.66)	(-2.66)	(-2.44)	(-2.44)
<i>Closed</i>	-0.0061***	-0.0061***	-0.0034***	-0.0023***	-0.0023***	-0.0007	-0.0007	-0.0061***	-0.0061***	-0.0035***	-0.0024***	-0.0024***	-0.0009	-0.0009
	(-5.24)	(-4.63)	(-5.27)	(-2.74)	(-2.74)	(-0.83)	(-0.83)	(-5.19)	(-4.59)	(-5.47)	(-2.83)	(-2.83)	(-0.97)	(-0.97)

Table 4 (continued)

Panel C: Volume lottery

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Fee</i>	0.0116** (2.03)	0.0116* (1.71)	0.0129*** (5.07)	0.0219*** (4.93)	0.0225*** (5.06)	0.0219*** (4.93)	0.0219*** (4.93)	0.0107* (1.89)	0.0107 (1.60)	0.0121*** (4.74)	0.019*** (4.92)	0.0213*** (4.79)		
<i>Media</i>	-0.0135*** (-3.28)	-0.0135*** (-2.47)	-0.0133*** (-5.94)	-0.0128*** (-3.14)	-0.0128*** (-3.14)	-0.0128*** (-3.14)	-0.0128*** (-3.14)	-0.0128*** (-3.14)	-0.0128*** (-3.14)	-0.0126*** (-5.61)	-0.0126*** (-5.61)	-0.0126*** (-5.61)		
<i>Manager</i>	-0.0102*** (-2.71)	-0.0102*** (-2.34)	-0.0094*** (-5.40)	-0.0097*** (-2.60)	-0.0094*** (-2.34)	-0.0094*** (-2.34)	-0.0097*** (-2.60)	-0.0097*** (-2.60)	-0.0097*** (-2.60)	-0.0089*** (-5.12)	-0.0089*** (-5.12)	-0.0089*** (-5.12)		
<i>Theme</i>	0.0391 (1.08)	0.0391*** (18.82)	0.0389*** (3.16)	0.0401*** (1.11)	0.0389*** (3.16)	0.0401*** (1.11)	0.0401*** (1.11)	0.0401*** (1.11)	0.0401*** (1.11)	0.0394*** (3.21)	0.0394*** (3.21)	0.0394*** (3.21)		
<i>wikiNumber</i>	0.0000 (0.33)	0.0000 (0.21)	0.0000 (0.60)	0.0000 (0.06)	0.0000 (0.06)	0.0000 (0.06)	0.0000 (0.06)	0.0000 (0.06)	0.0000 (0.04)	0.0000 (0.00)	0.0000 (0.00)	0.0000 (0.00)		
<i>Int^{vol}</i>	-0.0002 (-0.86)	-0.0002 (-0.72)	-0.0005*** (-5.55)	-0.0007*** (-5.91)	-0.0007*** (-6.07)	-0.0008*** (-6.13)	-0.0007*** (-6.88)	-0.0007*** (-6.88)	-0.0001 (-0.82)	-0.0001 (-0.68)	-0.0005*** (-5.30)	-0.0006*** (-5.78)	-0.0008*** (-6.11)	-0.0007*** (-6.61)
<i>ETF</i>	-0.0189*** (-24.71)	-0.0189*** (-21.44)	-0.0179*** (-44.96)	-0.0105*** (-18.76)	-0.0137*** (-28.78)	-0.0106*** (-18.95)	-0.0136*** (-28.45)	-0.0188*** (-24.32)	-0.0188*** (-21.14)	-0.0188*** (-44.62)	-0.0178*** (-18.78)	-0.0137*** (-28.81)	-0.0106*** (-18.97)	-0.0136*** (-28.48)
<i>ETP</i>	-0.0024** (-2.16)	-0.0024* (-1.95)	-0.0011 (-1.16)	-0.0076*** (-7.01)	-0.0066*** (-6.37)	-0.0061*** (-5.58)	-0.0050*** (-4.80)	-0.0024** (-2.16)	-0.0024** (-2.16)	-0.0024** (-2.16)	-0.0011 (-1.13)	-0.0076*** (-7.00)	-0.0065*** (-5.57)	-0.0049*** (-4.76)
<i>Derivative</i>	-0.0278*** (-21.03)	-0.0278*** (-19.57)	-0.0278*** (-48.08)	-0.0276*** (-20.48)	-0.0212*** (-30.93)	-0.0156*** (-19.22)	-0.0206*** (-29.99)	-0.0282*** (-21.10)	-0.0282*** (-21.10)	-0.0282*** (-48.71)	-0.0280*** (-20.50)	-0.0213*** (-20.50)	-0.0156*** (-19.25)	-0.0207*** (-30.15)
<i>HWM</i>	-0.0008 (-0.63)	-0.0008 (-0.63)	-0.0017*** (-3.92)	0.0015*** (4.34)	0.0007** (1.99)	0.0014*** (3.36)	0.0003 (0.70)	0.0003 (0.70)	-0.0001 (-0.09)	-0.0001 (-0.09)	-0.0010** (-2.34)	0.0018*** (5.38)	0.0012*** (3.36)	0.0008** (2.08)
<i>Age</i>	0.0000 (0.12)	0.0000 (0.11)	-0.0001*** (-10.27)	0.0001*** (8.92)	0.0001*** (6.14)	0.0001*** (6.14)	-0.0001*** (-2.92)	0.0000 (0.89)	0.0000 (0.81)	0.0000 (-7.79)	0.0001*** (9.18)	0.0001*** (6.72)	0.0001*** (6.72)	-0.0001** (-2.40)
<i>R²</i>	0.0266	0.0266	0.0320	0.2873	0.1996	0.2900	0.2026	0.0279	0.0279	0.0330	0.2872	0.1996	0.2900	0.2027

Table 4 (continued)

Panel D: Volume nonlottery

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
α	0.1240*** (18.68)	0.1240*** (16.44)	0.1239*** (49.64)	0.0922*** (31.43)	0.1016*** (33.57)	0.0935*** (33.31)	0.0933*** (29.57)	0.1183*** (18.56)	0.1183*** (16.11)	0.1183*** (47.68)	0.0937*** (31.85)	0.0984*** (32.42)	0.0942*** (33.35)	0.0901*** (28.56)
RR	0.0390*** (30.01)	0.0390*** (27.47)	0.0388*** (67.90)	0.0075*** (13.43)	0.0188*** (33.10)	0.0075*** (13.42)	0.0187*** (32.97)	0.0415*** (31.11)	0.0415*** (27.81)	0.0415*** (71.75)	0.0069*** (11.58)	0.0203*** (34.31)	0.0071*** (11.99)	0.0203*** (34.43)
RR^2	-0.0035*** (-30.37)	-0.0035*** (-27.70)	-0.0035*** (-70.49)	-0.0007*** (-15.11)	-0.0017*** (-34.78)	-0.0007*** (-15.10)	-0.0017*** (-34.73)	-0.0037*** (-28.75)	-0.0037*** (-26.00)	-0.0037*** (-73.54)	-0.0007*** (-13.08)	-0.0018*** (-35.23)	-0.0007*** (-13.40)	-0.0018*** (-35.37)
$Leverage$	-0.0114*** (-4.11)	-0.0114*** (-3.62)	-0.0116*** (-10.55)	-0.0322*** (-21.39)	-0.0322*** (-21.39)	-0.0322*** (-10.55)	-0.0316*** (-21.01)	-0.0316*** (-3.72)	-0.0316*** (-3.28)	-0.0316*** (-9.51)	-0.0316*** (-9.51)	-0.0313*** (-20.75)	-0.0313*** (-20.75)	-0.0307*** (-20.39)
$RealMoney$	-0.0041 (-0.76)	-0.0041 (-0.71)	-0.0045*** (-2.68)	-0.0045*** (-2.67)	-0.0045*** (-2.67)	-0.0045*** (-2.68)	-0.0082*** (-2.87)	-0.0082*** (-0.56)	-0.0082*** (-0.53)	-0.0082*** (-2.08)	-0.0035*** (-2.08)	-0.0068*** (-2.38)	-0.0035*** (-2.38)	-0.0073*** (-2.56)
$Investable$	0.0031 (1.31)	0.0031 (1.16)	0.0029*** (3.36)	0.0029*** (3.36)	0.0029*** (6.61)	0.0029*** (3.36)	0.0076*** (5.11)	0.0032 (1.38)	0.0032 (1.23)	0.0032 (3.93)	0.0034*** (6.89)	0.0101*** (6.89)	0.0034*** (6.89)	0.0082*** (5.50)
$Closing$	-0.0124 (-0.87)	-0.0124 (-0.81)	-0.0124* (-1.97)	-0.0124* (-1.68)	-0.0138* (-1.68)	-0.0124* (-1.68)	-0.0158* (-1.91)	-0.0115 (-0.81)	-0.0115 (-0.76)	-0.0112* (-1.79)	-0.0112* (-1.79)	-0.0132 (-1.60)	-0.0132 (-1.60)	-0.0149* (-1.81)
$Closed$	-0.0058* (-1.74)	-0.0058* (-1.55)	-0.0058 (-4.29)	-0.0028 (-1.57)	-0.0028 (-1.57)	-0.0028 (-1.57)	-0.0064*** (-3.51)	-0.0061* (-1.81)	-0.0061* (-1.62)	-0.0055*** (-4.05)	-0.0055*** (-4.05)	-0.0026 (-1.46)	-0.0026 (-1.46)	-0.0059*** (-3.26)
Fee	-0.1697*** (-11.52)	-0.1697*** (-9.51)	-0.1689*** (-31.65)	-0.1689*** (-8.49)	-0.0775*** (-8.49)	-0.0775*** (-8.49)	-0.0770*** (-8.45)	-0.1691*** (-11.53)	-0.1691*** (-9.51)	-0.1691*** (-31.37)	-0.1674*** (-31.37)	-0.0757*** (-8.28)	-0.0757*** (-8.28)	-0.0750*** (-8.23)
$Media$	0.0297** (2.14)	0.0297** (2.09)	0.0287*** (6.12)	0.0287*** (6.12)	0.0287*** (6.12)	0.0287*** (6.12)	0.0274*** (2.01)	0.0274*** (2.01)	0.0274*** (1.94)	0.0261*** (5.59)	0.0261*** (5.59)	0.0261*** (5.59)	0.0261*** (5.59)	0.0261*** (5.59)
$Manager$	-0.0459*** (-4.00)	-0.0459*** (-3.75)	-0.0459*** (-12.67)	-0.0463*** (-12.67)	-0.0463*** (-12.67)	-0.0463*** (-12.67)	-0.0472*** (-4.10)	-0.0472*** (-3.89)	-0.0472*** (-3.89)	-0.0472*** (-13.06)	-0.0472*** (-13.06)	-0.0472*** (-13.06)	-0.0472*** (-13.06)	-0.0472*** (-13.06)
$Theme$	-0.0690* (-1.90)	-0.0690* (-15.50)	-0.0690*** (-2.70)	-0.0695*** (-2.70)	-0.0695*** (-2.70)	-0.0695*** (-2.70)	-0.0695*** (-2.70)	-0.0735*** (-2.03)	-0.0735*** (-14.80)	-0.0735*** (-2.83)	-0.0735*** (-2.83)	-0.0735*** (-2.83)	-0.0735*** (-2.83)	-0.0735*** (-2.83)
$wikiNumber$	-0.0012*** (-1.90)	-0.0012*** (-15.50)	-0.0012*** (-2.70)	-0.0012*** (-2.70)	-0.0012*** (-2.70)	-0.0012*** (-2.70)	-0.0012*** (-2.70)	-0.0011*** (-2.03)	-0.0011*** (-14.80)	-0.0011*** (-2.83)	-0.0011*** (-2.83)	-0.0011*** (-2.83)	-0.0011*** (-2.83)	-0.0011*** (-2.83)

Table 4 (continued)

