Cryptocurrency Investing: Stimulus Checks and Inflation Expectations*

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ABSTRACT

We provide a first look into retail cryptocurrency investing by observing cryptocurrency purchases and sales into and out of user bank accounts for millions of U.S. individuals. We document the skyrocketing interest of new investors for the crypto space, even among those with limited traditional financial investments in their portfolios. We show that late entrants in the crypto markets are less wealthy than early adopters. We then show how the fiscal measures adopted during the Covid pandemic have influenced adoption: a significant portion of the stimulus checks has been invested in cryptocurrencies, even by low income individuals. Finally, we show that inflation expectations as well as individual consumption-based CPI are strong predictor of investments in crypto, especially for constrained investors.

Keywords: Cryptocurrency, inflation, FinTech, portfolio choice

JEL classification: E42, G51, G21, G23

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I. Introduction

The global value of cryptocurrencies has grown rapidly over the past few years, peaking at close to $3 trillion by market cap in late 2021[1]. While still relatively small compared to investments in other asset classes, e.g. global equity topped $125 trillion, cryptocurrency investments and its rapid growth, have grabbed the attention of policy makers throughout the world[2]. One of the key concerns around cryptocurrency investing is that consumers are potentially exposing themselves to risks that they are not aware of, which could jeopardize their overall financial health. This concern is magnified by the uncertainty surrounding *who* is currently investing in this nascent space. Although transactions and digital wallet data are publicly available, they do not provide information about who is behind these transactions. Are wealthy individuals diversifying their portfolios? Are low income consumers allocating their limited funds in hopes for a lottery-style win? Are these investments perceived as safe hedges against changes in market conditions? We provide the first answers to these key questions, which can help inform policy responses to this rapidly growing space.

Given existing data limitations, many have only been able to speculate about the possible drivers of the rapid increase in retail participation in the crypto industry. It is widely believed that the large increase in cryptocurrency wealth is a result of a retail "investing mania" and FOMO.[3]. Others suggest that the low interest rate environment and cheap liquidity are key drivers of crypto investing. Finally, some theories suggest that the fixed supply of cryptocurrency make it a good inflation hedge.[4][5]

While each of these idiosyncratic and macro drivers likely propel retail cryptocurrency investment to some extent, we lack a rigorous analysis of these investment drivers, their relative importance, and whether or not they impact people differently. Additionally, it has been challenging to observe how this vast increase in cryptocurrency wealth has filtered through to the general economy, which in turn makes it difficult to predict its impact on consumers and overall economic activity.

In this paper, we provide a first look into retail cryptocurrency investing by making use of unique transactions level data for a representative sample composed of millions of individuals in the U.S. over several years. We identify individual cryptocurrency purchases and sales

[1]See https://fortune.com/2021/11/09/cryptocurrency-market-cap-3-trillion-bitcion-ether-shiba-inu/

[2]See the March 2022 executive order on "Ensuring Responsible Development of Digital Assets" available at https://www.whitehouse.gov/briefing-room/presidential-actions/2022/03/09/executive-order-on-ensuring-responsible-development-of-digital-assets/

[3]See for instance https://www.nytimes.com/2021/03/13/technology/crypto-art-NFTs-trading-cards-investment-manias.html

[4]See https://www.newsweek.com/hedge-funds-turning-bitcoin-consumers-keeping-cars-longer-1600965, which became especially relevant as CPI jumped to 7% from December 2020 to December 2021.

[5]See https://www.bls.gov/opub/ted/2022/consumer-price-index-2021-in-review.htm.

by observing transactions directly into and out of user bank and credit card accounts from significant cryptocurrecy investing avenues, such as cryptocurrency trading platforms and exchanges. Although transactions in cryptocurrencies are recorded in publicly available blockchains, our novel data has several advantages. First of all, the granularity of our data allows us to obtain a holistic view of investors. Specifically, we are able to observe key financial characteristics of these users, from their income and liabilities to their employment and other types of investments. In other words, while blockchain data provides detailed information about transactions, it cannot offer any insight into who is behind the anonymous wallet address. Second, since we observe all the transactions in a user bank and credit account, we can identify numerous other key transactions, such as whether the investors received stimulus payments or unemployment benefits. Finally, the data are directly provided by the major U.S. banks which disclose these transactions to a data aggregator, ensuring that it does not suffer from the common selection concerns related to investors having to join a specific platform to observe their information. Overall, our novel data set enables us to obtain a granular view of retail cryptocurrency investing and allows us to shed light on factors that drive these investments and their impact on consumer outcomes

We begin our analysis by documenting a few key facts about cryptocurrency investments on the extensive and intensive margin. We highlight a tight correlation between crypto investments and the price and returns of Bitcoin. Specifically we find that investors rapidly entered the market in 2017 in the lead up to the Bitcoin price crash in December 2017, and investing demand began to increase rapidly again after the onset of the Covid-19 pandemic in lockstep with the performance of bitcoin. We also show that crypto investments rapidly increased after the Coinbase IPO, consistent with increased investor awareness after the exchange went public. Most of the investments we document are concentrated in the most populous states, such as California and New York, but investment growth has been much more widespread.

We next provide details of how these investments vary by income group and overall investors' characteristics. We find that most investors are at the extremities of the income distribution. Specifically, investors with income below $25k and those earning more than $150k have the largest number of crypto investment transactions. We also find that crypto investors tend to allocate larger sums towards traditional investments, which suggests that overall these crypto investors have larger investment portfolios than the non-crypto investors. We also find that on average crypto investors are more likely to be sophisticated investors, defined as those working for a large financial institution. However, a significant fraction of crypto investors also face large liabilities in the form of credit card debt and lower income groups spend a significantly higher fraction of their salary income on cryptocurrency invest-

ing. Overall, these results suggest that both wealthy and more financially fragile individuals have been fueling the growth of the crypto industry.

Next, we examine whether the measures enacted during the pandemic have affected the investors' propensity to invest in the crypto space. One of the most significant interventions during the pandemic has been the payment of stimulus checks to millions of households in the U.S.. Regardless of whether taxpayers were experiencing financial hardship, they received money. The funds got paid in three separate checks: the first one in April 2020, the second in December 2020 and the last one in March 2021. The amounts were \$1200-\$2400 for the first one, \$600-\$1200 for the second one and \$1400-\$2800 for the third one. Given the size of the fiscal stimulus and the fact that even households not suffering from the economic consequences of the pandemic received it, it is possible that a fraction of these funds ended up being invested, potentially in riskier assets, rather than spent to support the economy as intended. We analyze the marginal propensity to invest out of this additional liquidity and explore its heterogeneity.

We find that the largest propensity to invest in crypto in response to the first stimulus payments is found at the extremes of the income distribution: among low-income investors, earning less than \$25k, and wealthier ones, those earning more than \$150k. For these individuals, the effects are two to three times larger than for middle income investors. Instead, we find a more monotonically increasing effect for the second and third rounds of stimulus payments. Interestingly, we do not observe similar patterns for investing in traditional asset classes. To put these findings in perspective, we show that traditional investment increased before the first stimulus but actually went down after the second and third round of checks. Another dimension we explore is whether the injected liquidity was instrumental to get households to invest in crypto for the first time. We provide supportive evidence for this hypothesis, in fact, we find that the probability of opening a position in crypto jumped around the payment of the stimulus checks. In other words, even on the extensive margin, the additional liquidity provided by the CARES Act, stimulated investors to take additional risk and allocate funds to the crypto asset class. Overall, these results suggest that, for some investors, the funds received during the pandemic motivated them to invest in crypto.

The unprecedented fiscal measures adopted during the Covid pandemic have also thrown inflation concerns at the center of the policy debate. The initial worries about the inflationary consequences of the stimulus packages in 2020 have finally resulted in the highest inflation of the last forty years in 2021 and 2022. Given these new concerns and the fact that cryptocurrencies, especially Bitcoin, have long been depicted as an alternative way to hedge against fluctuations in stocks and bonds, as well as against spikes in inflation, we relate cryptocurrency investing to inflation expectations.

We proceed in two steps. We first exploit the inflation expectation surveys at the aggregate level and uncover a strong positive relation between inflation and investments in crypto assets. We then use ex-ante consumption baskets (measured over the 12 months prior) to create individual-level proxies for inflation expectations. This individual-level measure is particularly valuable to identify the investors that are likely to be more exposed to inflation concerns because of the composition of their baskets, i.e. higher fraction spent on groceries and gas. In addition, this measure also captures the fact that price changes of goods in consumers personal expenditure bundles are likely to drive the formation of individuals' inflation expectations.[6]

We find that higher inflation expectations result in increased cryptocurrency investment, even after controlling for time-varying factors specific to people living within the same city/state and earning similar incomes. We find that this effect is particularly pronounced amongst lower income consumers, those with more unstable income and those overall more constrained. However, we also find that the ones more likely to react to the heighten inflation concerns, by investing in crypto assets, are more sophisticated investors. Intuitively, more sophisticated investors could be more likely to recognize the (potential) benefits of hedging against the increase in prices with changes in their portfolios.

Taken together, we show that a large fraction of individuals have approached the crypto markets as a result of the abundance of liquidity provided by the government and in response to fears about inflation dynamics. What is potentially concerning is that these conditions also led individuals, who do not seem to be diversifying their portfolio by investing a small percentage of their income in cryptocurrencies but rather completely lack a significant exposure to traditional markets, to purchase cryptos. This is not consistent with traditional models of investing or with the guidance that is usually provided to investors by financial advisors, and lead these individuals to face significantly higher volatility than if they had invested in traditional markets.

Let us describes how our findings contribute in the existing literature. A growing literature has started investigating on-chain data. For example, Makarov and Schoar (2021) document the concentration and regional composition of the miners in the Bitcoin blockchain and analyze the ownership concentration of the largest holders of Bitcoin. Whereas Lehar and Parlour (2020) provides evidence of potential collusion among miners.

Some paper have investigated the crypto markets under the lens of asset pricing. For instance, Liu and Tsyvinski (2021) shows that cryptocurrency returns are driven by factors that are specific to cryptocurrency markets such as user adoption of cryptocurrencies and the costs of cryptocurrency production. Liu, Tsyvinski, and Wu (2022) finds that three

[6]See D'Acunto, Malmendier, Ospina and Weber (2021).

factors – cryptocurrency market, size, and momentum – capture the cross-sectional expected cryptocurrency returns. Others have investigated the extent to which market frictions create arbitrage opportunities in crypto markets (see, for instance, Makarov and Schoar (2020)), how price discovery occurs (Makarov and Schoar (2019)) and the presence of wash trading (Cong, Li, Tang, and Yang (2021)).

We contribute to this literature by analyzing the crypto market through the lenses of the retail investors allocating funds to this asset class. We provide the first characterization of the investors and what drives them. In doing so, we also provide evidence supporting the view that the recent increase in prices exhibited bubble features. The analysis pertaining the role of inflation and inflation expectations on crypto investment also contributes to the literature studying how beliefs affects investors' expectation and overall portfolio choices. Giglio, Maggiori, Stroebel, and Utkus (2020), for instance, show that retail investors' beliefs are incorporated in their asset allocation decisions using survey evidence and data on traditional investments. Also related are the studies on inflation by Malmendier and Nagel (2016) and D'Acunto, Malmendier, Ospina, and Weber (2021) which also inform our individual measure of exposure to inflation.

The rest of this paper is organized as follows. The next section introduces the data and describes how the main variables in our analysis are computed. Section IV presents several key facts about crypto investments that exploit the granularity of our data. Section V and VI present the main findings about the role played by stimulus checks and inflation expectations in driving crypto investments.

II. Data

In this Section, we describe our data sources, the process of identifying cryptocurrency transactions, and our key measures, such as stimulus payments and inflation exposure.

A. Transaction level data

Our main data source comprises de-identified transaction data from bank and credit card accounts for over 59 million U.S. consumers from January 2010 to May 2021. The data are unbalanced as consumers can enter and exit the panel. Still, we observe around 10.6 million consumers per month, on average throughout the panel. In addition to the consumer transaction data, we obtained monthly demographics panel data for these consumers, which includes their income range and city/state of residence, from January 2014 to May 2021. We also use consumption patterns from the transaction data set itself to create time-varying

consumer-level characteristics, such as whether a consumer is financially constrained or is a credit card revolver (rather than transactor).

The data are proprietary and come from a large U.S. data aggregation and analytics platform. The data provider assists financial institutions and FinTech firms, including several top U.S. banks, in providing personal financial management services to their wealth management and retail banking clients. This collaboration enables users to track financial accounts (e.g., bank accounts, credit cards, retail reward accounts) and view consumption-related insights. The platform also uses machine learning techniques to categorize data by spending category, merchant, payment mode, and other dimensions. These data – in aggregated and disaggregated forms – can then be offered as a product to institutional investors and academics.

Importantly, the platform provides access to these data based on agreements with the platform's bank partners and non-bank institutions rather than with consumers. This institutional detail makes the data more comprehensive and our setting free from selection issues that may arise when consumers have to opt in to provide their data to some aggregators. Essentially, our data closely resembles data from JP Morgan Chase Institute (e.g., see Ganong and Noel, 2019), but for multiple financial institutions rather than exclusively for JP Morgan Chase.

B. Cryptocurrency and traditional investments

Our research question necessitates identifying cryptocurrency transactions in the data.

As mentioned above, the data provider uses advanced analytical tools to identify the name of a (primary and secondary) merchant pertaining to each transaction, from the transaction description. For example, if one buys or sells cryptocurrency from a cryptocurrency exchange (e.g., Coinbase), this exchange's name appears in the transaction description and is then picked by machine learning algorithms and inputted as the primary merchant in the data set. In certain cases, a cryptocurrency exchange can be categorize as a secondary merchant, for instance, when the primary merchant is a payment system which channels the funds to the exchange (e.g., payments to eToro through PayPal Crypto Hub). We exploit this information in the data to identify all account transactions, both debits and credits, involving crypto exchanges and platforms. There are around 43 crypto investing venues in the data, although most of the transactions are ultimately handled by Coinbase. Then, we observe when users deposit funds into their crypto wallets and when they withdraw these funds into their bank account. We do not have access to specific token-level data, that is, in principle we do not know exactly the specific cryptocurrencies that are purchased or sold through

the external crypto wallet. However, a significant fraction of these transactions contain such information in the description text field and all of these have bitcoin or ethereum as additional information. We can then assume, to a large extent, that most of the transactions we are observing involve these two major cryptocurrencies, although for most of our analysis this is non-consequential as we are more interested about the broader question related to investment in crypto.

To compare cryptocurrency investing with traditional investing, we complement this data by creating similar measures of buying and selling traditional assets based on merchant names in the transaction level data. Specifically, we identify all the major brokerages, such as Charles Schwab and E*Trade, and collect information about debits and credits towards and from these accounts. This allows us to collect information about whether and to what extent households invested in traditional asset classes in an active manner. We also include other large traditional financial institutions, such as Vanguard and Fidelity, providing information about the passive investments, which allows us to better understand the overall investors' positions in traditional markets. Table 1 presents the basic summary statistics. The average income is about $2900 and is paid bi-weekly, users tend to make about 50% of their transactions online. Debits from and credits to the credit card accounts are similar and on average equal $800. About 24% of our individuals are categorized as transactors, and about 11% receive unemployment benefits over our sample period.

III. Who Invests in Crypto?

The first part of our analysis explores the main characteristics of investors' demand for this new asset class. We take advantage of the granularity of the data and the information related to users' characteristics to provide a detailed picture of who these crypto investors are. We start by describing when investors started participating in this market. One hypothesis is that the interest in this market coincide with the popularity and performance of its major currency, i.e., Bitcoin. Figure 1 plots the monthly cryptocurrency investment and overlays it with BTC price. The plot clearly shows that during the first 2018 boom, when BTC value went from roughly $2000 to $10000, as well as during the latest one in 2020-2021, when BTC experienced skyrocketing prices from $5000 to $50000, investors allocated significantly more capital to this asset class. This pattern holds both if we look at holding returns (Panel A) as well as at prices (Panel B) and BTC volume (Panel C). To put this into perspective, one way to report the size of the crypto investment for the users we analyze is to report the investment as a share of total spending. Figure 2 shows that in the latest part of our sample, the crypto investment share has been approaching its highest historical point, about

4%, recorded in 2018.

