Some Capital Gains are Consumed More Equally than Others*

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Abstract

This paper studies how changes in the salience of investments affect consumption out of capital gains. We leverage granular, account-level data on mutual fund investments and expenditure records from 200,000 active users of a leading mobile payment platform. We exploit two quasi-experiments that introduce exogenous variation in the displayed ranking of funds in investors' online portfolios. We find that the consumption responses to capital gains from funds that are more prominently displayed are two to five times larger. To provide additional evidence for limited and selective attention driving these differentially larger responses, we show that the effects are concentrated in investors holding more funds and in capital gains rather than losses.

JEL codes: G5, D90, G41, D14

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1 Introduction

People are inundated with information and advances in financial technology have further amplified both its volume and immediacy. In such an environment, the salience of information determines whether consumers and investors pay attention to it. Several recent and influential studies discuss theoretically how salience affects decision-making (Bordalo et al., 2012, 2013; Koszegi and Szeidl, 2013). Recent empirical evidence shows that the salience of information affects investment decisions: the salience of a stock's rank and return affects selling behavior (Hartzmark, 2015; Frydman and Wang, 2020), a fund's ranking on the Wall Street Journal Category Kings list affects fund flows (Kaniel and Parham, 2017), and digital trading interfaces guide investors' attention and trading behavior (Barber, Huang, Odean, and Schwarz, 2022). So far, however, little is known about how variation in salience and attention affect investors' consumption beyond their trading behavior.[1]

Our study establishes that marginal propensities to consume (MPCs) out of stock market wealth are significantly affected by salience; so much so, that their magnitudes can double to quintuple. This is a striking finding as a standard life-cycle portfolio-choice model predicts an MPC out of stock market wealth that is very persistent and that should not be affected by the display settings of online portfolios. In turn, since MPCs determine how fluctuations in stock markets affect aggregate consumption (Di Maggio et al., 2020), additional research is needed to understand what drives this variation.

We link investment and spending behavior using account-level data on 200,000 active investors from a leading digital investment platform from 2019 to 2021. We find that monthly capital gains from funds recently purchased elicit significantly stronger

[1] Loos et al. (2020) and Agarwal et al. (2020) show that behavioral biases in investing affect consumption, but do not exploit direct variation in the salience of investments.

consumption responses than gains from older investments by an annualized magnitude of 7.2 percent. Moreover, investors exhibit greater consumption out of gains of top-performing funds than out of equivalent gains of underperforming ones by an annualized magnitude of 22.32 percent. Together, these findings reveal that limited attention shapes how individuals perceive and spend their stock market wealth. By showing that salience can break the fungibility of money, our results connect behavioral attention theories with the macroeconomic heterogeneity in consumption responses to wealth shocks, offering a new channel through which information design and platform interfaces may affect aggregate demand.

To establish causality, we exploit two quasi-experimental settings that identify the effect of the platform's information display on these observed differences in marginal propensities to consume (MPCs). First, the platform's default interface automatically places the most recently purchased fund at the top of investors' fund holdings page. In addition, mutual funds from the same fund company as the recently purchased one, even if they were acquired a long time ago, are displayed together in a single block with the recently purchased fund. This feature introduces plausibly exogenous variation in the salience of earlier-acquired funds depending on whether they belong to the same fund company as the recently purchased fund. We find that investors consume 2.11 percent more out of monthly capital gains generated by these more salient, co-grouped funds relative to non-co-grouped ones. Second, we leverage a change in the platform's display settings. In July 2020, investors could sort their portfolio funds by holding-period performance, in addition to the default recency-based ranking. We show that, after the change, the consumption response to capital gains from top-performing funds relative to lower-performing funds becomes more pronounced by 3.39 percent (monhtly).

We further examine the heterogeneity in consumption responses by sorting funds

more granularly within an investor's portfolio. Specifically, we compare funds purchased in month $t-1$ with those purchased in month $t-2$ and $t-3$, and compare funds ranked as the top, second-to-top, or bottom performer in the previous month. We find that investor consumption is particularly sensitive to the most salient gains—those from recent purchases or from the top-performing one—providing further evidence consistent with salience-driven consumption out of financial wealth.

As another sanity check, we then examine investors' redemption behaviors and find that capital gains are generally associated with higher redemptions, with stronger effects for gains from recent and top-performing funds.

To provide additional evidence for limited attention, we document heterogeneity across two dimensions. First, we test whether attention constraints amplify our effects. Investors holding more funds are likely to face greater difficulty in evenly allocating attention across holdings. Consistent with this prediction, we find that both the recency and top-performer effects are more pronounced among investors who hold more funds. Second, we differentiate consumption responses to gains and losses. We find that while capital gains increase consumption, such responses are stronger for capital gains—particularly for high-attention funds—suggesting that attention primarily amplifies the effect of gains. This finding is consistent with the growing literature on selective, not only limited, attention (Galai and Sade, 2006; Karlsson et al., 2009; Quispe-Torreblanca et al., 2025). This finding also contrasts with the traditional marginal propensity to consume (MPC) literature, in which liquidity constraints and precautionary saving motives typically imply larger MPCs following negative income shocks (Bunn et al., 2018). Taken together, these results confirm the role of salience in shaping heterogeneity in MPCs across wealth gains from different assets.

Further, we decompose consumption into online and on-site spending and find that the effects are more pronounced for on-site purchases. This might either indicate that

our results are driven by spending that yield instantaneous consumption, e.g., restaurants and groceries, or indicate that they are not necessarily driven by impulsive online spending. Finally, we conduct a series of robustness tests. Our results remain robust when including hyperactive investors, when using cumulative rather than monthly gains, and when using alternative performance-sorting criteria.

Literature review

Our study contributes to the growing literature on how salience and attention shape individual economic behavior. Most existing research focuses on investment decisions, showing that investors often respond disproportionately to salient information. A range of studies in behavioral economics and finance document top-of-the-list and attention-driven trading effects. For instance, prominently displayed information affect investment choices (e.g., Kaniel and Parham, 2017; Hartzmark, 2015), and salient information on platform interfaces guide users' attention and investors choices (Frydman and Wang, 2020; Barber, Huang, Odean, and Schwarz, 2022; Liao, Wang, Xiang, Yan, and Yang, 2021; Hong, Lu, and Pan, 2025). Related studies in psychology and behavioral economics further show that selective attention, salience, and memory shape decisions (Karlsson et al., 2009; Golman et al., 2017; Olafsson and Pagel, 2025; Bordalo et al., 2013; Birru et al., 2019; Quispe-Torreblanca et al., 2025), and attention matters for investment outcomes (Gargano and Rossi, 2018). Despite this evidence on attention in investing, its implications for consumption remain largely unexplored. Two exceptions are Loos et al. (2020); Agarwal et al. (2020). However, their settings examine consumption responses to behavioral biases, whereas our study focuses on quasi-exogenous variation in fund-level salience induced by their ordering on digital platform interfaces. Our paper thus extends the existing literature by showing that salience matters for household consumption, providing a new behavioral channel linking portfolio behavior

to real outcomes.

We also contribute to the literature on consumption out of stock market wealth. Stock market wealth represents a substantial share of household net worth, and consumption is the largest component of GDP (Campbell, 2006; Poterba, 2000; Di Maggio et al., 2020), making the link between investment behavior and consumption crucial for aggregate demand and welfare. Early studies exploit aggregate or regional wealth shocks (e.g., Davis and Palumbo, 2001; Dynan and Maki, 2001; Case et al., 2005; Poterba, 2000). Household-level studies provide more granular evidence: Baker et al. (2007) show that withdrawals from dividend income are more strongly associated with consumption than capital gains, consistent with mental accounting; Di Maggio et al. (2020) replicate this pattern using Swedish administrative data and quantify the marginal propensities to consume (MPCs) out of stock market fluctuations; Chodorow-Reich et al. (2021) finds a positive effect of stock market wealth in local employment and consumption; and Imas et al. (2022) document that households increase entertainment spending after experiencing large stock market gains or losses. Our work complements these findings by emphasizing attention-driven heterogeneity in MPCs out of stock market gains.

More broadly, our paper relates to recent research connecting expectations, attention, and the macroeconomy (Coibion and Gorodnichenko, 2015; Link et al., 2023) and to the broader literature on consumption responses to income, liquidity, and cash-flow shocks (e.g., Parker, 1999, 2015; Agarwal et al., 2007; Jappelli and Pistaferri, 2010; Olafsson and Pagel, 2018; Johnson et al., 2006; Agarwal and Qian, 2014; Jappelli and Pistaferri, 2014, 2000). Together, these strands highlight the role of limited attention as a fundamental channel through which financial decisions affect real economic outcomes.

Finally, our paper has several potential policy implications. Limited attention—a

common behavioral friction—generates heterogeneous investment and consumption responses across assets, so monetary policies that affect salience of asset prices differently may have varied effects. Consumption is also asymmetric between gains and losses, making policy impacts state-dependent and highlighting limits to the effectiveness of a federal puts (Cieslak and Vissing-Jorgensen, 2021). Finally, heterogeneous redemption patterns suggest that attention constraints can create a psychological source of asset demand inelasticity (Koijen and Yogo, 2019; Gabaix and Koijen, 2022).

The remainder of this paper is organized as follows. Section 2 describes the data and the institutional background. Section 3 shows the baseline results. Section 4 presents the quasi-experimental strategies and corresponding results. Section 5 analyzes mechanisms and conducts robustness checks. Section 6 constructs a simple analytical framework and discusses the magnitudes of our findings, and Section 7 concludes the paper.

2 Institutional Background and Data

We use data from Alipay, a third-party mobile and online payment platform launched by the Alibaba Group in 2004. By 2013, Alipay had overtaken PayPal to become the world's largest digital payment provider. As of June 2020, the platform served over 1.3 billion users and 80 million merchants globally (Hong Kong Exchange News, October 20, 2020), and held approximately 55% of the third-party payment market in mainland China as of Q4 2018. Given this dominant market position, Alipay captures a significant share of users' day-to-day consumption activities. Beyond payments, Alipay has evolved into a comprehensive financial "super-app," offering a wide array of services including ride-hailing, healthcare appointments, travel bookings, and, importantly for our study, mutual fund investments.

In addition to its role in digital payments, Alipay is also a central player in China's asset management sector. Through its investment platform, Ant Fortune, Alipay has become the country's largest mutual fund distribution platform by assets under management (AUM) as of the end of 2024. The platform provides access to a broad range of fund types, including money market funds, bond funds, mixed-asset funds, equity funds, index funds, Qualified Domestic Institutional Investor (QDII) products, and gold funds. These offerings cater to a wide spectrum of retail investors, enhancing the platform's representativeness in capturing investment behavior.