Panel D: Volume nonlottery

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Int^{vol}</i>	(-6.37) 0.0060***	(-4.62) 0.0060***	(-16.46) 0.0060***	0.0099*** 0.0099***	0.0096*** 0.0100***	0.0100*** 0.0098***	0.0098*** 0.0098***	(-6.08) 0.0059***	(-4.40) 0.0059***	(-15.62) 0.0058***	0.0099*** 0.0099***	0.0094*** 0.0094***	0.0100*** 0.0100***	0.0097*** 0.0097***
<i>ETF</i>	(13.84) -0.1118***	(11.65) -0.1118***	(33.62) -0.1123***	(39.32) -0.0582***	(43.65) -0.0922***	(39.78) -0.0588***	(44.57) -0.0934***	(13.65) -0.1121***	(11.45) -0.1121***	(32.80) -0.1123***	(39.18) -0.0581***	(42.91) -0.0920***	(39.61) -0.0587***	(43.79) -0.0932***
<i>ETP</i>	(-41.90) -0.0228***	(-33.84) -0.0228***	(-134.55) -0.0236***	(-52.31) -0.0217***	(-94.22) -0.0263***	(-52.94) -0.0226***	(-95.26) -0.0277***	(-41.46) -0.0234***	(-33.67) -0.0234***	(-134.35) -0.0242***	(-52.20) -0.0218***	(-94.03) -0.0267***	(-52.83) -0.0227***	(-95.05) -0.0281***
<i>Derivative</i>	(-6.55) -0.1320***	(-5.56) -0.1320***	(-11.61) -0.1324***	(-10.04) -0.0727***	(-12.36) -0.1066***	(-10.43) -0.0726***	(-13.02) -0.1062***	(-6.68) -0.1312***	(-5.68) -0.1312***	(-11.90) -0.1316***	(-10.10) -0.0729***	(-12.56) -0.1066***	(-10.49) -0.0728***	(-13.20) -0.1062***
<i>HWM</i>	(-42.45) 0.0043*	(-34.97) 0.0043*	(-110.05) 0.0071***	(-45.18) -0.0018***	(-75.62) 0.0010	(-45.16) -0.0014*	(-75.32) 0.0022***	(-41.99) 0.0035	(-34.66) 0.0035	(-109.46) 0.0063***	(-45.31) -0.0021***	(-75.60) 0.0003	(-45.27) -0.0018***	(-75.29) 0.0014*
<i>Age</i>	(1.68) 0.0001*	(1.67) 0.0001*	(8.04) 0.0001***	(-2.64) 0.0001***	(1.34) 0.0002***	(-1.74) 0.0005***	(2.65) 0.0005***	(1.31) 0.0000	(1.31) 0.0000	(7.21) 0.0000	(-3.12) 0.0001***	(0.46) 0.0001***	(-2.27) 0.0001***	(1.73) 0.0005***
<i>R²</i>	(1.66) 0.1732	(1.50) 0.1732	(3.98) 0.1775	(4.98) 0.4540	(6.72) 0.3433	(6.72) 0.4576	(10.58) 0.3472	(0.42) 0.1743	(0.38) 0.1743	(-0.21) 0.1788	(4.38) 0.1788	(5.45) 0.3433	(4.38) 0.4574	(9.46) 0.3472

Table 4 (continued)

Notes Panel A: Above, the monthly share regarding the number of traded lottery-like stocks relative to all traded assets ($\lnRTL_{i,t}^{num}$) is set as dependent variable. RR is a stand-in for the relative performance variable; in specification (1) to (7)/(8) to (14), relative performance is measured over the previous month ($RR_{i,t-1}$)/previous six months ($R_{i,t-6}$). In specification (1) and (8)/(2) and (9), t -statistics correspond to *wikifolio*/signal provider and month-clustered standard errors (Petersen 2009). Specifications (3) and (10)/(4) and (11)/(5) and (12) include time/*wikifolio*-level/signal provider-level fixed effects. Specification (6) and (13)/(7) and (14), simultaneously include time and *wikifolio*-level/signal provider-level fixed effects. The symbols ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively; t -statistics are displayed in parentheses

Notes Panel B: Above, the monthly share regarding the number of traded nonlottery-like stocks relative to all traded assets ($\lnRTNL_{i,t}^{num}$) is set as dependent variable. RR is a stand-in for the relative performance variable; in specification (1) to (7) / (8) to (14), relative performance is measured over the previous month ($RR_{i,t-1}$) / previous six months ($R_{i,t-6}$). In specification (1) and (8) / (2) and (9), t -statistics correspond to *wikifolio* / signal provider and month-clustered standard errors (Petersen 2009). Specifications (3) and (10) / (4) and (11) / (5) and (12) include time / *wikifolio*-level / signal provider-level fixed effects. Specification (6) and (13) / (7) and (14), simultaneously include time and *wikifolio*-level / signal provider-level fixed effects. The symbols ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively; t -statistics are displayed in parentheses.

Notes Panel C: Above, the monthly share regarding the volume of traded lottery-like stocks relative to all traded assets ($\lnRTL_{i,t}^{vol}$) is set as dependent variable. RR is a stand-in for the relative performance variable; in specification (1) to (7) / (8) to (14), relative performance is measured over the previous month ($RR_{i,t-1}$) / previous six months ($R_{i,t-6}$). In specification (1) and (8) / (2) and (9), t -statistics correspond to *wikifolio* / signal provider and month-clustered standard errors (Petersen 2009). Specifications (3) and (10) / (4) and (11) / (5) and (12) include time / *wikifolio*-level / signal provider-level fixed effects. Specification (6) and (13) / (7) and (14), simultaneously include time and *wikifolio*-level / signal provider-level fixed effects. The symbols ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively; t -statistics are displayed in parentheses

Notes Panel D: Above, the monthly share regarding the volume of traded nonlottery-like stocks relative to all traded assets ($\lnRTNL_{i,t}^{vol}$) is set as dependent variable. RR is a stand-in for the relative performance variable; in specification (1) to (7) / (8) to (14), relative performance is measured over the previous month ($RR_{i,t-1}$) / previous six months ($R_{i,t-6}$). In specification (1) and (8) / (2) and (9), t -statistics correspond to *wikifolio* / signal provider and month-clustered standard errors (Petersen 2009). Specifications (3) and (10) / (4) and (11) / (5) and (12) include time / *wikifolio*-level / signal provider-level fixed effects. Specification (6) and (13) / (7) and (14), simultaneously include time and *wikifolio*-level / signal provider-level fixed effects. The symbols ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively; t -statistics are displayed in parentheses

4.3 Transactions nonlottery-like stocks

To gain further insights, we assess if relative peer performance has a significant impact on the share of traded nonlottery stocks (Kumar 2009).²⁵ Therefore, we set the relative monthly number/volume of nonlottery-like stocks traded ($RTNL_{i,t}^{num}/RTNL_{i,t}^{vol}$) as the according dependent variable:

$$RTNL_{i,t}^{num} = \frac{TNL_{i,t}^{num}}{T_{i,t}^{num}} \bigg/ RTNL_{i,t}^{vol} = \frac{TNL_{i,t}^{vol}}{T_{i,t}^{vol}}, \quad (10)$$

$TNL_{i,t}^{num}/TNL_{i,t}^{vol}$ denote the monthly number/volume of traded nonlottery-like stocks. As before, all *wikifolio*-month observations with no conducted transaction are excluded. The corresponding dependent variables are transformed for the constituent regression analyses by adding the constant 1 and then applying the natural logarithm:

$$\ln RTNL_{i,t}^{num} = \ln(1 + RTNL_{i,t}^{num}) \bigg/ \ln RTNL_{i,t}^{vol} = \ln(1 + RTNL_{i,t}^{vol}). \quad (11)$$

As in the previous analyses, we set relative past *wikifolio* performance ($RR_{i,t-1}/RR_{i,t-6}^{-t-1}$) as relevant independent variable. The previously depicted panel regression is applied. Results of the regression analysis are reported in Table 4 (*Panel B* and *Panel D*).

Our results indicate an inverse U-shaped quadratic relationship, i.e. signal providers administering *wikifolios* with more moderate peer performance are more likely to trade nonlottery-like stocks. The coefficients corresponding to relative past performance are highly significant within all model specifications.

4.4 Net lottery flow

In order to gain a deeper understanding of the relationship between relative past performance and the traded share of lottery-like stocks, we create two further dependent variables respectively reflecting the share of lottery-like stock purchases ($RIL_{i,t}^{num}/RIL_{i,t}^{vol}$) and the share of lottery-like stock sales ($RSL_{i,t}^{num}/RSL_{i,t}^{vol}$):

$$RIL_{i,t}^{num} = \frac{IL_{i,t}^{num}}{I_{i,t}^{num}} \bigg/ RIL_{i,t}^{vol} = \frac{IL_{i,t}^{vol}}{I_{i,t}^{vol}}, \quad (12)$$

$$RSL_{i,t}^{num} = \frac{SL_{i,t}^{num}}{S_{i,t}^{num}} \bigg/ RSL_{i,t}^{vol} = \frac{SL_{i,t}^{vol}}{S_{i,t}^{vol}}. \quad (13)$$

²⁵ As defined by Kumar (2009), nonlottery-like stocks exhibit below median idiosyncratic volatility, below median idiosyncratic skewness, and above median price.

Table 5 Net flow lottery-like stocks

Panel A: Number net lottery flow

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>α</i>	-4.5640*** (-4.35)	-4.5640*** (-3.20)	-4.2017*** (-26.90)	1.0087*** (10.04)	-1.5981*** (-8.61)	3.3079*** (37.89)	-0.5286*** (-2.67)	-4.0821*** (-3.94)	-4.0821*** (-2.86)	-3.7665*** (-23.85)	1.2987*** (12.59)	-1.2855*** (-6.86)	3.5761*** (39.76)	-0.2279 (-1.14)
<i>RR</i>	-0.1035*** (-3.11)	-0.1035*** (-2.76)	-0.0938*** (-6.27)	-0.0387*** (-4.51)	-0.0637*** (-5.44)	-0.0381*** (-4.40)	-0.0621*** (-5.24)	-0.1930*** (-3.16)	-0.1930*** (-2.90)	-0.1797*** (-12.02)	-0.0965*** (-10.23)	-0.1254*** (-10.12)	-0.0944*** (-9.91)	-0.1238*** (-9.89)
<i>Leverage</i>	0.5396 (1.27)	0.5396 (1.17)	0.5359*** (4.17)	-1.6622*** (-11.09)	-1.6622*** (-11.09)	-1.6622*** (-11.09)	-1.7998*** (-11.99)	0.5243 (1.23)	0.5243 (1.14)	0.5230*** (4.07)	0.5230*** (4.07)	-1.6725*** (-11.16)	-1.6725*** (-11.16)	-1.8090*** (-12.06)
<i>RealMoney</i>	0.0872 (0.05)	0.0872 (0.04)	0.0636 (0.33)	4.5005*** (15.74)	4.5005*** (15.74)	4.5005*** (15.74)	4.5585*** (15.96)	0.1850 (0.10)	0.1850 (0.09)	0.1530 (0.78)	0.1530 (0.78)	4.5623*** (15.96)	4.5623*** (15.96)	4.6184*** (16.16)
<i>Investable</i>	0.0020 (0.01)	0.0020 (0.00)	0.3219*** (3.17)	1.5727*** (10.65)	1.5727*** (10.65)	1.5727*** (10.65)	2.0198*** (13.49)	0.0180 (0.05)	0.0180 (0.04)	0.3354*** (3.30)	0.3354*** (3.30)	1.5921*** (10.79)	1.5921*** (10.79)	2.0391*** (13.62)
<i>Closing</i>	-2.9027** (-2.04)	-2.9027** (-1.86)	-2.8246*** (-3.86)	0.8062 (0.98)	0.8062 (0.98)	0.8062 (0.98)	1.4067* (1.71)	-2.7708* (-1.95)	-2.7708* (-1.78)	-2.7028*** (-3.70)	-2.7028*** (-3.70)	0.7995 (0.97)	0.7995 (0.97)	1.3995* (1.70)
<i>Closed</i>	-2.1418*** (-3.38)	-2.1418*** (-2.74)	-1.5415*** (-9.70)	-0.0237 (-0.13)	-0.0237 (-0.13)	-0.0237 (-0.13)	0.7035*** (3.86)	-2.1782*** (-3.43)	-2.1782*** (-2.78)	-1.5769*** (-9.93)	-1.5769*** (-9.93)	-0.0641 (-0.36)	-0.0641 (-0.36)	0.6660*** (3.66)
<i>Fee</i>	-0.1397 (-0.04)	-0.1397 (-0.03)	0.2659 (0.43)	2.0995*** (2.30)	2.0995*** (2.30)	2.0995*** (2.30)	2.0850** (2.29)	-0.2781 (-0.08)	-0.2781 (-0.06)	0.1422 (0.23)	0.1422 (0.23)	2.0198** (2.22)	2.0198** (2.22)	2.0115** (2.21)
<i>Media</i>	-3.7821 (-1.14)	-3.7821 (-0.97)	-3.8566*** (-7.05)	-3.8566*** (-7.05)	-3.8566*** (-7.05)	-3.8566*** (-7.05)	-3.7576 (-1.13)	-3.7576 (-0.97)	-3.7576 (-0.97)	-3.8354*** (-7.01)	-3.8354*** (-7.01)	-3.8354*** (-7.01)	-3.8354*** (-7.01)	-3.8354*** (-7.01)
<i>Manager</i>	-1.2542** (-2.29)	-1.2542** (-1.66)	-1.3173*** (-3.09)	-1.3173*** (-3.09)	-1.3173*** (-3.09)	-1.3173*** (-3.09)	-1.2691** (-2.31)	-1.2691** (-2.31)	-1.2691** (-1.70)	-1.3330*** (-3.12)	-1.3330*** (-3.12)	-1.3330*** (-3.12)	-1.3330*** (-3.12)	-1.3330*** (-3.12)
<i>Theme</i>	-3.3909*** (-3.31)	-3.3909*** (-2.53)	-2.8959 (-0.96)	-2.8959 (-0.96)	-2.8959 (-0.96)	-2.8959 (-0.96)	-3.1293*** (-3.09)	-3.1293*** (-3.09)	-3.1293*** (-2.37)	-2.6392 (-0.88)	-2.6392 (-0.88)	-2.6392 (-0.88)	-2.6392 (-0.88)	-2.6392 (-0.88)
<i>wikiNumber</i>	0.1952*** (3.27)	0.1952*** (2.18)	0.1952** (23.10)	0.1913*** (23.10)	0.1913*** (23.10)	0.1913*** (23.10)	0.1957*** (3.28)	0.1957*** (2.19)	0.1957*** (2.19)	0.1918*** (23.16)	0.1918*** (23.16)	0.1957*** (3.28)	0.1957*** (3.28)	0.1918*** (23.16)
<i>Intium</i>	2.7015*** (3.27)	2.7015*** (2.18)	2.6709*** (23.10)	0.0557* (2.31)	0.0557* (2.31)	0.0557* (2.31)	0.9408*** (3.28)	0.9408*** (2.19)	0.9408*** (2.19)	0.0421 (2.31)	0.0421 (2.31)	0.9562*** (3.28)	0.9562*** (3.28)	0.9571*** (3.28)