To test whether the attention garnered by crypto markets during bull periods have resulted in new investors joining the flock, we report in Figure 3 the number of new cryptocurrency investors by year. At its pick in 2017-2018, crypto was able to add up to 500 thousands new investors a month. That number has been significantly lower in the latest boom, with about 300 thousands new investors being added to the crypto market every month in 2021. Another potentially informative cut of the data is provided by the geographical distribution of the crypto investments. Figure 4 reports the top and bottom 10 states based on crypto investment. Among the most active ones we find California, Texas, New York and Florida; while in the bottom category we find Rhode Island, Iowa and Maine.

Panel C and D of Table 1 compare early adopters with late adopters of crypto. Early adopters are those that by the end of December 2019 had already invested at least $500 in cryptocurrencies. Late adopters are those individuals who start investing in cryptos later in our sample. Consistent with a model of bubble being fueled by less sophisticated investors joining later in the cycle, we find that late adopters have significantly lower income on average (about $2000 compared to about $3000 of the early adopters). We also find that among the late adopters the probability of being unemployed is five times larger than among early adopters. In addition, we also find that early adopters are more likely to have a mortgage and to have a larger mortgage than late adopters.

We complement the previous analysis by looking at debits and credits in relation to market conditions. Specifically, we investigate to what extent investors are more willing to invest or withdraw funds from the crypto market in response to changes in Bitcoin prices. We report the results in Panel A of Table 2. We observe a significant and positive relationship between both investment and withdrawal with respect to Bitcoin prices, suggesting that overall bullish and bearish market sentiment are a significant factor in driving crypto investment. Column (3) shows that overall net flows positively correlates with lag BTC returns with a one percentage increase in BTC increase net flows by about 3%. Panel B performs a similar analysis for traditional investment and its relation with the S&P 500. We do not find such a relationship between overall market conditions and investments or withdrawals. This seems to suggest that the active investors in our sample more closely monitor the crypto market when deciding whether to make or withdraw their investments.

One of the main advantages of our data is the possibility to observe some key financial information about the investors. Then, we start by exploring the distribution of investments based on income. Figure 5 reports the percentage of investors by income class, as computed in December 2019, for the count and volume of crypto transactions. What we observe is that for what concerns the count, the distribution is bimodal. Investors at both end of the

spectrum, those earning less than $45k and those earning more than $100k, are the most active. However, in terms of volume, the bulk of the volume is generated by the investors on the right tail of the distribution, those earning more than $150k. This seems to suggest that not just wealthier investors are willing to take risk by investing in cryptocurrencies.

We also check whether the composition of the users present in our data could potentially affect this relationship between income and investment. Figure 6 plots the split of crypto investors and data users by income brackets. We find that the wealthier individuals account for a disproportionately higher percentage of the crypto investors: About 23% of users in our data earn more than $100k, while among crypto investors that proportion is 34%.

A. Crypto and Traditional Investments

An important aspect to investigate to have a better understanding of the reasons behind the skyrocketing interest in cryptocurrencies is whether investors behave any differently in crypto than in traditional markets. Thus, we take advantage the opportunity to compare for the same users their crypto investment with their traditional investments.

Figure 7 plots the median yearly investment by income class and asset class. We find that for most users, those earning less than $75k, their investments in the crypto market and in traditional markets are quite comparable. These investments tend to be small, less than $1000, but the crypto amounts track the traditional ones closely. This can be explained with users allocating a small portion of their income to day trading activities. However, a significant divergence occurs for the wealthier individuals, for whom crypto investment tend to be significantly smaller. For those earning between $100k and $150k the crypto investment represents about half of their traditional investments. The gap increases for those earning more than $150k, who tend to invest about three times more in stocks and bond than in crypto.

Another way of looking at it is that crypto investments account for 51% of yearly investment for low income investors, and shy of 25% for wealthier ones. Similarly, Figure 8 shows that the least wealthy investors, consistently over our time period, allocate a larger percentage of their salaries, up to 10%, on cryptocurrency investment.

One question is whether the opportunity to invest in crypto assets somehow crowd-out investments in more traditional assets. Figure 9 shows that this is likely not the case, because we find that crypto investors tend to invest more in traditional assets than non-cryptocurrency investors at every income level. This suggests that those investing in crypto tend to be overall more financially active than those who do not. We conclude by reporting in Figure 10 the percentage of crypto investors by various indicators. We find that 67% are

revolvers, meaning that they carry a balance on their credit cards, compared to 78% for the ones that never invested in crypto while within both crypto and not-crypto investors there are 3% who paid a late fee and about 40% who received a Covid stimulus check. This last fact motivates the analysis in the next section.

IV. Stimulus Checks and Crypto Investing

We have seen a significant increase in investments in the crypto sector in the 2020-2021 years. These have coincided with an unprecedented policy response to curb the adverse effects of the pandemic on the economy. One of the most significant interventions during the pandemic has been the payment of stimulus checks to millions of households in the U.S.. A key characteristics of these policies was that regardless of whether taxpayers were experiencing financial hardship they received money.

The funds got paid in three separate checks: the first one in April 2020, the second in December 2020 and the last one in March 2021. The amounts were $1200-$2400 for the first one, $600-$1200 for the second one and $1400-$2800 for the third one. In all cases this aid starts phasing out at $75000 for individuals and $150000 for couples. Given the size of the fiscal stimulus and the fact that even households not suffering from the economic consequences of the pandemic received it, it is possible that a fraction of these funds ended up being invested, potentially in riskier assets, rather than spent to support the households' finances and the economy as intended.

We test this hypothesis by identifying the households that received the stimulus and tracked their investments before and after these additional funds were received. We start this analysis by plotting in Figure 12 the crypto investments relative to the stimulus date differentiating between the three different rounds. This figure suggests a slow increase in crypto investments leading to the stimulus payments, with a spike right around the payment date. In addition to these spikes, suggesting that a fraction of the financial aid provided by the government was invested in crypto, we do find a higher level of crypto investments for few weeks after the stimulus checks. The effects are the most pronounced for the first two rounds of stimulus.

While the stimulus starts phasing out above $75k and $150k for individuals and couples respectively, one could also expect the effects to be more concentrated among the higher income individuals because of the very discretionary nature of crypto investments. In contrast, when we split the investment by income class, we find a very similar patterns for all income classes, except the lower group, those earning less than $25 thousands for whom the increase in crypto investment is the largest after receiving the first stimulus check.

One question is whether the crypto investment reacts any differently to the stimulus checks than the traditional investments. Figure 13 reproduces plots similar to those in Figure 12 where we report the traditional investments. We find that traditional investment slightly increased before the first stimulus but actually went down after the second and third round of checks. Furthermore, the magnitude of the increase around the stimulus payments is significantly smaller than the increase observed for crypto investments. This finding corroborates the hypothesis that the additional liquidity provided by the Covid-related fiscal measures also flew into riskier asset classes like crypto.

We complement the previous analysis in Table 3 where we estimate the following specification:

$$CryptoInvestments_{i,t} = \sum_{-14}^{14} \beta_\tau + \mu_i + \Gamma_i + \epsilon_{i,t}$$

where on the left hand side we have crypto investment, which is measured in different ways, both as dollar values as well as in logs. We also consider as dependent variable the probability of start investing in crypto as a measure of the extent to which the stimulus checks have increased the propensity to invest in crypto on the extensive margin. On the right hand side we have indicators for the days before and after the stimulus checks. In order to control for time-invariant characteristics of the investors, such as their appetite for risk, we include investors' fixed effects. We also include a number of time-varying controls, such as indicators for $25k income-brackets to capture differences in the investment propensity of investors with different income, as well as, market wide indicators such as the bitcoin prices.

We find a significant increase in crypto investment of about $50 after the first round of aid. This effect is persistent for several weeks after the payment week date. We find even stronger effects for the second round of checks, with an increase of about $250 for the first couple of weeks after the stimulus payments. The effects for the latest check are noisier and harder to disentangle given the previous two rounds. The effects are also economically meaningful, in fact, the investment increase we observe is about 20% of the standard variation.

We complement the previous analysis by looking at the heterogeneity in the response to the stimulus check by income class. For the first stimulus check, reported in Panel A of Table 4, we find that the largest propensity to invest in crypto in response to the stimulus payments is found at the extremes of the income distribution: among low-income investors, earning less than $25k and wealthier ones, those earning more than $150k. The effects are two to three times larger than for middle income investors.

We find a more monotonically increasing effect for the second and third rounds of stimulus

payments. Specifically, for the lowest income bracket, we find in Panel B an increase of about $90 which increases to $150 for those earning between $75 and $100k and reaches almost $600 for the wealthiest investors. A similar pattern, although with lower magnitudes, is found in Panel C which performs a similar analysis for the third round of stimulus checks. Figure 14 reports the marginal propensity to invest for different asset classes. We find that it goes from X cents for every one dollar of stimulus for the lowest income group to Y cents for the highest income bracket.

The increase in crypto investments might mirror an overall increase in risk-taking appetite resulting from the low interest rate environment together with the increased possibility for investors to spend time at home monitoring their portfolios. To test if this is the case, we examine the response of traditional investment to the stimulus checks. We report the results in Table 5. We find that there is a statistically significant but economically small effect for traditional investment. Specifically, the results suggest an increased allocation towards traditional investment of just $, significantly less than those allocated to crypto.

One might wonder whether any type of government payment would lead to an increase in the marginal propensity to invest. The increased liquidity thanks to government funds might push individuals to allocate a fraction, even a small one, towards riskier but talked about investments as crypto. We find that this is the case also for unemployment benefits. In a similar fashion to the previous analysis, we identify the unemployment benefits payment by analyzing the transaction-level information of our data. Specifically, we identify among the text of the transactions those that contain the unemployment benefits information. We then estimate the effect of time indicators on the crypto investments while we control for investor fixed effects as well as the income class and cohort fixed effects.

Table 6 reports the results. To ensure that we are not comparing constrained with unconstrained individuals, we restrict our sample to only individuals that receive unemployment benefits. In other words, our specification takes advantage of the timing difference among those who receive the stimulus and those who have not yet. This ensure that our effects are driven by the positive liquidity effect provided by payment of UI benefits. We find that crypto investments increase significantly right after the unemployment benefits payments. Consistent with these measures reaching individuals facing liquidity constraints, there is no increase in crypto investment in the weeks preceding the payments. However, we find that on average the individuals receiving UI benefits invest in crypto about $200 in the first three weeks after receiving the payments. This is also an economically meaningful effect given the average size of the crypto investments.

Overall, we find evidence consistent with the stimulus checks provided during the Covid pandemic reaching unconstrained individuals who might then exhibit a high propensity to

invest in riskier assets. In addition, also more traditional fiscal measures, such as UI, have contributed to bring individuals to invest in crypto.

V. Inflation and Crypto Investing

Cryptocurrencies, especially Bitcoin, have long been depicted as digital gold, that is, an alternative way to hedge against fluctuations in traditional sectors of the economy, stocks and bonds, as well as against spikes in inflation.[7] The unprecedented fiscal measures adopted during the Covid pandemic have resulted in significant worries about their inflationary consequences during 2021 and finally resulted in the highest rise in inflation in the last forty years in 2021 and 2022.

One key question we might address in our setting is the extent to which these changes in market conditions impacted the investors' propensity to allocate a portion of their portfolios in crypto. We do so in Table 7. Panel A provides the baseline specification where we regress the cryptocurrencies investments on the 12-month inflation expectations. We control for investor and region fixed effects. We find that an increase in inflation expectations is correlated with a significant increase in crypto investments. The magnitude is also economically significant, in fact, a one percent increase in inflation is associated with a 10% increase in investment. Columns (2)-(4) confirm this finding by controlling for a number of investor-level characteristics that might be correlated with the effects of inflation on investors' behavior, such as whether the individuals are constrained, their salary volatility, and their level of sophistication.

At this point, we can investigate who is likely to respond to an increase in inflation expectations. One hypothesis is that the ones that are most likely to be adversely affected by an increase in inflation are the less wealthy ones, these are individuals that are likely to exhibit a basket of consumption goods where gas and groceries are the largest categories which cannot be easily adjusted in response to inflation. Similarly, individuals that are more constrained might fear an increase in inflation more than individuals with plenty of liquidity.

We test this hypothesis in Panel A of Table 7. We find that the effect is the largest for the least wealthy and the constrained investors. Specifically, we find that an increase of one percent in inflation expectations increase crypto investment by $ more for the individuals in the lowest income brackets. Another important dimension to explore is investors' sophistication. The relationship between cryptocurrency and inflation is likely to be more front and center among sophisticated investors. These are the ones more likely to actively engage in

[7] See for instance https://www.forbes.com/sites/forbesfinancecouncil/2020/05/11/is-bitcoin-really-digital-gold/.

inflation-hedging strategies. We identify more sophisticated investors by identifying those working for the top 200 finance firms (defined in order of the number of debit transactions labeled "Securities Trades" per primary merchant), which accounted for 99% of the securities trades debit transactions in the data. We define a sophisticated investor as an investor who will receive or has received any salary income from one of these finance firms.

Based on this definition, 1.1% of users are financially sophisticated versus 7.0% of crypto investors. Although not perfect, we believe that working for a large financial institution is likely to be correlated with sophistication due to backgrounds and work experiences. In line with the hypothesis discussed above, Panel A of Table 7 shows that more sophisticated investors are much more responsive to inflation expectations. Panel B of Table 7 also reports similar results when a consumption-based investor-level inflation is adopted as main independent variable. The idea is that depending on the individuals' consumption patterns, inflation might be perceived in a significantly different way. We then measure their consumption basket and use that as a measure of heterogeneity among investors. Even in this case we find a significant reaction of crypto investment to individual-level inflation. The effects are stronger for those facing higher salary volatility and for sophisticated investors.

VI. Conclusions

This paper provides the first comprehensive description of crypto investors and what motivates them. Rather than using on-chain data, which only provide anonymous information about wallet addresses, we exploit bank account information for a representative sample of the U.S. which offer information about deposits and withdrawals from crypto accounts at centralized exchanges like Coinbase. We also exploit the fact that we observe a detailed picture of the investors' finances to investigate the relationship between traditional and cryptocurrency investments.

We show that investors deposits and withdrawals are significantly and positively correlated with the price of Bitcoin. This in contrast to what we observe for traditional investment, where investors do not seem to realize gains when market conditions improve. We show that during the last bull run, from 2020 to 2021, even low income investors allocated funds to this asset class. Furthermore, the average financial characteristics of the first-time investors have deteriorated, that is, early adopters' financial characteristics such as their income and their liabilities were significantly healthier than late adopters. This evidence also suggests that the increase in crypto prices might resemble the dynamics of a bubble.

One hypothesis is that the fiscal measures adopted during the pandemic might have also explained the increase in interest in crypto. Individuals with more liquidity and limited ways

to spend it might have turned to the crypto market as a potential additional investment. We find evidence corroborating this hypothesis. Investors deposited a significant fraction of their stimulus checks in crypto. This holds true also for their unemployment benefits.

Finally, we also provide evidence that investors more exposed to inflation, based on their consumption baskets, were more likely to invest in crypto. This is true also among the more sophisticated investors, which suggests that crypto was seen as a potential hedge against the rise of inflation.

REFERENCES

Cong, Lin William, Xi Li, Ke Tang, and Yang Yang, 2021, Crypto wash trading, *arXiv preprint arXiv:2108.10984* .

D'Acunto, Francesco, Ulrike Malmendier, Juan Ospina, and Michael Weber, 2021, Exposure to grocery prices and inflation expectations, *Journal of Political Economy* 129, 1615–1639.

Giglio, Stefano, Matteo Maggiori, Johannes Stroebel, and Stephen Utkus, 2020, Inside the mind of a stock market crash, Working paper, *NBER*.

Lehar, Alfred, and Christine A Parlour, 2020, Miner collusion and the bitcoin protocol, *Available at SSRN 3559894* .

Liu, Yukun, and Aleh Tsyvinski, 2021, Risks and returns of cryptocurrency, *The Review of Financial Studies* 34, 2689–2727.

Liu, Yukun, Aleh Tsyvinski, and Xi Wu, 2022, Common risk factors in cryptocurrency, *The Journal of Finance* 77, 1133–1177.

