Interest Rate Changes and Portfolio Rebalancing in the Digital Era: The Role of E-Wallet*

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Abstract

With fintech growth and smartphone adoption, E-wallet, which enables instant transactions while offering financial returns, have become increasingly prevalent. Using a unique dataset from Alipay, the world's largest E-wallet provider, we find that holdings in Yu'EBao—an investment product usable for payments—are less affected by interest rate changes than similar assets without payment functions. This effect is stronger for users who depend on Yu'EBao for daily spending, during peak payment periods, or among less experienced investors. Our findings suggest significant aggregate implications: Yu'EBao weakens retail risky asset adjustments by 11.7% for every one-percentage-point interest rate change.

Keywords: E-wallet, Interest Rate Change, Mental Accounting, Money Market Fund, Household Finance, China

JEL codes: E5, G20, G23, D14, D81, O33

I. Introduction

The rapid development of technology and the widespread adoption of mobile phones have led to the global proliferation of E-wallet, which reached a transaction value of 14 trillion dollars and accounted for 33% of point-of-sale transactions in 2023.[1] In addition to providing convenient payment services, many E-wallet products are also integrated with interest-bearing saving instruments, allowing their balances to pay for daily transactions while achieving financial returns. Notable examples include PayPal Savings through PayPal in the U.S., Yu'EBao through Alipay in China, and M-Shwari from M-Pesa in Kenya. The underlying assets of these products are traditional safe and liquid assets, such as money market funds (MMFs) and term deposits, but distinguish themselves by embedding spending functionality—a feature that drives their rapid growth relative to traditional saving instruments (Buchak, Hu, and Wei, 2021; Federal Reserve Economic Data, 2023).[2] For instance, Apple Pay attracted nearly $400 million inflows merely on the day it launched "Apple Saving Accounts".

Motivated by the rapid rise of E-wallet-based saving instruments and their increasing competition with traditional safe asset vehicles, this paper studies how such innovations affect households' adjustment of safe asset holdings in response to interest rate changes. As the predominant instrument of monetary policies, interest rates directly determine the returns on safe assets. Through households' tendency to reach for yield, changes in interest rates induce portfolio reallocation between safe and risky assets (Gomes, Peng, Smirnova, and Zhu, 2025). This portfolio rebalancing is a key channel of monetary policy transmission, linking policy rate changes to risky asset prices and, in turn, to household spending and firm investment through the wealth and cost-of-capital channels (Bauer et al., 2023). Conceptually, money in E-wallet saving products and in comparable financial instruments is fungible. Rational agents should therefore

[1] Data Source: Global payment report 2024

[2] While deposits experienced significant outflows in 2023, high-yield savings accounts, primarily offered by fintech companies, attracted substantial inflows.

adjust their holdings in these products proportionally in response to interest rate changes. However, psychological frictions—such as mental accounting or differences in how money is categorized—may lead households to treat these balances differently, thereby affecting their responsiveness to interest rate fluctuations.

We study this question in the context of Yu'EBao, the first financial product in China that simultaneously offers transaction features and investment returns, launched by the world's largest mobile payment service provider, Alipay. This product effectively merges users' Alipay balance (checking) account and MMF investment account, enabling users to directly pay their spending transactions with their Yu'EBao holdings. With over 600 million users and a total asset size of nearly 2.8 trillion RMB, Yu'EBao's extensive reach provides a valuable setting for understanding how the adjustment of safe asset holdings in response to interest rate changes may be influenced by the spending feature offered by E-wallet. Additionally, Alipay is integrated with a wealth management platform, making it the largest mutual fund distributor in China, with a 15% market share.[3] Through Alipay, users can seamlessly purchase nearly all mutual funds available in the market, including MMFs not connected to Yu'EBao, which cannot be used to pay for daily transactions.

Based on a unique dataset obtained from Alipay, we evaluate whether consumers adjust their holdings of Yu'EBao and comparable non-Yu'EBao MMFs differently in response to interest rate changes. Our data and setting offer the following advantages. First, we can observe holdings in two types of MMFs within the same individual, allowing us to perform a difference-in-differences estimation that uses holdings in Yu'EBao MMFs as the treatment group and the same individual's holdings in non-Yu'EBao MMFs as the control group. Controlling for individual-by-time fixed effects, our identification accounts for time-varying unobservable factors that may affect consumers' investment behavior (e.g., labor income risk, Gomes et al., 2025). Second,

[3] Source: Asset Management Association of China

our dataset provides a rich set of additional information, including the amount of consumption by payment methods, holdings in other risky assets, and consumers' demographics. This comprehensive information allows us to better understand the underlying channels.

We first document robust evidence that the flows into Yu'EBao MMFs are less sensitive to interest rate changes than flows into non-Yu'EBao MMFs. In response to a one-percent-point interest rate increase (decrease), the inflow to (outflow from) Yu'EBao MMFs in the following month is 14 percentage points less than the adjustment of non-Yu'EBao MMFs. Consumers also increase (decrease) their holdings in bonds while decreasing (increasing) their holdings in equity assets in response to an interest rate increase (decrease). Notably, the overall flow of consumers' financial assets shows no response to changes in interest rates.

Our back-of-the-envelope calculation indicates a significant decrease in flows out of (into) MMFs due to the existence of E-wallet saving products. We estimate that a one percentage point decline in DR007 would trigger an additional 353 billion RMB monthly outflow of MMFs into risky assets in the absence of Yu'EBao, equivalent to 11.7% of retail equity mutual fund holdings.

Next, we examine why consumers respond differently to Yu'EBao compared to non-Yu'Ebao MMFs when interest rates change. We begin by confirming that the returns of both Yu'EBao and non-Yu'EBao MMFs display similar sensitivity to interest rate fluctuations, supporting the view that they are comparable financial assets in the context of interest rate changes. Although Yu'EBao MMFs offer marginally lower returns (by 7 basis points annually, which is statistically insignificant), our findings are inconsistent with the "reaching-for-yield" interpretation, which would predict larger outflows of Yu'EBao than non-Yu'EBao MMFs during periods of interest rate cuts.

Given the above results, we conjecture that the observed differences in investor behavior are likely driven by behavioral factors. One possible explanation is the liquidity advantage of Yu'EBao MMFs, which enjoy the "T+0" redemption rule.

However, we find that conditional on non-Yu'EBao MMFs, those offering "T+0" redemption through the issuer's mobile app exhibit similar interest rate-flow sensitivity as "T+1" non-Yu'E Bao MMFs. In addition, the interpretation of liquidity advantage implies a pecking order of favoring Yu'EBao when consumers seek to expand their overall MMF holdings, and thus predicts greater inflows into Yu'EBao MMFs during interest rate hikes. However, we find our main results hold symmetrically for both interest rate increases and decreases, inconsistent with the liquidity-based explanation.

Another potential explanation is consumer inattention toward Yu'EBao holdings. To assess this, we focus on a subsample of consumers who deliberately selected specific Yu'Ebao-linked MMFs—either by opting out of the platform default or by actively switching funds. Since all 29 Yu'Ebao MMFs offer identical transaction features and differ only slightly in financial performance, consumers who actively choose among them are less likely to be inattentive to their Yu'Ebao balances. Nevertheless, we find that our main results remain similar within this more attentive subsample, suggesting that inattention is unlikely to drive the observed behavioral patterns.

The explanation most consistent with our evidence is mental accounting. As proposed by Thaler (1999), households maintain three mental accounts: current income, current assets, and future income. Money in different accounts is not fully fungible. In our context, non-Yu'EBao MMFs are likely mentally categorized as current wealth, resembling conventional financial assets not used for daily spending. In contrast, Yu'EBao MMFs are likely considered as current income, given their integration into daily payment behavior, and are thus less relevant to intertemporal portfolio decisions.