Table 5 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Panel A: Number net lottery flow</i>														
<i>ETF</i>	(6.55)	(5.37)	(73.88)	(1.83)	(25.45)	(1.38)	(25.45)	(6.56)	(5.38)	(74.12)	(2.26)	(25.84)	(1.78)	(25.82)
	0.0637	0.0637	0.2838***	-0.0195	-0.3403***	-0.0637	-0.2671***	-0.0087	-0.0087	0.2156**	-0.0241	-0.3627***	-0.0677	-0.2886***
	(0.14)	(0.11)	(2.91)	(-0.23)	(-3.48)	(-0.74)	(-2.72)	(-0.02)	(-0.02)	(2.20)	(-0.28)	(-3.71)	(-0.78)	(-2.94)
<i>ETP</i>	0.2359	0.2359	0.3975	-1.7177***	-1.4457***	-1.4610***	-1.1645***	0.1999	0.1999	0.3622	-1.7183***	-1.4541***	-1.4625***	-1.1741***
	(0.34)	(0.28)	(1.67)	(-10.25)	(-6.80)	(-8.69)	(-5.46)	(0.29)	(0.24)	(1.52)	(-10.26)	(-6.84)	(-8.70)	(-5.51)
<i>Derivative</i>	-2.6168***	-2.6168***	-2.7520***	0.1732	-0.4810***	0.2515**	-0.5855***	-2.6339***	-2.6339***	-2.7684***	0.1787	-0.4815***	0.2561***	-0.5862***
	(-4.76)	(-3.98)	(-19.29)	(1.38)	(-3.39)	(2.00)	(-4.11)	(-4.77)	(-3.98)	(-19.41)	(1.42)	(-3.39)	(2.04)	(-4.11)
<i>HWM</i>	-0.8213***	-0.8213***	-0.8903***	-0.1092**	-0.2143***	-0.0546	-0.1771*	-0.6806***	-0.6806***	-0.7112***	-0.0553	-0.1484***	0.0185	-0.0847
	(-3.48)	(-3.52)	(-8.65)	(-2.05)	(-2.97)	(-0.88)	(-2.13)	(-2.80)	(-2.81)	(-6.94)	(-1.05)	(-2.08)	(0.30)	(-1.03)
<i>Age</i>	0.0954***	0.0954***	0.0648***	0.1136***	0.1167***		0.0475***	0.0952***	0.0952***	0.0649***	0.1133***	0.1164***	0.1164***	0.0473***
	(5.69)	(4.77)	(21.48)	(59.67)	(46.88)		(9.61)	(5.70)	(4.78)	(21.53)	(59.50)	(46.78)	(46.78)	(9.57)
<i>R²</i>	0.0315	0.0315	0.0336	0.7206	0.4384	0.7212	0.4394	0.0319	0.0319	0.0340	0.7207	0.4385	0.7213	0.4395
<i>Panel B: Volume net lottery flow</i>														
<i>α</i>	1.8221***	1.8221***	1.9495***	1.2794***	1.3006***	1.0103***	1.3396***	1.8243***	1.8243***	1.9494***	1.2857***	1.3022***	1.0162***	1.3414***
	(17.73)	(16.62)	(60.12)	(42.09)	(34.13)	(34.84)	(33.36)	(18.11)	(16.92)	(60.36)	(42.29)	(34.22)	(35.07)	(33.44)
<i>RR</i>	-0.0008	-0.0008	-0.0014	-0.0043***	-0.0032*	-0.0052***	-0.0040**	-0.0014	-0.0014	-0.0014	-0.0065***	-0.0040**	-0.0075***	-0.0049***
	(-0.27)	(-0.27)	(-0.71)	(-3.44)	(-2.00)	(-4.08)	(-2.42)	(-0.38)	(-0.37)	(-0.73)	(-4.72)	(-2.34)	(-5.39)	(-2.84)
<i>Leverage</i>	0.0035	0.0035	-0.0012		-0.0897***		-0.0916***	0.0034	0.0034	-0.0013		-0.0899***		-0.0919***
	(0.06)	(0.06)	(-0.07)		(-4.31)		(-4.40)	(0.06)	(0.06)	(-0.07)		(-4.32)		(-4.41)
<i>RealMoney</i>	0.3413***	0.3413***	0.3430***		0.1216***		0.1247***	0.3421***	0.3421***	0.3436***		0.1235***		0.1270***
	(3.17)	(3.02)	(13.38)		(3.07)		(3.15)	(3.18)	(3.03)	(13.40)		(3.12)		(3.21)
<i>Investable</i>	-0.1800***	-0.1800***	-0.1448***		-0.1307***		-0.1214***	-0.1799***	-0.1799***	-0.1447***		-0.1300***		-0.1206***
	(-3.72)	(-3.63)	(-10.99)		(-6.42)		(-5.87)	(-3.72)	(-3.63)	(-10.98)		(-6.39)		(-5.83)

Table 5 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Closing</i>	-0.0103 (-0.02)	-0.0103 (-0.02)	-0.0036 (-0.04)	-0.0036 (-0.04)	-0.1979* (-1.73)	-0.1979* (-1.73)	-0.1844 (-1.61)	-0.0094 (-0.02)	-0.0094 (-0.02)	-0.0028 (-0.03)	-0.0028 (-0.03)	-0.1979* (-1.73)	-0.0028 (-0.03)	-0.1846 (-1.61)
<i>Closed</i>	-0.2579*** (-4.13)	-0.2579*** (-4.03)	-0.1831*** (-8.80)	-0.1831*** (-8.80)	-0.1824*** (-7.46)	-0.1824*** (-7.46)	-0.1583*** (-6.27)	-0.2581*** (-4.13)	-0.2581*** (-4.02)	-0.1833*** (-8.81)	-0.1833*** (-8.81)	-0.1833*** (-7.50)	-0.1833*** (-8.81)	-0.1595*** (-6.31)
<i>Fee</i>	-0.5521* (-1.86)	-0.5521* (-1.67)	-0.4264*** (-5.23)	-0.4264*** (-5.23)	0.5731*** (4.53)	0.5731*** (4.53)	0.5845*** (4.62)	-0.5533* (-1.86)	-0.5533* (-1.68)	-0.4273*** (-5.24)	-0.4273*** (-5.24)	0.5706*** (4.51)	0.5706*** (4.51)	0.5816*** (4.60)
<i>Media</i>	0.0993 (0.38)	0.0993 (0.57)	0.0897 (1.25)	0.0897 (1.25)	0.0993 (0.38)	0.0993 (0.38)	0.0995 (0.38)	0.0995 (0.57)	0.0995 (0.38)	0.0898 (1.25)	0.0898 (1.25)	0.0995 (0.38)	0.0995 (0.38)	0.0898 (1.25)
<i>Manager</i>	0.2937 (1.15)	0.2937 (1.01)	0.2825*** (5.05)	0.2825*** (5.05)	0.2937 (1.15)	0.2937 (1.15)	0.2934 (1.15)	0.2934 (1.01)	0.2934 (1.15)	0.2823*** (5.04)	0.2823*** (5.04)	0.2934 (1.15)	0.2934 (1.01)	0.2823*** (5.04)
<i>Theme</i>	0.9473 (1.06)	0.9473*** (15.67)	0.9733** (2.47)	0.9733** (2.47)	0.9473 (1.06)	0.9473 (1.06)	0.9491 (1.06)	0.9491*** (15.84)	0.9491*** (15.84)	0.9753** (2.47)	0.9753** (2.47)	0.9491*** (15.84)	0.9491*** (15.84)	0.9753** (2.47)
<i>wikiNumber</i>	-0.0084** (-2.59)	-0.0084** (-2.31)	-0.0085*** (-7.88)	-0.0085*** (-7.88)	-0.0084** (-2.59)	-0.0084** (-2.59)	-0.0084** (-2.59)	-0.0084** (-2.31)	-0.0084** (-2.31)	-0.0085*** (-7.88)	-0.0085*** (-7.88)	-0.0084** (-2.59)	-0.0084** (-2.31)	-0.0085*** (-7.88)
<i>lnT^{vol}</i>	-0.0328*** (-3.93)	-0.0328*** (-3.64)	-0.0436*** (-16.04)	-0.0436*** (-16.04)	-0.0116*** (-3.83)	-0.0116*** (-3.83)	-0.0128*** (-4.18)	-0.0327*** (-3.90)	-0.0327*** (-3.90)	-0.0435*** (-15.98)	-0.0435*** (-15.98)	-0.0113*** (-3.70)	-0.0113*** (-3.70)	-0.0123*** (-4.03)
<i>ETF</i>	-0.3721*** (-10.88)	-0.3721*** (-10.06)	-0.3276*** (-25.70)	-0.3276*** (-25.70)	-0.1568*** (-11.57)	-0.1568*** (-11.57)	-0.1493*** (-10.97)	-0.3727*** (-10.95)	-0.3727*** (-10.95)	-0.3280*** (-25.66)	-0.3280*** (-25.66)	-0.1574*** (-11.62)	-0.1574*** (-11.62)	-0.1502*** (-11.03)
<i>ETP</i>	-0.0132 (-0.25)	-0.0132 (-0.24)	-0.0257 (0.83)	-0.0257 (0.75)	0.0191 (0.65)	0.0191 (0.65)	0.0088 (0.30)	-0.0134 (-0.25)	-0.0134 (-0.24)	-0.0259 (0.83)	-0.0259 (0.83)	0.0189 (0.64)	0.0189 (0.64)	0.0085 (0.29)
<i>Derivative</i>	-0.3610*** (-7.50)	-0.3610*** (-7.19)	-0.3841*** (-20.94)	-0.3841*** (-20.94)	-0.0459** (-13.60)	-0.0459** (-13.60)	-0.2685*** (-13.74)	-0.3611*** (-7.51)	-0.3611*** (-7.20)	-0.3842*** (-20.94)	-0.3842*** (-20.94)	-0.2649*** (-13.59)	-0.2649*** (-13.59)	-0.2684*** (-13.73)
<i>HWM</i>	0.0714*** (3.40)	0.0714*** (3.36)	0.0984*** (7.28)	0.0984*** (7.73)	0.0669*** (6.70)	0.0669*** (6.70)	0.0820*** (7.09)	0.0723*** (3.42)	0.0723*** (3.38)	0.0984*** (7.32)	0.0984*** (7.32)	0.0669*** (6.77)	0.0669*** (6.77)	0.0824*** (8.60)
<i>Age</i>	-0.0157*** (-12.99)	-0.0157*** (-12.26)	-0.0193*** (-47.56)	-0.0193*** (-45.91)	-0.0125*** (-36.00)	-0.0125*** (-36.00)	-0.0144*** (-20.79)	-0.0157*** (-12.99)	-0.0157*** (-12.27)	-0.0128*** (-47.56)	-0.0128*** (-47.56)	-0.0125*** (-36.03)	-0.0125*** (-36.03)	-0.0144*** (-20.79)

Table 5 (continued)

Panel B: Volume net lottery flow													
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
R^2	0.0178	0.0178	0.0202	0.6452	0.3601	0.6456	0.3606	0.0178	0.0202	0.6452	0.3601	0.6457	0.3606

Notes Panel A: Above, the net flow into lottery-like stocks based on transaction numbers, $LR_{i,t}^{num,t}$, is set as dependent variable. RR is a stand-in for the relative performance variable; in specification (1) to (7)/(8) to (14), relative performance is measured over the previous month ($RR_{i,t-1}$)/previous six months ($RR_{i,t-6}$). In specification (1) and (8)/(2) and (9), t -statistics correspond to *wikifolio*/signal provider and month-clustered standard errors (Peterson 2009). Specifications (3) and (10)/(4) and (11)/(5) and (12) include time/*wikifolio*-level/signal provider-level fixed effects. Specification (6) and (13)/(7) and (14), simultaneously include time and *wikifolio*-level/signal provider-level fixed effects. The symbols ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively; t -statistics are displayed in parentheses