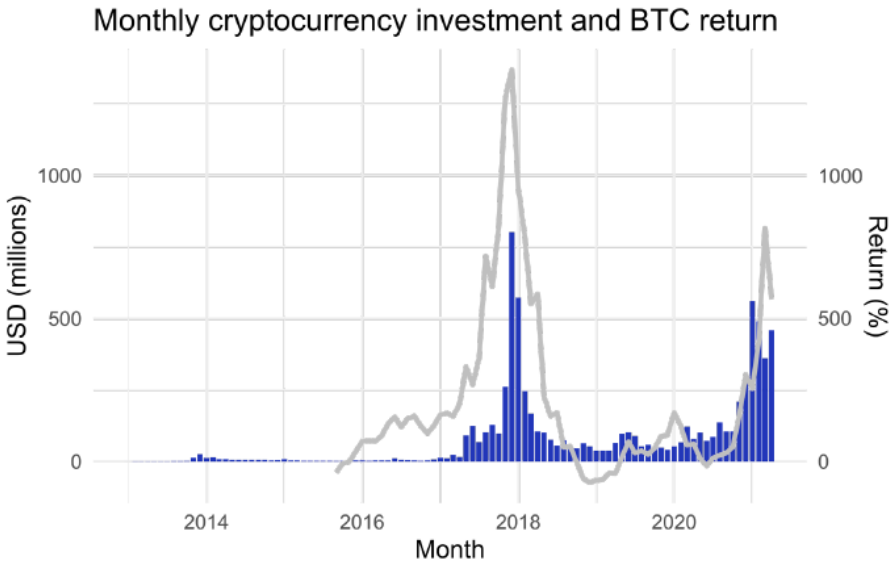
Makarov, Igor, and Antoinette Schoar, 2019, Price discovery in cryptocurrency markets, in *AEA Papers and Proceedings*, volume 109, 97–99.

Makarov, Igor, and Antoinette Schoar, 2020, Trading and arbitrage in cryptocurrency markets, *Journal of Financial Economics* 135, 293–319.

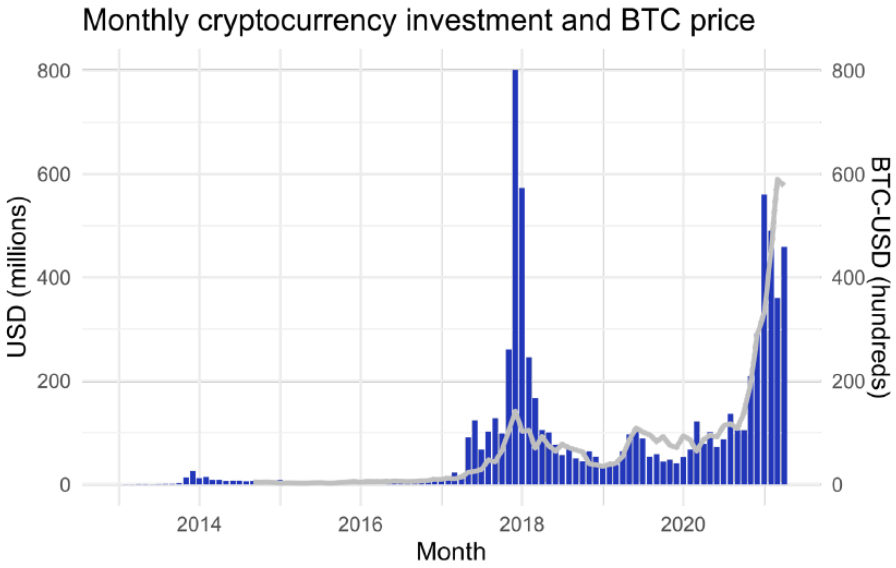
Makarov, Igor, and Antoinette Schoar, 2021, Blockchain analysis of the bitcoin market, Technical report, National Bureau of Economic Research.

Malmendier, Ulrike, and Stefan Nagel, 2016, Learning from inflation experiences, *The Quarterly Journal of Economics* 131, 53–87.

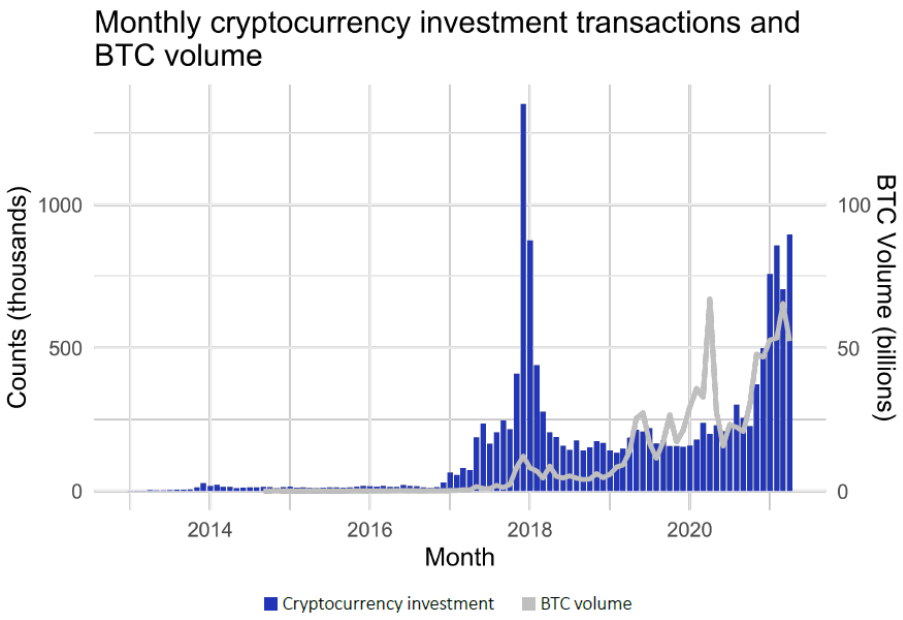
Figure 1. Crypto Investment and BTC Dynamics