Taken together, Alipay's dual function as both a dominant payment provider and the leading distributor of mutual funds uniquely positions it to reflect users' broader financial behaviors. We therefore regard the consumption and investment data from Alipay users as reasonably representative of household-level financial activity in China.[2]

To focus on users with meaningful investment activities, we restrict our sample to Alipay users whose mutual fund holdings exceeded 10,000 RMB at the beginning of 2019. From this group, we randomly selected 200,000 investors and tracked their behavior from January 2019 to December 2020. For each user, we collected detailed information on monthly mutual fund investments, monthly consumption, and individual characteristics.

To address the concern that hyperactive investors may exhibit distinct behavioral patterns—particularly, the tendency to be sensitive to high-frequency price movements and consequently underreact to monthly capital gains—we exclude from our main analysis those investors whose trading frequency ranks in the top 10% of the sample. This leaves a sample of 180,000 active investors, which forms the basis of our main results.[3] Results using the full investor sample are qualitatively similar and are reported

[2]All data was sampled, desensitized, and analyzed remotely on the Ant Open Research Laboratory. The laboratory operates as a secure sandbox environment where researchers can only use the packages provided by the lab and only a limited number of observations are visible to researchers.

[3]Panel A of Appendix Figure B1 shows that this top decile of active investors trade, on average,

in Internet Appendix Tables B1 and B2. All variables are winsorized at the 0.5 and 99.5 percentiles to reduce the influence of outliers.

Our dataset includes demographic and socioeconomic characteristics such as gender, age, residential location, and whether the investor works in their city of residence. We also observe investors' self-reported risk tolerance, which is collected through mandatory surveys in accordance with China Securities Regulatory Commission (CSRC) guidelines. According to Panel A in Table 1, we have 61% male investors, with an average age of 38 and self-reported risk tolerance level of 3 out of a 0 to 5 range.[4]

[Insert Table 1]

For consumption data, we utilize each user's monthly spending recorded through Alipay, which is also categorized into Taobao and non-Taobao spending. Taobao consumption refers to purchases on Alibaba's flagship e-commerce platform, while non-Taobao spending captures other transactions such as in-person purchases at restaurants, supermarkets, or local merchants. Given Alipay's substantial market share, especially in mobile payments, we consider monthly consumption through Alipay to be reasonably representative of these users' overall consumption behavior. According to Panel B in Table 1, the average monthly spending per user is approximately 6,525 RMB, including 1,559 RMB on Taobao and 4,833 RMB on non-Taobao purchases.[5]

Regarding mutual fund investment activities, we obtain detailed product-level records of purchase and redemption values and holdings for each investor at the monthly frequency on the Ant Fortune investment platform. Because we observe each investor's

about 120 times per month—four times more than the top 20% decile and roughly eight times more than the top 30% decile. Importantly, this high trading frequency is not driven by wealth differences, as shown in Panel B.

[4]Based on a series of questions regarding investment choices and attitudes, the system will assess each investor's risk level scaled from 0 to 5, with 0 indicating the highest level of risk aversion and 5 indicating the lowest.

[5]We omit the starting month of the sample (i.e., January 2019) when reporting the summary statistics as it is not used in the regression analysis due to the lagged construction of regressors.

product-level cumulative capital gains, our analysis focuses on total capital gains, as well as the sum of total capital gains and dividends.[6] In China, dividends from actively managed mutual funds are subject to the discretionary decisions of fund managers within the scope of the fund's prospectus. In contrast, index funds generally aim to pass through dividends received from the constituent stocks of the benchmark index, often on a scheduled basis, though the exact distribution frequency and method may vary by fund. Finally, under current tax policy, individual investors in China are not subject to capital gains taxes on mutual fund investments.

As shown in Panel C of Table 1, the average mutual fund holding per user is 82,804 RMB, with a median of 36,499 RMB. On average, users hold approximately 8 funds per month, with a median of 6. Panel C shows that recent investments (purchased within the past month) generate an average monthly capital gain of 522 RMB (or 558 RMB including dividends), whereas earlier investments yield a gain of 1,038 RMB (or 1,096 RMB with dividends). We also classify funds into top-performing and other funds based on their cumulative gains and losses. Top-performing funds deliver an average monthly capital gain of 673 RMB (or 708 RMB with dividends), compared with 951 RMB (or 1,013 RMB including dividends) for other funds. Across all categories, capital gains exhibit sizable dispersion, with standard deviations ranging from 2,389 RMB to 8,132 RMB.

[6] Since we do not have transaction-level data, we are unable to decompose total gains or distinguish between paper and realized capital gains.

3 Main Analyses and Results

3.1 Recently Acquired Funds

During our sample period, the default setting on the Ant Fortune investment platform is to display recently purchased funds at the top of the investors' holding pages. To test whether gains from these recent investments are more salient—and thus have a greater impact on consumption—we examine the incremental consumption response to the monthly capital gains from funds purchased within the past month, relative to the response to total capital gains. Specifically, we estimate the following two regression models:

$$\begin{aligned} Consumption_{i,t} = \alpha + \beta_1\ CG_{i,t-1} \times Recent_{i,t-1} + \ \beta_2\ CG_{i,t-1} + \beta_3 Recent_{i,t-1} \\ + \Sigma_j Control^j_{i,t} + \lambda_i + \gamma_t + \epsilon_{i,t} \end{aligned} \tag{1a}$$

$$\begin{aligned} Consumption_{i,t} = \alpha + \beta_1\ (CG + Div)_{i,t-1} \times Recent_{i,t-1} + \ \beta_2\ (CG + Div)_{i,t-1} \\ + \beta_3 Recent_{i,t-1} + \Sigma_j Control^j_{i,t} + \lambda_i + \gamma_t + \epsilon_{i,t} \end{aligned} \tag{1b}$$

where $Consumption_{i,t}$ is total consumption spent by investor i in month t, $CG_{i,t-1}$ stands for capital gains/losses for investor i in month $t-1$, and $Recent_{i,t-1}$ is the fraction of capital gains in month $t-1$ generated by funds purchased by investor i during that same month divided by total capital gains from all funds in $t-1$. If the investor purchases a fund multiple times, we consider the most recent purchase date, ensuring that the measure reflects the most recent investment activity. We further control for the total fund holding and number of mutual funds held by investor i in month $t-1$. All regressions include account fixed effects λ_i and year-month fixed effects γ_t. Similarly, in the second equation, we define total gains, $(CG + Div)_{i,t-1}$, as the sum of capital gains and dividends in month $t-1$. The coefficient of interest,

β_1, measures the incremental consumption response to gains from recent investments, beyond the effect of overall portfolio gains.

[Insert Table 2]

Table 2 reports our regression estimates and highlights a striking distinction in how households adjust consumption in response to capital gains from more recent versus earlier mutual fund investments. In Column (2), which includes the full set of controls, we find that a 100 RMB capital gain on recently purchased funds leads to a 1.60 RMB increase in consumption in the subsequent month. Importantly, 0.60 RMB of this represents the incremental effect over and above the effect of capital gains across the portfolio more broadly. In contrast, capital gains from earlier investments elicit a more muted consumption response—1.00 RMB per 100 RMB of gains.

This distinction remains when we extend the analysis to capital gains plus dividends, as shown in Columns (3) and (4). Column (4), for instance, indicates that a 100 RMB increase in total proceeds from recent investments is associated with a 1.62 RMB rise in consumption, of which 0.67 RMB is attributable to the incremental salience of those gains.

Taken together, these findings point to a larger MPC out of capital gains on recently acquired funds relative to earlier ones. This pattern is consistent with the information display investors face: in the default interface of mutual fund platforms, holdings are ordered by purchase date, with the most recent investments occupying the top and most visually prominent positions. This design feature likely draws attention toward recent investments, amplifying the salience of gains on those holdings and, in turn, their impact on consumption behavior.

3.2 Top-Performing Funds

In this subsection, we examine whether investors exhibit selective attention to the top-performing mutual fund within their portfolio, and whether gains from this salient holding elicit a larger consumption response. To identify the top-performing fund, we rank each investor's mutual fund holdings by cumulative gains or losses at the end of each month, designating the fund with the highest gains as the top performer. We also explore the robustness of this finding by ranking funds based on cumulative return, instead of cumulative gains. The corresponding results are exhibited in Internet Appendix Table B5.

To quantify the consumption response, we estimate two regression specifications analogous in structure to Equations (1a) and (1b), allowing us to isolate the marginal propensity to consume out of gains specifically attributable to the top performer in the portfolio:

$$\begin{aligned} Consumption_{i,t} = \alpha + \beta_1\ CG_{i,t-1} \times TopPerformer_{i,t-1} + \ \beta_2\ CG_{i,t-1} \\ + \beta_3 TopPerformer_{i,t-1} + \Sigma_j Control^j_{i,t} + \lambda_i + \gamma_t + \epsilon_{i,t} \end{aligned} \tag{2a}$$

$$\begin{aligned} Consumption_{i,t} = \alpha + \beta_1\ (CG + Div)_{i,t-1} \times TopPerformer_{i,t-1} + \beta_2 (CG + Div)_{i,t-1} \\ + \beta_3 TopPerformer_{i,t-1} + \Sigma_j Control^j_{i,t} + \lambda_i + \gamma_t + \epsilon_{i,t}, \end{aligned} \tag{2b}$$

where $TopPerformer_{i,t-1}$ stands for the fraction of capital gains in month $t-1$ from the top-performing fund during the same month of investor i divided by total capital gains across all funds in month $t-1$. The construction of other variables follows Equations (1a) and (1b). The coefficient of interest, β_1, measures the incremental consumption response to gains from top performers, beyond the effect of overall portfolio gains.

[Insert Table 3]

Table 3 presents the regression results. We find that consumption responds more strongly to proceeds generated by top-performing funds than from other holdings. In Column (2) when controlling for portfolio size and the number of funds held, a 100 RMB capital gain from the top-performing fund leads to a 2.42 RMB increase in consumption the following month, of which 1.82 RMB is incremental relative to the average response to overall portfolio gains. By contrast, the same gain from other funds yields only a 0.60 RMB increase.

The gap between top-performing and other funds remains substantial in Columns (3) and (4) where we include both capital gains and dividends. For example, according to Column (4), a 100 RMB increase in total proceeds from top-performing funds leads to an 2.42 RMB in consumption, with 1.86 RMB representing the incremental effect.

In sum, gains from top-performing funds that are likely to attract greater investor attention elicit a higher MPC. These results are consistent with selective attention as a key mechanism driving heterogeneity in consumption responses across assets and over time.