Notes Panel B: Above, the net flow into lottery-like stocks based on transaction volumes, $LR_{i,t}^{vol,t}$, is set as dependent variable. RR is a stand-in for the relative performance variable; in specification (1) to (7) / (8) to (14), relative performance is measured over the previous month ($RR_{i,t-1}$) / previous six months ($RR_{i,t-6}$). In specification (1) and (8) / (2) and (9), t -statistics correspond to *wikifolio* / signal provider and month-clustered standard errors (Peterson 2009). Specifications (3) and (10) / (4) and (11) / (5) and (12) include time / *wikifolio*-level / signal provider-level fixed effects. Specification (6) and (13) / (7) and (14), simultaneously include time and *wikifolio*-level / signal provider-level fixed effects. The symbols ***, **, and * denote statistical significance at the 1, 5, and 10% level, respectively; t -statistics are displayed in parentheses

$I_{i,t}^{num} / I_{i,t}^{vol}$ denote the number/volume of purchase transactions conducted within *wikifolio* i in month t ; accordingly, $S_{i,t}^{num} / S_{i,t}^{vol}$ denote the number/volume of sale transactions. $IL_{i,t}^{num} / IL_{i,t}^{vol}$ reflects the number/volume of lottery-like stock purchases; $SL_{i,t}^{num} / SL_{i,t}^{vol}$ depicts the number/volume of lottery-like stock sales. As before, we transform the respective dependent variables for the constituent regression analyses by adding the constant 1 and then applying the natural logarithm:

$$\ln RIL_{i,t}^{num} = \ln\left(1 + RIL_{i,t}^{num}\right) / \ln RIL_{i,t}^{vol} = \ln\left(1 + RIL_{i,t}^{vol}\right), \tag{14}$$

$$\ln RSL_{i,t}^{num} = \ln\left(1 + RSL_{i,t}^{num}\right) / \ln RSL_{i,t}^{vol} = \ln\left(1 + RSL_{i,t}^{vol}\right). \tag{15}$$

The obtained results are roughly similar to those of the previous model where the relative share of traded lottery-like stocks is set as dependent variable. Hence, the effect regarding the traded share of lotteries cannot clearly be attributed to purchases or sales.

The results obtained through the previous analyses do not allow us to make a statement about the net exposure towards risk. Addressing this issue—trying to obtain an indication regarding the relation between the net exposure towards risk induced by lottery-like stocks and relative past performance—we assess the cumulative net investment into lottery-like stocks. In this context, we compute the net lottery flow ($LF_{i,t=1}^{num,t} / LF_{i,t=1}^{vol,t}$) as the difference between the cumulative number/volume of lottery-like stock purchases and the cumulative number/volume of lottery-like stock sales from the creation of *wikifolio* i to month t :

$$LF_{i,t=1}^{num,t} = \sum_{t=1}^t LI_{i,t}^{num} - \sum_{t=1}^t LS_{i,t}^{num} / LF_{i,t=1}^{vol,t} = \ln\left(\sum_{t=1}^t LI_{i,t}^{vol}\right) - \ln\left(\sum_{t=1}^t LS_{i,t}^{vol}\right) \tag{16}$$

The initial panel regression is applied where we focus on relative past *wikifolio* performance ($RR_{i,t-1} / RR_{i,t-6}^{t-1}$) as the primarily relevant independent variable. All variables are displayed and described in Appendix Table 11. The results of the regression analysis are reported in Table 5.

Our results indicate a negative linear relationship between the net lottery flow and relative past *wikifolio* performance. When the net lottery flow variable is based on volume ($LF_{i,t=1}^{vol,T}$), the performance measure is not statistically significant in all regression specifications. However, when *wikifolio*-level fixed effects are included, the performance measure is statistically significant at the per mill level. The obtained results suggest that signal providers increase the net position of lottery-like stocks when underperforming their peers.

4.5 Evaluation of main empirical results

To sum up, our results indicate a quadratic relationship between the primarily examined independent variable, relative past *wikifolio* performance, and the traded share

of lottery-like stocks: Signal providers exhibiting relatively bad past performance and signal providers exhibiting relatively good past performance seem to trade a higher share of lottery-like stocks as defined by Kumar (2009).

The observed results might be explained by several well-documented behavioral phenomena as well as peculiarities of the social trading platform and the established signal provider compensation scheme.

Regarding signal providers at the lower end of the performance spectrum, i.e. signal providers administering underperforming *wikifolios*, there are several factors which may induce lottery trading. Underperforming *wikifolios* are unlikely to generate—or maintain—a desirable base of signal followers. Accounting for their limited monetary downside risk (see Sects. 3.1 and 3.4), signal providers corresponding to *wikifolios* at the lower end of the relative performance spectrum have little to lose. Due to their specific return characteristics, i.e. high idiosyncratic volatility and positive idiosyncratic skewness (Kumar 2009), lottery-like stocks may be particularly appealing to signal providers looking to improve the positioning of an underperforming *wikifolio*.

Hoping for an exceptionally high positive return, previously underperforming signal providers may include lottery-like stocks more frequently into their corresponding *wikifolios*. In turn, when included lottery-like stocks fail to deliver the desired return, signal providers may shortly thereafter replace the corresponding assets.

With regard to signal providers operating *wikifolios* at the upper end of the peer performance range, overconfidence might be a suitable explanation for the observed results. Barber and Odean (2001), Broihanne et al. (2014), De Long et al. (1991), and Odean (1999) document a positive relation between overconfidence and risk taking. When their overconfidence is increased due to good relative past performance (Gervais and Odean 2001; Odean 1999; Statman et al. 2006), signal providers might be drawn to assets exhibiting more risk and thus increase the proportion of traded lottery-like stocks. Furthermore, overconfident traders overestimate the precision of their information (Benos 1998; Daniel et al. 1998; Odean 1998; 1999), and thus may severely overestimate their ability to make profits by timing the market. When believing to have precise or superior information, signal providers may increase trading with regard to stocks where major (positive) price movements are more likely, i.e. stocks exhibiting high idiosyncratic volatility and high idiosyncratic skewness—lottery characteristics (Kumar 2009).

The obtained results indicate an inverted U-shape quadratic relationship between relative past performance and the traded share of nonlottery-like stocks. Hence, signal providers administering *wikifolios* with more moderate peer performance are more likely to trade low idiosyncratic volatility and low idiosyncratic skewness stocks. Signal providers located somewhere in the middle of the relative performance spectrum may pursue an investment strategy focusing on feasible long-term returns—instead of speculating on potential (short-term) extreme returns. Thus,

those signal providers may be more prone to invest in stocks exhibiting low levels of (idiosyncratic) volatility and (idiosyncratic) skewness.

Addressing the net exposure towards risk induced by lottery-like stocks, we report a negative linear relation between net lottery flow and the applied relative performance variables. In addition to trading lottery-like stocks more frequently, our results indicate that signal providers administering underperforming *wikifolios* increase their net exposure towards lottery-like stocks. Even though signal provider compensation is not directly linked to a corresponding administered *wikifolio*'s ranking, the platform's compensation scheme (see Sect. 3.4) indirectly imposes tournament incentives as signal providers must achieve a position reasonably suited for generating attention from signal followers.²⁶ Regarding the lower end of the relative performance spectrum, our results are in line with Kirchler et al. (2018), who provide evidence that tournament incentives increase risk-taking among underperforming traders.

Allowing signal providers to simultaneously operate more than one account, a feature common to social trading platforms²⁷, may further help to explain why underperforming signal providers exhibit an increased preference for lottery-like stocks. The *wikifolio* platform enables signal providers to operate up to eight *wikifolios* at the same time with no or limited exposure to their generated returns.²⁸ As unsuccessful *wikifolios* may be closed—and potentially replaced—at any time, signal providers incur very limited costs when abandoning unsuccessful projects. Hence, signal providers with underperforming *wikifolios* may be particularly inclined to employ lottery-like characteristics—speculating on the unlikely but possible event of an extreme positive return—in an attempt to turn around a fruitless portfolio.

In brief, our results suggest that peer performance in social trading is a significant factor with regard to signal provider gambling behavior. Attaining a position at the upper or at the lower end of the performance spectrum may induce signal providers to trade lottery-like stocks more frequently. Furthermore, signal providers operating *wikifolios* which have previously underperformed increase their net exposure towards lottery-like stocks, exposing their followers to lottery-like return characteristics.

Although our results are consistent, we can't exclude the existence of an omitted variable. We acknowledge the possibility that the regression analyses may be subject to omitted variable bias (Clarke 2005).

²⁶ With regard to social trading, Röder and Walter (2019) provide evidence that investment flows follow past performance reflected by raw returns.

²⁷ For example, the *ZuluTrade* social trading platform enables signal providers to simultaneously administer up to ten trader accounts.

²⁸ Only when acquiring issued certificates associated to their administered *wikifolios*, signal providers gain exposure to their generated returns.

5 Robustness

5.1 Alternative definition for lottery-like stocks

First, in order to test the robustness of our results, we select a definition of lottery-like stocks that differs from Kumar's (2009) classification. A relatively simple and more intuitive definition is introduced by Bali et al. (2011) who define stocks with extreme past daily returns as lottery-like assets. Stocks are sorted into decile portfolios based on the constituent maximum daily return over the past month. Stocks in the highest decile portfolio (*Max*), i.e. stocks exhibiting the highest constituent daily return over the previous month, are categorized as lottery-like. As a variation, decile portfolios are formed based on the average comprising the five highest returns of the previous month. Accordingly, stocks in the highest decile portfolio (*Max5*), i.e. stocks exhibiting the highest average regarding the five highest daily returns over the previous month, are categorized as lottery-like.

Signal providers on the *wikifolio* platform are mostly individual investors. Assuming limited cognitive processing capabilities and, in this context, limited investor attention (Barber and Odean 2008; Kahneman 1973; Odean 1999), signal providers may select lottery-like assets solely based on maximum past returns. Kumar (2009) argues that investors are searching for cheap bets and thus should tend towards low-priced stocks. Consequently, Kumar (2009) employs stock price as one of the defining criteria for lottery-like stocks. However, since signal provider portfolios on the *wikifolio* platform are purely virtual, i.e. signal providers simply chose their starting capital when creating a *wikifolio*, the price criterion might not be as relevant.

Employing Bali et al.'s (2011) definitions of lottery-like stocks (*Max/Max5*) leads to results which are very similar to those described in Sects. 4.2, 4.3, and 4.4.

5.2 Alternative benchmarks for lottery-like stocks

Second, we test the robustness of our results by categorizing lottery-like stocks with regard to a different benchmark. As described in Sect. 3.3, signal providers can choose from a broad investment universe, including stocks, funds, ETFs, investment certificates, and leverage products. Available assets are selected by the *wikifolio* platform. Hence, within the previous analyses, we might define certain stocks as lottery-like which would not be categorized as such when a comprehensive country-specific stock index was employed as benchmark and vice versa. Based on the number and volume of transactions by issuing country (see Appendix Table 8), we select ten comprehensive country-specific stock indices.²⁹ The employed indices are displayed in Appendix Table 10. We identify lottery-like stocks within each index by applying

²⁹ Many ETFs and investment funds are issued in Luxembourg, however, there are barely any listed stocks with available price data. Thus, even though assets issued in Luxembourg are third most frequently traded by signal providers, we do not include a respective country-specific stock index.

the Kumar (2009) method.³⁰ Subsequently, the information if a stock is identified as lottery-like during a respective month is merged to the transaction dataset.

Sorting stocks with regard to comprehensive national stock indices leads to results which are very similar to those described in the previous sections.

5.3 Idiosyncratic skewness computation

In our main experiment, we define lottery-like stocks according to Kumar (2009). Therefore, idiosyncratic skewness is computed following Harvey and Siddique (2000). Idiosyncratic skewness computed according to Harvey and Siddique (2000) is under debate for not being a robust measured variable (Hou et al. 2020). Therefore, in addition, we measure idiosyncratic skewness according to Boyer et al. (2010): Skewness of regression residuals obtained from applying the Fama and French (1993) three-factor model. As before, we characterize lottery-like stocks as stocks with below median price, above median idiosyncratic volatility (*IVol*) and above median idiosyncratic skewness (*ISkew3F*).

We conduct our main experiment with idiosyncratic skewness calculated according to Boyer et al. (2010). The obtained results are not fundamentally different than those previously reported. The U-shaped quadratic relationship between the traded share of lottery-like stocks and relative past *wikifolio* performance is still consistently significant. Likewise, the inverse U-shaped quadratic relationship between nonlottery-like stocks and relative past *wikifolio* remains its significance. Finally, as before, we report a negative linear relationship between the net lottery flow and relative past *wikifolio* performance. When the dependent variable is based on volume, the coefficient of the variable reflecting relative performance is not statistically significant in all of the applied regression specifications. Yet, in each specification where *wikifolio* or trader fixed-effects are included, the coefficient is statistically significant at the per mill level.

Results from the robustness checks are not included in the paper but available upon request.