To test this mechanism, we exploit the heterogeneity in consumers' reliance on the "spending feature" of Yu'EBao. We find that our main results are stronger among consumers who make the vast majority of their Alipay payments through Yu'EBao, and during periods when consumers face an exogenous increase in the demand for Alipay spending (i.e., shopping holidays). In addition, as mental accounting is hypothesized to reduce the cognitive cost of spending decisions (Gelman and Roussanov, 2024), we

expect this heuristic to be more prevalent among consumers with lower levels of financial sophistication. Using portfolio diversification and investment performance as proxies, we indeed find stronger effects among less financially sophisticated consumers, consistent with the mental accounting interpretation.

This paper relates to two branches of literature. First, we contribute to the growing literature on FinTech and its macroeconomic implications, particularly in the context of household asset allocation. While most existing studies focus on how FinTech reshapes credit provision—through expanded access to lending (Berg et al., 2020; Gambacorta et al., 2022; Gopal and Schnabl, 2022), regulatory arbitrage (Buchak et al., 2018; Elliott et al., 2024), or improved refinancing and contract flexibility (Fuster et al., 2019; Begley and Srinivasan, 2022; Liu et al., 2022)—relatively little attention has been paid to its role in safe asset management.

Our paper highlights how the rise of E-wallet-based saving products reshapes household safe asset allocation decisions in response to interest rate changes. Our finding—that consumers respond less strongly to interest rate movements when safe assets are embedded in E-wallet—suggests that the portfolio rebalancing channel of monetary policy transmission (i.e., the reallocation from safe to risky assets in response to policy rate reductions) may be dampened by the widespread adoption of such FinTech products. In this sense, our study also contributes to the broader literature on how financial innovation affects the transmission of monetary policy—a literature that has traditionally emphasized the credit channel.

Second, this paper directly extends the previous work on nonfungible mental accounts. Most of the existing studies examine the violation of fungibility in the context of consumption, by analyzing the spending response on narrow categories to price shocks (Hastings and Shapiro, 2012; Beatty et al., 2014; Hastings and Shapiro, 2018) or small "windfalls" from gift cards or coupons (Liu et al., 2021; Reinholtz et al.,

2015).[4] Some studies show that nonfungible budgets also have broader implications on savings and debts (Baugh et al., 2021; Medina and Pagel, 2024). Our paper is among the first to document the nonfungibility in the setting of retail investment: the spending feature of Fintech-based MMFs encourages consumers to categorize these funds into a mental account separate from traditional MMFs, which has important aggregate implications.

The remainder of the paper is organized as follows. Section II provides the institutional background. Section III describes the details of our dataset. Section IV explains the identification and empirical strategy, along with summary statistics. Section V shows the main results, and Section VI provides a discussion on the mechanisms of our findings. Finally, Section VII concludes.

II. Institutional background

2.1 Alipay, Yu'EBao, and money market funds

Alipay was founded by Alibaba in 2004 to meet the growing payment demands of Alibaba's online shopping platform. After becoming China's largest online payment platform, Alipay further expanded into the offline market in 2011, which further strengthened its customer base. In 2023, the domestic transaction volumes through Alipay exceeded 188.7 trillion RMB, or nearly 1.5 times the GDP, enjoying a 54.5% market share in China's third-party payment market.

After establishing itself as a dominant payment tool both online and offline, Alipay launched the innovative saving product Yu'EBao in 2013. This innovation was driven by three key factors. First, unlike traditional banks, which primarily rely on interest rate spreads, Alipay generates revenue through payment traffic, charging transaction fees and exploiting the value of data. By offering higher investment returns, Yu'EBao further

[4] This helps explain the success of some stimulus program around the word and the consumption response following tax refund (e.g., Baker et al., 2023; Parker, 2017; Feldman, 2010; Lipscomb and Schechter, 2018).

increased Alipay's market penetration. Second, as a non-bank institution, Alipay had accumulated substantial user deposits from its extensive mobile payment services, attracting regulatory scrutiny. This prompted the launch of Yu'EBao, which shifts user deposits to investment accounts. Lastly, Alipay's mobile-native infrastructure enabled real-time integration of payment and investment systems via distributed cloud computing, making this pioneering product feasible.

The balance in Yu'EBao is invested in a money market fund (MMF) that partners with Yu'EBao. More importantly, Yu'EBao revolutionized the redemption process. Specifically, traditional MMFs mostly use a "T+1" or "T+2" redemption feature, meaning that funding would not be available until 1-2 trading days after a redemption request. In contrast, Yu'EBao adopts an instant "T+0" redemption process for transactions through AliPay. Behind the scenes, Alipay advances the payments for consumers' transactions through Alipay, backed by their Yu'EBao balance. When consumers make payments, Alipay immediately covers the cost, providing transaction convenience. At the same time, Alipay initiates a redemption request from Yu'EBao MMFs. Once the redemption settles (typically T+1), Alipay recoups the advanced amount. These mechanism allows Yu'EBao to function seamlessly as both a saving vehicle and a means of payment (see Figure A1 Panel A in the Internet appendix for a snapshot of illustration), distinguishing them from traditional MMFs.

Before 2018, the TianHong Fund was the only partner MMF of Yu'EBao. During this period, it quickly became the largest MMF in China, capturing over one-third of the market share. By the end of our sample period (September 2021), Yu'EBao had opened up to 29 different MMFs. Yu'EBao users may choose any one out of the 45 qualified MMFs and are free to switch at any time and at no cost. Until 2023, Yu'EBao reported a cumulative user base exceeding 800 million, with total holdings reaching 2.87 trillion RMB, representing 25% of the money funds industry's scale.

Building on its payment service and large user base, Alipay expanded into broader financial services, such as wealth management. As a leading mutual fund distributor,

Alipay's wealth management platform covers nearly all mutual funds in the market, including bond funds, equity funds, mixed funds, and MMFs not connected to Yu'EBao. Figure A1 Panel B in the Internet appendix provides a snapshot of the illustration of Alipay's wealth management platform.

Non-Yu'Ebao MMFs offer slightly higher returns than Yu'Ebao MMFs: during our sample period, the average annualized net return is 2.16% for Yu'Ebao MMFs and 2.23% for non-Yu'Ebao MMFs, with the difference statistically insignificant ($p = 0.49$). Both types of funds are no-load MMFs and charge an annual management fee, making them comparable in structure and cost. Accordingly, non-Yu'Ebao MMFs represent fundamentally similar financial assets to Yu'Ebao MMFs—offering nearly identical risk and return profiles, but without the embedded spending functionality.

2.2 The development of MMFs in China

China's first MMF was launched in 2003. However, the MMF market experienced relatively slow growth for an extended period. MMFs offer a much higher rate of return than demand deposits (typically by 145 basis points to 235 basis points) while keeping the advantage of safety and liquidity. However, demand deposits remained the primary saving vehicle for Chinese households: By the end of 2012, the scale of MMFs was RMB 572 billion, only 0.71% of the scale of demand deposits.

The rise of mobile payments spurred the creation of innovative financial products based on MMFs, driving rapid growth in their scale and market penetration. As discussed, Yu'EBao was the first product to provide customers with seamless access to money market investments for both investment and daily payment needs. This innovative product attracted substantial inflows, leading to rapid growth in the MMFs that partnered with Yu'EBao. Following Yu'EBao's immense success, other internet companies and traditional banks launched similar products, known domestically as "Bao" products. This further accelerated the expansion of the MMF market. By the end of 2023, MMFs had reached a size of RMB 11.2 trillion (nearly 70% held by retail investors), representing 40.9% of the mutual fund market.

Given the large scale, the flows of MMFs have important macro implications. For this reason, the China Security Regulatory Commission (CSRC) had approved a list of regulations that affect how major MMFs operate, including *Measures for the Supervision and Administration of Money Market Funds* in 2015 and *Interim Provisions on the Regulation of Important Money Market Funds* in 2023. These regulations aimed to improve MMFs' resilience to risk and safeguard investors' interests.

2.3 Interest rate in China

Historically, the People's Bank of China (PBOC) relied primarily on controlling the quantity of money—rather than interest rates—as its main policy instrument. As a result, for a long time, China lacked a clear benchmark interest rate（Chen et al., 2018）. The first notable attempt to establish one came in 2007 with the launch of the Shanghai Interbank Offered Rate (SHIBOR). However, like LIBOR, SHIBOR is based on quote submissions rather than actual transactions, and thus has been subject to concerns over reliability and potential manipulation.

In contrast, first introduced in 2014, DR007 (i.e., the 7-day reverse repo rate by deposit financial institutions in the interbank market) is derived from actual transactions and has thus gained broader acceptance as the benchmark rate, especially in the money market. Although the PBOC has not officially assigned DR007 as its monetary policy target rate, it is frequently referenced in the central bank's policy report. For instance, the Q2 2023 report noted, "After the decline in open market 7-day reverse repo rate to 1.9%, DR007 responded quickly and began to move around the new OMO rate by the end of June." Correspondingly, DR007 has been widely used in academic research as the benchmark interest rate (Chen et al., 2022; Huang et al., 2022).

Figure 1 shows the time-series plot of the (annualized) DR007 over the period from October 2019 to September 2021. There is significant variation in the DR007 throughout the period. For instance, the rate experienced a sharp decline—from around 2.64% to around 1.46%—in early 2020, corresponding to financial market turbulence caused by the outbreak of COVID-19. Subsequently, with the gradual recovery of

economic activities, DR007 rose steadily and peaked around 2.29%. Then, in 2021, DR007 remained relatively stable, fluctuating around 2.15%.

In Table A.1 in the Internet Appendix, we confirm the relevance of DR007 as the measure of interest rate in the context of safe asset allocation. We find that a one-percent-point increase in the YoY change in DR007 is associated with a 0.4 percentage point increase in MMF returns, which is largely consistent with the findings based on the US data (Di Maggio and Kacperczyk, 2017).

III. Data

We use administrative data obtained from the Ant Group, which owns and controls Alipay. We obtained the monthly consumption and investment records of a random sample of 100,000 consumers from October 2019 to September 2021. Specifically, our dataset contains three types of information: (1) Asset holdings through Yu'EBao and Alipay's online wealth management platform, including fund ID, fund type, and holding amounts. (2) consumption information, including the amount in total and by different categories (non-durable, durable, and service); (3) users' demographic information, including age, gender, residence city, and the level of risk tolerance. The richness of the individual financial and demographic information facilitates a comprehensive understanding of response heterogeneity.

We start the sample construction by randomly selecting 100,000 investors who have ever held Yu'EBao MMFs and non-Yu'EBao MMFs since their accounting opening. First, we exclude investors with no non-Yu'EBao holdings in the sample period, leaving 26,410 investors. Then, to better capture investors who rely on Alipay as the main wealth and saving management instrument and thus mitigate measurement errors, we only include investors with a minimal amount of non-Yu'EBao MMFs holding (i.e., holding more than 10 RMB at least once during our sample period). This leaves us with 21,633 investors in our final sample.[7]

[7] Our main results remain robust to removing the this last step of filtering procedure (Internet Appendix Table A.2).

Table A.3 in the Internet Appendix compares consumers included in our analysis sample with those excluded. The two groups exhibit economically small and statistically insignificant differences in monthly consumption, and their age and gender compositions are largely comparable. However, consumers in the excluded sample hold substantially fewer financial assets across all asset classes, consistent with the possibility that they engage in personal financial management outside the Alipay platform. Table A.4 in the Internet Appendix further shows that the two groups adjust their Yu'EBao holdings similarly in response to interest rate changes. Taken together, this evidence alleviates concerns regarding the external validity of our findings.

IV. Identification and Empirical Strategy

Before we describe our identification strategy, we first examine the correlations between the flow of MMFs by type and the interest rate change. Specifically, for each type of MMFs, we estimate the following regression model:

$$Flow\%_{i,j,t+1} = \beta \Delta DR007_t + \gamma Controls_t + \eta_{i,t} + \theta_j + \epsilon_{i,j,t} \quad (1)$$

where, $Flow\%_{i,j,t+1}$ is the percentage change of holdings (in shares) for MMF j by investor i, calculated as $log(1+¥holding)_{i,j,t+1} - log(1+¥holding)_{i,j,t}$[8]. We also follow Daniel et al. (2021) and consider the categorical variable *Netbuy* as an alternative proxy for fund trading, equal to 1 if the position increases from month t to $t+1$, -1 if the position decreases, and 0 if the position stays constant.

$$Netbuy = \begin{cases} 1, & if\ flow > 0 \\ 0, & if\ flow = 0 \\ -1, & if\ flow < 0 \end{cases} \quad (2)$$

$\Delta DR007$ represents the YoY change in the benchmark interest rate (i.e., the 7-day repos for deposit-taking institutions), which accounts for the seasonality of interest rate fluctuations. *Controls* indicate a set of macroeconomic factors, including quarterly GDP growth rate, monthly change in export, CPI, and US dollar exchange rate relative to

[8] We adjust the holding amount in t+1 by its cumulative return during the last month to account for the mechanical change in holdings due to appreciation.

RMB. The individual-month fixed effects $\eta_{i,t}$ capture the seasonality of safe-asset allocation at the individual level. Fund ID fixed effects θ_j are also included throughout the analysis. Standard errors are clustered at the individual level.

As shown in Table A.5 in the Internet Appendix, we find that flows of two types of MMFs are positively correlated with DR007 changes. The coefficient for Yu'EBao holdings is somewhat smaller. A formal T-test confirms that the difference between the two coefficients is statistically significant at the 1% level (p-value=0.00)。

Although the results above provide suggestive evidence of a smaller correlation between the fund flow and interest rates among Yu'EBao MMFs than non-Yu'EBao MMFs, a causal interpretation of the finding faces severe challenges due to the non-random nature of individuals' portfolio choices. For example, investors with differential levels of labor income risk and thus different levels of reaching-for-yield tendency (Gomes et al., 2025) may self-select into different types of MMFs, thereby confounding the correlation as causality.

To address the identification challenge, we employ a difference-in-difference approach, using Yu'EBao MMFs as the treatment group and non-Yu'EBao MMFs of *the same individual* as the control group. Specifically, we estimate the following regression model:

$$Flow_{i,j,t+1} = \beta YuEBao_j \times \Delta Dr007_t + \delta_{i,t} + \pi_{i,j} + \theta_j + \epsilon_{i,j,t} \quad (3)$$

where, $YuEBao$ is an indicator variable that equals one for Yu'EBao MMFs, and zero for non-Yu'EBao MMFs. By including the individual-year-month fixed effects $\delta_{i,t}$, our identification compares the response difference between two types of MMFs within the same individual in a given year-month, which helps absorb individual-level time-varying unobservable factors. By including the individual-fund type (i.e., Yu'EBao versus non-Yu'EBao MMFs) fixed effects $\pi_{i,j}$, we control for the time-invariant heterogeneity at the individual-fund type, such as an investor's preference for trading of Yu'EBao MMFs. Standard errors are clustered at the individual level.

Table 1 presents the summary statistics for demographic characteristics and asset

holdings. We observe that investors in Alipay are relatively young, with an average age of 35, and are generally balanced in gender. We observe that the average holding of Yu'EBao MMFs is around 19,255 RMB, and the average holding of non-Yu'EBao MMFs is around 3,790 RMB. These numbers indicate that after selecting the sample, within the same individual, the holdings in Yu'EBao MMFs are bigger than in non-Yu'EBao MMFs.

[Insert Table 1 Here]

V. Average response to interest rate changes

5.1 MMF holdings in response to interest rate changes

We begin by examining whether the flows into Yu'EBao MMFs are less sensitive to interest rate changes than flows into non-Yu'EBao MMFs. Table 2 presents the results from estimating Equation (3). Column 1 shows the regression results by including id-fund type fixed effects and year-month fixed effects. The estimated coefficient β is negative and statistically significant at the 1% level, indicating that compared with flows into non-Yu'EBao MMFs, flows into Yu'EBao MMFs are less responsive to interest rate changes. The economic magnitude is also meaningfully large: in response to a one-percentage-point interest rate increase (decrease), the inflow into (outflow from) Yu'EBao MMFs in the following month is 14 percentage points less than the inflow into (outflow from) non-Yu'EBao MMFs. In Column 2, we further control for id-year-month fixed effects, which allows us to compare the response of Yu'EBao and non-Yu'EBao holdings within the same individual at the same time. The magnitude of the coefficient estimates remains stable across the different specifications. As a robustness check, we also use a categorical variable *Netbuy* as an indicator of MMF holdings changes. In columns (3) - (4), the estimated coefficient remains negative and significant, consistently supporting the lower flow-interest-rate sensitivity of Yu'EBao MMFs compared with Yu'EBao MMFs.

[Insert Table 2 Here]

5.2 Portfolio rebalancing in response to interest rate changes

Next, we examine consumers' portfolio rebalancing behavior in response to interest rate changes. Specifically, we focus on each type of asset available on the wealth management platform in Alipay and regress its monthly fund flow to interest rate changes, according to Equation (1). In this case, we are unable to control for the time fixed effect as in Equation (3), which will fully capture the dynamics of interest rates. Instead, we include a rich set of macroeconomic variables (including GDP, export, CPI, and exchange rate) and individual-month fixed effects to control for the overall economic condition and the seasonality of portfolio changes.

In Table 3 Column 1, we examine investors' overall adjustments of their financial asset holdings on the Alipay platform and find no significant response to interest rate changes. We then decompose the total financial wealth into different categories. Columns 2 and 3 reproduce the results in Table A.5 in the Internet Appendix, showing that both Yu'EBao and non-Yu'EBao MMFs experience inflows in response to an interest rate hike. Consistent with the difference-in-differences estimators that control for individual-time fixed effects, this positive flow-interest-rate association is much weaker for Yu'EBao MMFs compared with non-Yu'EBao MMFs. Columns 4 and 5 report the estimation result for equity funds (including pure equity funds, mixed funds, and funds of funds) and bond funds. We find that changes in interest rates significantly affect portfolio allocations. Specifically, consumers increase (decrease) their holdings in bonds and decrease (increase) their holdings in equity assets in response to interest rate hikes (cuts). These results are consistent with the reaching-for-yield hypothesis that low-interest rate environments induce investors to take on more risks to boost total return (e.g., Rajan, 2006; Di Maggio and Kacperczyk, 2017).

In Column 6, we investigate the response of consumption through Alipay and find that consumers do not significantly adjust their monthly spending in response to short-term interest rate changes. Collectively, investors tend to keep their overall financial wealth stable while rebalancing their portfolios across different asset classes when

facing interest rate changes.

[Insert Table 3 Here]

We conduct a back-of-the-envelope estimation on the aggregate implication of Yu'EBao on households' monthly portfolio rebalancing in response to interest rate changes. The incremental amount of MMF flows into (out of) risky assets that could have been achieved in the absence of Yu'EBao, in response to a one-percent-point decrease (increase) in interest rate, is estimated to be 353 billion RMB per month, given that for a one-percent-point interest rate increase (decrease), the inflow into (outflow from) Yu'EBao MMFs relative to their total balance is 14 percentage points lower than that of non-Yu'EBao MMFs (Table 2 Column 1), and that the aggregate household retail holding of Yu'EBao is estimated to be 2.5 trillion RMB in 2023.[9] Thus, the hypothetical additional MMF flows in the absence of Yu'EBao represent 11.7% of retail equity mutual fund holdings, suggesting that Yu'EBao may dampen the portfolio rebalancing channel of monetary policy transmission.

VI. Mechanisms

6.1 Return difference of two types of MMFs

Next, we examine why consumers respond differently to Yu'EBao MMFs compared to non-Yu'EBao MMFs. We first evaluate whether interest rate changes might affect the returns of Yu'EBao and non-Yu'EBao MMFs differently, which in turn drives the distinct patterns of fund flow. If the returns of Yu'EBao MMFs decrease less in response to interest rate cuts, investors may decrease their holdings of Yu'EBao MMFs to a lesser extent compared with non-Yu'EBao MMFs simply due to reaching-for-yield incentives.

To evaluate this possibility, we directly examine the return sensitivities of Yu'EBao and non-Yu'EBao MMFs to interest rate changes at the fund level. As shown

[9] Alipay report that investors earn 54.5 billion RMB by investing Yu'EBao in 2023.

in Table 4 Column 1, the impact of interest rate changes on fund returns is economically and statistically indistinguishable between Yu'EBao and non-Yu'EBao MMFs, after controlling for fund and year-month fixed effects. As a robustness test, in Column 2, we further control for fund-month fixed effects, and find a very similar result. Collectively, we find that Yu'EBao and non-Yu'EBao MMFs are comparable assets in the context of interest rate changes.

One may also be concerned that level differences in returns between Yu'E Bao and non-Yu'E Bao MMFs may drive the observed interest rate-flow sensitivity through "reaching-for-yield" incentives. We first note that this return difference is economically small—the annualized return of Yu'E Bao MMFs is only 7 basis points lower than that of non-Yu'E Bao MMFs—and statistically insignificant over our sample period. Moreover, our findings are inconsistent with the reaching-for-yield interpretation, which would predict larger outflows from Yu'E Bao MMFs, due to their relatively lower yield, than from non-Yu'E Bao MMFs during periods of interest rate cuts.

[Intert Table 4 Here]

6.2 The liquidity advantage of Yu'EBao MMFs

The higher liquidity of Yu'EBao MMFs compared with non-Yu'EBao MMFs may also influence how investors trade-off between these two types of MMFs in response to interest rate changes. As described in Section 2.2, Yu'EBao MMFs possess the "T+0" cash-out feature of up to 10,000 RMB per day per account, while the remaining MMFs on the AliPay platform are subject to the "T+1" redemption rules. While the liquidity feature facilitates the adjustments of Yu'EBao holdings in response to interest rate changes, consumers with a strong liquidity preference may also find Yu'EBao more attractive, rendering its holdings more sticky and thus less responsive to interest rate changes.

We employ two strategies to address this concern. First, we note that to compete with Yu'EBao for retail savings, some non-Yu'EBao MMFs—particularly those issued by commercial banks—also allow investors to redeem their holdings instantly into bank

deposits. However, for most of these products, the MMF balance itself cannot be used directly for payments (i.e., payments must be financed from the checking account balance). If our main findings are driven by Yu'EBao's liquidity advantage, we would expect a lower flow-interest-rate sensitivity among these "T+0" than "T+1" MMFs as well when focusing on non-Yu'EBao MMFs only.

We evaluate this hypothesis using fund-level flow data (source: Wind). In Table 5 Column 1, we first compare the flow-interest rate sensitivity of "T+0" and "T+1" non-Yu'EBao MMFs included in our analysis sample. This restriction helps address concerns that distribution channels may sort investors with differing behavioral patterns. In Column 2, we expand the sample to include all non-Yu'EBao MMFs in the market. To better capture the liquidity benefit enjoyed by retail investors, we exclude MMFs with more than 50% of shares held by institutional investors. In both cases, we do not find the flow of "T+0" non-Yu'EBao MMFs less responsive to interest rate changes compared with "T+1" non-Yu'EBao MMFs, suggesting that the "T+0" feature can not explain our findings.

[Insert Table 5 Here]

The second test takes advantage of the separate response to increases versus decreases in interest rate. The liquidity advantage hypothesis suggests a pecking order of favoring Yu'EBao when consumers seek to increase overall MMF allocations, that is, during interest rate hikes. If our main findings were driven by the liquidity advantages of Yu'EBao MMFs, we would expect a greater, instead of weaker, inflow into Yu'EBao MMFs during interest rate hikes.

To test this hypothesis, we separately estimate the difference in the flows between the two types of MMFs during both interest rate hike and cut periods.. Specifically, *Interest Rate Cut* (*Interest Rate Hike*) is a dummy equal to one if the interest rate change falls in the bottom (top) quartile of the sample distribution. *YuEBao× Interest Rate Cut* (*YuEBao× Interest Rate hike*) thus captures the incremental difference in Yu'EBao versus non-Yu'EBao MMF flows during interest cut (hike) periods, compared with the

absorbed benchmark period (when interest rate change is between the bottom and top quartile of the sample distribution).

Table 6 shows that the responses to the interest rate cut or hike periods are generally symmetric: investors' adjustments of Yu'EBao MMFs are less sensitive to interest rate fluctuations in both directions. Specifically, during the interest rate cut period, the outflow of Yu'EBao MMFs in the following month is 0.051 percentage points less than the outflow of non-Yu'EBao MMFs. Notably, during the interest rate hike periods, the outflow of Yu'EBao MMFs on average is 0.065 percentage points less than the outflow of non-Yu'EBao MMFs, which is inconsistent with the liquidity benefit interpretation.

The similarly large response during the interest rate hike period also helps rule out the confounding effect of Yu'EBao MMF's liquidity advantage when settling asset redemption. Different from a typical brokerage account, Alipay's asset management platform does not have a settlement account for the proceeds from asset sales. The money is either transferred to Yu'EBao or bank accounts. However, investors can enjoy a faster settlement (typically by 2 days) when choosing Yu'EBao, making it the preferred option. For this reason, during the contractionary regime, Yu'EBao MMFs may·receive more inflows because of the easier redemption process. By contrast, we find fewer inflows to Yu'EBao MMF during interest rate hikes, which is inconsistent with the alternative explanation of the liquidity benefits of Yu'EBao MMF due to its differential settlement policy.

Collectively, our main findings are unlikely to be explained by the liquidity advantage of Yu'EBao MMFs.

[Insert Table 6 Here]

6.3 Investors' inattention to Yu'EBao holdings

We further consider several alternative explanations for our main findings. One concern that may confound the mental accounting interpretation is that investors may ignore their Yu'EBao MMFs holdings, or the return-generating feature of Yu'EBao

MMFs, which leads to an underreaction to interest rate changes. To mitigate this concern, we repeat our analysis by focusing on a subgroup of consumers who are less likely to be inattentive to their Yu'EBao holdings. Specifically, we first exploit the fact that among the 29 MMFs included in Yu'EBao, there is a default option—TianHong Yu'EBao MMF.[11] These MMFs enjoy the same spending transaction feature, and only differ (slightly) in their financial performance. Therefore, consumers who deviate from the default option are likely to dedicate more attention to their Yu'EBao returns. In Table 7 Column 1, we do not find the estimated coefficient based on these more attentive consumers (-19.93) to be economically smaller compared with the coefficient estimated from the full sample (-16.67). Following the same logic, we further exploit the switch behavior associated with the specific holding of Yu'EBao MMFs. In Column 2, we observe similar effects among swithcers as well. Collectively, our findings are unexplained by investor inattention.

[Insert Table 7 Here]

6.4 Mental accounting

In this section, we explore the mental accounting interpretation of our main results. As proposed by Thaler (1999), households maintain three mental accounts: current income, current assets, and future income. Money in one mental account is not a perfect substitute for money in another account. In other words, households tend to categorize funds from different sources or for different uses into separate mental accounts. For instance, the current income mental account contains regular income and funds for consumption, while current assets are less liquid and are saved for future usage. In our case, money in Yu'EBao MMFs is more likely to be considered as current income and is less relevant to intertemporal tradeoffs, since these funds can be directly used for spending, as is shown in Figure A1 Panel A in the Internet Appendix. On the other hand, non-Yu'EBao MMFs are similar to other financial assets in the sense that the liquidation

[11] This fund is managed by Tianhong Asset Management Co, a mutual fund company controlled by Ant Group.

proceedings will go to users' bank accounts and cannot directly pay for spending. As is also shown in Figure A1 Panel B in the Internet Appendix, the APP interface displays Yu'EBao and other funds in different categories. Therefore, money invested in non-Yu'EBao MMFs is more likely viewed as current assets, and thus more sensitive to interest rate changes.

We test this channel by exploiting the heterogeneity of consumers' reliance on the "spending feature" of Yu'EBao. Conceptually, investors who rely more on Yu'EBao as the payment instrument are more likely to treat Yu'EBao as the current income, and thus manage these two types of MMFs in a nonfungible way. Therefore, we would expect our main findings to be stronger among these consumers if our findings are explained by the mental accounting mechanism.

In Table 8, we estimate whether investors who are highly dependent on Yu'EBao exhibit a greater difference in the flow-interest rate sensitivity between the two types of MMFs by including a triple interaction term of the proportion of payment through Yu'EBao (*%Spending_via_YuEBao*), interest rate changes, and the *Yu'EBao* dummy. The estimated coefficient for this triple interaction term is significantly negative at the 5% level. Specifically, for a ten percent point increase in the proportion of spending through Yu'EBao, the outflows from Yu'EBao MMFs are 1.1 percent points lower than the outflow from non-Yu'EBao MMFs in response to a one percent point interest rate cut. This result suggests that consumers with a higher proportion of spending through Yu'EBao tend to place less importance on the performance of Yu'EBao MMFs compared with non-Yu'EBao MMFs, thus managing two types of MMFs in a non-fungible way.

[Insert Table 8 Here]

Second, we take advantage of Taobao's shopping holidays, during which period consumers face an exogenous increase in the demand for Alipay spending transactions. As the largest online shopping platform in China, Taobao is the first to launch and then popularize the three shopping holidays called "618" in June, "Double 11" in November,

and “Double 12” in December. Notably, Alipay is the sole third-party payment instrument integrated with Taobao. This exogenous demand for Alipay transactions encourages users to consume Yu’EBao’s balance, enhancing its current income nature. Therefore, we expect that during shopping holidays, interest rate changes are particularly less likely to affect Yu’EBao MMF holdings compared to non-Yu’EBao MMF holdings.

To test this hypothesis, Table 9 separates the sample into shopping holidays and regular days. We observe that the magnitude of the responses during shopping holidays is twice as large as that estimated for regular days. Specifically, in response to a one percentage point interest rate cut, the outflows of Yu’EBao MMFs are 38 percentage points less than the outflow of non-Yu’EBao MMFs during shopping holidays, while this number is only 18 percentage points during regular days. The two coefficient estimates are statistically different at the 1% level (P value=0.00). This result suggests that during shopping holidays, the higher spending need of investors makes the mental accounting heuristic a more powerful driver of investment behavior.

[Insert Table 9 Here]

Consumers adopt mental accounting to reduce the computational cost of making spending decisions (Gelman and Roussanov, 2024). Consistently, existing literature has documented that decision-makers with lower levels of financial sophistication are more prone to use mental shortcuts (Ponce et al., 2015; Parker, 2017). We hypothesize that financially less sophisticated consumers may be less capable of managing their budgets and thus more likely to adopt mental accounting heuristics (Lian, 2021), thereby driving our main effects.

We propose two proxies for consumers’ levels of financial sophistication based on investment records in non-MMF mutual funds. We first focus on the level of portfolio diversification, motivated by the fact that the lack of portfolio diversification is one of the drivers for retail investors’ poor investment performances (Levy and Sarnat, 1970), and is particularly prevalent among less-sophisticated investors (Goetzmann and

Kumar, 2008). We group investors with an above-median (below-median) number of assets (standardized by the amount of asset holding) as the high diversification (low diversification) group. As shown in Column 1 of Table 10 Panel A, for the low diversification group, the outflows of Yu'EBao MMFs in the following month are 21 percentage points lower than the outflows of non-Yu'EBao MMFs in response to a one percent point interest rate cut. The effect is discernibly smaller for the more diversified group: a one percentage point decrease in DR007 leads to a 12 percentage point decrease in non-Yu'EBao MMFs holdings, compared to Yu'EBao MMFs. These two regression coefficients are statistically different (P value<0.01).

Second, we use investors' investment performances during the sample period, adjusted by the common risk factors in stocks and bonds proposed by Fama and French (1993) as an alternative proxy for financial sophistication. We define investors with an above-median (below-median) risk-adjusted return as the high-performance (low-performance) group. As shown in Table 10 Panel B, while the coefficients on the interaction term are negative and significant for both groups, the economic magnitude is discernibly larger among the low-performance group. These two coefficients are statistically different from each other at the 10% level (P value=0.09). Collectively, we find that the differential flow pattern of Yu'EBao versus non-Yu'EBao MMFs in response to interest rate changes is particularly stronger among financially less sophisticated consumers, consistent with the interpretation of mental accounting.

[Insert Table 10 Here]

6.5 Other alternative explanations

One feature of the Alipay asset management platform is to automatically redirect mutual fund dividend payments to investors' Yu'EBao MMFs (default option), leading to a greater fund inflow. We note that the average monthly dividend amount is 234 RMB per investor, equivalent to 1.16% (234/20,155) of the average Yu'EBao holdings. This number is economically too small to drive our results. To further rule out this concern,

we focus on investors holding low dividend-rate portfolios (i.e., investors' portfolio-level dividend-payout rates during the sample period below the sample median) and find a coefficient economically similar to our main findings (Table 11 Column 1). The result remains robust when we repeat the main analysis based on investors who only hold non-dividend-paying funds in the sample period (Column 2). Collectively, our findings are unlikely to be driven by Yu'EBao MMFs receiving more dividends.

[Insert Table 11 Here]

VII. Conclusion

Using a unique panel of consumers from a leading Chinese fintech platform, this paper investigates how revolutionary financial product brought by Fintech affects households' adjustment of safe asset holdings in response to interest rate changes. We investigate this question in the context of Yu'EBao, which merges MMF holdings with a checking account. Thus, consumers can simultaneously obtain investment returns and transaction services.

Using a difference-in-differences analysis, we find that compared with non-Yu'EBao MMFs, Fintech-based MMFs are less sensitive to interest rate changes. Importantly, we observe a stronger effect for consumers with high reliance on the "spending feature" of Fintech-based saving product, which is mostly consistent with the mental accounting theory proposed by Shefrin and Thaler (1999). Further analysis suggests our results are unlikely to be contaminated by other confounding factors. In addition, we find that consumers increase (decrease) their holdings in bonds and decrease (increase) their holdings in equity assets in response to interest rate increases (declines), while the overall flow of financial assets and consumption on the Alipay platform is not significantly responsive to interest rate changes, indicating consumers tend to keep their overall financial wealth stable.

Subsequent to an interest rate change, the existence of Fintech-based MMFs could decrease the flows into (out of) MMFs to risky assets. Collectively, this paper highlights how the rise of E-wallet-based saving products reshapes household safe asset allocation

decisions, which has important aggregate implications—using the scale information of Yu'EBao, our estimate indicates that the decrease in net retail inflow is equivalent to 11.7% of retail equity mutual fund holdings in 2023.

Appendix

Appendix: Variable definitions

Variable	Description
	Investor variables
Consumption	Total spending through Alipay in the current month.
Age	Investor age at the current year.
Female	A dummy variable that equals one if the investor is female, and zero otherwise.
¥ Total assets	Fund holding amount in Alipay.
¥ Yu'EBao MMFs	Fund holding amount in Yu'EBao.
¥ Online investment	Fund holding amount in the wealth management platform of Alipay.
	Fund variables
$Type_{\{t+0\}}$	A dummy variable that equals one if the MMF is "T+0" type, and zero otherwise.
Return	Fund-month level return net of management fee
TNA%	Percentage change in MMF net asset value relative to the previous month
	Macroeconomic variables
ΔDR007	The Year-of-year change in interest rate on 7-day repos for deposit-taking institutions
GDP	Quarterly GDP growth rate.
CPI	Monthly CPI change rate
Exchange Rate	Monthly Change in USD/CNY exchange rate (end of month)
Export	Monthly export change rate
Expansionary	A dummy variable that takes 1 when *ΔDR007* is below the bottom quartile, and otherwise zero.
Contractionary	A dummy variable that takes 1 when *ΔDR007* is above the top quartile, and otherwise zero.

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Figures and Tables

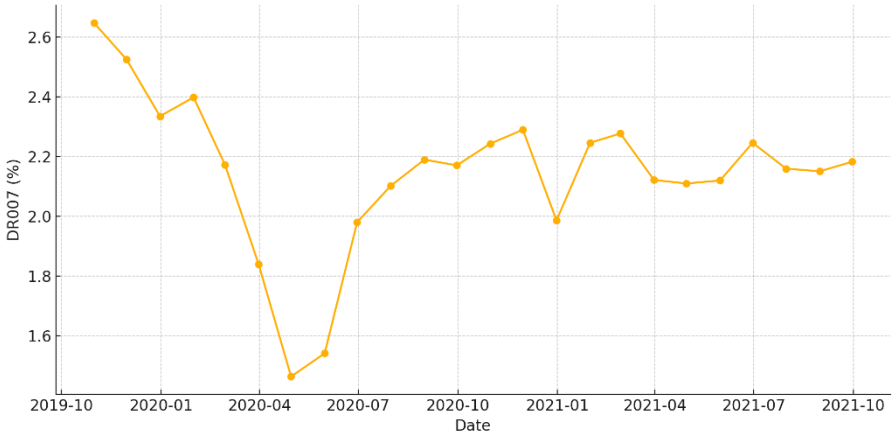


FIGURE 1: TIME TREND OF THE DR007

TABLE 1: SUMMARY STATISTICS

This table reports the summary statistics of demographic characteristics and asset holdings. The sample period runs from 2019.10 to 2021.09, covering 21,633 investors included in the main analysis. *Female* is a dummy variable that equals one if the investor is a female. *¥Consumption* is the total monthly consumption expenditure. *¥Total assset* is the total asset holdings (including both Yu'EBao MMF holdings and asset holdings through the wealth management platform) at the end of the month.

	Mean	S.D
Age	35.44	10.03
Female	0.53	0.50
¥Consumption	5168.40	6523.69
¥Total asset	41628.97	65698.43
¥Yu'EBao MMFs	19255.26	29071.53
¥@ Wealth management platform	21529.84	46433.03
¥non-Yu'EBao MMFs	3790.26	12116.90
¥Bond asset	3627.69	9092.77
¥Risky asset	12761.80	32696.82

TABLE 2: RESPONSE OF MMF FLOWS TO INTEREST RATE CHANGES

This table studies the change in Yu'EBao MMFs and non-Yu'EBao MMFs holdings in response to interest rate changes. *YuEBao* is an indicator variable that equals one for Yu'EBao MMFs and zero for non-Yu'EBao MMFs. *ΔDR007* is the YoY change in the interest rate of the 7-day repos for deposit-taking institutions. *Flow%* is the percentage change of holdings (in shares) for an MMF. *Netbuy* is a categorical variable that indicates whether the holding of an MMF increases or decreases in the next month. The standard errors are clustered at the individual level and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
	Flow%		***Netbuy***	
ΔDR007×YuEBao	-14.142***	-16.671***	-2.143***	-3.537***
	(0.978)	(1.213)	(0.498)	(0.647)
Id-fund type FE	Y	Y	Y	Y
Year-month FE	Y	N	Y	N
Id-Year month FE	N	Y	N	Y
Fund FE	Y	Y	Y	Y
R^2	0.070	0.676	0.188	0.763
N	788,700	788,700	788,700	788,700

TABLE 3: PORTFOLIO REBALANCING AND CONSUMPTION RESPONSES TO INTEREST RATE CHANGES

This table studies rebalancing and consumption response to interest rate changes. In Column (1) and Column (6), the observations are at the individual level. In columns (2)-(5), the observations are at the individual-fund level. Columns (1)-(5) present the results of holding changes for total assets and different types of funds. Column (6) presents the result of the natural logarithm of total consumption. Equity funds include pure equity funds, mixed funds, and FoFs. Macroeconomic controls include CPI, GDP, exchange rate, and exports. Refer to Table 2 for the definitions of other variables. Standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)	(5)	(6)
	Flow%: Total asset	***Flow%: by subcategory***				***Log(consumption)***
		Yu'EBao MMF	NonYu'EBao MMFs	Equity funds	Bond fund	
ΔDR007	-0.445	12.601***	18.912***	-18.304***	15.585***	0.387
	(0.502)	(1.273)	(1.915)	(0.588)	(1.105)	(0.517)
Macroeconomic controls	Y	Y	Y	Y	Y	Y
Id-month FE	Y	Y	Y	Y	Y	Y
R^2	0.531	0.524	0.698	0.207	0.59	0.717
N	480,439	496,594	292,106	1,598,380	505,285	480,439

TABLE 4: THE EFFECT OF INTEREST RATE CHANGES ON MMF PERFORMANCES

This table studies the response of MMF returns to interest rate changes, based on MMFs listed on AliPay. The observations are at the fund-month level. *Return* is the monthly return net of management fees. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the fund level and reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)
	Return	
ΔDR007×YuEBao	2.058	0.738
	(2.495)	（2.497）
Fund FE	Y	N
Year-month FE	Y	Y
Fund-month FE	N	Y
R^2	0.610	0.793
N	3,176	3,176

TABLE 5: RESPONSE HETEROGENEITY BY THE LIQUIDITY LEVELS OF NON-YU'EBAO MMFS

This table compares the flow sensitivity of "T+0" type and "T+1" type non-Yu'EBao MMFs to interest rate changes. The observations are at the fund-quarter level. We interpolate the quarterly data to monthly frequency to align with monthly interest rate changes. Only non-Yu'EBao MMFs are included in the analysis. Column 1 restricts the analysis to MMFs in the sample. Column 2 focuses on MMFs with more than 50% of shares held by retail investors. *%TNA* is the quarterly change in net asset value. $Type_{\{t+0\}}$ is a dummy variable that equals one if an MMF allows for "T+0" redemption and otherwise zero. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)
	%TNA	
	Non-Yu'EBao MMFs available at Alipay	All retail Non-Yu'EBao MMFs from Wind
$\Delta DR007 \times Type_{\{T+0\}}$	2.087	1.160
	(3.235)	(1.489)
Year-month FE	Y	Y
Fund FE	Y	Y
R^2	0.066	0.079
N	2,100	5,557

TABLE 6: RESPONSE TO INTEREST RATE INCREASE VERSUS DECREASE

This table studies the separate response to increases versus decreases in interest rate. *Interest Rate Hike* is a dummy variable that takes 1 when *ΔDR007* (the 12-month change in interest rate on 7-day repos for deposit-taking institutions) is above the top quartile. *Interest Rate Cut* is a dummy variable that takes 1 when *ΔDR007* is below the bottom quartile. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1) ***Flow%***
YuEBao×Interest Rate Cut	0.051***
	(0.013)
YuEBao×Interest Rate Hike	-0.065***
	(0.014)
Id-fund type FE	Y
Id-year month FE	Y
Year month FE	N
Fund FE	Y
R^2	0.676
N	788,700

TABLE 7: THE RESPONSE OF ATTENTIVE INVESTORS

This table discusses the possibility that investors may forget their Yu'EBao holdings. In Column 1, we only include the investors deviating from the default option. In Column 2, we only include investors switching from one Yu'EBao MMF to another at least once during the sample period. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)
	Flow%	
	Investors deviating from the default option	Yu'EBao switchers
ΔDR007×YuEBao	-19.927***	-15.746***
	(1.586)	(2.120)
Id-fund type FE	Y	Y
Id-year month FE	Y	Y
Fund FE	Y	Y
R^2	0.672	0.681
N	436,060	351,117

TABLE 8: THE SPENDING CONVENIENCE CHANNEL

This table studies whether investors using Yu'EBao as the major payment method are less sensitive to interest rate changes. *%Spending_via_YuEBao* is the proportion of Alipay payment through YuEBao relative to the total payment during the whole sample period. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the individual level. Standard errors are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1) ***Flow%***
ΔDR007×YuEBao	-14.628***
	(1.152)
ΔDR007×YuEBao×%Spending_via_YuEBao	-11.095**
	(5.156)
Id-fund type, Id-Year month, Fund FE	Y
R^2	0.676
N	787,395

TABLE 9: THE RESPONSES DURING MAJOR SHOPPING HOLIDAYS

This table studies whether the holding of Yu'EBao is less sensitive to interest rate changes during shopping holidays. We define June, November, and December as shopping holiday months. E-commerce platforms host major promotional events during these months, also known as "618", "Double Eleven", and "Double Twelve". These events have become significant consumption occasions for Chinese People (similar to Black Friday). Column 1 presents the results during shopping holidays. Column 2 presents the result for regular days. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)
	Flow%	
	Shopping holidays	Regular days
ΔDR007×YuEBao	-38.841***	-18.182***
	(5.971)	(1.297)
P-value for the difference	0.00	
Fixed effects	Id-time, Id-fund type, fund code FE	
R^2	0.752	0.691
N	203,259	585,441

TABLE 10: RESPONSE TO INTEREST RATE CHANGES BY THE LEVEL OF FINANCIAL SOPHISTICATION

This table explores MMF holdings in response to interest rate changes by sophistication. In panel A, we define investors with an above-median normalized number of funds as sophisticated investors. In panel B, we define investors with an above-median alpha adjusted by five common risk factors in the portfolio return proposed by Fama and French (1993) (i.e., factors related to overall market performance, firm size, and book-to-market equity for stocks and factors related to maturity and default for bonds) as sophisticated investors. Column 1 presents the results of investors with high sophistication in each panel. Column 2 presents the results for investors with low sophistication in each panel. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	Flow%	
Panel A: More vs less diversified portfolio		
	(1)	(2)
	More	less
ΔDR007×YuEBao	-11.631***	-21.817***
	(1.525)	(1.894)
P-value for the difference	0.00	
Fixed effect	Id-time, id-fund type, fund code FE	
R^2	0.703	0.654
N	394,133	394,567
Panel B: High vs low investment performance		
	(1)	(2)
	High	Low
ΔDR007×YuEBao	-14.587***	-18.716***
	(1.669)	(1.778)
P-value for the difference	0.09	
Fixed effect	Id-time, id-fund type, fund code FE	
R^2	0.703	0.653
N	394,358	389,339

TABLE 11: RESPONSE TO INTEREST RATE CHANGES BY DIVIDEND PAYOUT RATES

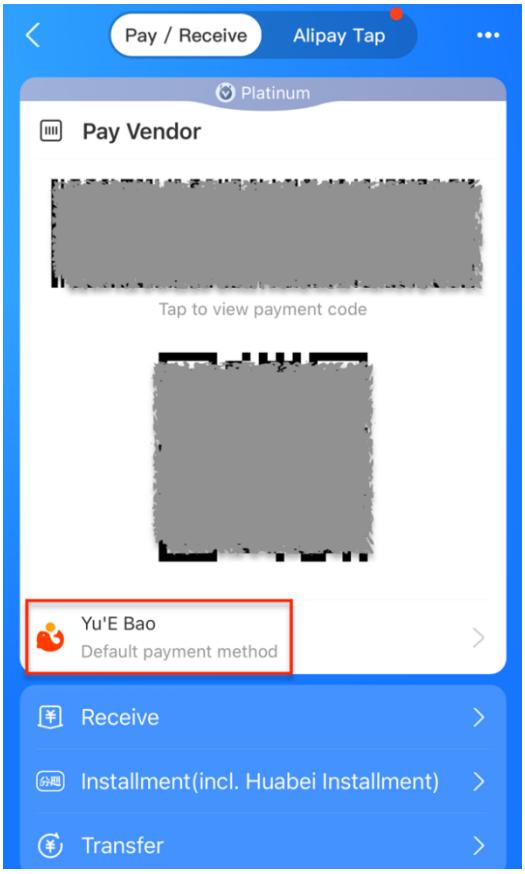
This table explores whether investors' exposure to dividend-paying funds affects the main results. Column 1 focuses on the investors with low dividend payout rate portfolios. Column 2 restricts the sample to investors holding only non-dividend-paying funds throughout the sample period. Investors with low dividend payout rate portfolios are those whose average dividend payout rates (calculated as $\frac{\sum_i dividendpershare_i \times s_i}{s_{total}}$, where s indicates the number of shares held in fund i) during the sample period are below the sample median. Refer to Table 2 for the definitions of other variables. Standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)
	Flow%	
	Low dividend payout rate	Individuals with zero dividend payout rates
ΔDR007×YuEBao	-17.233***	-19.471***
	(1.811)	(2.193)
Fixed effect	Id-time, id-fund type, fund code FE	
R^2	0.710	0.728
N	378,228	257,546

INTERNET APPENDIX

NOT INTENDED FOR PUBLICATION

Panel A: Yu'EBao as a payment instrument



Panel B: Subscriptions

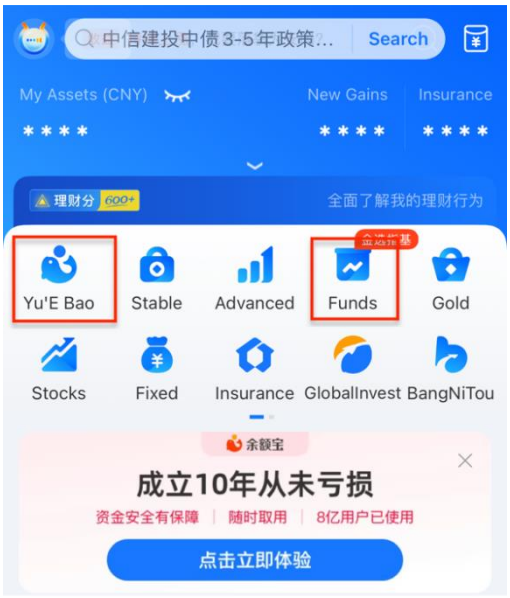


FIGURE A1: ILLUSTRATION OF THE APP SURFACE

TABLE A1: RESPONSE OF MMF RETURNS TO INTEREST RATE CHANGES

This table studies the response of safe assets' return to interest rate changes, based on all MMFs in the market and MMFs listed on AliPay during 2019.10-2021.9. The observations are at the fund-month level. *Return* is the monthly annualized net return of a given fund. *ΔDR007* is the YoY change in the interest rate of the 7-day repos for deposit-taking institutions. Macroeconomic controls include CPI, GDP, exchange rate, and exports. The standard errors are clustered at the fund level and reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)
	All MMFs in the market	MMFs listed on Alipay
	Return	
ΔDR007	0.403***	0.293***
	(0.009)	（0.071）
Controls	N	Y
Fund FE	Y	Y
Month FE	Y	Y
R^2	0.707	0.302
N	17,099	3,176

TABLE A2: RESPONSE OF MMF FLOWS TO INTEREST RATE CHANGES: ALTERNATIVE SAMPLE FILTERING STRATEGIES

This table studies the change in holding of Yu'EBao MMFs and non-Yu'EBao MMFs in response to interest rate changes based on investors who ever held non-Yu'EBao MMFs in the sample period. Refer to Table 2 for the definitions of other variables. The standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
	Flow%		***Netbuy***	
ΔDR007×YuEBao	-11.018***	-12.471***	-1.721***	-2.50***
	(0.768)	(0.938)	(0.408)	(0.520)
Id-fund type FE	Y	Y	Y	Y
Year-month FE	Y	N	Y	N
Id-Year month FE	N	Y	N	Y
Fund FE	Y	Y	Y	Y
R^2	0.063	0.674	0.176	0.750
N	984,981	984,981	984,981	984,981

TABLE A3: DESCRIPTIVE COMPARISON OF INCLUDED AND EXCLUDED CONSUMERS

This table compares average consumer characteristics for individuals included in the main analysis with those excluded. Refer to Table 1 for the definitions of the variables.

Variables	Included consumers	Excluded consumers	Diff
Age	35.44	33.10	2.34
Female	0.53	0.52	0.01
¥Consumption	5168.40	5263.57	-95.17
¥Total asset	41628.97	25516.98	16112.0
¥Yu'EBao MMFs	19255.26	14672.08	4583.18
¥@Wealth management platform	21529.84	10191.47	11338.4
¥non-Yu'EBao MMFs	3790.26	0.04	3790.22
¥Bond asset	3627.69	788.79	2838.90
¥Risky asset	12761.80	9163.17	3598.63

TABLE A4: RESPONSES OF INCLUDED VS. EXCLUDED CONSUMERS' MMF HOLDINGS TO INTEREST RATE CHANGES

This table compares the sensitivity of Yu'EBao's flow to interest rate changes between individuals included and excluded in sample. Insample is a dummy variable that equals one if the individual is included in sample.

	(1)	(2)
	Flow%	***Netbuy***
ΔDR007×Insample	0.344	0.443
	(0.464)	(0.344)
Id-month FE	Y	Y
Fund-year month FE	Y	Y
R^2	0.526	0.542
N	2,292,570	2,292,570

TABLE A5: THE HOLDING OF MMFS IN RESPONSE TO INTEREST RATE CHANGES

This table reports the holding response of two types of MMFs separately. Column (1) and Column (3) include the Yu'EBao MMFs holdings only. Column (2) and Column (4) include the non-Yu'EBao MMFs holdings only. Macroeconomic controls include CPI, GDP, exchange rate, and exports. Refer to Table 2 for the definitions of other variables. Standard errors are clustered at the individual level, and are reported in parentheses under the coefficient estimates. Significant at *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
	Flow%		***NetBuy***	
	Yu'EBao	Non-Yu'EBao	Yu'EBao	Non-Yu'EBao
ΔDR007	12.601***	18.912***	4.434***	4.945***
	(1.273)	(1.915)	(0.637)	(0.709)
Macroeconomic controls	Y	Y	Y	Y
Id-month FE	Y	Y	Y	Y
Fund FE	Y	Y	Y	Y
P-value for the difference	0.00		0.00	
R^2	0.524	0.698	0.542	0.727
N	496,594	292,106	496,594	292,106

Disclosure Statement for Lin Li for the paper "Interest Rate Changes and Portfolio Rebalancing in the Digital Era: The Role of E-Wallet"

Each author of a submitted article should identify each interested party from whom he or she has received significant financial support, summing to at least $10,000 in the past three years, in the form of consultant fees, retainers, grants and the like. The disclosure requirement also includes in---kind support, such as providing access to data. If the support in question comes with a non---disclosure obligation, that fact should be stated, along with as much information as the obligation permits. If there are no such sources of funds, that fact should be stated explicitly. An "interested" party is any individual, group, or organization that has a financial, ideological, or political stake related to the article.

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Lin Li

February 2026

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Yuan Ren

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Wei Wang

February 2026