Panel (A): Cryptocurrency Investment and BTC Return



Panel (B): Cryptocurrency Investment and BTC Price



Panel (C): Cryptocurrency Investment and BTC Volume

Figure 2. Cryptocurrency Investment Share

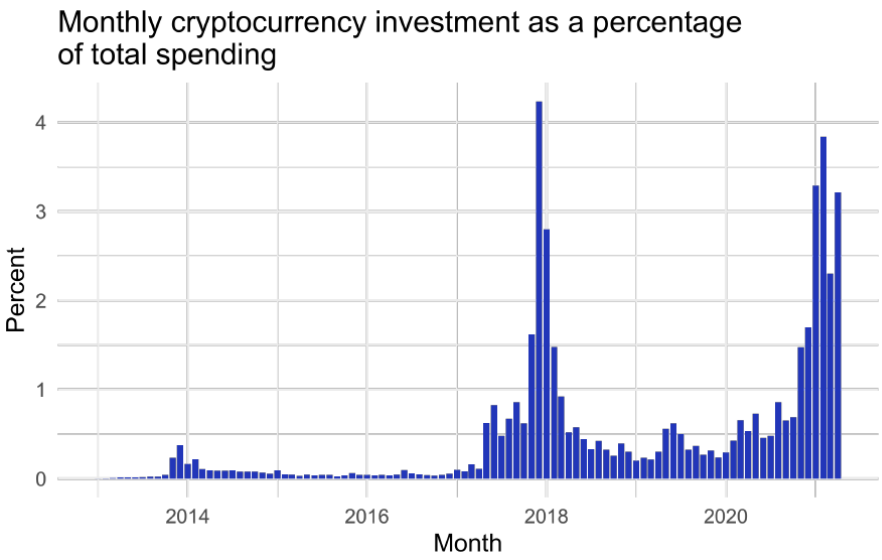


Figure 3. Number of New Cryptocurrency Investors by Year

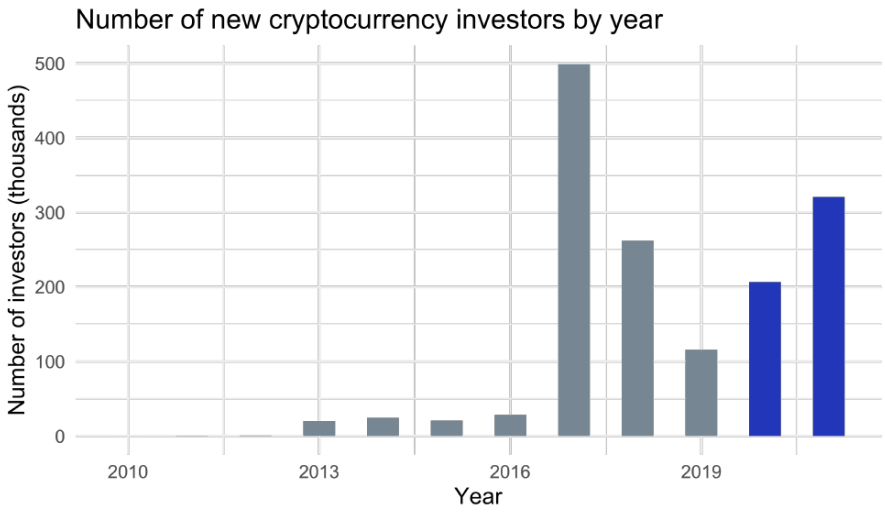


Figure 4. Crypto Investment: Top and Bottom 10 States

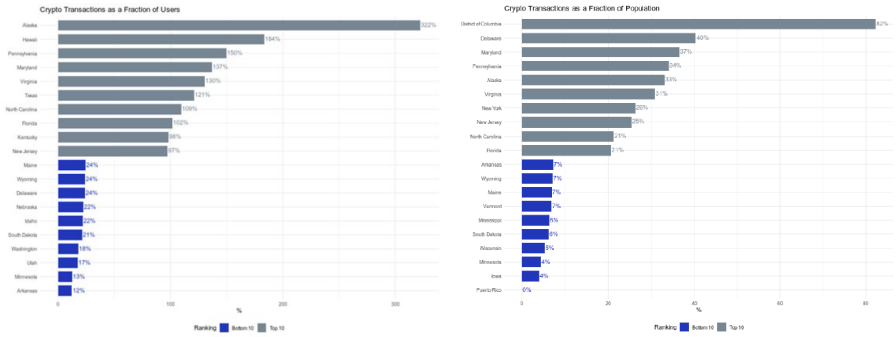


Figure 5. Percentage of Investors by Income Class

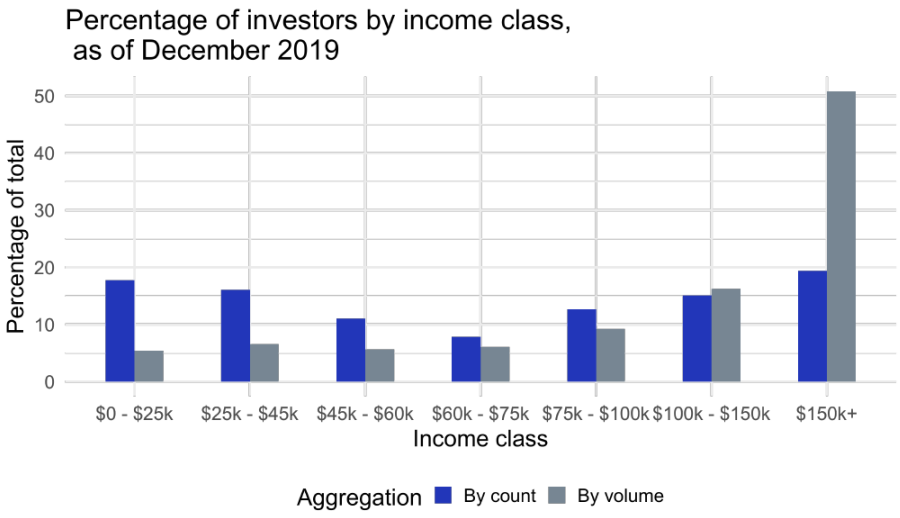


Figure 6. Cryptocurrency Investors and Users by Income Class

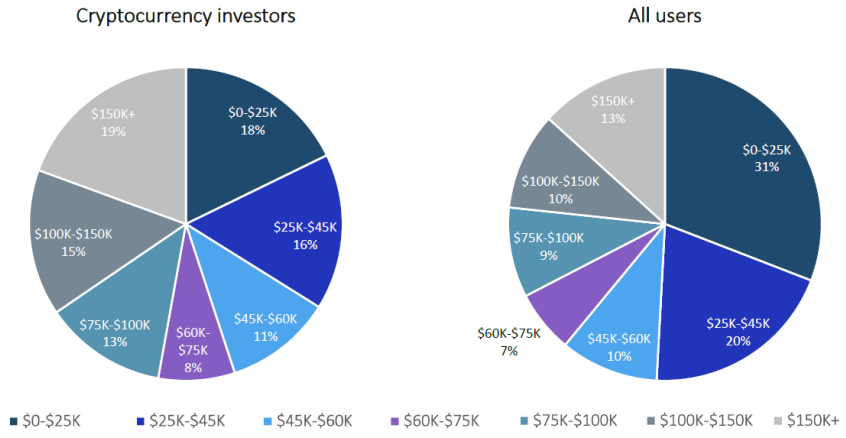


Figure 7. Median Annual Investment by Asset and Income Class

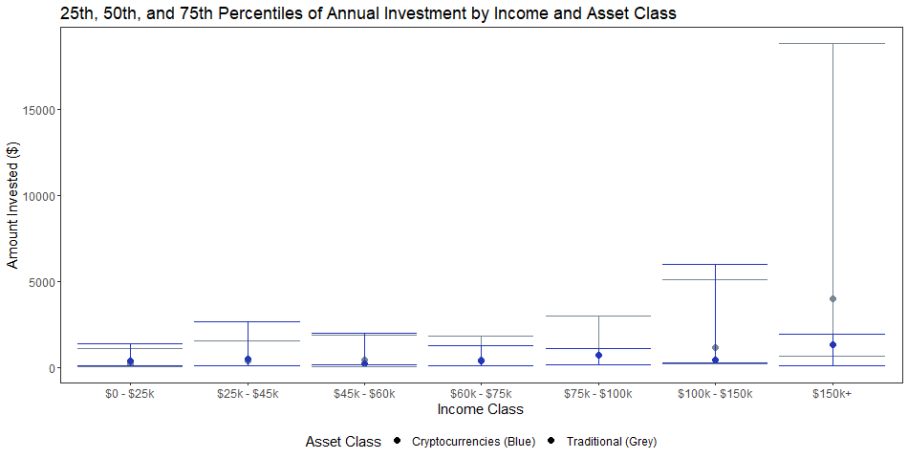


Figure 8. Cryptocurrency Investment as a Percentage of Salary

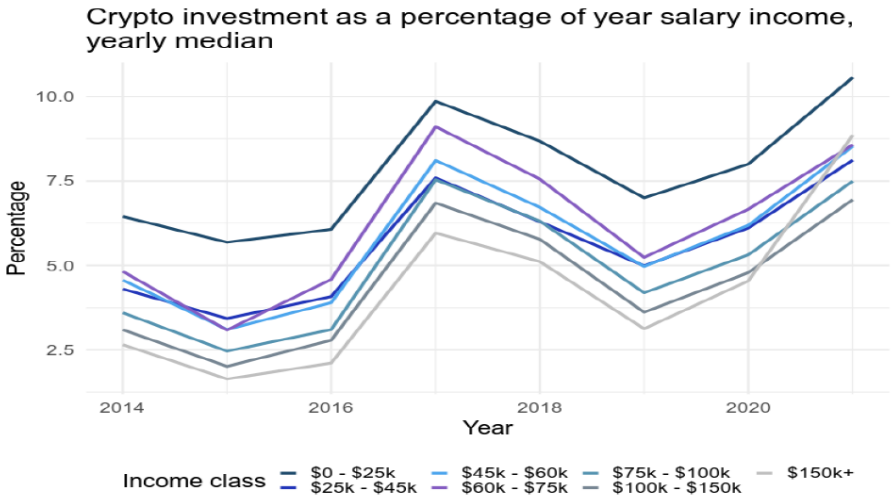


Figure 9. Traditional Investment: Crypto v. Non-Crypto Investors

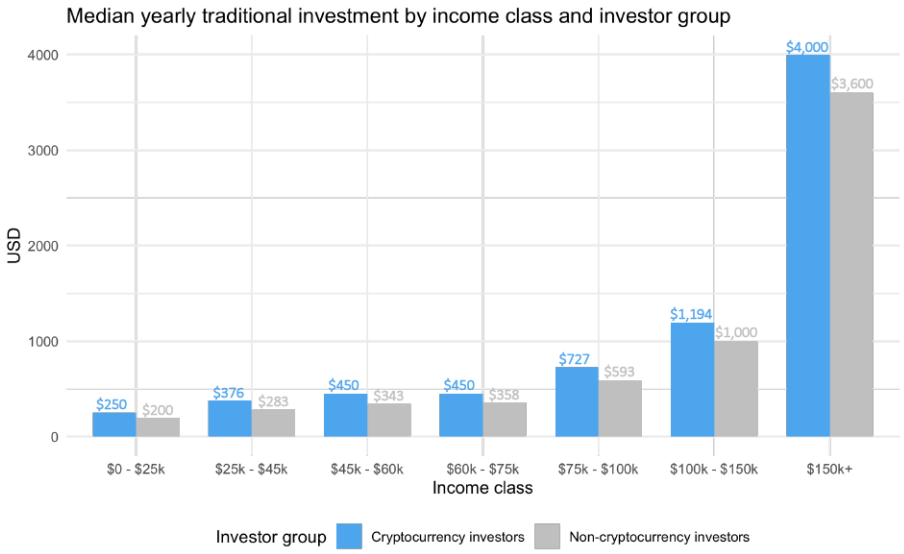


Figure 10. Crypto Investors by Various Indicators

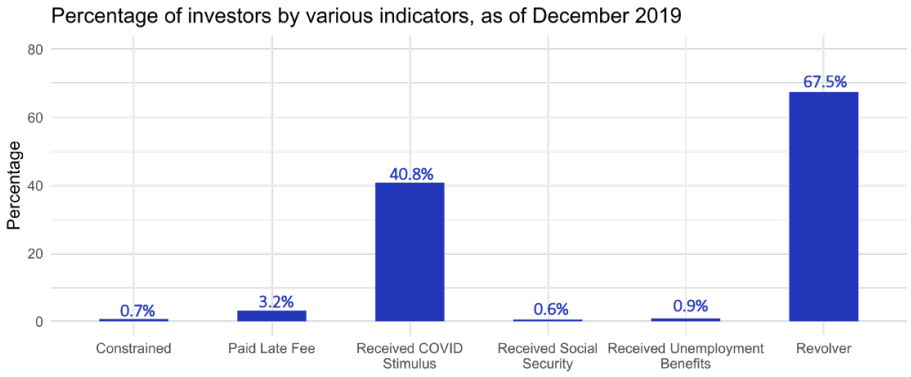


Figure 11. Non-Crypto Investors by Various Indicators

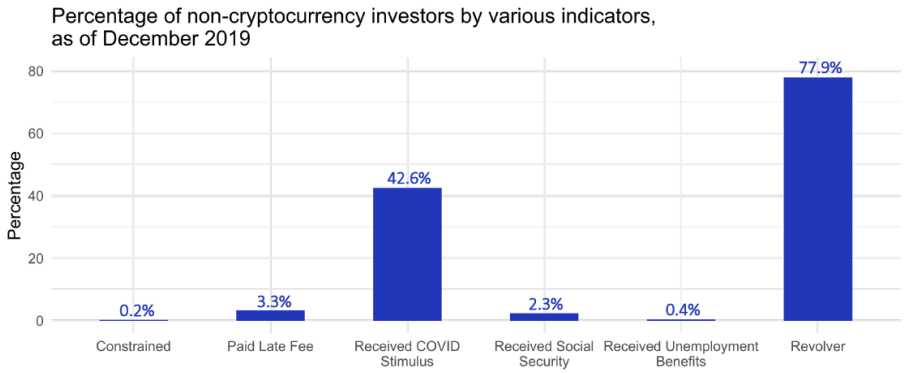


Figure 12. Cryptocurrency Investment Around Stimulus Dates

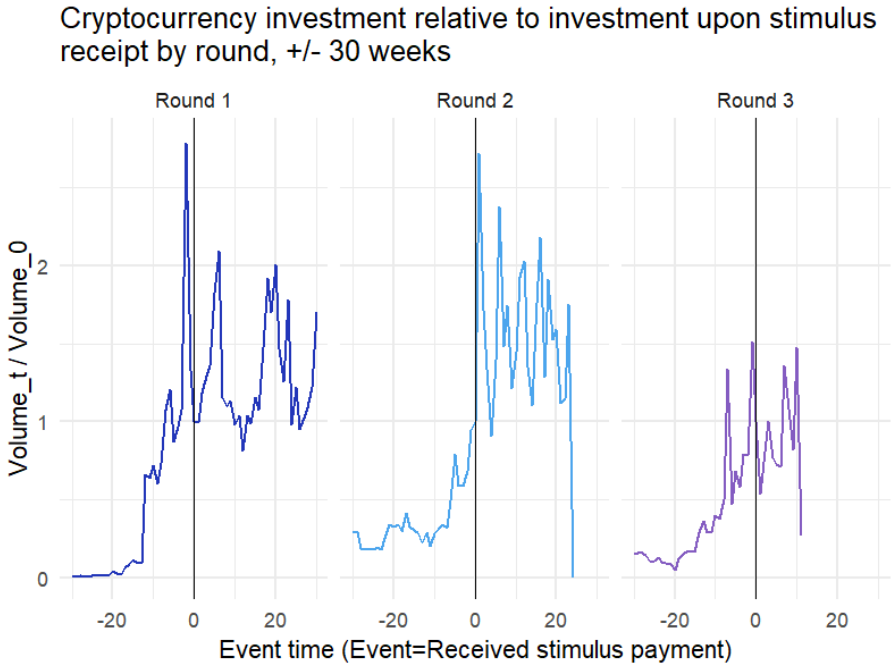


Figure 13. Traditional Investment Around Stimulus Dates

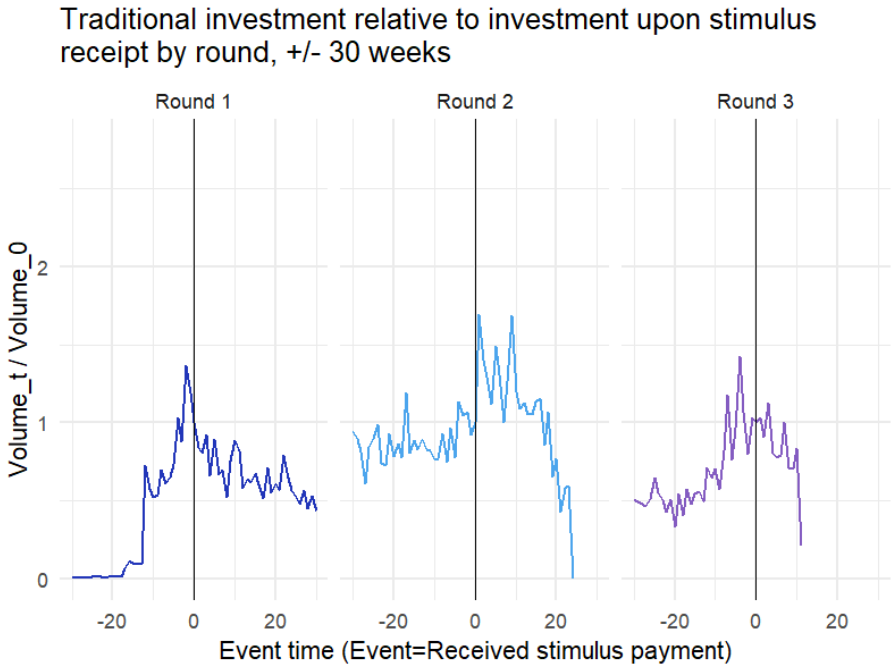
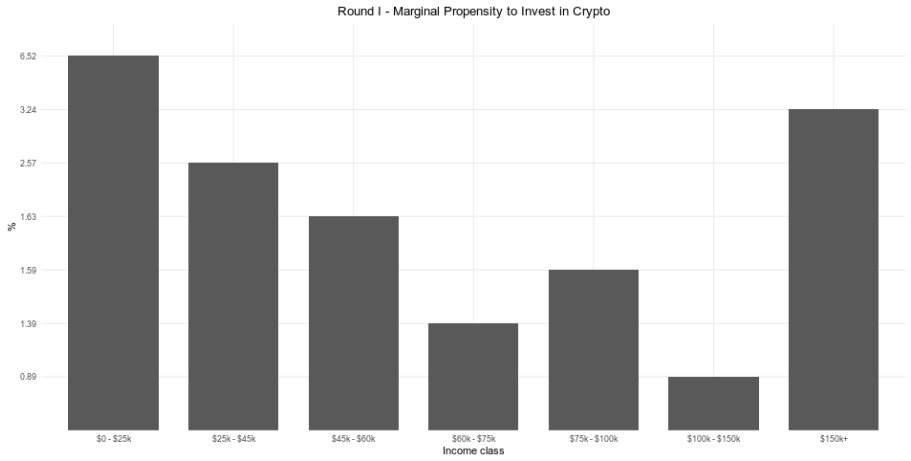
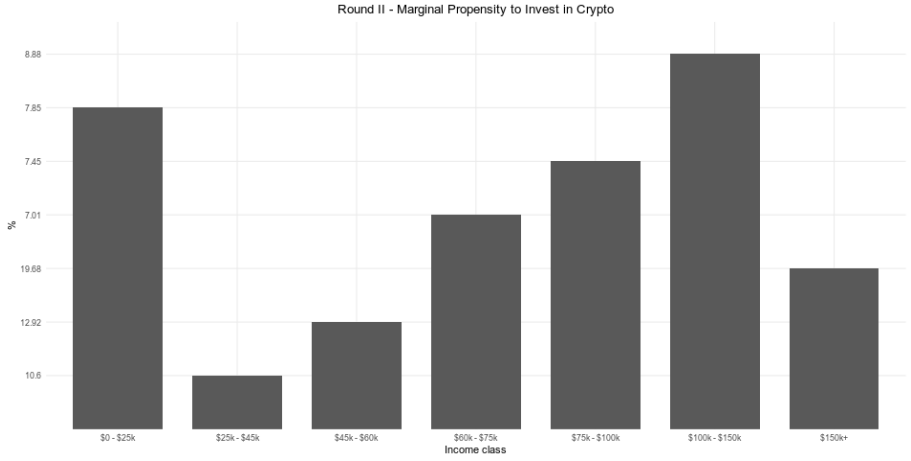


Figure 14.
Stimulus I Marginal Propensity to Invest in Crypto by Income Class



Stimulus II Marginal Propensity to Invest in Crypto by Income Class



Stimulus III Marginal Propensity to Invest in Crypto by Income Class

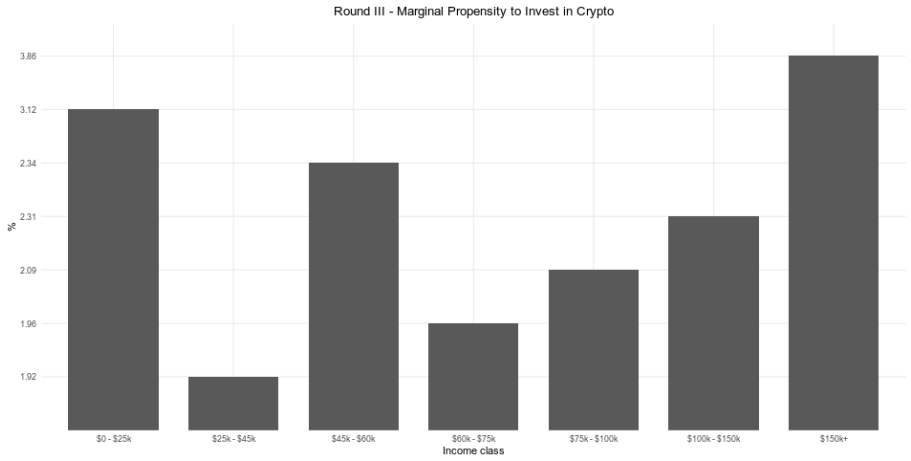


Table 1
Summary Statistics

Panel (A): Summary Statistics

Statistic	5%	25%	50%	Mean	75%	95%	Obs.
Salary income	0	0	264.98	2,914.18	3,947.80	10,437.20	98,442,720
Nonphysical transactions (%)	0	30.51	50	51.29	75	100	98,442,720
Credit (Credit cards)	0	0	0	788.09	300	4,131.26	98,442,720
Debit (Credit cards)	0	0	0	801.43	357.59	4,200	98,442,720
Credit (Total)	0	1,529.20	5,218.06	14,012.20	11,521.69	37,369.14	98,442,720
Debit (Total)	0	1,600	5,224.23	13,767.77	11,563.54	37,319.93	98,442,720
Unemployment benefits	0	0	0	10.86	0	0	98,442,720
Transactor (I)	0	0	0	0.24	0	1	98,442,720

Panel (B): Income classes

	$0-$25k	$25k-$45k	$45k-$60k	$60k-$75k	$75k-$100k	$100k-$150k	$150k+	Unknown
N	14,897,691	11,844,724	7,849,843	5,300,984	8,492,069	9,603,062	11,658,965	28,795,382

Panel C

Summary Statistics: Early Crypto Adopters

Statistic	5%	25%	50%	Mean	75%	95%	Obs.
Salary income	0.00	0.00	271.66	2,918.96	3,959.86	10,448.28	97,791,447
Nonphysical transactions (%)	0.00	30.43	50.00	51.20	75.00	100.00	97,791,447
Credit (Credit cards)	0.00	0.00	0.00	790.36	300.00	4,142.68	97,791,447
Debit (Credit cards)	0.00	0.00	0.00	803.84	3,62.65	4,210.14	97,791,447
Credit (Total)	0.00	1,529.96	5,224.39	13,993.52	11,528.42	37,333.76	97,791,447
Debit (Total)	0.00	1,600.30	5,230.09	13,750.35	11,570.16	37,282.78	97,791,447
Mortgage payments	0.00	0.00	0.00	417.81	0.00	2,545.90	97,791,447
Unemployment benefits	0.00	0.00	0.00	10.59	0.00	0.00	97,791,447
Transactor (I)	0.00	0.00	0.00	0.24	0.00	1.00	97,791,447

Panel D

Summary Statistics: Late Crypto Adopters

Statistic	5%	25%	50%	Mean	75%	95%	Obs.
Salary income	0.00	0.00	0.00	2,197.55	1,976.99	8,167.61	651,273
Nonphysical transactions (%)	24.41	47.14	64.15	63.73	82.61	100.00	651,273
Credit (Credit cards)	0.00	0.00	0.00	446.05	0.00	2,000.00	651,273
Debit (Credit cards)	0.00	0.00	0.00	439.55	0.00	2,085.86	651,273
Credit (Total)	13.90	1,465.66	4,350.33	16,817.84	10,378.89	44,035.16	651,273
Debit (Total)	70.00	1,529.76	4,421.89	16,384.69	10,443.42	44,625.00	651,273
Mortgage payments	0.00	0.00	0.00	207.18	0.00	1,461.39	651,273
Unemployment benefits	0.00	0.00	0.00	50.98	0.00	0.00	651,273
Transactor (I)	0.00	0.00	0.00	0.09	0.00	1.00	651,273

Table 2

Panel (A): Cryptocurrency Investment Flows in Response to BTC Prices

	Dependent variable:		
	% Chg Debits	% Chg Credits	% Chg Net Flows
	(1)	(2)	(3)
BTC Return	1.024*	0.529*	1.557
	(0.550)	(0.282)	(1.844)
Lag(BTC Return, 1)	1.162***	1.098***	2.898***
	(0.224)	(0.245)	(1.103)
Constant	−2.056	−0.951	−45.196
	(4.916)	(3.355)	(54.270)
Observations	79	79	79
R^2	0.301	0.332	0.037
Adjusted R^2	0.283	0.314	0.012
Residual Std. Error (df = 76)	59.932	43.088	416.919
F Statistic (df = 2; 76)	16.356***	18.853***	1.480
Note:			*p<0.1; **p<0.05; ***p<0.01

Panel (B): Traditional Investment Flows in Response to S&P 500 Prices

	Dependent variable:		
	% Chg Debits	% Chg Credits	% Chg Net Flows
	(1)	(2)	(3)
S&P 500 Return	−1.385	−0.136	−1.741
	(0.992)	(0.468)	(1.151)
Lag(S&P 500 Return, 1)	0.153	0.332	0.146
	(0.600)	(0.334)	(0.765)
Constant	2.777	0.925	3.778
	(2.184)	(1.423)	(2.706)
Observations	79	79	79
R^2	0.080	0.008	0.091
Adjusted R^2	0.056	−0.018	0.067
Residual Std. Error (df = 76)	20.187	17.004	23.592
F Statistic (df = 2; 76)	3.324**	0.324	3.805**
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 3