6 Conclusion

Social trading is a financial innovation which facilitates the interaction of various private investors. With regard to signal provider trading behavior, social trading platforms enable visibility and traceability. Employing the published information, platform users can copy one or several signal providers, i.e. delegate their investment decisions, and thereby become signal followers (Doering et al. 2015; Oehler et al. 2016).

³⁰ As before, the corresponding regional Fama and French (1993) factors and the momentum (Jegadeesh and Titman 1993) factor for computing idiosyncratic volatility and idiosyncratic skewness are obtained from the *KFDL*.

Previous studies on social trading assess the performance of participants (Dorfleitner et al. 2018; Oehler et al. 2016), as well as certain behavioral phenomena like the disposition effect (Gemayel and Preda 2018a; Glaser and Risius 2018; Pelster and Hofmann 2018), herding (Gemayel and Preda 2018b), attention from peers (Pelster and Breitmayer 2019), and the establishment of trust (Wohlgemuth et al. 2016).

Social trading involves severe asymmetries regarding the distribution of economic consequences between signal providers and signal followers and thus creates a unique environment for (private) traders. When an administered portfolio performs well, the corresponding signal provider is remunerated via performance fees. Furthermore, portfolios with good past performance are placed at the top of the platforms' selection lists and thus generate attention—the increased attention leading to higher inflows and, in consequence, a continued eligibility for remuneration (Röder and Walter 2019). On the other hand, a failing portfolio barely bears any consequences for the corresponding signal provider. In the context of social trading, Doering and Jonen (2018) argue that signal providers face convex incentives—similar to managers of hedge funds and mutual funds (Carpenter 2000)—and thus increase risk when nearing their high watermark.

We argue that the asymmetries and incentives created by social trading may induce signal providers to buy stocks exhibiting a lottery-like return structure (Kumar 2009). Analyzing a comprehensive dataset from a popular social trading platform, we provide empirical evidence that signal providers tend to increase the traded relative share of lottery-like stocks when occupying a position at one of the ends of the relative performance spectrum. Furthermore, in line with research on tournament incentives (Kirchler et al. 2018), we provide evidence that signal providers increase the net lottery flow subsequent to underperforming their peers, indicating an increased net exposure towards risk induced by lottery-like stocks.

As signal provider behavior bears severe and asymmetric consequences for signal followers, our results yield valuable implications for (potential) investors as well as the operators of social trading platforms.

Appendix

See Tables 6, 7, 8, 9, 10, 11 and 12.

Table 6 Characteristics *wikifolios*

Measurement period	6 Months					
	<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>	<i>ISkew3F</i>
<i>Panel A: Mean wikifolio Characteristics EUR</i>						
All <i>wikifolios</i>	1.496	1.132	-0.089	-0.048	-0.020	-0.053
<i>Leverage</i>	2.801	2.197	-0.087	-0.059	-0.027	-0.072
<i>w/o Leverage</i>	0.979	0.710	-0.089	-0.044	-0.018	-0.045
<i>Published</i>	1.322	1.002	-0.091	-0.055	-0.020	-0.046
<i>Investable</i>	1.411	1.059	-0.089	-0.043	-0.019	-0.056
<i>Closing</i>	3.084	2.464	-0.042	-0.009	0.012	0.090
<i>Closed</i>	2.573	1.987	-0.079	-0.052	-0.029	-0.066
<i>Panel B: Monthly Mean wikifolio Characteristics EUR</i>						
All <i>wikifolios</i>	1.401	1.028	-0.041	-0.022	0.006	-0.042
<i>Leverage</i>	2.423	1.861	-0.078	-0.060	-0.027	-0.012
<i>w/o Leverage</i>	1.008	0.710	-0.041	-0.019	0.008	-0.043
<i>Published</i>	1.269	0.922	-0.041	-0.028	0.004	-0.053
<i>Investable</i>	1.297	0.942	-0.037	-0.017	0.010	-0.010
<i>Closing</i>	2.438	1.893	-0.015	0.025	0.011	0.011
<i>Closed</i>	2.512	1.946	-0.052	-0.036	-0.006	-0.080

The table above reports monthly volatility and skewness characteristics with regard to the *wikifolios* in our dataset. Total volatility (*TVol*), idiosyncratic volatility (*IVol*), total skewness (*TSkew*), and idiosyncratic skewness (*ISkew2F/ISkew3F*) are computed using daily *wikifolio* returns of the previous month/previous six months. *IVol* and *ISkew2F* are computed following Kumar (2009) and Harvey and Siddique (2000). *ISkew3F* is computed following Boyer et al. (2010). For the computation of idiosyncratic volatility and idiosyncratic skewness, local factor data for Germany are obtained from Richard Stelhe's homepage; as these data end in June 2016, for the remaining period we apply the *KFDL* European factors which we convert into EUR. Daily *wikifolio* returns are, as provided by the *wikifolio* platform, denominated in EUR. *Leverage* refers to the subgroup of *wikifolios* that do not generally exclude leverage products from their trading activities; *w/o Leverage* represents the subgroup of *wikifolios* where leverage products are generally excluded. *Published*, *Investable*, *Closing*, and *Closed* refer to the *wikifolios'* corresponding life cycle status. *Panel A* reports the mean values for all available *wikifolio*-month observations. *Panel B* reports mean values based on equally weighted monthly means

Table 7 Traded instruments

Country	All	Published	Investable	Closing	Closed
<i>Panel A: Number transactions (in thousands)</i>					
Derivative	3697	433	2387	158	719
ETF	827	162	564	5	97
Stock	4805	1005	3360	9	432
<i>wikifolio</i>	282	68	186	0	28
ETC	18	3	11	0	4
ETN	5	1	3	0	1
ETP	34	5	21	1	7
Other	330	64	212	1	53
Total	9998	1740	6744	173	1341
<i>Panel B: Volume transactions (in million EUR)</i>					
Derivative	426,602.9	62,135.0	290,794.9	3493.0	70,180.0
ETF	45,210.7	12,226.0	26,948.3	28.9	6007.5
Stock	85,654.8	32,465.0	44,077.9	129.9	8982.1
<i>wikifolio</i>	112,492.7	3171.0	107,675.8	0.0	1646.0
ETC	656.8	94.3	85.1	0.02	477.5
ETN	235.9	35.2	59.3	0.01	139.7
ETP	1159.6	437.0	361.6	0.08	355.4
Other	9533.8	2243.2	5846.8	15.6	1428.2
Total	681,547	112,807	475,850	3675	89,216

Notes: The table above reports the number (*Panel A*) and volume (*Panel B*) of transactions – conducted by signal providers within their corresponding *wikifolios* – subdivided by instrument category. Transaction numbers are depicted in thousands, transaction volumes in millions. ETF, ETP, ETC, and ETN respectively denote Exchange Traded Funds, Exchange Traded Products, Exchange Traded Commodities, and Exchange Traded Notes

Table 8 Transactions by ISIN country code

Country	All	Published	Investable	Closing	Closed					
<i>Panel A: Number transactions (in thousands)</i>										
Germany	DE 6809.1	70.08%	999.3	59.75%	4640.4	70.8%	164.4	94.90%	1005.1	76.58%
US	US 1,223.2	12.59%	303.2	18.13%	790.5	12.05%	3.1	1.80%	126.3	9.62%
Luxembourg	LU 388.9	4.00%	67.4	4.03%	274.9	4.19%	1.1	0.63%	45.5	3.46%
Canada	CH 183.9	1.89%	46.0	2.75%	112.1	1.71%	0.7	0.43%	25.1	1.91%
Switzerland	CA 187.9	1.93%	41.1	2.46%	125.9	1.92%	0.2	0.11%	20.7	1.58%
France	FR 148.7	1.53%	33.8	2.02%	98.5	1.50%	0.7	0.41%	15.6	1.19%
UK	GB 128.5	1.32%	29.8	1.78%	86.7	1.32%	0.3	0.18%	11.6	0.89%
Austria	AT 107.6	1.11%	18.2	1.09%	81.4	1.24%	0.2	0.13%	7.7	0.59%
Ireland	IE 87.8	0.90%	24.5	1.47%	54.2	0.83%	1.0	0.57%	8.1	0.62%
Netherlands	NL 77.1	0.79%	18.2	1.09%	51.7	0.79%	0.2	0.14%	6.9	0.53%
Japan	JP 37.3	0.38%	9.8	0.59%	23.4	0.36%	0.1	0.03%	4.0	0.31%
Sweden	SE 35.3	0.36%	8.6	0.52%	23.8	0.36%	0.4	0.22%	2.5	0.19%
Others	301.0	3.10%	72.5	4.33%	194.4	2.96%	0.8	0.44%	33.3	2.54%
Europe	8142.8	83.81%	1286.2	76.91%	5538.6	84.45%	169.4	97.78%	1148.6	87.51%
EU	7912.7	81.44%	1230.1	73.55%	5394.7	82.26%	168.5	97.29%	1119.4	85.28%
Europe ex DE	1333.7	13.73%	287.0	17.16%	898.2	13.70%	5.0	2.87%	143.5	10.93%
EU ex DE	1103.5	11.36%	230.8	13.80%	754.3	11.50%	4.1	2.39%	114.3	8.71%
Total	9716.4	100%	1672.5	100%	6558.1	100%	173.2	100%	1312.6	100%
<i>Panel B: Volume transactions (in million EUR)</i>										
Germany	DE 488,315	85.81%	83,431	76.14%	324,286	88.08%	3,546	96.49%	77,052	88.08%
US	US 29,285	5.15%	10,312	9.41%	15,306	4.16%	40	1.08%	3627	4.15%
Luxembourg	LU 18,321	3.22%	4294	3.92%	10,442	2.84%	15	0.41%	3570	4.08%
Switzerland	CH 6824	1.20%	1781	1.63%	4349	1.18%	27	0.73%	668	0.76%
France	FR 4883	0.86%	1675	1.53%	2637	0.72%	15	0.41%	557	0.64%

Table 8 (continued)

Country	All	Published	Investable	Closing	Closed						
Canada	CA	3571	0.63%	910	0.83%	2384	0.65%	2	0.05%	275	0.31%
Sweden	SE	3018	0.53%	284	0.26%	2699	0.73%	1	0.02%	35	0.04%
Ireland	IE	2919	0.51%	1562	1.43%	1236	0.34%	5	0.12%	117	0.13%
UK	GB	2105	0.37%	1211	1.11%	701	0.19%	6	0.16%	187	0.21%
Netherlands	NL	2029	0.36%	1100	1.00%	828	0.22%	3	0.08%	98	0.11%
Austria	AT	1589	0.28%	439	0.40%	896	0.24%	2	0.06%	252	0.29%
Japan	JP	870	0.15%	449	0.41%	296	0.08%	1	0.03%	124	0.14%
Others		5324	0.94%	2125	1.94%	2113	0.57%	14	0.37%	922	1.05%
Europe		533,124	93.69%	97,093	88.61%	349,219	94.85%	3628	98.72%	83,185	95.09%
EU		525,559	92.36%	95,022	86.72%	344,591	93.59%	3600	97.96%	82,347	94.13%
Europe ex DE		44,809	7.87%	13,662	12.47%	24,933	6.77%	82	2.23%	6133	7.01%
EU ex DE		37,244	6.54%	11,590	10.58%	20,305	5.52%	54	1.47%	5295	6.05%
Total		569,055	100%	109,571	100%	368,174	100%	3675	100%	87,484	100%

Notes: The table above reports the number (Panel A) and volume (Panel B) of transactions—conducted by signal providers within their corresponding *wikifolios*—subdivided by ISIN country identifier. Transaction numbers are depicted in thousands, transaction volumes in millions. Certain signal providers limit themselves to investing into other issued *wikifolio* certificates, their corresponding *wikifolios* are tagged *wikifolio of wikifolios*. Since *wikifolio* certificates are issued by Lang & Schwarz, they receive ISINs with German country identifiers. In order to obtain unbiased results, *wikifolios of wikifolios* are not included in the table above

Table 9 Criteria *wikifolio* points

Criteria	Calculation	Min	Max
Track record	1 at 6 months; 1.5 after 2 years	0.00	1.50
Risk factor	0.8 with a risk factor of 1.3 or above or no available risk factor (e.g. <i>wikifolios</i> including leverage products); 1.1 with a risk factor of 1; 1.25 with a risk factor of 0.6 or below	0.80	1.25
Maximum loss (until now)	0.1 with more than 60 percent loss; 0.6 to 1 with a loss between 60 and 10 percent (linear); 1 with a loss below 10 percent	0.00	3.00
Last login	0 after 3 months; 1.2 with login at current day	0.00	1.20
Trading activity	0 with 4 trades; 1 with 25 trades; 1.2 with 100 trades	0.00	1.20
Average monthly return	0 the weakest <i>wikifolio</i> ; 1.5 the best <i>wikifolio</i>	0.00	1.50
Invested capital	0.25 with no invested capital; 1 with invested capital of 10,000 EUR/CHF; 1.5 with invested capital of 100,000 EUR/CHF; 2 with invested capital of 1,000,000 EUR/CHF	0.25	2.00
Bestseller (ranked by number of buy orders)	1 with rank not in top 25; 1.25 with rank in top 25	1.00	1.25
Watchlistings	1 with 10 watchlistings; 1.5 with 100 watchlistings	0.00	1.50
Share performance since initial offering	0.8 the weakest <i>wikifolio</i> ; 1.3 the best <i>wikifolio</i>	0.80	1.30
Media reputation	1 with no or average media reputation; 1.25 above average media reputation	1.00	1.25