4 Identification

In the previous section, we interpreted the recency and top-performer effects as evidence that salience and limited attention lead investors to exhibit different consumption responses to otherwise similar capital gains. This interpretation, however, may be confounded by alternative explanations. For example, reverse causality is a potential concern if investors increase their investment activity and pay closer attention to their portfolios when they anticipate higher future consumption; Omitted variables may bias the estimates if salient funds reflect investor sentiment or broader economic prospects that simultaneously influence both investment and consumption decisions,

thereby generating spurious correlations. To address these concerns, this section leverages two quasi-experimental features of the Ant Fortune platform's display rules to provide causal evidence that the observed heterogeneity in consumption responses is indeed driven by attention shaped through the interface design.

4.1 Group-Based Display Rule

During our sample period, Ant Fortune's group-based display rule organizes an investor's portfolio by placing the most recently acquired fund at the top of the holdings page. In addition, all funds from the same fund company are displayed together within a single block. This interface design creates plausibly exogenous cross-sectional variations in the visual prominence across earlier invested funds, depending on whether they share a fund company with the most recent purchase. Panel A of Figure 1 illustrates this display structure.

Consider an investor who holds three funds: A, B, and C. Fund A is the most recently purchased, while B and C were acquired earlier. Suppose A and C are managed by the same fund company. Under the display rule, once A is purchased, it appears at the top of the holdings page, with C dsiplayed immediately beneath it because of the shared fund company, and B listed below both. In this setup, C—despite being an older investment—receives greater visual prominence than B. We exploit this mechanically induced variation in prominence to study how differential attention affects investor behavior.

In Table 4, we examine how total consumption responds to capital gains from earlier investments that differ in visual salience, while controlling for gains from recent purchases. If attention shapes investors' MPCs, consumption should respond more strongly to gains from earlier funds that receive greater visual prominence than to gains from earlier funds that receive less visual prominence. We define variable *Same*

Company to capture the share of capital gains (plus dividends) originating from earlier funds that belong to the same fund company as the investor's most recent purchase last month, as a fraction of total portfolio gains last month. We then interact this variable with capital gain variables that are in Equations (1a) and (1b).

[Insert Table 4]

Across all specifications, results are consistent with this hypothesis. As shown by the coefficient on $CG \times (1 - Recent) \times Same\,Company$ in Column (2), a 100 RMB gain from a high-attention, earlier invested fund is associated with an additional 2.15 RMB of consumption in the following month. This effect is over and above the 0.26 RMB consumption response to a low-attention, earlier invested fund as captured by the coefficient on CG. When we extend the analysis to total proceeds (including dividends), Column (4) reports MPCs of 2.10% and 0.26% for high- and low-attention funds invested earlier, respectively.[7]

Taken together, these findings—leveraging variations generated by the group-based display rule—underscore the role of salience in shaping the heterogeneity in MPCs across different assets within an investor's portfolio.

4.2 Display Change Enabling Discretion in Sorting Funds

Prior to July 2020, mutual funds on the Ant Fortune platform were displayed strictly in order of purchase, as described in the preceding section. In July 2020, however, Ant

[7] One potential concern is that funds from the same company may have correlated returns, which could mechanically generate significant and positive MPCs for high-attention, earlier invested funds as recently purchased funds from the same fund company. To address this issue, we explore variations in salience across high-attention, earlier invested funds. Specifically, we further split earlier funds that share the same fund company as the recent investment into two groups: (i) relatively recent funds purchased between $t-2$ and $t-4$, and (ii) relatively early funds purchased in $t-5$ or before. In unreported test, we find that an elevated MPC appears only among the relatively recent funds purchased in $t-2$ to $t-4$, whereas the coefficient for the relatively early funds is close to zero and statistically insignificant.

Fortune introduced a new feature that allowed investors to customize the ordering of their fund holdings. While the original default ordering remained available, investors could now sort their portfolios using several alternative criteria, including cumulative gains or losses over the holding period, cumulative returns, daily proceeds, daily returns, or the timing of NAV updates. Each sorting option could be applied in either descending or ascending order. Panel B of Figure 1 illustrates this interface change.

We hypothesize that, following this change, some investors chose to sort their portfolios using performance-related metrics, particularly cumulative gains or losses over the holding period—a dimension that many investors naturally pay close attention to. As a result, the cumulative gains or losses of an investor's top-performing fund should become more salient, leading to a stronger consumption response to gains on that fund relative to others.

To evaluate this hypothesis, we define a dummy variable, *After*, which equals one for July 2020 and onward, and zero otherwise. We then augment the regression specifications in Equations (2a) and (2b) with two key interaction terms: *Capital gains* $\times$ *Top performer* $\times$ *After* and *Capital gains* $\times$ *After*. Under our hypothesis, the coefficient on the triple interaction should be positive, indicating a stronger consumption response to gains from the top-performing fund after the display change. Table 5 reports the results.

[Insert Table 5]

The findings align closely with this expectation. Prior to July 2020, as shown in Column (1), a 100 RMB gain from the top-performing fund was associated with only a 0.43 RMB increase in consumption beyond the response to overall portfolio gains, virtually indistinguishable from the 0.47 RMB response for other funds. After the display change, however, the same gain from the top performer leads to a 3.94 RMB

increase in consumption, an almost tenfold jump. This sharp divergence suggests that the top-performer effect documented earlier (Table 3) is largely driven by investor behavior following the introduction of customizable fund ordering.

By contrast, the post-policy change effect for non-top-performing funds is much smaller: a 100 RMB gain increases consumption by only 0.84 RMB, roughly one-fifth of the corresponding effect for top performers (3.94 RMB). This pattern remains qualitatively unchanged after adding additional controls in Column (2). A similar contrast emerges when we use total proceeds, including both capital gains and dividends, as shown in Columns (3) and (4).

In summary, these results support our hypothesis that funds receiving greater investor attention—particularly through interface-driven salience—elicit a larger MPC out of their gains.

5 Further Analyses

5.1 Granular Display Rankings

In this subsection, we examine how consumption responses vary when funds are ranked more granularly within an investor's portfolio.

[Insert Table 6]

Panel A of Table 6 presents a more granular analysis of the recency effect. We compare consumption responses to gains from funds purchased in month $t-1$ with those purchased in months $t-2$ and $t-3$. Under the platform's display rule, the $t-1$ purchase appears above the earlier ones, making it more visually salient to the investor.

Consistent with the salience hypothesis, the coefficient on capital gains from funds purchased in month $t-1$ ($CG \times Purchase\,in\,month\,t-1$) is 0.0131 and statistically significant, indicating that investors' consumption responds more strongly to gains from very recent purchases. By contrast, the coefficients on gains from funds purchased in $t-2$ and $t-3$ are smaller and statistically insignificant, suggesting that the salience of past purchases fades quickly over purchasing time. Results using capital gains plus dividends (reported in the second column) are nearly identical.

Panel B turns to the top-performer effect by examining funds ranked as the top 1, top 2, or bottom 1 within an investor's portfolio in the previous month. The results indicate that investors react more strongly to gains from their best-performing holdings. In particular, the coefficient on capital gains from the top-ranked fund ($CG \times Top\,1\,Fund$) is 0.0174 and statistically significant at the 1% level. This effect is both larger in magnitude and more statistically significant than the coefficient for the second-ranked fund (0.0143, significant at the 10% level), underscoring the heightened salience of the very top performer. By contrast, the interaction with the bottom-ranked fund is negative and significant, consistent with the findings in Imas et al. (2022). The magnitudes are similar when dividends are included, as shown in the second column.

Taken together, these findings show that investor consumption is especially responsive to the most salient gains—whether from very recent purchases or from the best-performing funds in the portfolio. This pattern offers further evidence consistent with salience-driven consumption responses.

5.2 Redemption Response to Capital Gains

One natural channel for financing increased consumption is the redemption of capital gains. As a sanity check, this subsection examines whether the recency and top-performer effects are associated with larger redemption in the subsequent month.

[Insert Table 7]

Table 7 reports regression results in which the dependent variable is the redemption amount, rather than consumption, using the same specifications as in Equations (1a) and (1b). Across all specifications, we find a strong positive relationship between the capital gain and subsequent redemption. Panel A focuses on the recency setting. As shown in Column (2), a 1 RMB increase in capital gains of the overall portfolio is associated with a 0.36 RMB of redemption. The recency effect, captured by the interaction term $CG \times Recent$, indicates that a 1 RMB gain from recently purchased funds leads to an additional 0.46 RMB in redemption, on top of the baseline 0.36 RMB response. All results are statistically significant.

Panel B examines the top-performer setting. The baseline redemption response in Column (2) remains close to 0.40 RMB per 1 RMB of gains. For the top-performing fund, we estimate an additional 0.28 RMB in redemption (Column (2)), and this effect is statistically significant. When we broaden the analysis to total proceeds—capital gains plus dividends—the magnitude and statistical significance of the results remain largely unchanged.

Overall, capital gains stimulate redemption activity across all funds. The effect is especially pronounced when the gains come from recently acquired or top-performing funds, where each additional RMB of gain is associated with disproportionately larger redemption. These patterns are consistent with the idea that investors are more inclined to redeem when gains arise from salient funds and use those proceeds to finance their spending.

5.3 Mechanisms

In this section, we examine heterogeneity along two key dimensions provide evidence on the underlying attention mechanism.

5.3.1 Gains versus Losses

Given the extant evidence for selective, not only limited, attention (Galai and Sade, 2006; Karlsson et al., 2009; Olafsson and Pagel, 2025; Quispe-Torreblanca et al., 2025), we now explicitly distinguish between gains and losses to examine whether consumption responds asymmetrically to positive versus negative investment outcomes.

[Insert Table 8]

As shown in Table 8, investors respond differently to gains and losses in both the recency and top-performer settings. In Columns (1) and (2), which focus on the recency effect, investors react more strongly to gains than to losses for both high-attention and low-attention funds. In Column (1), gains from high-attention funds elicit a response that is 1.81 cents per RMB larger than the response to losses, and this difference is statistically significant. By contrast, the corresponding difference for low-attention funds is only 0.56 cents per RMB and statistically insignificant. Columns (3) and (4), which examine the top-performer setting, show a similar asymmetry: investors respond 4.50 to 5.19 cents per RMB more to gains than to losses from top-performing funds, with both estimates statistically significant.

This asymmetry stands in contrast to the traditional marginal propensity to consume (MPC) literature, where liquidity constraints and precautionary motives typically yield larger MPCs following negative income shocks (Bunn et al., 2018). Our results reveal a reversal of this pattern: consumption is significantly more sensitive to positive capital gains than to losses. This behavior aligns more closely with attention-based

frameworks, such as the "ostrich effect," where investors selectively attend to gains while cognitively discounting or avoiding negative portfolio information.