Panel (A): Crypto Investment Response to Stimulus I

	Debits		Log(Debits)		% Change Debits	
	(1)	(2)	(3)	(4)	(5)	(6)
τ=-12	-6.49	-7.68	-0.16***	-0.14***	-25.19*	-21.53
	(10.98)	(15.23)	(0.03)	(0.03)	(11.24)	(14.05)
τ=-11	-10.60	-11.33*	-0.15***	-0.14***	7.40	18.12
	(5.84)	(6.28)	(0.02)	(0.02)	(13.81)	(12.17)
τ=-10	37.34**	37.61***	-0.11***	-0.09***	2.80	11.66
	(14.78)	(8.19)	(0.02)	(0.02)	(16.61)	(14.63)
τ=-9	46.65*	47.33***	-0.02	-0.01	144.94	153.47
	(19.13)	(13.54)	(0.02)	(0.02)	(100.55)	(98.63)
τ=-8	32.76*	33.20***	-0.03*	-0.02	9.96	15.49
	(15.06)	(9.47)	(0.02)	(0.02)	(5.74)	(15.49)
τ=-7	28.02**	28.41***	0.03	0.04	15.14	21.52
	(8.53)	(8.56)	(0.03)	(0.03)	(13.70)	(16.44)
τ=-6	21.02**	19.43**	-0.05**	-0.05**	4.14	0.79
	(6.16)	(7.68)	(0.02)	(0.02)	(17.03)	(19.04)
τ=-5	89.13**	87.86***	0.21***	0.22***	69.53**	68.35***
	(29.54)	(22.44)	(0.05)	(0.05)	(24.69)	(26.31)
τ=-4	57.57**	55.80***	0.10***	0.10***	24.00	18.59
	(19.48)	(18.19)	(0.02)	(0.03)	(18.73)	(23.15)
τ=-3	-10.14	-11.68	-0.05*	-0.05	-14.31	-16.31
	(6.16)	(8.39)	(0.02)	(0.03)	(17.34)	(16.93)
τ=-2	-15.36*	-17.24***	-0.08**	-0.09***	-6.61	-15.41**
	(6.80)	(4.32)	(0.03)	(0.02)	(12.06)	(7.15)
τ=0	46.59***	46.83***	0.27***	0.27***	97.85***	100.41***
	(8.67)	(8.33)	(0.03)	(0.02)	(11.43)	(10.31)
τ=1	18.04**	18.22**	0.18***	0.17***	35.74**	36.90**
	(6.52)	(8.22)	(0.02)	(0.02)	(14.36)	(16.36)
τ=2	39.57***	39.81***	0.18***	0.18***	34.81***	34.94***
	(9.35)	(4.53)	(0.02)	(0.02)	(1.14)	(10.52)
τ=3	57.48***	57.78***	0.19***	0.19***	2.20	4.75
	(14.56)	(9.51)	(0.03)	(0.02)	(7.19)	(11.39)
τ=4	79.11**	79.46***	0.16***	0.17***	34.09**	40.03**
	(27.72)	(16.36)	(0.02)	(0.02)	(13.49)	(17.67)
τ=5	19.54**	20.54***	0.03	0.03*	-7.23	-4.97
	(5.78)	(6.44)	(0.04)	(0.02)	(15.12)	(11.28)
τ=6	0.27	1.43	-0.00	-0.00	8.64	8.37
	(6.14)	(4.67)	(0.03)	(0.02)	(19.31)	(22.27)
τ=7	35.35**	37.56***	0.08**	0.09***	29.84***	29.36**
	(11.88)	(11.63)	(0.03)	(0.02)	(6.91)	(11.89)
τ=8	17.87*	20.19**	0.05	0.05***	-0.31	-1.41
	(8.05)	(10.27)	(0.03)	(0.02)	(13.30)	(11.95)
τ=9	10.40	12.74	0.02	0.02	-4.50	-6.20
	(8.26)	(11.57)	(0.04)	(0.02)	(10.75)	(16.43)
τ=10	-6.59	-4.46	-0.03	-0.03	0.51	1.15
	(9.80)	(9.35)	(0.04)	(0.02)	(9.28)	(11.87)
τ=11	-4.86	-2.97	-0.01	-0.00	27.33*	23.01*
	(8.34)	(7.58)	(0.03)	(0.02)	(13.12)	(13.59)
τ=12	35.08***	36.91***	0.09**	0.09***	6.22	12.64
	(6.53)	(9.45)	(0.03)	(0.02)	(12.09)	(11.68)
Observations	4,870,057	4,870,057	1,053,366	1,053,366	1,237,310	1,237,310
R^2	0.17787	0.19013	0.70607	0.72408	0.06598	0.07867
Within R^2	0.00143	0.00137	0.01336	0.01248	0.00014	0.00013
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes
Income class FE	Yes	No	Yes	No	Yes	No
Cohort FE	No	Yes	No	Yes	No	Yes

Panel (B): Crypto Investment Response to Stimulus II

	Debits		Log(Debits)		% Change Debits	
	(1)	(2)	(3)	(4)	(5)	(6)
τ=-12	-118.30**	-121.27***	-0.23***	-0.23***	-33.46*	-32.82***
	(43.26)	(12.58)	(0.04)	(0.03)	(15.02)	(9.32)
τ=-11	-104.49**	-107.41***	-0.17**	-0.17***	0.99	0.43
	(39.01)	(12.94)	(0.05)	(0.05)	(15.97)	(13.55)
τ=-10	-83.18***	-86.11***	-0.15***	-0.15***	1.11	1.59
	(21.24)	(12.50)	(0.04)	(0.03)	(12.96)	(12.66)
τ=-9	-43.11	-47.65	-0.10*	-0.11***	-18.23	-17.69
	(47.42)	(48.48)	(0.05)	(0.04)	(24.06)	(13.45)
τ=-8	-27.85**	-31.29*	-0.08*	-0.09**	-17.97	-22.80**
	(10.38)	(17.55)	(0.04)	(0.03)	(13.88)	(9.82)
τ=-7	-15.74	-19.15	-0.08**	-0.09***	-11.10	-15.42
	(19.06)	(18.30)	(0.03)	(0.03)	(27.21)	(21.15)
τ=-6	2.31	-1.06	0.01	0.00	50.10	49.55***
	(23.84)	(24.18)	(0.07)	(0.06)	(42.79)	(8.52)
τ=-5	2.13	-1.27	0.00	-0.01	18.09	12.83
	(11.42)	(6.07)	(0.04)	(0.04)	(28.04)	(27.88)
τ=-4	-16.04*	-17.42***	-0.02	-0.03	26.77	25.70**
	(7.80)	(2.27)	(0.04)	(0.03)	(14.62)	(12.64)
τ=-3	1.81	1.79	-0.03	-0.03	27.79	29.85
	(11.20)	(5.93)	(0.03)	(0.03)	(32.11)	(30.10)
τ=-2	24.66	24.64***	0.03	0.03	105.81	108.96**
	(17.32)	(4.16)	(0.05)	(0.04)	(60.92)	(51.86)
τ=0	249.81*	248.24**	0.43**	0.43***	105.77***	105.39***
	(121.24)	(118.96)	(0.16)	(0.15)	(22.74)	(14.53)
τ=1	258.88**	255.46***	0.39***	0.38***	51.67	49.71
	(93.67)	(55.20)	(0.07)	(0.07)	(40.30)	(37.41)
τ=2	86.50	83.10**	0.18**	0.17***	-22.16**	-25.32***
	(53.58)	(34.70)	(0.05)	(0.05)	(8.04)	(8.02)
τ=3	-5.23	-7.54	0.03	0.01	-24.17	-28.17***
	(17.80)	(13.56)	(0.04)	(0.04)	(18.79)	(9.54)
τ=4	34.09	30.75	0.12*	0.11*	27.06	25.16
	(33.01)	(33.42)	(0.06)	(0.06)	(43.89)	(16.04)
τ=5	98.32**	95.83***	0.25***	0.24***	111.48	111.61**
	(36.21)	(22.80)	(0.04)	(0.04)	(58.24)	(44.60)
τ=6	84.66**	82.19***	0.22***	0.21***	58.71*	56.29***
	(30.80)	(24.73)	(0.04)	(0.04)	(25.37)	(5.46)
τ=7	107.03*	104.53***	0.30***	0.29***	98.83**	98.56***
	(45.12)	(35.35)	(0.06)	(0.06)	(31.26)	(26.03)
τ=8	67.56	67.09*	0.26**	0.25***	29.95	33.96*
	(40.26)	(38.83)	(0.08)	(0.08)	(25.82)	(19.36)
τ=9	4.45	4.73	0.14**	0.14***	-14.15	-11.34
	(25.81)	(28.19)	(0.05)	(0.04)	(12.98)	(9.46)
τ=10	12.85	12.99	0.26*	0.26**	107.30	110.39
	(42.21)	(43.30)	(0.12)	(0.11)	(85.86)	(92.03)
τ=11	42.33**	42.44**	0.36***	0.36***	64.55	67.68**
	(16.33)	(17.37)	(0.05)	(0.04)	(39.45)	(33.60)
τ=12	-9.35	-9.28	0.20**	0.20***	16.36	19.23
	(23.62)	(24.44)	(0.06)	(0.06)	(22.82)	(24.46)
Observations	3,859,089	3,859,089	833,159	833,159	978,971	978,971
R^2	0.18093	0.19466	0.71114	0.73141	0.11586	0.12107
Within R^2	0.00262	0.00251	0.01592	0.01530	0.00024	0.00024
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes
Income class FE	Yes	No	Yes	No	Yes	No
Cohort FE	No	Yes	No	Yes	No	Yes

Panel (C): Crypto Investment Response to Stimulus III

	Debits		Log(Debits)		% Change Debits	
	(1)	(2)	(3)	(4)	(5)	(6)
τ=-12	24.02	23.00	-0.10**	-0.11***	33.94	28.94
	(27.55)	(30.69)	(0.04)	(0.04)	(20.85)	(21.19)
τ=-11	60.39	61.10	-0.01	-0.01	68.68**	64.45***
	(62.87)	(62.14)	(0.07)	(0.07)	(22.78)	(23.52)
τ=-10	263.61**	262.58***	0.32***	0.32***	102.40***	102.31***
	(76.71)	(51.62)	(0.05)	(0.05)	(18.29)	(22.01)
τ=-9	140.90*	140.01***	0.14***	0.13***	32.37	30.87
	(63.22)	(34.41)	(0.04)	(0.04)	(24.43)	(26.06)
τ=-8	26.91	26.19	-0.05	-0.06*	-9.00	-10.41
	(28.27)	(27.73)	(0.03)	(0.03)	(18.10)	(20.37)
τ=-7	21.61	19.60	-0.06	-0.07	39.83*	39.62
	(37.12)	(37.19)	(0.05)	(0.05)	(19.67)	(25.06)
τ=-6	89.82**	89.71***	0.07*	0.07**	55.21**	56.53***
	(36.33)	(25.32)	(0.03)	(0.03)	(17.49)	(14.05)
τ=-5	119.44*	119.34***	0.12**	0.12***	104.16***	105.04***
	(49.89)	(26.32)	(0.03)	(0.03)	(15.38)	(27.76)
τ=-4	82.72*	82.45***	0.09**	0.09***	51.03**	49.53***
	(38.36)	(28.19)	(0.03)	(0.03)	(15.48)	(15.26)
τ=-3	136.84*	137.03***	0.23***	0.22***	103.43***	100.04***
	(59.83)	(33.59)	(0.05)	(0.05)	(20.77)	(17.02)
τ=-2	37.16*	37.30***	0.04	0.04**	-2.15	0.94
	(15.41)	(12.70)	(0.02)	(0.02)	(17.09)	(19.17)
τ=0	83.19***	83.07***	0.32***	0.32***	189.55***	192.14***
	(18.01)	(15.43)	(0.03)	(0.03)	(25.28)	(26.46)
τ=1	42.93**	42.74***	0.18***	0.18***	15.08	16.85
	(12.39)	(13.71)	(0.03)	(0.03)	(19.18)	(23.53)
τ=2	-2.39	-2.74	0.04	0.04	9.24	10.73
	(3.09)	(13.85)	(0.03)	(0.03)	(18.20)	(22.51)
τ=3	32.72	33.13	0.06*	0.06**	13.00	14.98
	(32.32)	(29.65)	(0.03)	(0.03)	(17.08)	(19.93)
τ=4	63.77	64.18*	0.16***	0.16***	60.98**	61.99***
	(43.36)	(37.40)	(0.04)	(0.04)	(21.49)	(21.88)
τ=5	108.42**	108.62***	0.30***	0.30***	101.33**	102.65***
	(36.85)	(34.61)	(0.04)	(0.04)	(32.84)	(32.84)
τ=6	2.83	3.26	0.05	0.05	-11.42	-13.13
	(32.82)	(40.82)	(0.05)	(0.05)	(21.78)	(27.33)
τ=7	65.38**	67.53**	0.19***	0.19***	64.62**	64.74***
	(20.42)	(28.50)	(0.03)	(0.03)	(17.56)	(19.96)
τ=8	-24.30	-21.87	0.01	0.01	-23.40	-24.56
	(18.69)	(22.58)	(0.03)	(0.03)	(21.39)	(24.86)
τ=9	-23.61	-24.39	0.01	-0.01	-28.83	-3.86
	(39.92)	(26.85)	(0.19)	(0.18)	(49.79)	(48.14)
Observations	4,336,530	4,336,530	947,003	947,003	1,112,634	1,112,634
R^2	0.21388	0.22828	0.70267	0.72253	0.09980	0.11886
Within R^2	0.00226	0.00217	0.01758	0.01688	0.00055	0.00055
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes
Income class FE	Yes	No	Yes	No	Yes	No
Cohort FE	No	Yes	No	Yes	No	Yes