The table above defines the constituent criteria which are the computation base for *wikifolio* points, the default *wikifolio* sorting criterion. The information is obtained from the *wikifolio* platform

Table 10 Characteristics lottery and nonlottery portfolios

Benchmark	Portfolio	1 Month					6 Months				
		<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>	<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>
wikifolio Investment	<i>Lottery</i>	6.16	5.33	0.52	0.48	0.43	8.28	8.00	1.55	1.61	1.53
Universe	<i>NonLottery</i>	1.62	1.10	-0.09	-0.10	-0.08	1.69	1.27	-0.34	-0.45	-0.35
Stocks:7308	<i>Max</i>	13.81	12.36	1.25	1.09	0.98	10.15	9.87	1.59	1.61	1.56
	<i>NonMax</i>	1.14	0.89	-0.60	-0.47	-0.41	4.04	3.81	0.24	0.31	0.27
	<i>Max5</i>	13.88	12.40	0.97	0.86	0.77	10.16	9.87	1.46	1.46	1.42
	<i>NonMax5</i>	1.16	0.92	-0.50	-0.41	-0.36	4.21	3.99	0.29	0.35	0.31
	<i>Lottery</i>	11.03	9.77	0.66	0.59	0.53	14.15	13.87	2.26	2.26	2.20
Germany CDAX Stocks: 778	<i>NonLottery</i>	1.75	1.32	-0.00	0.01	0.01	1.82	1.51	-0.16	-0.14	-0.15
	<i>Max</i>	23.61	20.99	1.49	1.27	1.14	22.75	22.36	2.73	2.69	2.64
	<i>NonMax</i>	1.10	0.89	-0.65	-0.52	-0.47	4.25	4.09	0.68	0.72	0.68
	<i>Max5</i>	23.69	21.05	1.28	1.11	0.99	22.49	22.11	2.58	2.55	2.49
	<i>NonMax5</i>	1.13	0.93	-0.59	-0.49	-0.44	4.59	4.45	0.75	0.79	0.75
US MSCI USA All Cap Stocks: 6122	<i>Lottery</i>	5.87	4.85	0.47	0.46	0.41	10.49	9.96	1.42	1.59	1.48
	<i>NonLottery</i>	1.44	0.95	-0.15	-0.14	-0.12	1.51	1.11	-0.44	-0.57	-0.42
	<i>Max</i>	14.58	12.87	1.34	1.21	1.09	10.82	10.32	1.28	1.39	1.31
	<i>NonMax</i>	0.78	0.60	-0.39	-0.29	-0.25	4.86	4.61	0.30	0.39	0.35
	<i>Max5</i>	14.71	12.93	0.97	0.88	0.79	9.75	9.30	1.12	1.20	1.15
Sweden OMX All Share Stocks: 418	<i>NonMax5</i>	0.78	0.61	-0.27	-0.21	-0.18	8.76	8.38	0.36	0.45	0.40
	<i>Lottery</i>	4.73	3.98	0.56	0.53	0.47	7.53	7.18	1.37	1.50	1.39
	<i>NonLottery</i>	1.72	1.18	-0.04	-0.05	-0.03	1.80	1.35	-0.25	-0.32	-0.27
	<i>Max</i>	8.23	7.00	1.35	1.20	1.07	7.44	7.12	1.25	1.33	1.26
	<i>NonMax</i>	1.25	0.95	-0.55	-0.41	-0.34	7.12	6.68	0.27	0.40	0.30
Stocks: 418	<i>Max5</i>	8.29	7.04	1.01	0.91	0.80	7.53	7.20	1.11	1.17	1.11
	<i>NonMax5</i>	1.26	0.97	-0.42	-0.33	-0.28	7.21	6.79	0.29	0.41	0.32

Table 10 (continued)

Measurement Period	Portfolio	1 Month					6 Months				
		TVol	IVol	TSkew	ISkew2F	ISkew3F	TVol	IVol	TSkew	ISkew2F	ISkew3F
Canada S&P/TSX Composite Stocks: 371	Lottery	4.59	3.75	0.42	0.41	0.36	5.73	5.27	0.98	1.11	0.99
	NonLottery	1.39	1.04	-0.09	-0.08	-0.06	1.46	1.20	-0.31	-0.32	-0.30
	Max	7.50	6.28	1.07	0.95	0.84	6.89	6.42	0.86	0.94	0.86
	NonMax	1.07	0.82	-0.44	-0.34	-0.29	2.45	2.24	0.20	0.29	0.22
	Max5	7.62	6.34	0.72	0.65	0.57	7.20	6.68	0.71	0.78	0.71
UK FTSE All Share Stocks: 603	NonMax5	1.07	0.82	-0.33	-0.27	-0.24	2.47	2.27	0.22	0.30	0.23
	Lottery	4.86	4.13	0.43	0.41	0.36	6.39	6.08	1.13	1.28	1.18
	NonLottery	1.59	1.10	-0.08	-0.10	-0.08	1.67	1.26	-0.34	-0.40	-0.35
	Max	7.90	6.74	1.18	1.03	0.92	7.62	7.25	0.64	0.73	0.68
	NonMax	1.07	0.82	-0.48	-0.36	-0.30	3.50	3.25	0.26	0.39	0.32
Austria ATX Prime Stocks: 47	Max5	8.01	6.79	0.81	0.73	0.65	7.79	7.38	0.52	0.61	0.56
	NonMax5	1.08	0.84	-0.38	-0.31	-0.26	3.55	3.31	0.31	0.43	0.36
	Lottery	2.61	2.17	0.34	0.34	0.31	2.78	2.54	0.90	1.05	0.94
	NonLottery	1.59	1.14	-0.03	-0.03	-0.01	1.65	1.29	-0.16	-0.17	-0.17
	Max	3.47	2.84	0.86	0.76	0.96	3.00	2.72	0.53	0.60	0.54
France CAC All Share Stocks: 471	NonMax	1.13	0.88	-0.51	-0.39	-0.33	1.57	1.37	0.23	0.30	0.27
	Max5	3.54	2.84	0.59	0.53	0.47	3.05	2.70	0.48	0.52	0.48
	NonMax5	1.12	0.89	-0.40	-0.35	-0.29	1.62	1.43	0.20	0.25	0.24
	Lottery	3.42	2.90	0.56	0.55	0.49	3.90	3.66	1.78	1.95	1.83
	NonLottery	1.55	1.06	-0.02	-0.02	-0.01	1.61	1.22	-0.19	-0.23	-0.20
Max	Max	5.88	5.06	1.36	1.20	1.10	4.91	4.66	1.55	1.64	1.56
	NonMax	0.94	0.73	-0.48	-0.37	-0.32	1.77	1.61	0.53	0.65	0.57
	Max5	5.94	5.08	1.06	0.95	0.86	4.96	4.67	1.44	1.53	1.46

Table 10 (continued)

Measurement Period	Portfolio	1 Month					6 Months				
		<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>	<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>
Japan	<i>NonMax5</i>	0.94	0.74	-0.40	-0.32	-0.28	1.81	1.66	0.58	0.68	0.61
	<i>Lottery</i>	2.98	2.35	0.40	0.43	0.39	3.24	2.88	1.04	1.35	1.14
	<i>NonLottery</i>	1.55	1.06	-0.05	-0.07	-0.06	1.60	1.22	-0.22	-0.26	-0.18
	<i>Max</i>	4.49	3.65	1.20	1.09	0.99	3.67	3.27	1.00	1.20	1.07
	<i>NonMax</i>	1.10	0.82	-0.56	-0.41	-0.34	1.75	1.50	0.04	0.20	0.10
TOPIX Composite Stocks: 2301	<i>Max5</i>	4.57	3.68	0.86	0.81	0.74	3.73	3.31	0.91	1.10	0.99
	<i>NonMax5</i>	1.10	0.83	-0.41	-0.32	-0.26	1.79	1.54	0.08	0.22	0.13
	<i>Lottery</i>	5.41	4.75	0.46	0.41	0.37	6.08	5.90	1.76	1.78	1.72
	<i>NonLottery</i>	1.69	1.28	-0.01	-0.02	-0.02	1.78	1.47	-0.19	-0.19	-0.17
	<i>Max</i>	8.90	7.83	1.10	0.92	0.84	7.62	7.41	1.42	1.40	1.37
ISEQ All Share Stocks: 65	<i>NonMax</i>	1.22	1.01	-0.86	-0.73	-0.68	2.29	2.16	0.17	0.25	0.21
	<i>Max5</i>	8.87	7.79	0.92	0.78	0.70	7.54	7.32	1.33	1.31	1.28
	<i>NonMax5</i>	1.24	1.04	-0.87	-0.75	-0.69	2.38	2.27	0.20	0.28	0.25
	<i>Lottery</i>	3.64	3.10	0.47	0.46	0.41	4.32	4.08	1.52	1.67	1.56
	<i>NonLottery</i>	1.48	0.99	-0.07	-0.10	-0.08	1.56	1.14	-0.29	-0.36	-0.33
Netherlands AEX All Share Stocks: 160	<i>Max</i>	7.04	6.13	1.25	1.09	0.98	5.86	5.62	1.22	1.29	1.24
	<i>NonMax</i>	1.08	0.84	-0.69	-0.55	-0.47	2.44	2.25	0.32	0.40	0.34
	<i>Max5</i>	7.06	6.10	1.00	0.88	0.78	5.83	5.56	1.10	1.16	1.11
	<i>NonMax5</i>	1.08	0.85	-0.62	-0.50	-0.44	2.53	2.36	0.41	0.49	0.43
	<i>Lottery</i>	3.20	2.75	0.44	0.39	0.36	3.54	3.36	1.21	1.30	1.22
Switzerland Swiss All Share Stocks: 268	<i>NonLottery</i>	1.21	0.91	-0.06	-0.07	-0.05	1.26	1.05	-0.27	-0.32	-0.29
	<i>Max</i>	5.23	4.55	1.11	0.97	0.87	4.48	4.30	1.06	1.10	1.05
	<i>NonMax</i>	0.83	0.67	-0.53	-0.44	-0.39	1.53	1.42	0.28	0.28	0.26

Table 10 (continued)

Measurement Period	1 Month					6 Months					
	Portfolio	<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>	<i>TVol</i>	<i>IVol</i>	<i>TSkew</i>	<i>ISkew2F</i>	<i>ISkew3F</i>
Benchmark	<i>Max5</i>	5.27	4.56	0.80	0.72	0.64	4.51	4.30	0.93	0.96	0.92
	<i>NonMax5</i>	0.83	0.68	-0.43	-0.38	-0.33	1.57	1.47	0.34	0.34	0.33

The table above reports monthly volatility and skewness characteristics with regard to all stocks included in the *wikifolio* investment universe as well as different comprehensive country stock market indices. Total volatility (*TVol*), idiosyncratic volatility (*IVol*), total skewness (*TSkew*) and idiosyncratic skewness (*ISkew2F/ISkew3F*) are computed using daily stock returns of the previous month/previous six months. *IVol* and *ISkew2F* are computed following Kumar (2009) and Harvey and Siddique (2000). *ISkew3F* is computed following Boyer et al. (2010). All daily stock returns are measured in USD. We employ data from January 2010 to September 2020. The *Lottery (NonLottery)* portfolio includes all stocks with above (below) median idiosyncratic volatility, above (below) median idiosyncratic skewness, and below (above) median price in month $t - 1$. *Max* (*NonMax*) and *Max5* (*NonMax5*) are portfolios containing a different definition of lottery (nonlottery) stocks (Bali et al. 2011) which is discussed in Sect. 5.1