5.3.2 Attention Constrainedness

Because investors often hold multiple funds simultaneously, their attention to any single holding may be limited. We therefore expect stronger differences in consumption responses to capital gains from recent and top-performing funds among more attention-constrained investors. Table 9 presents the results of this test.

We proxy investors' attention constraints using the number of funds they hold in the first month of the sample. We split the sample at the median of six funds, distinguishing between investors with at most five funds and those with six or more. Panel A reports recency-effect estimates for each group, while Panel B reports the corresponding top-performer effects.[8]

Panel A indicates that the difference in consumption responses to proceeds from recent versus earlier investments arises primarily among investors who hold more funds. Similarly, Panel B shows that the contrast in consumption responses to gains from top-performing versus other investments is concentrated among these more attention-constrained investors. Taken together, these patterns support the view that attention constraints amplify the role of salience in shaping heterogeneous consumption responses across different investments.

[8]In unreported results, we replicate the analysis by classifying investors based on their average number of funds held during the first three months of the sample period, and results remain robust. Investor classifications based on the number of funds held are also highly stable: the probability that a high- (low-) number-of-funds-holding investor remains in the same category from one month to the next is approximately 94%. Results are available upon request.

5.4 Robustness Tests

Results Using Full Sample

In the main analyses, we exclude the top 10% most active investors to mitigate concerns that hyperactive traders may under-react to monthly capital gains due to shorter attention spans. As a robustness check, we repeat the analyses from Tables 4 and 5 using the full sample, including these highly active investors. The corresponding results, reported in Internet Appendix Tables B1 and B2, confirm that our findings remain robust, though the magnitudes are modestly attenuated. For example, Column (2) of Table B1 shows that a 100 RMB gain from high-attention, earlier investments that share the same fund company as the recent investment leads to a 1.71 RMB increase in consumption in the following month relative to low-attention, earlier investments, compared with 2.15 RMB in Table 4, where the most active investors are excluded.

Additional Robustness Checks

We also conduct several additional analyses. First, we examine whether capital gains have heterogeneous effects across consumption categories by distinguishing between Taobao and non-Taobao spending (Table B3 in the Internet Appendix). Second, we re-estimate our main specifications using cumulative capital gains, rather than monthly gains, as the key independent variable (Table B4 in the Internet Appendix). Third, in the top-performer specification, we rank funds by cumulative returns instead of cumulative gains (Table B5 in the Internet Appendix).

Detailed results of these robustness checks are presented and discussed in the Internet Appendix. Overall, our results are not driven by impulsive online spending and remain robust across these checks.

6 Discussion

6.1 Standard Portfolio Theory

We start our discussion by reviewing what a standard portfolio choice model would predict in terms of the consumption response to capital gains. In a standard portfolio choice model with constant relative risk aversion (CRRA) utility and multiple risky assets (see, e.g., Merton, 1969; Campbell and Viceira, 2002, and outlined in Internet Appendix A), an additional unit of wealth brings a proportional response in additional consumption. This proportional response equals the consumption-wealth ratio, which we denote as ρ, and is independent of attention. For the log utility case, the consumption-wealth ratio boils down to $\rho = 1 - \beta$ with β denoting the agent's discount factor. If we, for example, take the point estimate for the annual discount factor in Gourinchas and Parker (2001) scaled to a monthly period, we have $\beta = 0.9569^{1/12} = 0.9963$. In this case, the proportional consumption response would equal $\rho = 0.0036$. Note that, this number is low primarily because it is calibrated to a monthly investment period with an infinite investment horizon. Nonetheless, it serves as a conservative benchmark against which the effects of salience and limited attention can be measured.

We observe that our estimated consumption response is a magnitude larger and varies considerably with salience and attention, two findings that go beyond standard portfolio theory. Specifically, Column (4) of Table 2 shows that the MPC to the portfolio-level capital gain is around 0.95%, a bit larger but largely consistent with the model (i.e., 0.36%). Attention to recently purchased funds causes an incremental consumption response of 0.6%. This attention-induced effect is even larger under the group-based display identification specification—2.11% as indicated by Column (4) of Table 4. Similarly, Column (4) of Table 3 shows that the MPC to the portfolio-

level capital gain is 0.56%, also largely consistent with the model. Attention to top-performing funds causes an incremental consumption response of 1.86%, and is even larger (i.e., 3.39%) under the identification specification (Table 5). Therefore, salience and limited attention can increase MPCs out of capital gains by a factor of two to as much as six.

Our overall estimates are largely consistent with the literature that studies consumption out of stock market wealth. Chodorow-Reich et al. (2021) report an annual MPC magnitude of 3.2% for U.S. investors, and Di Maggio et al. (2020) report an annual magnitude of 5% for the top 50% of the Swedish income distribution, who own most of the stocks. Importantly, we emphasize that investors exhibit heightened sensitivity to the proceeds generated by funds they pay more attention to and that they will consume more out of these proceeds. Consequently, limited attention generates substantial within-portfolio variation in MPCs.

6.2 Behavioral Theories of Salience and Limited Attention

In the previous analysis, we employed two proxies to gauge how salience affects investor's attention and consumption: the recency of their investments and the performance ranking of funds within their investment portfolios. We now review the existing literature in economics and finance that made us choose these two proxies for attention.

It is widely acknowledged in the psychology literature that extreme ranks are inherently salient and captivating and play a pivotal role in decision-making (see Diecidue and Wakker (2001) and Wakker (2010) for a comprehensive literature review). In the economics literature, rank-dependent utility models, such as cumulative prospect theory introduced by Tversky and Kahneman (1992), propose that the order in which payoffs are ranked significantly affects their perceived importance. Additionally, recent literature has looked at how salience affects choice. In Bordalo et al. (2012), the

salience of a potential gamble the decision-maker may or may not take depends on how different its payoffs are. Consistent with this literature, we find that MPCs, out of capital gains from higher-ranked assets (recently invested and top-performing funds), are more pronounced.

While the recency measure is mainly motivated by the afore-mentioned literature, insights from the field of psychology regarding memory indicate that individuals tend to give more weight to recent experiences (Kahana, 2012). In a financial market context, Jiang et al. (2023) have documented that investors tend to recall their recent experiences in exercises like free recall. As investors are subject to limited attention capacity, they are more likely to allocate more attention to investments made more recently and, consequently, possess greater awareness of performance associated with more recent investments. In the field of economics, a recent literature pioneered by Bordalo et al. (2020) look at the interplay between memory and attention. Here, the authors also posit that more recent experiences are over-weighted relative to previous ones. Hence, our finding that MPCs out of proceeds from a recently invested fund provide evidence consistent with the salience literature.

7 Conclusion

This paper contributes to the expanding literature on the heterogeneity in the marginal propensity to consume (MPC) across economic agents by focusing on the impact of salience and attention. Our findings reveal that salience of investments' capital gains significantly influence investors' consumption responses. Contrary to the common view that money is fungible, the heterogeneity in MPCs suggests that salience and attention render money non-fungible. Leveraging variations in attention based on recency and top performers, we show that capital gains from recently invested funds and top-

performing funds attract larger consumption responses than gains from other funds within the same portfolio.

We then further support the causal interpretation of these findings using two quasi-experiments. First, we show that variations in the platform's display setting create exogenous differences in the attention given to various funds, with those attracting more attention leading to a greater consumption response. Additionally, we use an event that changes the platform's display setting by allowing investors to customize the ordering of their holdings according to performance. We show larger consumption responses to capital gains from top-performing funds compared to worse-performing funds after the change.

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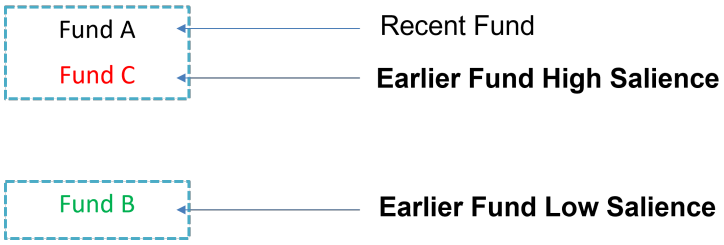
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Figure 1: **Illustration of the Identification Settings**



A. **Group-Based Display Rule**



B. **Display Rule After Customization Feature Introduced**

Notes: Panel A illustrates the group-based display rule. In particular, the most recently acquired fund is displayed at the top of the holdings page. In addition, funds from the same fund company are grouped together within a single block. Panel B shows the display rule after July 2020, when Alipay allowed investors to customize the order of their holdings. Investors could keep the original setting or choose to sort funds by cumulative returns over the holding period.

Table 1: **Summary Statistics**

This table presents descriptive statistics for the sample of 180,000 Alipay users in our main analysis. Panel A summarizes users' personal characteristics, where risk aversion is measured on a scale from 0 (most risk-averse) to 5 (least risk-averse). Panel B reports total and category-specific monthly consumption. Panel C presents investment-related variables, including monthly mutual fund holdings amount, the number of funds held, capital gains, and capital gains plus dividends, all measured at the month end. All continuous variables are winsorized at the 0.5th and 99.5th percentiles. The mean, median, and standard deviation, as well as the 1st, 25th, 75th, and 99th percentiles of each variable are provided.