Table 4

Panel (A): Crypto Investment Response to Stimulus I by Income Class

	Cryptocurrency debits						
	$0-$25K	$25K-$45K	$45K-$60K	$60K-$75K	$75K-$100K	$100K-$150K	$150K+
τ=-12	15.77	-15.63**	-14.31*	-26.33***	-5.05	-32.56***	34.26
	(11.04)	(7.05)	(7.30)	(8.09)	(14.92)	(9.67)	(82.96)
τ=-11	10.14	-15.25**	-12.41*	-10.45	-12.17	-4.91	-27.91
	(11.85)	(7.54)	(7.08)	(10.17)	(18.56)	(11.27)	(25.08)
τ=-10	18.79***	7.94	10.34	17.03*	37.12***	21.32*	138.67***
	(5.63)	(7.29)	(10.16)	(9.76)	(14.29)	(11.62)	(39.34)
τ=-9	25.94***	6.27	17.62**	18.46**	48.50***	44.99***	163.06*
	(6.40)	(6.00)	(8.39)	(7.87)	(15.85)	(13.02)	(83.27)
τ=-8	19.76***	-6.90	9.15	15.47	31.94**	41.21*	121.27***
	(6.52)	(6.49)	(11.19)	(11.03)	(13.12)	(24.03)	(35.09)
τ=-7	36.77***	10.25	18.47**	38.83**	17.32*	11.66	87.00**
	(10.91)	(9.01)	(8.65)	(16.05)	(9.72)	(15.35)	(39.62)
τ=-6	27.35***	14.46**	8.26	23.09***	22.06**	6.25	46.27*
	(7.39)	(6.83)	(9.88)	(8.24)	(8.97)	(11.16)	(25.35)
τ=-5	40.73***	35.36**	52.33**	31.02**	90.90***	93.95***	247.18***
	(11.74)	(13.77)	(20.28)	(14.89)	(26.58)	(15.53)	(78.78)
τ=-4	18.01*	17.31**	40.96***	34.43**	66.70***	61.39**	134.74**
	(9.79)	(7.57)	(14.54)	(16.89)	(18.11)	(28.08)	(63.05)
τ=-3	15.65	-11.89***	-21.84***	-3.60	-4.00	-22.31***	-28.19
	(10.30)	(4.17)	(4.10)	(6.55)	(7.73)	(4.49)	(54.57)
τ=-2	7.28	-8.16	-14.06***	-15.04**	-10.39	-36.58**	-39.61
	(8.15)	(5.87)	(4.79)	(6.81)	(7.79)	(18.42)	(29.69)
τ=0	68.81***	37.68***	31.20***	36.37***	47.82***	25.24***	93.81**
	(13.09)	(4.36)	(8.29)	(6.89)	(12.80)	(9.33)	(36.68)
τ=1	36.69***	7.61	23.85***	14.51**	30.66**	17.12**	-0.51
	(8.02)	(4.84)	(1.71)	(6.17)	(13.27)	(7.43)	(24.31)
τ=2	43.09***	13.00***	27.43***	37.39***	34.15***	33.44***	95.91***
	(5.80)	(3.13)	(3.13)	(11.00)	(7.90)	(9.27)	(17.36)
τ=3	44.49***	31.01***	41.19***	36.42***	64.38***	13.33	139.61***
	(6.83)	(6.13)	(11.34)	(8.76)	(22.01)	(13.92)	(33.71)
τ=4	44.43***	25.11***	46.54***	37.42**	63.57***	60.10***	241.95**
	(7.51)	(6.24)	(9.34)	(15.47)	(13.21)	(18.52)	(104.11)
τ=5	31.46***	12.39*	14.71	-0.28	22.52	-21.02***	56.05
	(11.63)	(6.35)	(8.93)	(8.03)	(16.62)	(2.84)	(34.69)
τ=6	12.69	-5.97	10.48	12.10	4.83	-26.49***	-21.45
	(9.88)	(8.34)	(6.82)	(14.80)	(7.74)	(6.97)	(26.67)
τ=7	27.91**	13.37	32.75***	18.54*	36.80**	44.87***	86.19*
	(10.85)	(9.25)	(8.60)	(10.24)	(14.67)	(14.13)	(48.28)
τ=8	24.15*	10.46	10.43*	15.40	18.06*	-4.03	73.87
	(13.16)	(7.99)	(6.20)	(9.70)	(9.26)	(8.72)	(57.41)
τ=9	32.06***	38.18	18.14**	8.73	6.95	-21.43***	14.94
	(9.63)	(33.97)	(7.30)	(8.20)	(9.05)	(7.08)	(42.28)
τ=10	24.16**	3.61	7.22	-9.70	3.73	-20.20*	-29.29
	(11.21)	(6.63)	(7.92)	(10.85)	(15.51)	(10.40)	(38.69)
τ=11	29.15***	-2.98	2.39	-5.48	9.20	-24.21**	-16.83
	(10.85)	(7.22)	(8.22)	(9.90)	(8.92)	(10.65)	(35.78)
τ=12	38.51***	26.60***	40.43***	18.80**	27.64**	12.23	70.82*
	(8.63)	(6.47)	(11.83)	(9.49)	(12.83)	(14.99)	(40.92)
Observations	478,430	891,008	693,365	481,951	776,845	841,918	706,540
R^2	0.33804	0.26568	0.28443	0.31901	0.30172	0.29766	0.21837
Within R^2	0.00078	0.00083	0.00114	0.00090	0.00106	0.00131	0.00179
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel (B): Crypto Investment Response to Stimulus II by Income Class

	Cryptocurrency debits						
	$0-$25K	$25K-$45K	$45K-$60K	$60K-$75K	$75K-$100K	$100K-$150K	$150K+
τ=-12	-33.12**	-48.24***	-59.03***	-53.61***	-67.97***	-118.75***	-337.57***
	(14.26)	(6.52)	(11.30)	(18.71)	(14.91)	(15.76)	(47.07)
τ=-11	-23.41	-46.33***	-61.06***	-40.94***	-56.85***	-92.73***	-310.77***
	(15.83)	(9.43)	(12.26)	(14.30)	(12.06)	(25.53)	(48.50)
τ=-10	-30.29**	-37.78***	-50.70***	-59.96***	-64.39***	-96.83***	-187.56***
	(12.31)	(6.31)	(13.65)	(18.00)	(18.26)	(16.62)	(46.23)
τ=-9	16.61	-22.39***	-32.22*	-35.27	-27.85	-50.39	-157.31
	(16.92)	(7.76)	(16.50)	(24.75)	(31.51)	(42.74)	(115.80)
τ=-8	-20.39*	-32.87***	-36.42***	-19.12	-51.02***	-45.91**	-70.53
	(10.49)	(8.57)	(11.47)	(29.10)	(12.74)	(18.86)	(60.42)
τ=-7	-27.42***	-34.29***	-29.74**	-58.74***	-74.35***	-32.78	17.23
	(4.76)	(7.60)	(14.47)	(11.14)	(13.99)	(25.26)	(81.99)
τ=-6	29.06	-16.73	-17.53	13.12	-5.30	6.81	-63.29
	(29.23)	(13.35)	(17.32)	(20.38)	(30.66)	(25.80)	(52.46)
τ=-5	-16.67	-37.00***	-22.70	-7.49	-15.28	-8.12	0.92
	(13.64)	(10.23)	(16.19)	(14.71)	(19.54)	(40.20)	(71.90)
τ=-4	-6.08	-3.56	-36.90***	-19.54***	-16.13	-40.90***	-18.01
	(7.81)	(5.59)	(10.14)	(6.55)	(15.43)	(14.29)	(38.97)
τ=-3	11.47	-19.34**	-5.64	-5.44	-12.75	-5.81	44.12***
	(11.78)	(7.59)	(13.11)	(23.50)	(12.32)	(9.73)	(14.44)
τ=-2	25.16	3.79	1.41	16.98	48.64**	-5.44	71.70***
	(17.81)	(7.05)	(8.15)	(13.02)	(20.33)	(8.97)	(19.11)
τ=0	88.71**	103.43***	144.66**	127.65*	149.80**	222.28*	560.80*
	(36.60)	(28.66)	(67.54)	(69.09)	(72.54)	(132.06)	(290.43)
τ=1	93.29***	86.32***	64.51***	67.94**	175.73***	217.50***	621.82***
	(29.29)	(25.68)	(20.10)	(29.56)	(39.23)	(70.09)	(81.42)
τ=2	1.41	-15.85	-11.94	15.84	31.20	13.11	267.06***
	(16.86)	(13.27)	(29.16)	(30.24)	(36.14)	(24.56)	(86.23)
τ=3	-29.13	-33.29***	-23.19	-11.32	-40.57**	-68.01**	9.16
	(20.13)	(8.09)	(15.97)	(23.62)	(18.45)	(26.64)	(44.99)
τ=4	37.37**	5.75	8.77	1.25	-16.10	-16.84	68.64
	(15.00)	(18.89)	(19.94)	(28.31)	(40.42)	(35.98)	(74.57)
τ=5	26.80***	28.86***	45.75**	46.72**	39.57**	45.22**	242.92***
	(9.18)	(10.20)	(17.81)	(21.45)	(17.93)	(22.15)	(86.97)
τ=6	20.07**	15.94	29.33	16.07	45.48***	58.95***	192.00***
	(10.06)	(10.09)	(19.55)	(21.91)	(16.41)	(22.21)	(67.27)
τ=7	17.64*	27.67*	45.97*	35.34**	36.30	66.83*	278.75**
	(10.58)	(16.22)	(27.48)	(17.33)	(27.50)	(34.74)	(127.22)
τ=8	13.46	9.35	21.92	42.16***	38.02	51.00	184.11*
	(10.90)	(10.06)	(23.13)	(16.02)	(32.38)	(36.27)	(93.94)
τ=9	11.86	5.45	0.52	29.20	15.54	7.68	-41.74
	(12.84)	(18.30)	(15.75)	(20.19)	(73.80)	(28.53)	(69.54)
τ=10	36.74***	19.71	21.48	41.41	32.83	11.16	-54.41
	(14.15)	(19.40)	(28.16)	(34.17)	(34.74)	(35.05)	(102.09)
τ=11	39.35***	20.55*	34.86**	65.47***	60.14***	48.78***	8.39
	(12.09)	(10.82)	(14.45)	(21.03)	(14.95)	(17.85)	(46.67)
τ=12	17.99	-8.75	-3.09	35.86	-1.89	-9.78	-70.16
	(14.74)	(11.98)	(16.57)	(23.26)	(17.87)	(24.31)	(62.16)
Observations	378,488	652,536	518,924	363,160	603,728	712,051	630,202
R^2	0.34156	0.27971	0.29030	0.32949	0.31267	0.31210	0.20276
Within R^2	0.00169	0.00185	0.00229	0.00162	0.00180	0.00274	0.00425
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel (C): Crypto Investment Response to Stimulus III by Income Class

	Cryptocurrency debits						
	$0-$25K	$25K-$45K	$45K-$60K	$60K-$75K	$75K-$100K	$100K-$150K	$150K+
τ=-12	-5.06	7.08	-14.93	-25.41	24.35	28.52	97.93
	(8.63)	(16.40)	(10.57)	(16.86)	(17.38)	(30.04)	(107.01)
τ=-11	19.20	9.53	0.30	7.09	18.38	58.41	243.09
	(23.71)	(17.23)	(17.47)	(32.26)	(17.74)	(56.11)	(212.47)
τ=-10	74.99***	93.68***	127.08***	113.96***	189.78***	286.33***	649.74***
	(14.23)	(13.63)	(18.54)	(18.80)	(23.57)	(34.40)	(178.68)
τ=-9	48.70***	25.23*	48.41***	12.19	101.39***	86.22***	444.47***
	(14.00)	(14.72)	(13.19)	(18.66)	(20.51)	(26.88)	(122.09)
τ=-8	-16.49	-28.98***	-6.74	-25.49	4.92	1.00	120.74
	(10.19)	(10.00)	(15.79)	(20.06)	(19.32)	(27.71)	(90.66)
τ=-7	-19.61	-20.12	-10.93	-37.82**	-24.85	-12.38	122.15
	(12.01)	(13.19)	(14.44)	(18.02)	(30.17)	(40.03)	(105.56)
τ=-6	39.80***	18.63*	35.38***	28.05*	54.12***	56.46***	255.92***
	(10.39)	(10.43)	(12.26)	(14.59)	(14.70)	(17.44)	(87.02)
τ=-5	28.18***	31.01**	50.66***	15.61	65.73***	93.05***	367.30***
	(8.76)	(13.99)	(13.59)	(12.96)	(11.94)	(20.85)	(98.64)
τ=-4	14.83	7.31	21.30*	12.07	34.93***	81.94***	248.48**
	(9.32)	(7.62)	(11.92)	(13.89)	(12.49)	(21.12)	(105.40)
τ=-3	20.77**	43.06***	53.00***	38.37***	62.01***	111.23***	440.67***
	(10.23)	(13.74)	(16.96)	(13.28)	(15.25)	(21.59)	(127.40)
τ=-2	6.49	0.73	12.59***	24.13*	39.57***	38.45***	105.66*
	(6.44)	(3.66)	(4.48)	(13.34)	(4.69)	(3.64)	(56.39)
τ=0	63.01***	39.70***	54.85***	56.31***	82.30***	85.83***	163.69**
	(7.03)	(5.82)	(5.65)	(9.01)	(5.72)	(7.98)	(64.27)
τ=1	38.56***	16.31***	24.40***	31.26***	35.43***	41.47***	97.61*
	(8.34)	(5.80)	(7.92)	(8.71)	(8.53)	(8.91)	(52.77)
τ=2	10.51**	-15.77***	-4.72	5.35	-0.03	-7.09	0.50
	(4.51)	(2.38)	(9.06)	(8.23)	(9.29)	(7.25)	(49.05)
τ=3	9.30	0.83	1.01	20.22	11.64	5.89	138.53
	(7.30)	(10.03)	(14.93)	(16.84)	(15.96)	(22.28)	(97.45)
τ=4	10.47	16.60	16.11	21.53	31.57*	51.00**	215.09
	(7.50)	(12.29)	(13.95)	(17.11)	(16.65)	(22.82)	(134.40)
τ=5	33.52***	51.84***	64.14***	53.57***	78.06***	125.60***	245.83**
	(9.61)	(14.86)	(15.63)	(16.12)	(19.62)	(34.58)	(104.90)
τ=6	-14.89*	-10.29	-16.09	-1.85	-9.83	0.57	42.05
	(8.91)	(13.90)	(19.60)	(17.17)	(25.69)	(32.40)	(130.80)
τ=7	27.51***	28.01**	34.16**	20.70	51.40***	81.04***	100.87
	(9.31)	(11.11)	(15.04)	(15.68)	(16.23)	(19.04)	(92.10)
τ=8	-8.89	-4.28	-17.41	-17.76	-16.72	-17.63	-98.70
	(11.57)	(9.61)	(12.44)	(14.67)	(15.09)	(18.03)	(73.45)
τ=9	-8.89	-24.83	-41.28**	48.30	14.12	181.15	-240.09**
	(11.57)	(17.39)	(16.88)	(35.68)	(43.67)	(110.45)	(93.17)
Observations	482,549	774,230	592,995	417,081	679,369	760,023	630,283
R^2	0.29229	0.26280	0.33653	0.32768	0.30736	0.31457	0.25174
Within R^2	0.00186	0.00184	0.00232	0.00215	0.00233	0.00300	0.00326
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5

Panel (A): Traditional Investment Response to Stimulus I

	Debits		Log(Debits)	
	(1)	(2)	(3)	(4)
τ=-12	-60.43*	-60.32***	-0.14*	-0.15***
	(29.82)	(14.42)	(0.07)	(0.06)
τ=-11	-52.45**	-52.36***	-0.16**	-0.18***
	(19.42)	(18.19)	(0.05)	(0.04)
τ=-10	-9.93	-10.87	0.04	0.03
	(12.53)	(18.49)	(0.04)	(0.04)
τ=-9	-21.02	-22.72	-0.10	-0.11**
	(20.62)	(15.38)	(0.07)	(0.05)
τ=-8	-17.87	-18.52	0.02	0.02
	(29.36)	(34.78)	(0.08)	(0.06)
τ=-7	21.04	19.71	0.05	0.04
	(40.87)	(45.02)	(0.04)	(0.04)
τ=-6	36.68	42.97*	0.23***	0.23***
	(34.21)	(22.56)	(0.04)	(0.02)
τ=-5	38.87	45.46*	0.18***	0.17***
	(39.05)	(23.64)	(0.04)	(0.03)
τ=-4	61.76*	68.56**	0.35***	0.35***
	(31.39)	(31.50)	(0.06)	(0.05)
τ=-3	28.42	34.35	0.20***	0.20***
	(32.39)	(22.54)	(0.05)	(0.04)
τ=-2	-32.12	-25.89*	0.14***	0.13***
	(25.94)	(15.49)	(0.02)	(0.03)
τ=0	35.44***	34.71***	0.34***	0.34***
	(8.92)	(9.67)	(0.02)	(0.02)
τ=1	37.34	37.21***	0.25***	0.24***
	(32.86)	(13.85)	(0.02)	(0.02)
τ=2	33.18	32.91*	0.19***	0.18***
	(26.48)	(18.42)	(0.03)	(0.02)
τ=3	-51.38	-46.37	0.17***	0.17***
	(51.23)	(36.45)	(0.04)	(0.03)
τ=4	-46.49	-41.53	0.11**	0.10**
	(40.44)	(37.49)	(0.03)	(0.04)
τ=5	-44.05	-38.75	0.19***	0.18***
	(51.37)	(37.70)	(0.05)	(0.05)
τ=6	-59.01	-54.87	0.09	0.08
	(47.93)	(40.02)	(0.07)	(0.07)
τ=7	44.20***	39.85**	0.28***	0.29***
	(11.06)	(19.75)	(0.02)	(0.04)
τ=8	405.85	401.46***	0.30***	0.29***
	(209.67)	(127.09)	(0.03)	(0.03)
τ=9	-11.93	-17.24	0.19***	0.18***
	(10.79)	(20.31)	(0.02)	(0.03)
τ=10	-22.66	-27.70	0.12***	0.12***
	(14.43)	(19.24)	(0.03)	(0.03)
τ=11	15.75	11.49	0.19***	0.19***
	(31.98)	(19.91)	(0.03)	(0.04)
τ=12	-9.47	-24.55	0.17***	0.15***
	(17.49)	(36.31)	(0.04)	(0.03)
Observations	4,790,116	4,790,116	792,896	792,896
R^2	0.10835	0.11501	0.67285	0.69157
Within R^2	0.00017	0.00017	0.01211	0.01026
Investor FE	Yes	Yes	Yes	Yes
Income class FE	Yes	No	Yes	No
Cohort FE	No	Yes	No	Yes