Table 11 Employed variables

Variable	Description
<i>Panel A: Descriptive Statistics</i>	
<i>TVol</i>	Total volatility; standard deviation of daily returns measured over the previous month ($t - 1$)/previous six months ($t - 6$ to $t - 1$)
<i>IVol</i>	Idiosyncratic volatility; standard deviation of the residuals obtained by fitting Carhart's (1997) four-factor model to daily returns of the previous month ($t - 1$)/previous six months ($t - 6$ to $t - 1$)
<i>TSkew</i>	Total skewness; scaled measure of the third moment of daily returns measured over the previous month ($t - 1$)/previous six months ($t - 6$ to $t - 1$)
<i>ISkew2F</i>	Idiosyncratic skewness; scaled measure of the third moment of the residuals obtained by following Harvey and Siddique (2000): Fitting a two-factor model— <i>RMRF</i> and <i>RMRF</i> ² —to daily returns of the previous month ($t - 1$)/previous six months ($t - 6$ to $t - 1$)
<i>ISkew3F</i>	Idiosyncratic skewness; scaled measure of the third moment of the residuals obtained by following Boyer et al. (2010): Fitting the Fama and French (1993) three-factor model to daily returns of the previous month ($t - 1$)/previous six months ($t - 6$ to $t - 1$)
<i>Panel B: Portfolios</i>	
<i>Lottery</i>	Portfolio containing lottery-like stocks according to Kumar (2009): Stocks exhibiting above median idiosyncratic volatility, above median idiosyncratic skewness, and below median price during the previous month ($t - 1$)
<i>NonLottery</i>	Portfolio containing nonlottery-like stocks according to Kumar (2009): Stocks exhibiting below median idiosyncratic volatility, below median idiosyncratic skewness, and above median price during the previous month ($t - 1$)
<i>Max</i>	Portfolio containing lottery-like stocks according to Bali et al. (2011): Stocks are sorted into decile portfolios based on the constituent maximum daily return over the previous month ($t - 1$); stocks in the highest decile portfolio – stocks exhibiting the highest maximum daily return – are categorized as lottery-like
<i>NonMax</i>	Portfolio containing nonlottery-like stocks according to Bali et al. (2011): Stocks are sorted into decile portfolios based on the constituent maximum daily return over the previous month ($t - 1$); stocks in the lowest decile portfolio—stocks exhibiting the lowest maximum daily return—are categorized as nonlottery-like
<i>Max5</i>	Portfolio containing a variation of lottery-like stocks according to Bali et al. (2011): Decile portfolios are formed based on the average comprising the five highest daily returns of the previous month ($t - 1$); stocks in the highest decile portfolio are categorized as lottery-like

Table 11 (continued)

Variable	Description
<i>NonMax5</i>	Portfolio containing a variation of nonlottery-like stocks according to Bali et al. (2011); Decile portfolios are formed based on the average comprising the five highest daily returns of the previous month ($t - 1$); stocks in the lowest decile portfolio are categorized as nonlottery-like
<i>Panel C: Factor Model Variables</i>	
$R_{i,t}$	Raw return of <i>wikifolio</i> /stock i on day/in month t
$R_{F,t}$	Risk-free return on day/in month t
$RMRF_t$	Return of the market portfolio net of the risk-free return on day/in month t
SMB_t	Small minus big; factor reflecting performance differences between small and large firms on day/in month t (Fama and French (1993))
HML_t	High minus low; factor reflecting performance differences between firms with a low Price-to-Book ratio and firms with a high Price-to-Book ratio on day/in month t (Fama and French (1993))
WML_t	Winners minus losers; factor reflecting momentum on day/in month t as identified by Jegadeesh and Titman (1993), i.e. persistence of stocks' historical out- and underperformance
RMW_t	Robust minus weak; factor reflecting performance differences between firms with a robust (high) operating profitability and firms with a weak (low) operating profitability on day/in month t (Fama and French (2015))
CMA_t	Conservative minus aggressive; factor reflecting performance differences between firms which invest conservatively and firms which invest aggressively on day/in month t (Fama and French (2015))
<i>Panel D: Dependent Variables Panel Regression Analyses</i>	
$T_{i,t}^{num} / T_{i,t}^{vol}$	Number/volume of assets traded within <i>wikifolio</i> i in month t
$\ln T_{i,t}^{num} / \ln T_{i,t}^{vol}$	Number/volume of assets traded within <i>wikifolio</i> i in month t as employed in the regression analysis. Obtained by adding the constant 1 to the number/volume of assets traded and then applying the natural logarithm
$I_{i,t}^{num} / I_{i,t}^{vol}$	Number/volume of assets purchased within <i>wikifolio</i> i in month t
$S_{i,t}^{num} / S_{i,t}^{vol}$	Number/volume of assets sold within <i>wikifolio</i> i in month t
$\ln I_{i,t}^{num} / \ln I_{i,t}^{vol}$	Number/volume of assets purchased within <i>wikifolio</i> i in month t as employed in the regression analysis. Obtained by adding the constant 1 to the number/volume of assets purchased and then applying the natural logarithm
$\ln S_{i,t}^{num} / \ln S_{i,t}^{vol}$	Number/volume of assets sold within <i>wikifolio</i> i in month t as employed in the regression analysis. Obtained by adding the constant 1 to the number/volume of assets sold and then applying the natural logarithm
$TL_{i,t}^{num} / TL_{i,t}^{vol}$	Number/volume of traded lottery-like stocks within <i>wikifolio</i> i in month t
$TNL_{i,t}^{num} / TNL_{i,t}^{vol}$	Number/volume of traded nonlottery-like stocks within <i>wikifolio</i> i in month t

Table 11 (continued)

Variable	Description
$RTL_{i,t}^{num} / RTL_{i,t}^{vol}$	Share regarding number/volume of traded lottery-like stocks relative to number/volume of all traded assets within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$RTNL_{i,t}^{num} / RTNL_{i,t}^{vol}$	Share regarding number/volume of traded nonlottery-like stocks relative to number/volume of all traded assets within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$\ln RTL_{i,t}^{num} / \ln RTL_{i,t}^{vol}$	Share regarding number/volume of traded lottery-like stocks relative to number/volume of all traded assets within <i>wikifolio</i> <i>i</i> in month <i>t</i> as employed in the regression analysis. Obtained by adding the constant 1 to the lottery-like stock share (number/volume) of assets traded and then applying the natural logarithm
$\ln RTNL_{i,t}^{num} / \ln RTNL_{i,t}^{vol}$	Share regarding number/volume of traded nonlottery-like stocks relative to number/volume of all traded assets within <i>wikifolio</i> <i>i</i> in month <i>t</i> as employed in the regression analysis. Obtained by adding the constant 1 to the nonlottery-like stock share (number/volume) of assets traded and then applying the natural logarithm
$IL_{i,t}^{num} / IL_{i,t}^{vol}$	Number/volume of purchased lottery-like stocks within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$SL_{i,t}^{num} / SL_{i,t}^{vol}$	Number/volume of sold lottery-like stocks within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$INL_{i,t}^{num} / INL_{i,t}^{vol}$	Number/volume of purchased nonlottery-like stocks within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$SNL_{i,t}^{num} / SNL_{i,t}^{vol}$	Number/volume of sold nonlottery-like stocks within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$RIL_{i,t}^{num} / RIL_{i,t}^{vol}$	Share regarding number/volume of purchased lottery-like stocks relative to number/volume of all purchased assets within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$RSL_{i,t}^{num} / RSL_{i,t}^{vol}$	Share regarding number/volume of sold lottery-like stocks relative to number/volume of all purchased assets within <i>wikifolio</i> <i>i</i> in month <i>t</i>
$\ln RIL_{i,t}^{num} / \ln RIL_{i,t}^{vol}$	Share regarding number/volume of purchased lottery-like stocks relative to number/volume of all purchased assets within <i>wikifolio</i> <i>i</i> in month <i>t</i> as employed in the regression analysis. Obtained by adding the constant 1 to the lottery-like stock share (number/volume) of assets purchased and then applying the natural logarithm
$\ln RSL_{i,t}^{num} / \ln RSL_{i,t}^{vol}$	Share regarding number/volume of sold lottery-like stocks relative to number/volume of all sold assets within <i>wikifolio</i> <i>i</i> in month <i>t</i> as employed in the regression analysis. Obtained by adding the constant 1 to the lottery-like stock share (number/volume) of assets sold and then applying the natural logarithm
$LF_{i,t=1}^{num,t} / LF_{i,t=1}^{vol,t}$	Net flow into lottery-like stocks; computed as the difference between the cumulative number/volume of lottery-like stock purchases and the cumulative number/volume of lottery-like stock sales from the creation of <i>wikifolio</i> <i>i</i> to month <i>t</i>
<i>Panel E: Independent Variables Panel Regression Analyses</i>	
$R_{i,t-1}$	Raw return of <i>wikifolio</i> <i>i</i> in month <i>t</i> - 1

Table 11 (continued)

Variable	Description
$\bar{R}_{i,t-6}^{t-1}$	Average raw return of <i>wikifolio i</i> over the previous six months
$RR_{i,t-1}$	Relative performance ranking of <i>wikifolio i</i> with regard to the raw return of the previous month ($t - 1$). The ranking is expressed in a number from 1 to 10. Monthly deciles involving all <i>wikifolios</i> in the dataset are employed as threshold values
$\bar{RR}_{i,t-6}^{t-1}$	Relative performance ranking of <i>wikifolio i</i> with regard to average monthly <i>wikifolio</i> raw returns over the previous six months ($t - 6$ to $t - 1$). The ranking is expressed in a number from 1 to 10. Monthly deciles involving all <i>wikifolios</i> in the dataset are employed as threshold values
<i>Panel F: Metric Control Variables Panel Regression Analyses</i>	
$Age_{i,t}$	Months since creation of <i>wikifolio i</i> at month t
$Fee_{i,t}$	Performance fee set by the signal provider when creating <i>wikifolio i</i> . Performance fees may range from five to 30 percent
$wikiNumber_i$	Number of <i>wikifolios</i> which are administered by the signal provider corresponding to <i>wikifolio i</i>
<i>Panel G: Dummy Control Variables Panel Regression Analyses</i>	
$HWM_{i,t}$	Equals 1 if <i>wikifolio i</i> reaches a new yearly high watermark in month t
$Leverage_i$	Equals 1 if signal provider administering <i>wikifolio i</i> does not categorically exclude leverage products from trading activities. The <i>wikifolio</i> shows the associated status <i>Attention: Might contain leverage products</i>
$Real_i$	Equals 1 if the corresponding signal provider has invested at least 5000 EUR/CHF in the administered <i>wikifolio</i> . The <i>wikifolio</i> shows the associated status <i>Real Money</i> which is updated every 90 days. Due to the peculiarities of our dataset, we only obtain information about this status at the time the data is downloaded. We treat <i>wikifolios</i> as if the status displayed at the time of the download is applicable for their entire existence
$Media_i$	Equals 1 if <i>wikifolio i</i> is administered by a media company. The <i>wikifolio</i> shows the associated label <i>Media wikifolio</i>
$Manager_i$	Equals 1 if <i>wikifolio i</i> is administered by a professional asset manager. The <i>wikifolio</i> shows the associated label <i>Asset manager wikifolio</i>
$Theme_i$	Equals 1 if <i>wikifolio i</i> is a theme-specific <i>wikifolio</i> , i.e. only securities that can be assigned to a specific industry or a specific investment theme are included. The <i>wikifolio</i> shows the associated label <i>Theme wikifolio</i>
wow_i	Equals 1 if <i>wikifolio i</i> is a <i>wikifolio</i> of <i>wikifolios</i> , i.e. it is only invested in <i>wikifolio</i> certificates. The <i>wikifolio</i> shows the associated label <i>wikifolio of wikifolio</i>
$Investable_i$	Equals 1 if <i>wikifolio i</i> is investable, i.e. open-ended index certificates have been issued and are available to signal followers. The <i>wikifolio</i> shows the associated status <i>Investable</i>

Table 11 (continued)

Variable	Description
$Closing_i$	Equals 1 if <i>wikifolio</i> i is in the process of closing (only relevant when <i>wikifolio</i> certificates have been issued). All corresponding open positions are sold and <i>wikifolio</i> fees are suspended (no further price changes) while signal followers are able to sell their certificates. The <i>wikifolio</i> shows the associated status <i>Closing</i>
$Closed_i$	Equals 1 if <i>wikifolio</i> i is closed. Closed <i>wikifolios</i> remain visible on the profile of the corresponding signal provider, however, they can no longer be found using the search function on the <i>wikifolio</i> platform. The <i>wikifolio</i> shows the associated status <i>Closed</i>
$ETF_{i,t}$	Equals 1 if at least one ETF is traded within <i>wikifolio</i> i in month t
$ETP_{i,t}$	Equals 1 if at least one Exchange Traded Product (ETP) is traded within <i>wikifolio</i> i in month t . Exchange Traded Products include Exchange Traded Commodities (ETC) as well as Exchange Traded Notes (ETN)
$Derivative_{i,t}$	Equals 1 if at least one derivative is traded within <i>wikifolio</i> i in month t

Notes: The table above briefly defines all employed variables. All data regarding *wikifolios* is directly obtained from the *wikifolio* platform. Stock market data for the classification of lottery-like stocks is acquired from *Thomson Reuters Datastream*. Factors for the calculation of abnormal returns are obtained from the *KFLD* and *Richard Stehle's* homepage