	N	Mean	Std	1%	25%	Median	75%	99%
Panel A. Personal Characteristics								
Age	180,000	37.80	8.82	24	31	36	43	65
Gender 1=Male, 2=Female	180,000	1.39	0.49	1	1	1	2	2
Risk Attitude (risk level 0-5)	179,992	3.07	2.05	1	2	3	4	5
Panel B. Consumption								
Total Consumption	4,136,968	6,525	12,429	0	991	2,678	6,567	70,336
Taobao	4,136,968	1,559	3,442	0	52	396	1,463	19,211
Non-Taobao	4,136,968	4,833	10,719	0	472	1,597	4,408	60,989
Panel C. Investment								
Holding by each user	4,136,968	82,804	138,810	0	13,508	36,499	90,603	772,902
# of funds by each user	4,136,968	8.08	8.04	0	3	6	10	42
CG from recent investment	4,136,968	522	3,010	-7,418	0	0	283	15,043
CG from earlier investment	4,136,968	1,038	4,253	-8,193	0	72	878	22,186
CG+Div from recent investment	4,136,968	558	3,065	-7,285	0	0	307	15,442
CG+Div from earlier investment	4,136,968	1,096	4,332	-8,040	0	88	934	22,750
CG from top-performing funds	4,136,968	673	2,389	-3,881	0	72	610	12,670
CG from other funds	4,136,968	951	8,077	-11,378	-0.1	74	972	21,744
CG+Div from top-performing funds	4,136,968	708	2,456	-3,819	0	80	638	13,116
CG+Div from other funds	4,136,968	1,013	8,132	-11,187	0	92	1,027	22,184
Recent fund share of capital gains (CG)	4,136,968	0.41	78.62	-1.24	0.00	0.02	0.86	2.25
Recent fund share of total gains (CG+Div)	4,136,968	0.40	77.44	-1.23	0.00	0.02	0.86	2.22
Top performer share of capital gains (CG)	4,136,968	0.45	89.12	-2.62	0.02	0.30	0.74	3.48
Top performer share of total gains (CG+Div)	4,136,968	0.45	88.44	-2.56	0.03	0.29	0.74	3.41
Redemption	4,136,968	10,545	35,707	0	0	0	2,209	204,213

Table 2: **The Recency Effect**

This table presents the results from baseline regression models (1a) and (1b), which examine the recency effect using total consumption as the dependent variable. The key independent variables are capital gains (or capital gains plus dividends) from the previous month, a variable *Recent*, and their interaction. The variable *Recent* is defined as the proportion of capital gains (or capital gains plus dividends) generated by investments made in the previous month. Columns (1) and (2) report results based on capital gains, while columns (3) and (4) use capital gains plus dividends. Columns (2) and (4) additionally include controls for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at the account level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
CG × Recent	0.0046	0.0060*		
	(0.0031)	(0.0031)		
CG	0.0165***	0.0100***		
	(0.0018)	(0.0018)		
Recent	-15.814	-15.962		
	(11.088)	(11.507)		
(CG+Div) × Recent			0.0054*	0.0067**
			(0.0030)	(0.0030)
CG+Div			0.0161***	0.0095***
			(0.0017)	(0.0017)
Recent			-17.675	-17.872
			(11.761)	(12.204)
Holdings		0.0017***		0.0017***
		(0.0002)		(0.0002)
# funds		1533.5***		1532.5***
		(200.74)		(200.74)
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y
R-squared	8.06E-05	0.0003	8.46E-05	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968

Table 3: **The Top-Performer Effect**

This table presents the results from baseline regression models (2a) and (2b), which examine the top-performer effect using total consumption as the dependent variable. The key independent variables are capital gains (or capital gains plus dividends) from the previous month, a variable *Top performer*, and their interaction. The variable *Top performer* is defined as the proportion of capital gains (or capital gains plus dividends) generated by the top-performing fund in the investor's portfolio. Columns (1) and (2) report results based on capital gains, while columns (3) and (4) use capital gains plus dividends. Columns (2) and (4) additionally include controls for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at the account level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
CG × Top performer	0.0231***	0.0182***		
	(0.0046)	(0.0046)		
CG	0.0098***	0.0060***		
	(0.0018)	(0.0018)		
Top performer	-18.962**	-19.061**		
	(8.2009)	(8.5404)		
(CG+Div) × Top performer			0.0228***	0.0186***
			(0.0045)	(0.0044)
(CG+Div)			0.0098***	0.0056***
			(0.0017)	(0.0017)
Top performer			-18.191**	-18.317**
			(8.3731)	(8.7152)
Holdings		0.0016***		0.0016***
		(0.002)		(0.0002)
#Funds		1575.8***		1577.5***
		(200.7)		(200.7)
Account FE	Y	Y	Y	Y
YearMonth FE	Y	Y	Y	Y
R squared	0.00009259	0.0003	0.00009417	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968

Table 4: **Group-Based Display: Funds from the Same Fund Company as the Recent Investment**

This table presents the results for consumption responses to gains from funds with high attention versus low attention by exploring a group-based display rule on the platform. The dependent variable is total consumption. The independent variables of interest in columns (1) and (2) (columns (3) and (4)) are *Capital gains* (+*dividends*) in the previous month, *Recent*, defined as the proportion of these capital gains (plus dividends) from funds invested in the previous month, and *Same Company*, defined as the share of capital gains (plus dividends) from earlier funds that belong to the same fund company as the recently purchased funds, relative to total capital gains from all earlier funds. Columns (2) and (4) include controls for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at the account level. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
CG × (1-Recent) × Same Company	0.0504***	0.0215**		
	(0.0108)	(0.0108)		
CG × Recent	0.0149***	0.0119***		
	(0.0028)	(0.0028)		
CG	0.0035***	0.0026**		
	(0.0011)	(0.0010)		
(1- Recent)× Same Company	-34.570***	-36.163***		
	(12.934)	(13.231)		
Recent	-21.085***	-21.496***		
	(6.1631)	(6.3135)		
(CG+Div) × (1-Recent) × Same Company			0.0497***	0.0211**
			(0.0106)	(0.0106)
(CG+Div) × Recent			0.0154***	0.0121***
			(0.0027)	(0.0027)
(CG+Div)			0.0036***	0.0026**
			(0.0010)	(0.0010)
(1-Recent) × Same Company			-36.416***	-38.170***
			(10.992)	(11.155)
Recent			-23.815***	-24.316***
			(5.1472)	(5.2168)
Controls	N	Y	N	Y
Account FE	Y	Y	Y	Y
YearMonth FE	Y	Y	Y	Y
R squared	6.976E-05	0.0003	7.308E-05	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968

Table 5: **The Top-Performer Effect after the Change in Display Setting**

This table presents the results for the extended regression models from (2a) and (2b) about the top-performer effect after the change in display setting. The dependent variable is total consumption. The independent variables of interest in Columns (1) and (2) (Columns (3) and (4)) are *Capital gains* (+*dividends*) in the previous month, $Top\ performer$, defined as the share of those from the top-performing fund, and $After$, which is a dummy variable that equals 1 after the change in the display setting. Columns (2) and (4) include controls for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at the account level. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
CG × Top performer × After	0.0394***	0.0377***		
	(0.0090)	(0.0090)		
CG × Top performer	0.0043	0.0010		
	(0.0056)	(0.0056)		
CG × After	0.0084**	0.0048		
	(0.0035)	(0.0036)		
CG	0.0047**	0.0027		
	(0.0022)	(0.0022)		
Top performer × After	-20.086**	-21.157**		
	(8.4329)	(8.6045)		
Top performer	-11.016***	-10.694***		
	(3.8916)	(3.8972)		
(CG+Div) × Top performer × After			0.0349***	0.0339***
			(0.0088)	(0.0087)
(CG+Div) × Top performer			0.0060	0.0029
			(0.0055)	(0.0055)
(CG+Div) × After			0.0095***	0.0059*
			(0.0035)	(0.0035)
(CG+Div)			0.0042*	0.0019
			(0.0022)	(0.0021)
Top performer × After			-23.775***	-24.778***
			(7.4832)	(7.6801)
Top performer			-8.9608***	-8. 6959***
			(3.2432)	(3.2850)
Controls	N	Y	N	Y
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y
R squared	0.0001	0.0003	0.0001	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968

Table 6: **Consumption Responses to Granular Display Rankings**

This table shows heterogeneous consumption responses to funds' display rank. Panel A reports results for the recency effect, and Panel B reports results for the top-performer effect. The dependent variable is the total consumption in month t. CG (+ Div) is the capital gains (plus dividends) in month $t-1$. Panel A includes *Purchase in month* $t-1$*,* $t-2$*,* $t-3$, defined as the share of capital gains (plus dividends) from funds purchased by the investor in months $t-1$, $t-2$, or $t-3$, along with their interaction with CG (+Div). Panel B includes *Top 1*, *Top 2*, and *Bottom 1*, defined as the share of capital gains (plus dividends) from funds ranked as the top 1, top 2, or bottom 1 within the investor's portfolio in the previous month, along with their interaction with CG (+Div). All regressions control for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at both the account level and year-month level are reported. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

	(1)	(2)
Dep. Var.: Total Consumption	Capital gain	Capital gain + dividend
A.Recency Effect		
CG (or CG+Div) × Purchase in month $t-1$	0.0131***	0.0130***
	(0.0030)	(0.0029)
CG (or CG+Div) × Purchase in month $t-2$	0.0008	0.0024
	(0.0069)	(0.0068)
CG (or CG+Div) × Purchase in month $t-3$	0.0124	0.0122
	(0.0087)	(0.0084)
CG (or CG+Div)	0.0063***	0.0061***
	(0.0018)	(0.0018)
Purchase in month $t-1$	-4.2308***	-5.0146***
	(1.8898)	(2.2021)
Purchase in month $t-2$	4.5936	3.8729
	(4.3084)	(4.5358)
Purchase in month $t-3$	48.934*	50.923**
	(24.479)	(25.148)
Controls, Account FE, YearMonth FE	Y	Y
R squared	0.0001	0.0001
N	3,776,435	3,776,435
B.Top-Performer Effect		
CG (or CG+Div) × Top 1 Fund	0.0174***	0.0185***
	(0.0049)	(0.0047)
CG (or CG+Div) × Top 2 Fund	0.0143*	0.015*
	(0.0072)	(0.007)
CG (or CG+Div) × Bottom 1 Fund	-0.007	-0.0038
	(0.0082)	(0.0081)
CG (or CG+Div)	0.0047	0.0038
	(0.0025)	(0.0025)
Top 1	-23.436***	-21.172***
	(3.208)	(3.4908)
Top 2	-25.004***	-22.319***
	(4.4817)	(5.3733)
Bottom 1	-15.658	6.0966
	(12.555)	(9.8238)
Controls, Account FE, YearMonth FE	Y	Y
R squared	0.0003	0.0003
N	4,136,148	4,136,148

Table 7: **Redemption Response to Capital Gains**

This table presents regression results examining the recency effect and top-performer effect on redemption behavior. Across all specifications, the dependent variable is the redemption amount (in RMB) for individual i in month $t+1$. Panel A reports results for the recency effect, where *Recent* is defined as the proportion of capital gains (or capital gains plus dividends) generated by investments made in the prior month. Panel B reports results for the top-performer effect, where *Top performer* is defined as the proportion of capital gains (or capital gains plus dividends) generated by the best-performing fund in the investor's portfolio. Columns (1) to (2) focus on capital gains, whereas columns (3) to (4) examine capital gains plus dividends. Control variables include total fund holdings and the number of funds in the portfolio, where indicated. All regressions include account fixed effects and year-month fixed effects. Within-group R-squared values are reported. Robust standard errors are clustered at the account level. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dep. Var.: Redemption	(1)	(2)	(3)	(4)
A. The Recency Effect				
CG × Recent	0.3685***	0.4648***		
	(0.0203)	(0.0196)		
CG	0.8246***	0.3553***		
	(0.0118)	(0.0112)		
(CG+Div) × Recent			0.3762***	0.4684***
			(0.0203)	(0.0197)
(CG+Div)			0.8505***	0.3626***
			(0.0119)	(0.0112)
Recent	-17.180*	-30.307	-12.499	-27.919
	(9.4414)	(34.860)	(11.713)	(35.648)
Controls	N	Y	N	Y
Account FE & Year-Month FE	Y	Y	Y	Y
R squared	0.0214	0.1189	0.0224	0.1190
N	4,136,968	4,136,968	4,136,968	4,136,968
B. The Top-Performer Effect				
CG × Top Performer	0.7650***	0.2754***		
	(0.0294)	(0.0279)		
CG	0.6491***	0.4010***		
	(0.0119)	(0.0112)		
(CG+Div) × Top Performer			0.6930***	0.2516***
			(0.0285)	(0.0270)
(CG+Div)			0.6749***	0.4042***
			(0.0117)	(0.0111)
Top Performer	-23.539***	-35.349	-18.564***	-32.797
	(5.8919)	(28.576)	(7.1683)	(29.257)
Controls	Y	Y	Y	Y
Account FE & Year-Month FE	Y	Y	Y	Y
R squared	0.0216	0.1181	0.0224	0.1182
N	4,136,968	4,136,968	4,136,968	4,136,968

Table 8: **Consumption Response to Positive versus Negative Gains**

This table presents the results for heterogeneous consumption response to positive capital gains versus negative capital gains for the recency effect and the top-performer effect. The dependent variable is the total consumption. The independent variables of interest are CG (CG+Div) from high-attention funds (recently invested funds for the recency effect and top-performing funds for the top-performer effect) and CG (CG+Div) from low-attention funds (earlier invested funds for the recency effect and non-top-performing funds for the top-performer effect) and their respective interactions with a positive dummy, indicating whether the gain is positive or not. All regressions control for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at both the account level and year-month level are reported. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
	The Recency Effect		The Top-Performer Effect	
CG × High attention × Positive	0.0181**		0.0519***	
	(0.0090)		(0.0153)	
CG × High attention	-0.0074		-0.0256**	
	(0.0072)		(0.0126)	
CG × Positive	0.0056		0.0004	
	(0.0054)		(0.0052)	
CG	0.0053		0.0063	
	(0.0042)		(0.0039)	
High attention	-15.779		-19.122**	
	(11.477)		(8.5789)	
(CG+Div) × High attention × Positive		0.0144*		0.0450***
		(0.0077)		(0.0148)
(CG+Div) × High attention		-0.0033		-0.0200
		(0.0059)		(0.0124)
(CG+Div) × Positive		0.0093***		-0.0003
		(0.0026)		(0.0051)
CG+Div		0.0011		0.0065*
		(0.0012)		(0.0038)
High attention		-17.765		-18.369**
		(12.215)		(8.7502)
Controls	Y	Y	Y	Y
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y
R squared	0.0003	0.0003	0.0003	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968

Table 9: **Heterogeneity: Attention Constrainedness**

This table presents the heterogeneous effects across investors with different number of funds in their portfolio. We divide the sample based on the number of funds held in the first month of the sample: investors holding at least 6 funds (above the median of 5) are shown in columns (1) and (3), while those holding 5 or fewer funds appear in columns (2) and (4). In Panel A, the independent variables are *Capital gains* (+*dividends*) in the previous month and *Recent*, defined as the proportion of these capital gains (plus dividends) from funds invested in the previous month, and their interaction. In Panel B, the independent variables are *Capital gains* (+*dividends*) in the previous month and $Top\ performer$, defined as the share of those from the top-performing fund, and their interaction. All regressions control for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at the account level. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
	Most constrained	Least constrained	Most constrained	Least constrained
A. The Recency Effect				
CG × Recent	0.0084*	0.0032		
	(0.0045)	(0.0042)		
CG	0.0062**	0.0147***		
	(0.0024)	(0.0026)		
Recent	-15.87	-18.48		
	(11.974)	(24.788)		
(CG+Div) × Recent			0.0085*	0.0045
			(0.0044)	(0.0041)
CG+Div			0.0062**	0.0136***
			(0.0024)	(0.0025)
Recent			-18.455	-10.006
			(13.218)	(12.229)
R squared	0.0003	0.0003	0.0003	0.0003
N	1,744,859	2,391,673	1,744,859	2,391,673
B. The Top-Performer Effect				
CG× Top performer	0.0227**	0.0127**		
	(0.0077)	(0.0059)		
CG	0.0029***	0.0102***		
	(0.0025)	(0.0026)		
Top performer	-17.932	-31.141		
	(9.3344)	(21.089)		
(CG+Div) × Top performer			0.0237***	0.0129**
			(0.0074)	(0.0058)
CG+Div			0.0027	0.0096***
			(0.0024)	(0.0026)
Top performer			-19.348**	-7.0625
			(9.2948)	(15.113)
R squared	0.0004	0.0003	0.0004	0.0003
N	1,744,859	2,391,673	1,744,859	2,391,673
Controls	Y	Y	Y	Y
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y

Table 10: Variable Definitions

Variable	Definition
Investment and Gain Variables	
Capital Gains$_{i,t}$	Monthly capital gains or losses from fund investments, which is equal to Cumulative Gains$_{i,t}$ - Cumulative Gains$_{i,t-1}$.
Capital Gains+Dividend$_{i,t}$	The sum of monthly capital gains and dividends, which is equal to Cumulative Gains+Dividend$_{i,t}$ - Cumulative Gains+Dividend$_{i,t-1}$.
Holdings$_{i,t}$	Total amount of mutual fund holdings by investor i at the end of the month t.
# funds$_{i,t}$	The number of unique mutual funds held by investor i at the end of the month t.
Redemption$_{i,t}$	The amount of mutual fund holdings redeemed by investor i in month t.
Salience and Identification Variables	
Recent$_{i,t}$	The fraction of monthly capital gains generated by funds purchased in the same month relative to total portfolio gains.
Top Performer$_{i,t}$	The fraction of monthly capital gains generated by the fund with the highest cumulative gains in the investor's portfolio.
Same Company$_{i,t}$	The share of capital gains from earlier-invested funds that share the same fund company as the investor's most recent purchase.
After$_{i,t}$	A dummy variable equal to one for the period starting July 2020 (post-interface change allowing sorting customization) and zero otherwise.
Top 1/Top 2/Bottom 1$_{i,t}$	The share of capital gains from funds ranked 1st, 2nd, or last within the investor's portfolio by performance.
Consumption Variables	
Total Consumption$_{i,t}$	Total monthly spending by investor i in month t recorded through the mobile payment platform.
Taobao$_{i,t}$	Monthly consumption on Alibaba's flagship e-commerce platform.
Non-Taobao$_{i,t}$	Monthly non-e-commerce transactions such as in-person purchases at restaurants and supermarkets.
Investor Characteristics	
Age	The age of the investor, at the beginning of our sample period. ?? is this time varying?
Gender	A dummy variable for the gender of the investor (e.g., 1 for Male).
Risk Attitude	Self-reported risk tolerance level, measured on a scale from 0 (most risk-averse) to 5 (least risk-averse).

Internet Appendix

A Standard Portfolio Choice Model

In the following, we first lay out the backward induction solution procedure starting in period T for the finite-horizon setting and then move on to the infinite horizon.

A.1 Finite horizon

Consider a model as in Merton (1969), assume that returns are iid log-normally distributed $R_t = e^{r_t} \sim log - N(\mu_r, \sigma_r^2)$. The agent lives for $t = \{1, 2, ..., T\}$ periods. The maximization problem in period $T - i$ is

$$max\{E_{T-i}[u(C_{T-i}) + \beta V_{T-i+1}(W_{T-i+1})]\} \text{ subject to } W_{T-i+1} = (W_{T-i} - C_{T-t})R_{T-i+1}$$

and characterized by the following first-order condition:

$$\Rightarrow C^*_{T-i} = \frac{W_{T-i}}{1 + (\beta E_{T-i}[R^{1-\theta}_{T-i+1} Q^0_{T-i+1}])^{-\frac{1}{\theta}}} = W_{T-i}\rho_{T-i}$$

$$\text{with } Q^\tau_{T-i} = R^{1-\theta}_{T-i+\tau}\rho^{1-\theta}_{T-i+\tau} \prod_{j=1}^{\tau-1} R^{1-\theta}_{T-i+j}(1 - \rho_{T-i+j})^{1-\theta}$$

The value function is given by:

$$V_{T-i}(W_{T-i}) = u(W_{T-i})Q^0_{T-i}$$

$$Q^0_{T-i} = \rho^{1-\theta}_{T-i} + (1 - \rho_{T-i})^{1-\theta}\beta E_{T-i}[R^{1-\theta}_{T-i+1} Q^0_{T-i+1}])$$

Now with iid returns $\rho_{T-i} = \frac{1}{1+(\beta E_t[R^{1-\theta}_{t+1}])^{\frac{1}{\theta}} + ... + (\beta E_t[R^{1-\theta}_{t+1}])^{\frac{i}{\theta}}}$. Therefore, each period the agent consumes a constant fraction out of his wealth.

A.2 Infinite horizon

Let's move on to the $T \to \infty$ case which can be derived by taking the $T - i$ case to the limit or alternatively directly via the Bellman equation

$$V_t(W_t, C_t^{t-1}, C_{t+1}^{t-1}, ...) = max\{u(C_t) + \beta E_t[V_{t+1}(W_{t+1}, C_{t+1}^t, C_{t+2}^t ...)]\}$$

subject to the agent's budget constraint:

$$W_{t+1} = (W_t - C_t)R_t$$

Under CRRA utility, the first-order condition is then given by:

$$C_t^{-\theta} = (W_t - C_t)^{-\theta}\psi$$

The solution procedure follows a guess and verify approach. Guess that the solution has the following structure:

$$C_t^* = W_t\rho_t \text{ and } V_t(W_t) = u(W_t)Q_t^0$$

With ρ_t and Q_t^0 being iid, dependent on the realization of R_t only and independent of calender time or contemporaneous wealth W_t. The first-order condition can be derived under the guessed solution which then remains to be verified. Let's start with the left hand side, the derivative of the first part of the value function, consumption utility and gain-loss utility over contemporaneous consumption is given by:

$$\frac{\partial(u(C_t))}{\partial C_t} = C_t^{-\theta}$$

Under the guessed solution each future consumption level can be iterated to today's

consumption-savings decision:

$$C_{t+\tau} = W_{t+\tau}\rho_{t+\tau} = (W_t - C_t)R_{t+\tau}\rho_{t+\tau}\prod_{j=1}^{\tau-1} R_{t+j}(1-\rho_{t+j})$$

Moreover, note that for iid returns $E_t[R_{t+1}^{1-\theta}\rho_{t+1}^{1-\theta}] = E_t[R_{t+\tau}^{1-\theta}\rho_{t+\tau}^{1-\theta}]$ for any $\tau \geq 1$ thus the infinite sum in the value function simplifies considerably:

$$= E_t[R_{t+1}^{1-\theta}\rho_{t+1}^{1-\theta}]\sum_{\tau=1}^{\infty}\beta^{\tau}(E_t[R_{t+1}^{1-\theta}(1-\rho_{t+1})^{1-\theta}])^{\tau-1} = \frac{\beta E_t[R_{t+1}^{1-\theta}\rho_{t+1}^{1-\theta}]}{1-\beta E_t[R_{t+1}^{1-\theta}(1-\rho_{t+1})^{1-\theta}]} = Q$$

The second part in the first-order condition refers to the first derivative of the continuation value with respect to C_t. The marginal value of savings is given by:

$$\frac{d\beta V_{t+1}(W_{t+1})}{dC_t} = \frac{\partial u((W_t - C_t)R_{t+1})Q_{t+1}^0}{dC_t} = -(W_t - C_t)^{-\theta}\beta E_t[R_{t+1}^{1-\theta}Q_{t+1}^0]$$

Note that again for iid returns $\beta E_t[R_{t+1}^{1-\theta}Q_{t+1}^0] = \beta E_{t+\tau-1}[R_{t+\tau}^{1-\theta}Q_{t+\tau}^0] = \psi$ thus:

$$\psi = \beta E_t[R_{t+1}^{1-\theta}Q_{t+1}^0] = \beta E_t[R_{t+1}^{1-\theta}\rho_{t+1}^{1-\theta} + R_{t+1}^{1-\theta}(1-\rho_{t+1})^{1-\theta}\psi]$$

The expression left over in the first-order condition is given by:

$$(W_t - C_t)^{-\theta}\beta E_t[R_{t+1}^{1-\theta}Q_{t+1}^0] = (W_t - C_t)^{-\theta}\psi$$

Accordingly, ρ_t varies solely with the realization of R_t and is thus iid which verifies the guess about ρ_t:

$$C_t^* = \frac{W_t}{1 + (\frac{\psi + \gamma Q(\eta F(R_t) + \eta\lambda(1-F(R_t)))}{1+\eta F(R_t)+\eta\lambda(1-F(R_t))})^{\frac{1}{\theta}}} = W_t\rho_t$$

And the value function can be easily used to verify the guess about Q_t^0 being iid and

varying with the realization of R_t:

$$V_t(W_t) = u(W_t)Q_t^0 = u(W_t)(\rho_t^{1-\theta} + (1-\rho_t)^{1-\theta}\psi)$$

The three nonlinear equations for Q, ψ and ρ_t can be solved numerically: For any parameter combination the fixed point of Q, ψ and $\rho(Q,\psi)$, which gives out $\rho_t = \rho(R_t)$ for any R_t, can be found. The guess and verify procedure revealed a legal equilibrium.

Now, one may consider a return $R_t = R^f + (\tilde{R}_t - R^f)\alpha_{T-1}$ with $log(\tilde{R}_t) = r_t \sim N(r - \frac{\sigma_r^2}{2}, \sigma_r^2)$ and $R^f = e^{r^f}$, Campbell and Viceira (2002) show that a good approximation to the rate of return is

$$log(R_t) = r_t = r^f + \alpha_{T-1}\phi_t + \alpha_{t-1}\frac{\sigma_r^2}{2} - \alpha_{t-1}^2\frac{\sigma_r^2}{2} \text{ with } \phi_t \sim N(0,1).$$

As shown in Campbell and Viceira (2002), the optimal portfolio share for CRRA utility is then given by

$$\alpha_t = \frac{E_t[r_{t+1} - r^f]}{\theta\sigma_r^2}.$$

And in a model with many risky assets we have the vector

$$\boldsymbol{\alpha_t} = \frac{1}{\theta}\Sigma_t^{-1}E_t[r_{t+1} - r^f]$$

with the matrix Σ_t containing variances and covariances of excess returns.

B Appendix Figure and Tables

B.1 Taobao Consumption versus Non-Taobao Consumption

Our data on each user's monthly consumption is categorized into Taobao consumption and non-Taobao consumption. Taobao consumption includes purchases on Alibaba's flagship online shopping platform, while Non-Taobao consumption covers a wide range of activities outside Taobao, such as QR code payments at restaurants, supermarkets, or local merchants. In this section, we analyze Taobao versus non-Taobao consumption separately to determine whether the recency and top performer effects differ across these categories. The results are presented in Panel A and Panel B of Table B3.

[Insert Table B3]

The recency effect on Taobao versus non-Taobao consumption is consistent with our previous finding based on total consumption. As shown in Columns (1) and (2) of Panel A, the response to earlier capital gains for Taobao consumption is 0.17 cents per RMB, compared to 0.18 cents per RMB for recent capital gains. Columns (3) and (4) in Panel A in Table B3 show that a 1 RMB gain from the recently invested fund leads to 1.40 to 1.41 cents additional non-Taobao consumption compared to the magnitude of 0.83 to 0.79 cents for earlier invested funds. The smaller coefficients observed in Columns (1) and (2) compared to Columns (3) and (4) is partly due to Taobao consumption representing only about 20% of total consumption in our sample period.

Regarding the top-performing effect on Taobao versus non-Taobao consumption, Panel B in Table B3 shows that the top-performer effect is evident for both types of consumption. For Taobao consumption, the response to top-performing funds is 0.34 cents per RMB, compared to 0.09 cents per RMB for other fund capital gains. For

non-Taobao consumption, the response to top-performing funds ranges from 1.96 to 1.99 cents per RMB, while the response to other fund capital gains is 0.51 to 0.54 cents per RMB. Similar to the recency effect, the response is much stronger in non-Taobao consumption.

Overall, the recency and top-performer effects are primarily driven by offline consumption, suggesting that the influence of attention extends beyond impulse purchases made through online shopping.

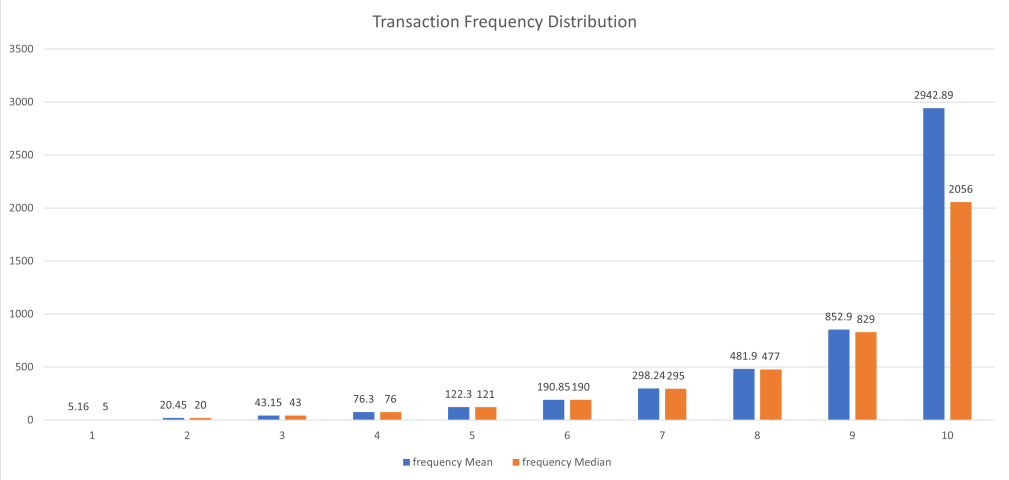
B.2 Consumption Response to Cumulative Capital Gains

Trading apps like Alipay commonly display investment performance as cumulative proceeds rather than just focusing on returns from the last month or the last three months. In this section, we further investigate the recency effect and the top-performer effect based on cumulative performance.

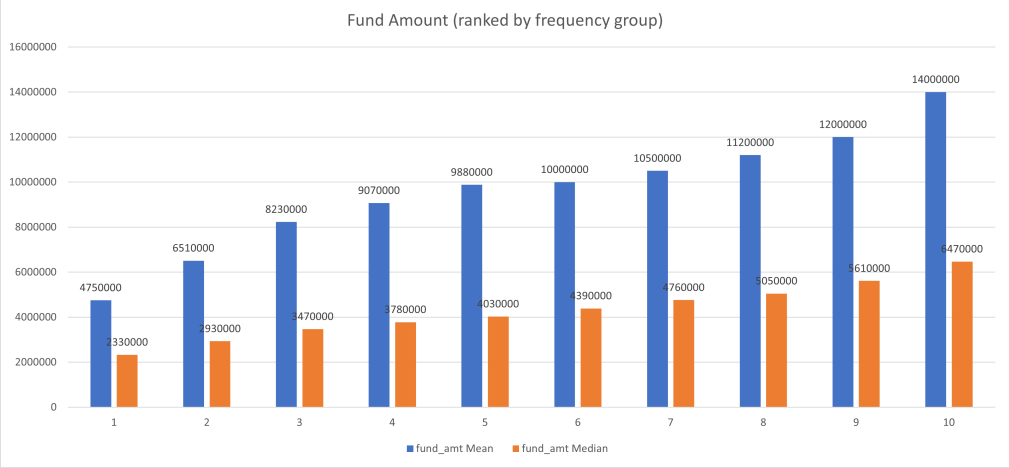
[Insert Table B4]

As shown in Panel A of Table B4, investors respond to both cumulative proceeds from recently invested and earlier invested funds. Still, the effect from recent investments is approximately twice as large as the effect from earlier investments. For the top-performer effect, Panel B shows that the consumption response to the cumulative proceeds of top-performing funds is approximately three to four times as big as that of proceeds from other funds. We, however, note that the coefficients reported in Table B4 cannot be interpreted directly as MPCs, as the constructions of consumption and capital gains are not at the same frequency of monthly flows.

Figure B1: **Transaction Frequency**



A. Transaction Frequency Distribution



B. Fund Amount (Ranked by Transaction Frequency Deciles)

Notes: Panel A shows the overall sample's transaction frequency distribution by deciles. Panel B shows the mutual fund holding amount ranked by transaction frequencies in deciles. The blue bars denote the mean values, whereas the orange bars denote the medians.

Table B1: **Identification Test of the Recency Effect with Full Sample**

This table presents the results for recency effect by exploring a group-based display rule on the platform. It includes the top 10% most active investors. The dependent variable is total consumption. The independent variables of interest in Columns (1) and (2) (Columns (3) and (4)) are *Capital gains* (+*dividends*) in the previous month, *Recent*, defined as the proportion of these capital gains (plus dividends) attributable to funds invested in the previous month, and *Same Company*, defined as the share of those capital gains (plus dividends) from invested funds that are in the same fund company as the funds invested in the previous month. Control variables include total fund holdings and number of funds held in the portfolio. Robust standard errors are clustered at the account level. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
CG × (1-Recent) × Same Company	0.0475***	0.0171*		
	(0.0094)	(0.0094)		
CG × Recent	0.0133***	0.0101***		
	(0.0024)	(0.0024)		
CG	0.0037***	0.0029***		
	(0.0010)	(0.0010)		
(1- Recent) × Same Company	-8.3408	-9.0161		
	(13.636)	(14.116)		
Recent	-13.707*	-13.867		
	(8.2053)	(8.4756)		
(CG+Div) × (1-Recent) × Same Company			0.0473***	0.0170*
			(0.0093)	(0.0092)
(CG+Div) × Recent			0.0135***	0.0101***
			(0.0024)	(0.0024)
(CG+Div)			0.0037***	0.0029***
			(0.0009)	(0.0009)
(1-Recent) × Same Company			-34.458***	-36.197***
			(9.8645)	(10.005)
Recent			-23.442***	-23.976***
			(4.8255)	(4.8875)
Controls	N	Y	N	Y
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y
R squared	7.64E-05	0.0004	8.099E-05	0.0004
N	4,596,797	4,596,797	4,596,797	4,596,797

Table B2: **Identification Test of the Top-Performing Effect with Full Sample**

This table presents the results about the top-performer effect after the change in display setting. The dependent variable is total consumption. It includes the top 10% most active investors. The independent variables of interest in Columns (1) and (2) (Columns (3) and (4)) are *Capital gains* (+*dividends*) in the previous month, $Top\ performer$, defined as the share of those from the top-performing fund, and $After$, which is a dummy variable that equals one after the change in the display setting. Control variables include total fund holdings and number of funds held in the portfolio in the previous month. Robust standard errors are clustered at the account level. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
CG × Top performer × After	0.0351***	0.0355***		
	(0.0085)	(0.0085)		
CG × Top performer	0.0058	0.0021		
	(0.0053)	(0.0053)		
CG × After	0.0111***	0.0065**		
	(0.0032)	(0.0032)		
CG	0.0040**	0.0022		
	(0.0020)	(0.0020)		
Top performer ×After	-26.309***	-27.234***		
	(8.5893)	(8.7814)		
Top performer	-5.3131*	-5.1616*		
	(3.0577)	(2.9799)		
(CG+Div) × Top performer × After			0.0302***	0.0312***
			(0.0083)	(0.0083)
(CG+Div) × Top performer			0.0074	0.0039
			(0.0052)	(0.0052)
(CG+Div) × After			0.0122***	0.0075**
			(0.0031)	(0.0031)
(CG+Div)			0.0036*	0.0016
			(0.0019)	(0.0019)
Top performer × After			-24.295***	-25.312***
			(7.9477)	(8.1825)
Top performer			-9.0234***	-8.7750***
			(3.2661)	(3.3102)
Controls	N	Y	N	Y
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y
R squared	0.0001	0.0004	0.0001	0.0004
N	4,596,797	4,596,797	4,596,797	4,596,797

Table B3: **Heterogeneous Effect on Taobao versus Non-Taobao Consumption**

This table reports regression results for categorical consumption, Taobao and non-Taobao, on capital gains (plus dividends). Panel A examines the recency effect, based Equations (1a) and (1b), while Panel B examines the top-performer effect, based on Equations (2a) and (2b). The dependent variable is Taobao consumption in columns (1) and (2), and non-Taobao consumption in columns (3) and (4). All regressions control for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors are clustered at both the account level and year-month level are reported. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
A. The Recency Effect				
	Taobao Consumption		Non-Taobao Consumption	
CG × Recent	0.0001		0.0058**	
	(0.0007)		(0.0028)	
CG	0.0017***		0.0083***	
	(0.0004)		(0.0016)	
Recent	-2.1406**		-13.366	
	(1.0096)		(11.769)	
(CG+Div) × Recent		0.0001		0.0061**
		(0.0007)		(0.0027)
CG+Div		0.0017***		0.0079***
		(0.0004)		(0.0015)
Recent		-2.6670***		-14.436
		(0.7738)		(12.332)
R squared	0.00003	0.00003	0.0003	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968
B. The Top-Performer Effect				
	Taobao Consumption		Non-Taobao Consumption	
CG × Top Performer	0.0025**		0.0145***	
	(0.0011)		(0.0041)	
CG	0.0009**		0.0054***	
	(0.0004)		(0.0016)	
(CG+Div) × Top Performer		0.0025**		0.0145***
		(0.0011)		(0.0040)
(CG+Div)		0.0009**		0.0051***
		(0.0004)		(0.0015)
Top Performer	-0.9325	-2.4473	-17.726**	-15.282*
	(1.7083)	(2.2278)	(8.6585)	(9.0403)
Controls	Y	Y	Y	Y
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y
R squared	0.00003	0.00003	0.0003	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968

Table B4: **Consumption Response to Cumulative Investment Gains**

This table presents the results for the modified models using cumulative gains, instead of monthly gains as the dependent variable. In particular, Panel A shows the recency effect on consumption using the modified models similar to (1a) and (1b). Panel B shows the top-performer effect on consumption using the modified models similar to (2a) and (2b). The independent variables of interest are Cum. CG (CG+Div) × Recent in Panel A and Cum. CG (CG+Div) × Top Performer in Panel B. *Recent* is the proportion of Cum. CG (CG+Div) from funds invested in the previous month. *Top Performer* is the proportion of Cum. CG (CG+Div) from the top-performing fund. Columns (2) and (4) include controls for total fund holdings and the number of funds held. Account fixed effects and year-month fixed effects are included in all specifications. Within-group R-squared values are reported. Robust standard errors, clustered at the account level, are reported. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Dep. Var.: Total Consumption	(1)	(2)	(3)	(4)
A. The Recency Effect				
Cum. CG × Recent	0.0077***	0.0066***		
	(0.0012)	(0.0012)		
Cum. CG	0.0085***	0.0055***		
	(0.0007)	(0.0008)		
Recent	0.2815	0.3049		
	(0.2674)	(0.2645)		
(Cum. CG+Div) × Recent			0.0077***	0.0066***
			(0.0012)	(0.0012)
Cum. CG+Div			0.0085***	0.0055***
			(0.0007)	(0.0008)
Recent			0.1916	0.2152
			(0.2097)	(0.2077)
R squared	3.00E-04	4.00E-04	2.00E-04	5.00E-04
N	4,136,968	4,136,968	4,136,968	4,136,968
B. The Top-Performer Effect				
Cum. CG × Top Performer	0.0231***	0.0182***		
	(0.0046)	(0.0046)		
Cum. CG	0.0098***	0.0060***		
	(0.0018)	(0.0018)		
Top Performer	-18.962**	-19.061**		
	(8.2009)	(8.5404)		
(Cum. CG+Div) × Top Performer			0.0228***	0.0186***
			(0.0045)	(0.0044)
(Cum. CG+Div)			0.0098***	0.0056***
			(0.0017)	(0.0017)
Top Performer			-18.191**	-18.317**
			(8.3731)	(8.7152)
R squared	0.00009259	0.0003	0.00009417	0.0003
N	4,136,968	4,136,968	4,136,968	4,136,968
Controls	N	Y	N	Y
Account FE	Y	Y	Y	Y
Year-Month FE	Y	Y	Y	Y

Table B5: **Top Performer Ranked by Fund Cumulative Return**

This table reports the results on the top-performer effect when ranking all funds in an investorâĂŹs portfolio by fund cumulative return (rather than cumulative gains or losses). Panel A presents the results from the baseline regression models (2a) and (2b). Panel B reports results from the extended models, examining the top-performer effect after the change in display setting. The sample excludes the top 10% most active investors. The dependent variable is total consumption. The independent variables of interest in Columns (1) and (2) (Columns (3) and (4)) include *Capital gains* (+*dividends*) in the previous month, $Top\ performer$, defined as the share of those from the top-performing fund, and $After$, which is a dummy variable that equals 1 after the change in the display setting, and their interaction terms. Control variables include total fund holdings and number of funds held in the portfolio in the previous month. Robust standard errors are clustered at the account level. *, **, and *** denote significance at 10%, 5% and 1% levels, respectively.

Panel A: Baseline Setting				
	(1)	(2)	(3)	(4)
Dep. Var.: Total Consumption	Capital gain		Capital gain + dividend	
CG (or CG+Div) × Top performer	0.0164**	0.0140**	0.0161**	0.0142**
	(0.0051)	(0.0051)	(0.0049)	(0.0049)
CG (or CG+Div)	0.0129***	0.0076***	0.0128***	0.0074***
	(0.0015)	(0.0015)	(0.0015)	(0.0015)
Top performer	-0.9485	-0.4711	-10.128	-9.6146
	(7.894)	(7.9345)	(7.5272)	(7.5129)
Controls	N	Y	N	Y
Account FE	Y	Y	Y	Y
YearMonth FE	Y	Y	Y	Y
R squared	0.0001	0.0003	0.0001	0.0003
N	4,135,923	4,135,923	4,135,923	4,135,923
Panel B: Identification Setting				
	(1)	(2)	(3)	(4)
Dep. Var.: Total Consumption	Capital gain		Capital gain + dividend	
CG (or CG+Div) × Top performer × After	0.0316**	0.0304**	0.0276**	0.0270**
	(0.01)	(0.01)	(0.0097)	(0.0097)
CG (or CG+Div) × Top performer	0.0031	0.0013	0.0043	0.0028
	(0.0062)	(0.0062)	(0.0061)	(0.0061)
CG (or CG+Div)× After	0.0152***	0.0109***	0.0157***	0.0115***
	(0.003)	(0.003)	(0.003)	(0.003)
CG (or CG+Div)	0.0046*	0.0018	0.0043*	0.0012
	(0.002)	(0.002)	(0.002)	(0.002)
Top performer	-0.9156	-0.4571	-10.102	-9.6074
	(7.9071)	(7.9467)	(7.5311)	(7.5169)
Controls	N	Y	N	Y
Account FE	Y	Y	Y	Y
YearMonth FE	Y	Y	Y	Y
R squared	0.0001	0.0003	0.0001	0.0003
N	4,135,923	4,135,923	4,135,923	4,135,923