Panel (B): Traditional Investment Response to Stimulus II

	Debits		Log(Debits)	
	(1)	(2)	(3)	(4)
τ=-12	-37.95**	-37.16**	-0.03	-0.04
	(15.47)	(17.84)	(0.06)	(0.03)
τ=-11	2.19	2.95	-0.01	-0.02
	(15.46)	(24.80)	(0.03)	(0.03)
τ=-10	-54.11	-53.46***	-0.02	-0.03
	(30.78)	(18.83)	(0.05)	(0.05)
τ=-9	-45.19	-43.22**	0.01	0.02
	(40.85)	(17.66)	(0.06)	(0.07)
τ=-8	-0.57	0.87	0.13*	0.13**
	(9.27)	(20.90)	(0.06)	(0.06)
τ=-7	-18.04	-16.52	0.03	0.03
	(13.26)	(18.85)	(0.04)	(0.05)
τ=-6	-46.25	-44.58	-0.01	-0.01
	(34.00)	(40.78)	(0.08)	(0.07)
τ=-5	-20.28	-18.44	0.03	0.04
	(20.43)	(19.95)	(0.10)	(0.12)
τ=-4	18.43	19.78	0.17***	0.17***
	(10.24)	(17.55)	(0.03)	(0.04)
τ=-3	117.46	117.37***	0.13***	0.13***
	(111.63)	(42.54)	(0.01)	(0.03)
τ=-2	27.86*	27.54	0.08	0.09
	(13.19)	(18.27)	(0.05)	(0.06)
τ=0	123.38	0.55	0.36*	0.36**
	(65.68)	(82.12)	(0.17)	(0.17)
τ=1	487.04	372.67**	0.47***	0.46***
	(259.04)	(165.18)	(0.10)	(0.11)
τ=2	87.22	-27.57	0.28***	0.28***
	(55.49)	(36.95)	(0.05)	(0.06)
τ=3	221.24	204.79***	0.39**	0.38***
	(122.11)	(47.49)	(0.13)	(0.13)
τ=4	213.87***	210.62***	0.62***	0.62***
	(49.40)	(24.39)	(0.05)	(0.04)
τ=5	224.42*	226.61***	0.59***	0.58***
	(101.30)	(44.19)	(0.10)	(0.09)
τ=6	89.58*	91.67***	0.29***	0.28***
	(44.49)	(27.66)	(0.06)	(0.06)
τ=7	95.96**	98.15***	0.27***	0.26***
	(38.95)	(27.33)	(0.05)	(0.05)
τ=8	100.24	102.51***	0.24***	0.23***
	(57.33)	(35.33)	(0.05)	(0.05)
τ=9	82.94**	85.16***	0.28***	0.27***
	(26.37)	(19.55)	(0.04)	(0.04)
τ=10	96.38*	98.57***	0.28**	0.27***
	(43.39)	(30.32)	(0.09)	(0.08)
τ=11	118.06	120.25***	0.37***	0.35***
	(72.88)	(25.98)	(0.07)	(0.07)
τ=12	3.01	5.27	0.13**	0.12***
	(13.50)	(29.83)	(0.05)	(0.03)
Observations	3,795,220	3,795,220	634,704	634,704
R^2	0.05600	0.28615	0.68072	0.70130
Within R^2	0.00015	0.00014	0.01524	0.01372
Investor FE	Yes	Yes	Yes	Yes
Income class FE	Yes	No	Yes	No
Cohort FE	No	Yes	No	Yes

Panel (C): Traditional Investment Response to Stimulus III

	Debits		Log(Debits)	
	(1)	(2)	(3)	(4)
τ=-12	-64.31**	-66.00***	-0.25***	-0.24***
	(19.92)	(16.26)	(0.05)	(0.04)
τ=-11	-42.59	-45.07	-0.15*	-0.14**
	(33.03)	(37.50)	(0.07)	(0.07)
τ=-10	82.17*	83.28***	0.29***	0.29***
	(34.44)	(26.00)	(0.04)	(0.03)
τ=-9	44.15**	45.64***	0.11***	0.11***
	(15.38)	(16.39)	(0.03)	(0.03)
τ=-8	31.53	33.26	0.04	0.05
	(29.49)	(20.42)	(0.07)	(0.06)
τ=-7	186.03*	185.82***	0.35***	0.35***
	(93.51)	(54.30)	(0.03)	(0.03)
τ=-6	130.92***	128.32***	0.45***	0.46***
	(30.93)	(24.46)	(0.05)	(0.04)
τ=-5	32.71***	30.10**	0.15***	0.15***
	(6.91)	(12.34)	(0.02)	(0.02)
τ=-4	-4.53	-7.45	-0.04	-0.04**
	(10.50)	(10.94)	(0.03)	(0.02)
τ=-3	26.24	23.89	0.02	0.02
	(21.44)	(18.74)	(0.01)	(0.02)
τ=-2	48.78	48.64***	0.08**	0.08***
	(32.92)	(18.07)	(0.02)	(0.02)
τ=0	55.18**	55.44***	0.25***	0.25***
	(20.79)	(12.48)	(0.01)	(0.01)
τ=1	-4.17	-3.77	-0.01	-0.01
	(10.63)	(14.33)	(0.01)	(0.01)
τ=2	-65.61*	-64.80***	-0.08***	-0.07***
	(29.26)	(11.54)	(0.01)	(0.01)
τ=3	-31.02	-31.16	-0.07*	-0.06
	(18.72)	(26.02)	(0.04)	(0.04)
τ=4	7.91	7.15	0.13***	0.13***
	(6.37)	(11.14)	(0.02)	(0.02)
τ=5	6.84	6.39	0.11***	0.12***
	(13.54)	(18.09)	(0.03)	(0.03)
τ=6	-77.60*	-77.69***	-0.19***	-0.18***
	(32.35)	(12.93)	(0.04)	(0.04)
τ=7	-30.13	-30.58**	0.07**	0.07***
	(22.40)	(13.62)	(0.02)	(0.03)
τ=8	-125.53**	-126.26***	-0.45***	-0.45***
	(49.41)	(11.81)	(0.04)	(0.03)
τ=9	-150.05	-145.34***	-0.56**	-0.49
	(79.95)	(44.12)	(0.20)	(0.31)
Observations	4,273,703	4,273,703	727,879	727,879
R^2	0.10630	0.10999	0.67466	0.69504
Within R^2	0.00026	0.00025	0.01746	0.01623
Investor FE	Yes	Yes	Yes	Yes
Income class FE	Yes	No	Yes	No
Cohort FE	No	Yes	No	Yes

Table 6
Crypto Investment Response to Unemployment Benefits

	Debit	
	(1)	(2)
$\tau = -12$	-189.34112	-115.86111
	(126.52313)	(111.46773)
$\tau = -11$	-234.87141*	-163.41777
	(106.15902)	(96.15853)
$\tau = -10$	-138.13299	-62.90097
	(83.67938)	(43.83226)
$\tau = -9$	-195.88390	-96.29407*
	(110.74373)	(46.30564)
$\tau = -8$	-75.18199	-25.46906
	(65.97308)	(50.85826)
$\tau = -7$	-48.14707	-16.13290
	(99.57312)	(68.81853)
$\tau = -6$	-95.10487	-20.34487
	(86.46248)	(40.71598)
$\tau = -5$	-95.80000	-22.91311
	(116.86375)	(78.12500)
$\tau = -4$	64.26700	115.19629
	(83.05776)	(117.92862)
$\tau = -3$	-20.73748	19.67793
	(111.69949)	(77.70131)
$\tau = -2$	-75.57632	-36.74351
	(102.72550)	(77.27467)
$\tau = 0$	42.58708	54.13687
	(162.10380)	(161.33009)
$\tau = 1$	186.79694***	214.78221**
	(48.01249)	(60.55029)
$\tau = 2$	197.34820***	216.99060***
	(50.06171)	(53.70435)
$\tau = 3$	229.62261**	247.07321**
	(79.49121)	(76.01204)
$\tau = 4$	52.91205	60.39459
	(77.08348)	(61.47363)
$\tau = 5$	82.09811	92.60860
	(58.07489)	(61.93420)
$\tau = 6$	-12.50962	6.17292
	(90.17547)	(79.97868)
$\tau = 7$	84.36039	127.59745
	(52.77095)	(70.48896)
$\tau = 8$	55.10020	93.47421*
	(54.63201)	(42.56080)
$\tau = 9$	38.62452	154.64745***
	(57.53024)	(34.56472)
$\tau = 10$	129.70405**	230.09212**
	(38.46021)	(78.63022)
$\tau = 11$	98.17698*	189.09459**
	(43.81683)	(57.90328)
$\tau = 12$	57.91170	122.35528*
	(82.03889)	(57.60958)
Observations	62,004	62,004
R^2	0.58926	0.65411
Within R^2	0.00172	0.00144
Investor FE	✓	✓
Income Class FE	✓	
Cohort FE		✓

Table 7

Panel (A): Crypto Investment Response to Inflation Expectations

	Log cryptocurrency debit				
	(1)	(2)	(3)	(4)	(5)
CPI-U inflation	0.0271***	0.0272***	0.0272***	0.0268***	0.0272***
	(0.0035)	(0.0034)	(0.0035)	(0.0036)	(0.0035)
12-month E[π]	0.0798***	0.1731***	0.0787***	0.0733***	0.0742***
	(0.0083)	(0.0106)	(0.0083)	(0.0092)	(0.0083)
Income Class, 25K–45K		0.3546***			
		(0.0300)			
Income Class, 45K–60K		0.4342***			
		(0.0326)			
Income Class, $60K-75K		0.5709***			
		(0.0340)			
Income Class, $75K-100K		0.6409***			
		(0.0322)			
Income Class, $100K-150K		0.7739***			
		(0.0321)			
Income Class, $150K+		0.8269***			
		(0.0337)			
12-month E[π] × Income Class, 25K–45K		-0.0777***			
		(0.0105)			
12-month E[π] × Income Class, 45K–60K		-0.0815***			
		(0.0114)			
12-month E[π] × Income Class, $60K-75K		-0.1172***			
		(0.0118)			
12-month E[π] × Income Class, $75K-100K		-0.1277***			
		(0.0110)			
12-month E[π] × Income Class, $100K-150K		-0.1527***			
		(0.0108)			
12-month E[π] × Income Class, $150K+		-0.1414***			
		(0.0113)			
Constrained			-0.6755***		
			(0.1091)		
12-month E[π] × Constrained			0.2370***		
			(0.0395)		
Salary income variability				0.3246***	
				(0.1081)	
12-month E[π] × Salary income variability				-0.0805**	
				(0.0371)	
Sophisticated					6.962
					(5,262.8)
12-month E[π] × Sophisticated					0.1230***
					(0.0155)
Observations	2,987,598	2,987,598	2,987,598	2,563,919	2,987,598
R^2	0.71347	0.71408	0.71347	0.71324	0.71348
Within R^2	0.00161	0.00375	0.00164	0.00142	0.00168
Investor fixed effects	✓	✓	✓	✓	✓
City fixed effects	✓	✓	✓	✓	✓

Panel (B): Crypto Investment Response to Investor-Level Inflation Expectations

	Log cryptocurrency debit				
	(1)	(2)	(3)	(4)	(5)
Investor eCPI, (consumption)	0.0551***	0.0250	0.0549***	0.0281	0.0482***
	(0.0134)	(0.0247)	(0.0134)	(0.0179)	(0.0134)
Investor eCPI, (consumption) × Income Class, $25K-45K		0.0476			
		(0.0354)			
Investor eCPI, (consumption) × Income Class, $45K-60K		-0.0083			
		(0.0429)			
Investor eCPI, (consumption) × Income Class, $60K-75K		-0.0270			
		(0.0488)			
Investor eCPI, (consumption) × Income Class, $75K-100K		0.0243			
		(0.0438)			
Investor eCPI, (consumption) × Income Class, $100K-150K		0.0843*			
		(0.0435)			
Investor eCPI, (consumption) × Income Class, $150K+		0.0730*			
		(0.0436)			
Constrained			-0.0323*		
			(0.0167)		
Investor eCPI, (consumption) × Constrained			0.0398		
			(0.0929)		
Salary income variability				0.1565***	
				(0.0308)	
Investor eCPI, (consumption) × Salary income variability				0.1901*	
				(0.1015)	
Sophisticated					0.3819
					(3,138.5)
Investor eCPI, (consumption) × Sophisticated					0.2056***
					(0.0431)
Observations	2,987,598	2,987,598	2,987,598	2,563,919	2,987,598
R^2	0.82469	0.82470	0.82470	0.82953	0.82470
Within R^2	1.54×10^{-5}	2.26×10^{-5}	1.91×10^{-5}	6.09×10^{-5}	3.65×10^{-5}
Investor fixed effects	✓	✓	✓	✓	✓
City×Month fixed effects	✓	✓	✓	✓	✓
City×Month×Income Class fixed effects	✓	✓	✓	✓	✓

Table 11

Panel (A): Stimulus I Marginal Propensity to Invest in Crypto

	Debit Chg (USD)	
	(1)	(2)
Stimulus Amount (USD)	0.02112***	0.02098***
	(0.00440)	(0.00364)
Observations	4,511,924	4,511,924
R^2	0.01082	0.01282
Within R^2	6.26×10^{-6}	6.13×10^{-6}
Investor fixed effects	✓	✓
Income class fixed effects	✓	
Cohort fixed effects		✓

Panel (B): Stimulus I Marginal Propensity to Invest in Crypto by Income Class

	Debit Chg (USD)						
	IC1	IC2	IC3	IC4	IC5	IC6	IC7
Stimulus Amount (USD)	0.06519***	0.02573***	0.01626***	0.01387***	0.01591***	0.00892***	0.03237***
	(0.01855)	(0.00460)	(0.00256)	(0.00361)	(0.00321)	(0.00286)	(0.00978)
Observations	433,588	819,934	642,086	447,199	721,843	785,317	661,957
R^2	0.03891	0.04347	0.04445	0.07873	0.03597	0.04022	0.01459
Within R^2	0.00020	2.56×10^{-5}	1.24×10^{-5}	9.9×10^{-6}	9.06×10^{-6}	2×10^{-6}	4.59×10^{-6}
Investor fixed effects	✓	✓	✓	✓	✓	✓	✓
City fixed effects	✓	✓	✓	✓	✓	✓	✓

Panel (C): Stimulus II Marginal Propensity to Invest in Crypto

	Debit Chg (USD)	
	(1)	(2)
Stimulus Amount (USD)	0.11809	0.11911
	(0.07452)	(0.07873)
Observations	3,571,371	3,571,371
R^2	0.01951	0.02176
Within R^2	9.6×10^{-5}	9.67×10^{-5}
Investor fixed effects	✓	✓
Income class fixed effects	✓	
Cohort fixed effects		✓

Panel (D): Stimulus II Marginal Propensity to Invest in Crypto by Income Class

	Debit Chg (USD)						
	IC1	IC2	IC3	IC4	IC5	IC6	IC7
Stimulus Amount (USD)	0.07855*	0.10598**	0.12919	0.07014	0.07452*	0.08876	0.19682
	(0.04579)	(0.05301)	(0.07947)	(0.04436)	(0.04415)	(0.06896)	(0.12465)
Observations	343,130	599,335	479,978	336,541	560,098	662,791	589,498
R^2	0.04526	0.04190	0.04227	0.08916	0.04362	0.06931	0.02132
Within R^2	7.8×10^{-5}	0.00014	0.00026	0.00010	8.08×10^{-5}	0.00011	0.00011
Investor FE fixed effects	✓	✓	✓	✓	✓	✓	✓
City fixed effects	✓	✓	✓	✓	✓	✓	✓

Panel (E): Stimulus III Marginal Propensity to Invest in Crypto

	Debit Chg (USD)	
	(1)	(2)
Stimulus Amount (USD)	0.02590***	0.02631***
	(0.00274)	(0.00448)
cohort		
Observations	4,007,642	4,007,642
R^2	0.07556	0.07815
Within R^2	0.00011	0.00011
Investor fixed effects	✓	✓
Income class fixed effects	✓	
Cohort fixed effects		✓