Table 12 Absolute number and volume transactions

	Volume transactions													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
α	0.804*** (20.74)	0.804*** (17.42)	0.865*** (91.74)	1.474*** (227.98)	0.897*** (96.03)	1.238*** (208.77)	0.836*** (84.11)	4.640*** (29.38)	4.640*** (26.95)	4.973*** (147.77)	6.237*** (235.66)	4.772*** (130.85)	5.523*** (227.51)	4.900*** (126.35)
$RR_{i,t-1}$	-0.103*** (-9.86)	-0.103*** (-8.22)	-0.100*** (-31.87)	-0.019*** (-7.49)	-0.060*** (-22.10)	-0.021*** (-8.19)	-0.062*** (-22.86)	-0.383*** (-10.39)	-0.383*** (-9.16)	-0.359*** (-32.06)	-0.099*** (-9.39)	-0.218*** (-20.60)	-0.106*** (-10.14)	-0.224*** (-21.26)
$(RR_{i,t-1})^2$	0.010*** (9.81)	0.010*** (8.29)	0.009*** (33.90)	0.003*** (11.78)	0.006*** (26.59)	0.003*** (12.28)	0.006*** (27.12)	0.036*** (10.59)	0.036*** (9.38)	0.034*** (34.15)	0.012*** (12.68)	0.023*** (24.28)	0.012*** (13.42)	0.023*** (24.91)
<i>Leverage</i>	0.525*** (20.74)	0.525*** (17.51)	0.493*** (107.57)	0.289*** (48.29)	0.289*** (48.29)	0.289*** (48.29)	0.306*** (50.76)	1.411*** (18.85)	1.411*** (16.45)	1.233*** (75.37)	1.411*** (75.37)	0.649*** (27.74)	1.233*** (1.70)***	0.638*** (27.14)
<i>RealMoney</i>	0.698*** (10.71)	0.698*** (8.42)	0.675*** (63.11)	0.677*** (10.71)	0.734*** (49.98)	0.675*** (49.98)	0.721*** (49.21)	1.723*** (11.73)	1.723*** (9.62)	1.613*** (42.24)	1.723*** (19.85)	1.701*** (29.65)	1.613*** (1.53)***	1.691*** (29.59)
<i>Investable</i>	0.660*** (28.39)	0.660*** (23.11)	0.677*** (150.37)	0.677*** (150.37)	0.580*** (87.17)	0.580*** (87.17)	0.561*** (83.60)	1.895*** (23.15)	1.895*** (19.85)	1.988*** (123.71)	1.895*** (123.71)	1.531*** (58.92)	1.988*** (1.702)***	1.571*** (59.93)
<i>Closing</i>	0.465*** (2.66)	0.465*** (1.95)	0.449*** (12.53)	0.449*** (12.53)	0.707*** (16.86)	0.707*** (16.86)	0.681*** (16.28)	1.193*** (2.43)	1.193*** (2.43)	1.091*** (8.53)	1.193*** (8.53)	1.702*** (10.39)	1.091*** (0.886)***	1.779*** (10.90)
<i>Closed</i>	0.432*** (12.48)	0.432*** (9.95)	0.498*** (66.00)	0.498*** (66.00)	0.292*** (34.67)	0.292*** (34.67)	0.254*** (29.44)	1.249*** (10.49)	1.249*** (8.94)	1.610*** (59.81)	1.249*** (59.81)	0.886*** (26.97)	1.610*** (5.250)***	0.949*** (28.15)
<i>Fee</i>	1.278*** (9.10)	1.278*** (6.79)	1.376*** (48.40)	1.376*** (48.40)	1.814*** (46.28)	1.814*** (46.28)	1.731*** (44.15)	4.382*** (10.69)	4.382*** (8.29)	4.971*** (48.99)	4.382*** (48.99)	5.250*** (34.30)	4.971*** (34.30)	5.220*** (34.11)
<i>Media</i>	0.037 (0.20)	0.037 (0.18)	0.005 (0.19)	0.005 (0.19)	0.005 (0.19)	0.005 (0.19)	0.005 (0.19)	-0.145 (-0.29)	-0.145 (-0.29)	-0.299*** (-3.02)	-0.299*** (-3.02)	0.886*** (26.97)	0.886*** (26.97)	0.886*** (26.97)
<i>Manager</i>	-0.263*** (-2.83)	-0.263*** (-1.61)	-0.282*** (-13.33)	-0.282*** (-13.33)	-0.282*** (-13.33)	-0.282*** (-13.33)	-0.282*** (-13.33)	0.690* (1.87)	0.690* (1.87)	0.690* (7.81)	0.690* (7.81)	0.690* (7.81)	0.690* (7.81)	0.690* (7.81)
<i>Theme</i>	-1.613*** (-15.04)	-1.613*** (-27.36)	-1.575*** (-21.05)	-1.575*** (-21.05)	-1.575*** (-21.05)	-1.575*** (-21.05)	-1.575*** (-21.05)	-5.901*** (-11.29)	-5.901*** (-33.15)	-5.681*** (-21.27)	-5.681*** (-21.27)	-5.681*** (-21.27)	-5.681*** (-21.27)	-5.681*** (-21.27)

Table 12 (continued)

Panel A: Relative performance previous month														
Number transactions														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>wikiNumber</i>	0.030***	0.030***	0.029***					0.084***	0.084***	0.080***				
	(14.16)	(8.00)	(69.83)					(13.75)	(7.38)	(53.07)				
<i>HWM</i>	0.255***	0.255***	0.280***	0.258***	0.269***	0.273***	0.285***	1.009***	1.009***	1.082***	1.038***	1.066***	1.045***	1.084***
	(8.06)	(7.99)	(56.67)	(81.63)	(77.75)	(74.27)	(71.37)	(6.88)	(6.85)	(61.36)	(80.29)	(79.02)	(69.62)	(69.48)
<i>Age</i>	-0.010***	-0.010***	-0.014***	-0.011***	-0.010***		-0.006***	-0.044***	-0.044***	-0.066***	-0.034***	-0.034***	-0.041***	-0.041***
	(-9.12)	(-8.69)	(-101.20)	(-99.28)	(-84.48)		(-26.58)	(-8.92)	(-8.68)	(-132.34)	(-75.13)	(-73.51)	(-43.99)	(-43.99)
<i>R</i> ²	0.1176	0.1176	0.1325	0.5861	0.4734	0.5893	0.4775	0.0890	0.0890	0.1169	0.4451	0.3578	0.4499	0.3635
Panel B: Relative performance previous 6 months														
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>α</i>	0.770***	0.770***	0.811***	1.379***	0.808***	1.143***	0.743***	4.396***	4.396***	4.630***	5.846***	4.394***	5.118***	4.494***
	(19.82)	(16.28)	(85.31)	(200.95)	(84.74)	(178.50)	(73.71)	(27.16)	(24.76)	(136.46)	(208.01)	(118.01)	(195.32)	(114.14)
<i>RR</i> _{<i>t</i>-<i>t</i>-6} ⁻¹	-0.099***	-0.099***	-0.087***	-0.001	-0.042***	0.000***	-0.043***	-0.334***	-0.334***	-0.265***	-0.016	-0.137***	-0.013***	-0.130***
	(-8.16)	(-6.99)	(-27.34)	(-0.21)	(-15.06)	(-0.12)	(-15.17)	(-7.81)	(-6.97)	(-23.32)	(-1.45)	(-12.47)	(-1.16)	(-11.90)
<i>(RR</i> _{<i>t</i>-<i>t</i>-6} ⁻¹) ²	0.010***	0.010***	0.009***	0.003***	0.006***	0.003***	0.006***	0.035***	0.035***	0.030***	0.011***	0.022***	0.011***	0.021***
	(9.56)	(8.18)	(32.20)	(10.66)	(25.77)	(10.55)	(25.90)	(9.85)	(8.75)	(29.78)	(10.76)	(22.52)	(10.74)	(22.24)
<i>Leverage</i>	0.522***	0.522***	0.493***		0.291***		0.308***	1.410***	1.410***	1.246***		0.660***		0.653***
	(20.84)	(17.51)	(106.97)		(48.60)		(51.13)	(19.02)	(16.55)	(75.72)		(28.20)		(27.72)
<i>RealMoney</i>	0.688***	0.688***	0.666***		0.716***		0.703***	1.677***	1.677***	1.569***		1.635***		1.625***
	(10.58)	(8.32)	(62.18)		(48.84)		(48.08)	(11.43)	(9.36)	(41.05)		(28.54)		(28.48)
<i>Investable</i>	0.658***	0.658***	0.675***		0.573***		0.554***	1.885***	1.885***	1.979***		1.505***		1.543***
	(28.48)	(23.09)	(149.82)		(86.25)		(82.57)	(23.25)	(19.86)	(123.14)		(58.03)		(58.95)
<i>Closing</i>	0.456**	0.456*	0.442***		0.708***		0.681***	1.154**	1.154**	1.058***		1.708***		1.782***

Table 12 (continued)

Panel B: Relative performance previous 6 months

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Closed</i>	(2.60)	(1.91)	(12.33)		(16.91)		(16.31)	(2.36)	(1.89)	(8.28)		(10.44)		(10.94)
	0.435***	0.435***	0.501***		0.301***		0.262***	1.267***	1.267***	1.628***		0.922***		0.980***
	(12.55)	(10.01)	(66.35)		(35.82)		(30.35)	(10.63)	(9.05)	(60.46)		(28.10)		(29.11)
<i>Fee</i>	1.286***	1.286***	1.389***		1.811***		1.726***	4.440***	4.440***	5.058***		5.250***		5.216***
	(9.17)	(6.84)	(48.86)		(46.29)		(44.11)	(10.86)	(8.41)	(49.85)		(34.35)		(34.14)
<i>Media</i>	0.040	0.040	0.008					-0.137	-0.137	-0.295***				
	(0.21)	(0.20)	(0.28)					(-0.28)	(-0.25)	(-2.99)				
<i>Manager</i>	-0.257***	-0.257	-0.277***					0.711*	0.711	0.605***				
	(-2.76)	(-1.58)	(-13.10)					(1.92)	(1.28)	(8.02)				
<i>Theme</i>	-1.618***	-1.618***	-1.580***					-5.931***	-5.931***	-5.712***				
	(-14.97)	(-26.96)	(-21.12)					(-11.29)	(-31.99)	(-21.39)				
<i>wikiNumber</i>	0.030***	0.030***	0.029***					0.084***	0.084***	0.080***				
	(14.14)	(7.96)	(69.69)					(13.77)	(7.37)	(53.07)				
<i>HWIM</i>	0.240***	0.240***	0.260***	0.239***	0.245***	0.245***	0.252***	0.930***	0.930***	0.967***	0.958***	0.969***	0.932***	0.947***
	(7.43)	(7.38)	(52.64)	(76.59)	(71.60)	(67.81)	(63.61)	(6.22)	(6.20)	(54.92)	(75.08)	(72.53)	(62.91)	(61.27)
<i>Age</i>	-0.010***	-0.010***	-0.014***	-0.011***	-0.010***	-0.010***	-0.006***	-0.043***	-0.043***	-0.066***	-0.034***	-0.034***	-0.034***	-0.040***
	(-9.01)	(-8.58)	(-99.50)	(-98.90)	(-83.88)	(-83.88)	(-25.82)	(-8.83)	(-8.59)	(-130.88)	(-74.72)	(-73.01)	(-73.01)	(-43.37)
<i>R²</i>	0.1182	0.1182	0.1328	0.5878	0.4754	0.5909	0.4794	0.0898	0.0898	0.1174	0.4469	0.3600	0.4518	0.3657

Table 12 (continued)

Notes Panel A: The table above reports the coefficients for the regression assessing the relation between trading activity and relative past *wikifolio* performance. The monthly number/volume of assets traded ($\ln T_{it}^{num}/\ln T_{it}^{vol}$) is employed as dependent variable. $RR_{i,t-1}$ depicts the relative performance variable. In *Panel A*, relative performance is measured over the previous month. In specification (1) and (8), t-statistics correspond to *wikifolio* and month-clustered standard errors; in specification (2) and (9), standard errors are clustered by month and signal provider (Petersen 2009). Specifications (3) and (10) include time fixed effects. Fixed effects on the *wikifolio*-level are included in specifications (4) and (11). Trader-level fixed effects, i.e. for each identified signal provider, are included in specifications (5) and (12). In specification (6) and (13)/(7) and (14), we simultaneously include time and *wikifolio*/signal provider fixed effects. Below the regression coefficients, t-statistics are displayed in parentheses. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The obtained data covers the period from December 2011 to February 2019. Only *wikifolios* with available return data for at least six months are included in the analysis. All employed variables are described in Appendix Table 11

Notes Panel B: The table above reports the coefficients for the regression assessing the relation between trading activity and relative past *wikifolios* performance. The monthly number / volume of assets traded ($\ln T_{it}^{num}/\ln T_{it}^{vol}$) is employed as dependent variable. $R R_{i,t-6}$ depicts the relative performance variable. In *Panel B*, relative performance is measured over the previous six months. In specification (1) and (8), t-statistics correspond to *wikifolios* and month-clustered standard errors; in specification (2) and (9), standard errors are clustered by month and signal provider (Petersen 2009). Specifications (3) and (10) include time fixed effects. Fixed effects on the *wikifolio*-level are included in specifications (4) and (11). Trader-level fixed effects, i.e. for each identified signal provider, are included in specifications (5) and (12). In specification (6) and (13) / (7) and (14), we simultaneously include time and *wikifolios* / signal provider fixed effects. Below the regression coefficients, t-statistics are displayed in parentheses. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The obtained data covers the period from December 2011 to February 2019. Only *wikifolios* with available return data for at least six months are included in the analysis. All employed variables are described in appendix Table 11

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Declarations

Conflict of interest None.

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