Panel (F): Stimulus III Marginal Propensity to Invest in Crypto by Income Class

	Debit Chg (USD)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Stimulus Amount (USD)	0.03121***	0.01920***	0.02339***	0.01963***	0.02089***	0.02308***	0.03862***
	(0.00245)	(0.00243)	(0.00149)	(0.00258)	(0.00215)	(0.00246)	(0.01000)
Observations	436,592	710,890	547,781	385,982	629,886	707,336	589,175
R^2	0.06681	0.05031	0.09412	0.07660	0.03791	0.06854	0.09770
Within R^2	0.00026	0.00011	0.00021	0.00021	0.00017	0.00019	0.00010
Investor fixed effects	✓	✓	✓	✓	✓	✓	✓
City fixed effects	✓	✓	✓	✓	✓	✓	✓

Table 12

Panel (A): Trad. Investment Response to Stimulus I by Income Class

	Traditional investment debits						
	$0-$25K	$25K-$45K	$45K-$60K	$60K-$75K	$75K-$100K	$100K-$150K	$150K+
τ=-12	-5.56	-14.97**	-32.42***	-17.89	-4.07	-83.99***	-204.03**
	(14.75)	(7.04)	(12.40)	(20.49)	(16.15)	(9.81)	(83.53)
τ=-11	40.26	-9.57	-40.13***	-43.45**	-30.05***	-75.83***	-138.74
	(32.97)	(5.85)	(9.02)	(20.62)	(11.53)	(15.27)	(128.21)
τ=-10	-23.95**	-11.26	-6.09	7.07	12.01	-38.13**	8.19
	(9.43)	(8.25)	(17.94)	(25.04)	(12.09)	(15.95)	(108.73)
τ=-9	-18.72*	-21.69***	-8.22	-34.01*	-27.07***	-66.37***	47.40
	(10.17)	(4.93)	(18.49)	(18.95)	(8.70)	(17.45)	(101.97)
τ=-8	-21.84***	-18.65*	-14.11	-18.47	-2.46	-51.87***	0.81
	(3.42)	(10.82)	(20.18)	(15.98)	(15.46)	(17.56)	(173.95)
τ=-7	2.77	10.46	-25.39*	1.08	23.30	1.66	111.91
	(6.99)	(13.20)	(13.71)	(18.70)	(15.38)	(34.51)	(243.80)
τ=-6	9.61	3.00	35.09	49.89**	-2.63	50.08**	153.16
	(18.27)	(5.71)	(31.43)	(24.27)	(16.44)	(22.03)	(129.32)
τ=-5	-0.86	9.55	31.19	6.39	8.12	64.94*	177.19
	(9.96)	(8.03)	(19.86)	(18.36)	(21.08)	(36.13)	(141.80)
τ=-4	-1.91	28.26***	102.43***	63.31**	138.24***	83.61***	41.29
	(4.93)	(9.98)	(30.54)	(29.34)	(44.29)	(30.68)	(147.49)
τ=-3	9.92	7.93	66.02***	31.63	20.91	9.76	133.04
	(13.83)	(7.60)	(13.57)	(25.22)	(18.74)	(23.29)	(107.54)
τ=-2	22.59	-12.81***	29.32***	5.65	-19.14	-18.30	-130.91
	(19.18)	(3.28)	(11.10)	(19.18)	(20.31)	(24.92)	(97.74)
τ=0	32.00***	13.18***	22.71***	18.60	23.77*	55.40***	64.90
	(9.00)	(5.01)	(7.60)	(16.41)	(13.73)	(10.36)	(67.33)
τ=1	10.29***	6.50	16.93	-0.48	8.56	13.48	182.11**
	(3.74)	(4.35)	(22.28)	(14.14)	(8.38)	(18.30)	(87.55)
τ=2	2.88	8.69	7.56	12.89	26.62***	2.20	152.49
	(4.41)	(6.32)	(15.77)	(13.08)	(5.35)	(23.34)	(109.71)
τ=3	-3.73	-8.41*	14.73	-3.79	12.94	-29.20*	-312.29
	(4.61)	(5.05)	(10.34)	(19.71)	(9.97)	(16.14)	(279.58)
τ=4	3.71	-6.96	37.85**	-7.68	-4.86	-46.45**	-247.83
	(4.43)	(5.38)	(17.07)	(18.68)	(9.81)	(18.38)	(290.88)
τ=5	1.05	-4.85	-0.60	-13.91	30.55**	-6.09	-285.00
	(4.82)	(7.37)	(10.40)	(19.16)	(12.92)	(26.63)	(290.11)
τ=6	-4.09	-19.87**	-23.74**	-0.06	9.47	-42.91	-295.62
	(4.99)	(7.81)	(9.58)	(18.10)	(10.78)	(33.53)	(302.90)
τ=7	7.98	16.47	6.22	3.60	92.82***	85.47**	33.35
	(10.62)	(17.14)	(11.13)	(20.65)	(14.96)	(37.67)	(113.50)
τ=8	5.86	8.45	16.21	80.96**	54.60***	15.99	2,552.01***
	(5.92)	(12.38)	(10.35)	(33.11)	(13.23)	(20.76)	(916.10)
τ=9	-6.19	14.62	5.14	10.46	-1.60	-22.57	-105.91
	(6.91)	(28.04)	(10.36)	(27.86)	(11.79)	(16.86)	(117.78)
τ=10	-3.31	-2.34	5.14	-6.36	-2.19	-15.38	-151.49
	(5.52)	(8.12)	(10.03)	(21.21)	(14.04)	(13.07)	(116.37)
τ=11	-9.91**	-14.79**	8.09	25.76	18.78	-23.88	84.36
	(4.75)	(5.76)	(11.41)	(29.72)	(13.52)	(27.16)	(118.75)
τ=12	-1.61	10.74	22.72*	-9.67	51.10***	-21.70	-200.63
	(5.27)	(9.23)	(11.82)	(18.62)	(11.42)	(24.28)	(247.70)
Observations	450,216	873,825	684,227	476,556	769,490	834,983	700,819
R^2	0.24137	0.20110	0.21811	0.22312	0.24012	0.18548	0.11795
Within R^2	0.00050	0.00057	0.00077	0.00051	0.00052	0.00055	0.00049
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel (B): Trad. Investment Response to Stimulus II by Income Class

	Traditional investment debits						
	$0-$25K	$25K-$45K	$45K-$60K	$60K-$75K	$75K-$100K	$100K-$150K	$150K+
τ=-12	-74.42	2.64	-18.36***	-11.11	-28.60*	-38.04**	-107.25
	(52.81)	(4.73)	(6.72)	(8.75)	(15.99)	(18.50)	(116.92)
τ=-11	-71.34	-4.35	49.10	-24.87**	-26.54	-1.09	33.35
	(52.81)	(4.37)	(45.06)	(10.04)	(19.31)	(26.82)	(150.02)
τ=-10	-64.10	-14.14***	-12.59*	-14.10	-13.63	-45.52*	-187.61
	(53.31)	(4.87)	(7.01)	(10.20)	(15.80)	(26.49)	(122.62)
τ=-9	-31.02	1.12	11.95	4.75	-14.10	-26.08	-207.22
	(59.66)	(8.32)	(20.37)	(16.84)	(20.10)	(45.86)	(126.85)
τ=-8	-133.79	15.81*	-7.03	-18.39	10.08	9.13	20.61
	(91.51)	(8.19)	(12.27)	(18.81)	(23.48)	(20.79)	(128.39)
τ=-7	-107.61	5.14	23.47	-1.61	-32.64***	-4.65	-44.90
	(90.59)	(8.37)	(22.64)	(17.97)	(12.49)	(24.35)	(120.53)
τ=-6	-132.52	-1.31	-0.47	-19.61	-29.56	-23.95	-133.21
	(90.26)	(6.47)	(13.17)	(22.64)	(19.33)	(42.76)	(179.69)
τ=-5	-134.17	51.25*	-2.44	14.35	-10.06	-22.53	-73.56
	(88.04)	(26.85)	(14.20)	(28.70)	(20.69)	(18.75)	(115.21)
τ=-4	-66.79	13.52	45.41**	14.61	-12.82	21.88	33.31
	(67.73)	(8.24)	(21.15)	(12.17)	(9.58)	(41.14)	(102.54)
τ=-3	-46.52	5.55	7.36	-4.51	-22.04	51.32***	566.07**
	(35.88)	(9.01)	(8.27)	(9.18)	(13.95)	(7.52)	(249.12)
τ=-2	-66.04	0.41	10.98	6.71	10.77	67.89	58.39
	(48.18)	(2.61)	(10.37)	(23.15)	(7.97)	(50.57)	(109.48)
τ=0	3.50	48.13***	39.80***	73.95*	78.81	93.25	-318.65
	(27.52)	(14.94)	(15.22)	(43.06)	(62.78)	(72.59)	(464.87)
τ=1	-0.60	20.71**	58.03***	76.80***	123.48***	185.17***	1,398.06
	(44.88)	(9.09)	(17.81)	(20.12)	(30.55)	(40.43)	(882.70)
τ=2	-37.20	9.36	26.78**	28.13*	9.64	46.15	-268.36*
	(46.25)	(7.97)	(13.60)	(15.80)	(31.47)	(43.52)	(148.59)
τ=3	20.93	95.18***	43.41**	60.41*	67.01**	118.52*	661.34***
	(50.26)	(17.21)	(18.15)	(35.45)	(32.13)	(65.17)	(190.00)
τ=4	126.14	104.97***	105.86***	130.06***	182.12***	208.63***	421.41***
	(93.73)	(14.45)	(18.14)	(14.11)	(34.59)	(33.64)	(131.15)
τ=5	-60.45	63.82***	118.03***	139.79***	149.96***	156.22***	658.34***
	(51.54)	(14.10)	(41.98)	(30.82)	(36.93)	(40.07)	(132.59)
τ=6	-82.13	10.88	25.87***	58.13***	66.61***	61.71**	284.11**
	(60.19)	(9.49)	(8.35)	(12.79)	(24.77)	(27.03)	(125.26)
τ=7	-87.05*	25.75**	26.10	62.29***	87.38***	82.77**	263.98*
	(52.38)	(12.04)	(15.94)	(19.70)	(32.36)	(33.59)	(136.81)
τ=8	-62.83	24.97***	39.11***	65.46***	62.79***	50.84*	355.63*
	(49.67)	(9.29)	(14.77)	(14.74)	(19.12)	(26.48)	(184.43)
τ=9	-11.38	16.26**	33.42***	88.26***	81.10***	89.96***	192.62
	(48.87)	(7.02)	(8.34)	(12.86)	(16.56)	(24.86)	(122.90)
τ=10	-33.91	24.93**	41.87***	86.17***	67.42***	88.24***	265.77*
	(47.40)	(10.01)	(14.32)	(18.83)	(22.61)	(31.94)	(140.25)
τ=11	-50.31	15.43*	45.39***	58.42***	63.27***	74.28**	414.75*
	(47.71)	(8.85)	(17.33)	(14.50)	(17.72)	(35.01)	(212.51)
τ=12	-48.74	2.95	-0.57	29.40**	22.79	20.00	-14.34
	(49.03)	(8.53)	(5.77)	(13.59)	(17.66)	(31.18)	(166.57)
Observations	355,737	639,215	511,784	358,900	597,814	706,241	625,529
R^2	0.26810	0.24288	0.23543	0.21148	0.23014	0.18617	0.29055
Within R^2	0.00062	0.00085	0.00075	0.00087	0.00126	0.00086	0.00031
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel (C): Trad. Investment Response to Stimulus III by Income Class

	Traditional investment debits						
	$0-$25K	$25K-$45K	$45K-$60K	$60K-$75K	$75K-$100K	$100K-$150K	$150K+
τ=-12	-12.84	-24.49***	-39.58***	-49.34***	-57.51***	-78.86***	-132.12
	(28.11)	(8.13)	(13.75)	(12.79)	(10.86)	(16.68)	(92.50)
τ=-11	-3.17	-22.15***	-26.32	-46.45***	-41.20	-29.97	-101.58
	(11.38)	(7.59)	(18.33)	(13.86)	(26.54)	(47.00)	(108.31)
τ=-10	3.22	25.29**	11.07	51.66***	32.43	87.86***	242.42*
	(21.29)	(11.67)	(13.99)	(14.34)	(24.74)	(19.69)	(136.02)
τ=-9	-1.39	12.45	17.24	4.96	77.55**	4.19	128.88
	(17.54)	(14.39)	(12.08)	(12.56)	(36.94)	(13.70)	(91.24)
τ=-8	-20.22	10.48	-9.66	-18.99	-25.94	-12.01	206.85***
	(15.88)	(11.71)	(13.31)	(19.01)	(22.94)	(31.42)	(77.01)
τ=-7	45.83	78.84***	52.44***	68.88***	61.99***	128.97***	644.33**
	(29.89)	(13.69)	(9.79)	(15.26)	(12.47)	(23.17)	(279.38)
τ=-6	69.22*	60.73***	81.55***	82.61***	117.29***	110.44***	282.58***
	(37.03)	(6.13)	(7.59)	(9.49)	(19.51)	(15.46)	(98.46)
τ=-5	-17.05	27.59***	11.21*	22.87**	42.74***	23.61	35.97
	(33.35)	(9.52)	(6.34)	(11.06)	(12.24)	(17.05)	(53.10)
τ=-4	-60.46	-12.23***	-23.27**	-8.45	-14.81	-31.34	37.60
	(38.27)	(2.97)	(9.35)	(7.64)	(10.11)	(21.70)	(51.45)
τ=-3	-46.51	8.25	-3.25	4.14	23.43**	-5.68	107.22
	(38.72)	(9.36)	(10.74)	(11.61)	(10.14)	(15.72)	(82.88)
τ=-2	-9.62	10.96***	6.42	26.83**	18.09***	28.01	198.67**
	(16.39)	(3.48)	(6.28)	(12.82)	(1.57)	(20.94)	(84.57)
τ=0	-4.89	24.20***	32.68***	36.12***	25.48***	61.42***	150.59***
	(12.95)	(1.93)	(5.66)	(8.04)	(5.25)	(15.71)	(56.72)
τ=1	-17.31	4.17	-14.66***	-21.83*	-19.50***	-13.59	32.53
	(14.22)	(3.08)	(2.98)	(12.85)	(4.86)	(14.62)	(66.51)
τ=2	-38.45*	-11.61***	-27.46***	-37.23***	-39.41***	-52.93***	-203.41***
	(23.19)	(1.75)	(6.96)	(11.22)	(5.86)	(13.40)	(51.47)
τ=3	-28.75*	7.65	-17.56*	-9.48	-26.43***	1.65	-70.86
	(15.44)	(8.43)	(9.18)	(20.61)	(8.29)	(8.62)	(119.66)
τ=4	-14.89	13.72***	0.28	25.76**	23.01***	42.69**	6.86
	(10.97)	(3.96)	(6.77)	(11.30)	(7.62)	(16.76)	(46.79)
τ=5	-2.85	14.29*	2.84	2.64	-6.16	12.77	68.73
	(16.83)	(7.28)	(8.34)	(12.13)	(13.26)	(13.55)	(85.61)
τ=6	-35.00***	-6.21	-24.07	-35.64***	-54.23***	-45.89**	-217.77***
	(11.83)	(7.22)	(14.73)	(13.61)	(10.88)	(18.20)	(47.33)
τ=7	-23.56*	2.91	-8.59	7.08	10.88	3.36	-127.40**
	(14.09)	(4.32)	(11.01)	(7.90)	(13.73)	(13.48)	(58.51)
τ=8	-34.63***	-20.26***	-38.83***	-49.33***	-59.68***	-101.23***	-365.39***
	(12.79)	(5.27)	(10.91)	(10.63)	(11.60)	(10.76)	(48.70)
τ=9	-35.88***	-6.47	-5.23	-178.98*	131.36	-87.79***	-444.17***
	(12.33)	(9.18)	(23.07)	(98.85)	(124.87)	(12.37)	(159.22)
Observations	456,766	761,217	586,370	413,216	674,161	755,237	626,736
R^2	0.29411	0.27714	0.23090	0.22794	0.18568	0.19702	0.10962
Within R^2	0.00043	0.00107	0.00088	0.00111	0.00082	0.00105	0.00036
Investor FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes