Blocking the Credit Chain: Cryptocurrencies, Deposits, and Bank Loan Growth*

Allen N. Berger

Jiarui (Jerry) Guo

Stephen A. Karolyi

Leili Pour Rostami

Abstract

We find that retail bank deposits decline in markets with a higher share of cryptocurrency-investing households during periods of high cryptocurrency returns. Exploiting cross-sectional variation in banks' spatial exposures to these households, we find this dynamic aggregates to the bank level and leads to lower loan growth for exposed banks. It also extends to the county level, producing slower establishment and employment growth, particularly in bank-dependent industries. Our results highlight a novel indirect exposure of banks to cryptocurrency markets, illustrating how participation in cryptocurrency markets can affect the real economy by weakening traditional financial intermediation.

Keywords: financial intermediation, cryptocurrencies, deposit flows, credit supply

JEL Classification: D14, E44, G21, G23

*We thank Dominik Supera (discussant) Julian Atanassov (discussant), Gadi Barlevy, Hao Fu (discussant), Xinran Huang (discussant), Lily Li (discussant), Jonathan Rose, and participants at the American Finance Association Annual Meeting, Contemporary Issues in Financial Markets and Banking Conference, Federal Reserve Bank of Chicago, Friends of Women in Finance Symposium, Financial Management Association Annual Meeting, Office of the Comptroller of the Currency, RCF-ECGI Conference, and Southern Finance Association Annual Meeting for helpful comments and suggestions. Please send correspondence to the authors using the following information: Allen N. Berger (University of South Carolina), aberger@moore.usc.edu; Jiarui (Jerry) Guo (University of International Business and Economics), guojiarui@uibe.edu.cn; Stephen A. Karolyi (George Mason University), skarolyi@gmu.edu; Leili Pour Rostami (University of Massachussetts-Boston), Leili.PourRostami@umb.edu.

1 Introduction

Between 2013 and 2025, the number of cryptocurrencies increased from fewer than one hundred to more than twenty thousand. Over the same period, their collective market capitalization expanded from about $10 billion to about $3 trillion, peaking in October 2025 at approximately $4.2 trillion.[1] This significant rise has prompted banks and other financial institutions to explore how to participate in cryptocurrency markets in various capacities–such as custodian, exchange, coin issuer, broker, payment processor, or participant.[2] A few regional banks began offering services to cryptocurrency firms by accepting deposits and extending loans secured by cryptocurrency collateral (Congressional Research Service (2023); Auer, Farag, Lewrick, Orazem, and Zoss (2023)).[3] Two of the most crypto-exposed institutions—Silvergate Bank and Signature Bank—failed in early 2023, raising questions about both the direct and indirect implications for financial stability and intermediation stemming from banks' evolving relationships with digital assets.

Meanwhile, nationally representative surveys by NORC at the University of Chicago and the Pew Research Center indicate that 13%–16% of Americans have personally invested in, traded, or used a cryptocurrency.[4] This retail participation has garnered policy attention. Following President Biden's March 9, 2022, Executive Order on Ensuring Responsible Development of Digital Assets, Treasury Secretary Janet Yellen stated that "[t]his approach will support responsible innovation that could result in substantial benefits for the nation, consumers, and businesses. It will also address risks related to illicit finance, protecting consumers and investors, and preventing threats to the fi-

[1] According to CoinMarketCap, available at https://coinmarketcap.com/charts/.

[2] See https://www.bankdirector.com/committees/risk-committees/cryptocurrency-the-risk-banks-already-have/

[3] Congressional Research Service, April 25, 2023, "The Role of Cryptocurrency in the Failures of Silvergate, Silicon Valley, and Signature Banks" https://crsreports.congress.gov/product/pdf/IN/IN12148

[4] See https://www.norc.org/research/library/more-than-one-in-ten-americans-surveyed-invest-in-cryptocurrenci.html and https://www.pewresearch.org/short-reads/2021/11/11/16-of-americans-say-they-have-ever-invested-in-traded-or-used-cryptocurrency/

nancial system and broader economy."[5] In this context, prior research on cryptocurrency demand has studied the geographic distribution of ICO attention (Chava, Hu, and Paradkar 2022) and the motivations and beliefs of retail investors (Aiello, Baker, Balyuk, Di Maggio, Johnson, and Kotter 2023; Kogan, Makarov, Niessner, and Schoar 2023), but the effects of household cryptocurrency adoption on traditional financial intermediation remain underexplored.

In this paper, we use novel data on household cryptocurrency investments derived from aggregated tax returns provided by the Internal Revenue Service to examine the effects of cryptocurrency markets on deposit flows, credit supply, and the real economy. Our empirical analysis covers 2020–2022. We first document a link between the share of households with cryptocurrency investments and county-level deposit outflows following high cryptocurrency returns, consistent with a relative decline in households' demand for bank deposits when cryptocurrency prices rise. We show that this county-level relationship aggregates to bank level effects using cross-sectional variation in banks' spatial exposures to cryptocurrency-investing households. Banks propagate these deposit outflows to counties in the form of less small business lending, irrespective of local households' cryptocurrency investment. In an instrumental variables model, we estimate credit passthrough rates of up to 73.3% for crypto-driven deposit flows. These credit effects translate into real economic outcomes; counties in which high-exposure banks hold a larger deposit market share experience lower establishment and employment growth, with employment effects that are stronger in bank-dependent industries. These passthrough rates and real effects are similar in economic magnitude to those estimated for wealth shocks from natural resource discoveries (Gilje 2019) and lotteries (Parra 2022). Together, our findings highlight a novel indirect exposure of banks to cryptocurrency markets and illustrate how cryptocurrency demand can weaken traditional financial intermediation.

We first explore the effect of cryptocurrency markets on bank deposit growth in

[5] Secretary Yellen's statement is available at https://home.treasury.gov/news/press-releases/jy0644; President Biden's Executive Order is at https://www.whitehouse.gov/briefing-room/presidential-actions/2022/03/09/executive-order-on-ensuring-responsible-development-of-digital-assets/

aggregate and across counties. In aggregate, we find a negative correlation between cryptocurrency returns and aggregate deposits, particularly for non-transaction deposits, prompting us to explore cross-county variation in household cryptocurrency investment. Using FDIC Summary of Deposits data at the county level, we aggregate deposits across banks and assess the sensitivity of county-level deposit flows to cryptocurrency returns. Because deposit growth and cryptocurrency returns may both be influenced by secular trends or economic conditions, we exploit cross-sectional variation in the county share of local households' cryptocurrency investments for identification. Our strategy rests on the notion that although we expect household demand for deposits to vary with household participation in cryptocurrency markets, banks' deposit supply is unlikely to reverse-cause local households' cryptocurrency investments following relatively high or low cryptocurrency returns. As in the case of stock market participation (Hong, Kubik, and Stein 2004; Lin 2020), there is substantial county-level variation in households' cryptocurrency investments, which provides sufficient statistical power for our analysis. Our findings suggest that counties with a high share of crypto-invested households tend to experience greater deposit withdrawals after cryptocurrency booms.

Our main specifications include state-by-year fixed effects to address differences in state-level banking and cryptocurrency regulation as well as any other secular state-level trends that could affect deposit growth, but our county-level results are robust across a number of alternative specifications. Most notably, we find statistically and economically significant effects in specifications that include bank-by-year fixed effects, which address absorb channels related to banks' deposit demand and force the identifying variation to come from the *same* bank's deposit growth in markets with different intensities of cryptocurrency-investing households. Compared to other counties that they serve, we find that banks experience 0.6% lower deposit growth in counties with one standard deviation more crypto-investing households following a period with one standard deviation higher cryptocurrency returns. While counties with higher shares of cryptocurrency-investing tend to be younger and have higher income, our county-level deposit growth estimates are robust to including cryptocurrency return interactions with demographic indicators associated with cryptocurrency investment, namely population shares under 30 years old and with over $100,000 in annual income. Similarly, given the importance of the deposit channel of monetary policy and significant changes in monetary policy during the latter part of our sample period, we consider specifications that flexibly control for interactions of deposit market concentration with cryptocurrency returns or changes in the policy rate, finding robust results in these specifications as well.

To analyze whether these county-level effects manifest at the bank level, we construct measures of banks' exposures using deposit share weights and county-level proportions of crypto-investing households. We find evidence of more deposit outflows at banks with greater exposure to crypto-investing households after high cryptocurrency returns. This result supports the notion that, after cryptocurrency booms, crypto-investing households would choose to divert their savings into crypto markets (Aiello, Baker, Balyuk, Di Maggio, Johnson, and Kotter 2023) rather than returning them to deposit accounts. This contrasts with a wealth channel in which beneficiaries of a cryptocurrency boom rebalance their portfolio by reducing their cryptocurrency investments. Consequently, our findings diverge from prior research linking local wealth shocks to deposit inflows (Gilje 2019; Parra 2022) and challenge the assertion that decentralized finance operates independently of traditional banks and centralized financial markets.

Our estimates suggest that a one-standard deviation increase in cryptocurrency returns is associated with approximately an 18 basis point decrease in deposit growth among more exposed banks relative to less exposed banks (about 6% of average quarterly deposit growth), a figure that is empirically robust and stable across various measurement and sample-selection criteria. We also find that this phenomenon is evident for time and savings deposits, but it does not hold for transaction deposits. This null result for transaction deposits is consistent with households primarily viewing cryptocurrencies as an alternative savings or investment vehicle rather than a payment service.

To assess whether exposed banks propagate these cryptocurrency shocks to borrowers, we analyze bank-level loan growth. Using Call Report data, we examine how banks' gross loan growth responds to cryptocurrency returns, conditional on banks' exposures to cryptocurrency-investing households. We find that banks with greater exposure to these households reduce loan growth by about 9 basis points more following a one-standard deviation increase in cryptocurrency returns (about 5% of average quarterly loan growth). This magnitude is economically significant and comparable to the deposit growth estimates in our main bank-level tests. Consistent with the earlier findings, our loan growth estimates remain robust to alternative measurement and sample definitions. Additionally, we decompose cryptocurrency returns into censored positive and negative components and find some evidence that both the deposit and loan growth effects are driven by cryptocurrency booms rather than busts.

We apply this approach in a two-stage least squares (2SLS) specification, instrumenting for deposit growth with the interaction between cryptocurrency returns and banks' exposure to cryptocurrency-investing households. This method allows us to quantify the pass-through rate of cryptocurrency-driven deposit growth. We estimate that a 1% decline in cryptocurrency-driven deposit growth generates about a 0.52% reduction in loan growth in our preferred specification, with estimates as large as 0.73% in a more parsimonious specification. This estimate is comparable in economic magnitude to the pass-through rate for deposit growth driven by local shocks such as shale discoveries (Gilje 2019; Gilje, Ready, and Roussanov 2016). Building on the same identifying assumptions as our earlier panel regression analysis, the 2SLS framework provides a useful benchmark for comparing deposit growth elasticities across different contexts.

We next extend our loan growth analysis to the county level. We disaggregate loan growth at the bank-county level using small business loan data made available pursuant to the Community Reinvestment Act. We find that our loan growth estimates are robust under a restrictive Khwaja-Mian approach that incorporates county-by-year fixed effects to more precisely control for local economic conditions, including local household cryptocurrency investment (Khwaja and Mian 2008). As a result, these tests compare small business loan growth in the *same* county and the *same* year by banks with *different* levels of exposure to crypto-investing households. We find that banks with the most exposure to crypto-investing households experience 4.6 percentage points lower small business loan growth after a one-standard-deviation increase in cryptocurrency returns. These estimates are consistent with our bank-level estimates and confirm that our bank-level passthrough estimates translate into county-level credit effects.

Finally, we examine whether these aggregate credit effects extend to real economic outcomes. We collect county-level data on establishments across various sectors from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages and, following Lin (2020), calculate establishment growth rates for both bank-dependent and non-bank-dependent industries. Consistent with the bank lending channel, counties served by a 10% higher deposit market share of banks with high exposure to crypto-investing households exhibit approximately 9 basis points lower establishment growth and 16 basis points lower employment growth following a one-standard-deviation increase in cryptocurrency returns. These negative employment effects are especially pronounced in bank-dependent sectors, further supporting the bank lending channel. Taken together with our findings on deposit and loan growth, this evidence confirms that household participation in cryptocurrency markets can dampen traditional bank intermediation and spill over into the real economy.

Our paper contributes to two key strands of the literature. First, we add to the existing work on the behavior of cryptocurrency investors. Prior research in this domain investigates how factors such as stimulus checks (Divakaruni and Zimmerman 2023) and behavioral biases (Hackethal, Hanspal, Lammer, and Rink 2022) shape cryptocurrency investment decisions, as well as how investor beliefs influence trading outcomes (Kogan, Makarov, Niessner, and Schoar 2023). Others have linked retail cryptocurrency enthusiasm to credit defaults and local house prices (Chava, Hu, and Paradkar 2022; Aiello, Baker, Balyuk, Di Maggio, Johnson, and Kotter 2023). We extend this literature by demonstrating that cryptocurrency returns and household cryptocurrency participation can draw deposits away from traditional banks, highlighting a novel bridge between decentralized finance and legacy financial institutions (Parlour, Stanton, and Walden 2012; Campbell and Viceira 1999; Cocco, Gomes, and Maenhout 2005; Kimball, Shapiro, Shumway, and Zhang 2018).

Second, our findings contribute to the broader literature on how asset prices spill over to credit and the real economy (Morck, Shleifer, and Vishny 1990; Warther 1995; Poterba 2000; Greenwood and Shleifer 2014; Adam, Marcet, and Beutel 2017). Earlier research demonstrates that equity market wealth can affect nontradable employment, consumption, and local house prices (Chodorow-Reich, Nenov, and Simsek 2021; Hartman-Glaser, Thibodeau, and Yoshida 2023). Among the most relevant studies are Gilje (2019) and Lin (2020), who show that deposit flows respond to localized resource shocks and stock market booms, influencing bank lending. We demonstrate that cryptocurrency investments—though decentralized—generate similar shifts in household finances that decrease bank deposits and impede traditional bank intermediation. By illustrating how cryptocurrency-driven "wealth shocks" move in the opposite direction from conventional windfalls, our results underscore the blurred lines between new digital finance and the established banking system.

The remainder of the paper is organized as follows. Section II describes our data sources and variable construction. Section III outlines our empirical strategy and presents results on the relationship between cryptocurrency returns, deposit flows, and loan growth, including the 2SLS estimates of deposit-to-credit pass-through. Section IV details the broader local economic effects on small business lending, establishment formation, and employment. Finally, Section V concludes.

2 Data

2.1 Sample Selection and Data Sources

Our empirical analyses combine (i) county-level measures of household cryptocurrency participation from IRS tax records, (ii) quarterly bank balance-sheet data from FFIEC Call Reports, and (iii) local deposit quantities from the FDIC Summary of Deposits (SOD). Our baseline bank-level panel covers 2020:Q1–2022:Q4, which spans the major boom–bust cycle in cryptocurrency markets and aligns with the availability of IRS county cryptocurrency measures for tax years 2020–2022. Datasets that rely on the IRS county tax data, SOD deposits, and CRA small-business lending are annual, reflecting the reporting frequency of these sources. Because SOD branch deposits are measured as of June 30 each year, we additionally use the 2023 SOD snapshot to construct an additional annual deposit-growth observation in the county- and bank–county deposit analyses.

We obtain cryptocurrency prices and market capitalization data from CoinMarketCap. We remove coins with market capitalization below $1,000,000 and construct a value-weighted cryptocurrency market return index. Let k index coins and τ index time periods (quarters in quarterly panels and years in annual panels). We compute coin-level simple returns $r_{k,\tau} = P_{k,\tau}/P_{k,\tau-1} - 1$, and define market-cap weights using beginning-of-period market capitalization, $w_{k,\tau-1} = \text{MC}_{k,\tau-1}/\sum_j \text{MC}_{j,\tau-1}$. Our aggregate cryptocurrency return is then

$$\mathit{CryptoReturn}_\tau = \sum_k w_{k,\tau-1}\, r_{k,\tau}.$$

Unless stated otherwise, cryptocurrency returns enter regressions in decimal units; figures scale returns by 100 for readability. Across specifications, returns are lagged by one period (one quarter in quarterly panels; one year in annual panels).

Bank-level financial information comes from quarterly Call Reports (FFIEC), which provide balance-sheet and income-statement items for U.S. commercial banks. We obtain local deposits from the FDIC Summary of Deposits (SOD), which reports branch-level deposits as of June 30 each year. We use SOD in two ways. First, we aggregate branch deposits to the county-year level to construct county deposit growth. Second, we aggregate branch deposits to the bank×county×year level to construct bank–county deposit growth for specifications that isolate local deposit demand from bank-wide funding conditions by including bank×year fixed effects. We also use SOD to measure banks' county deposit shares and branch counts.

We measure local household cryptocurrency participation using the IRS Statistics of Income (SOI) county data Virtual Currency Indicator (`VRTCRIND`), which reports (i) the number of tax returns in a county-year that indicate digital-asset activity and (ii) the total number of tax returns filed. We define county-level cryptocurrency participation as

$$\mathit{CryptoInterest}_{c,t} = \frac{\#\text{Tax returns with crypto activity}_{c,t}}{\#\text{Tax returns}_{c,t}},$$

where c indexes counties and t indexes tax years. In quarterly panels, we assign each annual county-year value of $\mathit{CryptoInterest}_{c,t}$ to all quarters within calendar year t.

2.2 Bank-Level Analysis

At the bank level, we combine annual county cryptocurrency participation from the IRS, quarterly bank fundamentals from Call Reports, and banks' local deposit footprints from SOD. Our main dependent variables are quarterly log growth rates of deposits and loans from Call Reports:

$$\Delta \ln(y_{b,q}) = \ln(y_{b,q}) - \ln(y_{b,q-1}),$$

where b indexes banks and q indexes calendar quarters. We study total domestic deposits and, in additional specifications, decompose deposits into transaction deposits and non-transaction deposits (time plus savings), as well as insured and uninsured deposits.

To measure each bank's exposure to cryptocurrency-investing households, we construct a deposit-footprint-weighted exposure to county cryptocurrency participation. Using county deposit shares from the 2019 SOD (to mitigate reverse causality from banks' subsequent branch location or deposit strategies), we define

$$CryptoExposure_{b,t} \;=\; \sum_{c\in\mathcal{C}_b} \left(\frac{\text{Deposits}_{b,c,2019}}{\text{Deposits}_{b,2019}}\right) \times CryptoInterest_{c,t},$$

where $\mathcal{C}_b$ is the set of counties in which bank b operates and $\text{Deposits}_{b,2019} = \sum_{c\in\mathcal{C}_b} \text{Deposits}_{b,c,2019}$. $CryptoExposure_{b,t}$ varies over time only through $CryptoInterest_{c,t}$ because the deposit-share weights are fixed in 2019. In quarterly regressions, we merge $CryptoExposure_{b,t}$ to quarters within year t.

2.3 Bank–County Level Analysis

We use two bank–county panels. First, to study local small-business credit, we use the Community Reinvestment Act (CRA) Aggregate & Disclosure Flat Files (2020–2022), which report small-business lending at the bank×county×year level. We define bank–county CRA loan growth as

$$\Delta \ln(\text{CRA Loans}_{b,c,t}) \;=\; \ln(\text{CRA Loans}_{b,c,t}) - \ln(\text{CRA Loans}_{b,c,t-1}).$$

Second, to assess whether our deposit results reflect local deposit demand (withdrawals by households) rather than bank-wide supply shocks, we construct bank–county deposit growth using SOD deposits:

$$\Delta \ln\big(\text{Deposits}_{b,c,t}\big) \;=\; \ln\big(\text{Deposits}_{b,c,t}\big) - \ln\big(\text{Deposits}_{b,c,t-1}\big).$$

This bank–county deposit panel enables specifications with bank×year fixed effects that absorb bank-wide funding or supply shocks and identify differences in deposit growth across counties served by the same bank in the same year.

2.4 County-Level Analysis

For county-level outcomes, we use the Quarterly Census of Employment and Wages (QCEW) for employment, wages, and establishments; the Bureau of Economic Analysis (BEA) for county GDP and population controls; and Compustat (nonfinancial firms) to construct external finance dependence following Rajan and Zingales (1998). In real-effects specifications, we form county×dependency-group×quarter outcomes by aggregating QCEW measures separately for external-finance-dependent and nondependent industries and computing quarterly log growth rates.

We construct two county-level exposure measures based on banks operating in the county, using deposit market shares fixed in the 2019 SOD. The first aggregates continuous bank exposures using local deposit market shares:

$$\mathit{CountyExposure}_{c,t} \;=\; \sum_{b\in\mathcal{B}_c} \left(\frac{\text{Deposits}_{b,c,2019}}{\text{Deposits}_{c,2019}}\right) \times \mathit{CryptoExposure}_{b,t},$$

where $\mathcal{B}_c$ is the set of banks in county c and $\text{Deposits}_{c,2019} = \sum_{b\in\mathcal{B}_c} \text{Deposits}_{b,c,2019}$.

The second measure captures exposure intensity through the market share of highly exposed banks. Let $\mathit{HighExposure}_{b,t}$ be an indicator equal to one if bank b is in the top tercile of the $\mathit{CryptoExposure}_{b,t}$ distribution in year t. We define

$$\mathit{HighExposureShare}_{c,t} \;=\; \sum_{b\in\mathcal{B}_c} \left(\frac{\text{Deposits}_{b,c,2019}}{\text{Deposits}_{c,2019}}\right) \times \mathit{HighExposure}_{b,t}.$$

To construct external finance dependence, we follow Rajan and Zingales (1998). For each Compustat firm i (nonfinancial), we compute

$$\mathit{ExtFinDependence}_i \;=\; \frac{\sum_{t=2019}^{2021} \text{CapEx}_{i,t} \;-\; \sum_{t=2019}^{2021} \text{OpCF}_{i,t}}{\sum_{t=2019}^{2021} \text{CapEx}_{i,t}},$$

and then define industry-level dependence as the median across firms within a two-digit NAICS industry n: $\mathit{ExtFinDependence}_n = \text{median}_{i\in n}\{\mathit{ExtFinDependence}_i\}$. We define

$Dependent = 1$ for industries above the median across industries and $Dependent = 0$ otherwise, and use this indicator to form the dependency-group outcomes and interactions in real-effects regressions.

To distinguish cryptocurrency-driven funding shocks from broader risky-asset reallocations, we construct analogous bank exposure measures to equity- and bond-market participation using IRS SOI county data (following Lin (2020)) and aggregate them across each bank's 2019 deposit footprint. For housing, we proxy county housing-market participation using the fraction of owner-occupied housing units from the U.S. Census/ACS and measure housing returns using quarterly growth in the FHFA House Price Index. These measures enter robustness specifications through exposure–return interactions.

To address concerns that crypto participation is correlated with depositor characteristics and local bank market structure, we construct county deposit concentration (deposit HHI) from SOD:

$$HHI_{c,t} = \sum_{b \in \mathcal{B}_c} \left(\frac{\text{Deposits}_{b,c,t}}{\text{Deposits}_{c,t}} \right)^2 .$$

We also merge county demographic measures from the Census/ACS, including the share of the population aged 30 or below and the share with household income above $100,000, which we use in balancing tests and robustness specifications. Finally, we measure monetary policy using changes in the effective federal funds rate, ΔFF_t, and allow for interactions with county market structure and demographics in appendix tests.

2.5 Summary Statistics

Figure 1 maps county-level *CryptoInterest* and highlights substantial geographic heterogeneity. Figure 2 plots the distribution of bank-level *CryptoExposure*. Figure 3 presents aggregate time-series evidence by plotting (i) aggregate deposit growth and (ii) the difference in deposit growth between high- and low-exposure banks against cryptocurrency returns; we report analogous plots for transaction and non-transaction deposits. Figure 4 shows the distribution of $HighExposureShare_{c,t}$. Variable definitions appear in Table A1.

Table 1 reports descriptive statistics for the main regression variables (winsorized at the 1% and 99% levels) and is organized by the level of analysis used in subsequent sections.

3 Results

3.1 Cryptocurrency Interest and Deposit Growth: Cross-County and Within-Bank Evidence

Figure 3 shows that aggregate deposit growth comoves negatively with cryptocurrency returns, especially for non-transaction deposits. Table 2 tests this relationship in a cross-sectional setting using FDIC Summary of Deposits (SOD) data, which report branch deposits as of June 30 each year. We construct annual deposit growth as $\Delta \ln(\text{Deposits}_t) = \ln(\text{Deposits}_t) - \ln\big(\text{Deposits}_{t-1}\big)$ and relate it to lagged cryptocurrency returns interacted with lagged county cryptocurrency participation (*CryptoInterest*). At the county level, our baseline specification is

$$\begin{aligned}\Delta \ln\big(\text{Deposits}_{c,t}\big) = \beta\, \mathit{CryptoInterest}_{c,t-1} \times \mathit{Crypto\ Return}_{t-1} + \gamma\, \mathit{CryptoInterest}_{c,t-1} \\ + \mathbf{X}'_{c,t-1}\delta + \alpha_c + \alpha_{s\times t} + \varepsilon_{c,t},\end{aligned} \tag{1}$$

where $\mathbf{X}_{c,t-1}$ includes county GDP growth and population growth, α_c are county fixed effects, and $\alpha_{s\times t}$ are state×year fixed effects. All regressors are lagged one year.

Panel A (county-level). Columns (1)–(2) show that counties with higher *CryptoInterest* experience weaker deposit growth following high crypto returns. The interaction coefficient is negative and precisely estimated both without controls (-3.046, $t = -6.69$) and with controls (-3.042, $t = -6.69$). The implied magnitude in Column (2) is economically meaningful: a one-standard-deviation increase in both *CryptoInterest* and *Crypto Return* lowers annual county deposit growth by about 3.0 percentage points ($-3.042 \times 0.012 \times 0.825 \approx -0.030$). Columns (3)–(4) restrict to counties with *CryptoInterest* > 0 and yield similarly negative estimates (e.g., -3.802, $t = -5.06$ with controls).

Panel B (bank–county-level). Panel B isolates the *deposit-demand* mechanism by comparing deposit growth across counties served by the same bank in the same year. Specifically, we estimate

$$\Delta \ln\big(\text{Deposits}_{b,c,t}\big) = \beta\, \textit{CryptoInterest}_{c,t-1} \times \textit{Crypto Return}_{t-1} + \gamma\, \textit{CryptoInterest}_{c,t-1} + \mathbf{X}'_{c,t-1}\delta + \alpha_{b\times c} + \alpha_{b\times t} + \alpha_{s\times t} + \varepsilon_{b,c,t}, \tag{2}$$

where $\alpha_{b\times c}$ are bank×county fixed effects and $\alpha_{b\times t}$ are bank×year fixed effects. The bank×year fixed effects absorb time-varying bank-level factors common to all counties served by the bank (e.g., funding strategy and pricing), so identification comes from within-bank-year differences across counties with different *CryptoInterest*.

Columns (1)–(2) show a negative and significant interaction coefficient in the full sample (e.g., -0.606, $t = -3.79$ with controls). In economic terms, the controlled estimate implies that within the same bank and year, a one-standard-deviation increase in both *CryptoInterest* and *Crypto Return* reduces bank–county deposit growth by about 0.6 percentage points ($-0.606 \times 0.012 \times 0.825 \approx -0.006$). Columns (3)–(4) again restrict to *CryptoInterest* > 0 and produce somewhat larger effects (-0.769, $t = -3.75$).

Appendix Tables A5–A6 show that the county-level deposit-flow results are robust to controlling for local deposit concentration (HHI), interactions with monetary policy, and interactions with demographics correlated with crypto participation.

3.2 Cryptocurrency Exposure and Bank Deposit Growth

Table 3 examines whether the county-level deposit-withdrawal behavior in Table 2 aggregates to the bank level. We use quarterly Call Report data and estimate

$$\Delta \ln\big(\text{Domestic Deposits}_{b,q}\big) = \beta\, \mathit{CryptoExposure}_{b,q-1} \times \mathit{Crypto\ Return}_{q-1} + \gamma\, \mathit{CryptoExposure}_{b,q-1} + \mathbf{Z}'_{b,q-1}\delta + \alpha_b + \alpha_{yq} + \varepsilon_{b,q}, \tag{3}$$

where α_{yq} are year-quarter fixed effects, and $\mathbf{Z}_{b,q-1}$ includes standard lagged bank controls (size, capital, profitability, asset quality, expenses, and loans/assets). *CryptoExposure* is the deposit-share-weighted average of county *CryptoInterest* across the bank's footprint using 2019 SOD deposit shares.

Across specifications, the interaction coefficient is consistently negative and statistically significant. In our preferred specification with bank fixed effects and bank controls (Column (4)), the coefficient is -0.178 ($t = -5.38$). The implied magnitude is about 18 basis points lower quarterly deposit growth for a one-standard-deviation increase in both *CryptoExposure* and *Crypto Return* ($-0.178 \times 0.012 \times 0.825 \approx -0.0018$), which is about 6% of mean quarterly domestic deposit growth (Table 1).

A useful consistency check is that the bank-level coefficient is close to the within-bank estimate in Table 2 once frequency is accounted for: annualizing Column (4) of Table 3 yields $4 \times (-0.178) \approx -0.712$, which is similar to the annual within-bank coefficients in Table 2 Panel B. This alignment supports the interpretation that the well-identified within-bank deposit-withdrawal behavior aggregates to bank-level funding outcomes.

Appendix Table A2 shows robustness to alternative exposure constructions (including branch-weighted exposure), top-tercile exposure indicators, and sample restrictions. Appendix Table A4 further suggests asymmetry across crypto booms versus busts.

3.3 Cryptocurrency Exposure, Other Risky Assets, and Bank Deposit Growth

Table 4 tests whether the deposit-growth sensitivity to cryptocurrency returns is distinct from banks' exposure to other risky assets. We augment the Table 3 specification with exposure×return interactions for equity, bond, and housing markets, constructed analogously from banks' 2019 deposit footprints.

The crypto interaction remains negative and statistically significant in all columns. In the fully saturated specification (Column (4)), the coefficient on $CryptoExposure \times Crypto\ Return$ is -0.125 ($t = -3.80$), implying about 12 basis points lower quarterly deposit growth for a one-standard-deviation increase in both exposure and returns ($-0.125 \times 0.012 \times 0.825 \approx -0.0012$). This evidence indicates that the crypto-related deposit response is not subsumed by broader risk-on reallocation toward equities, bonds, or housing.

3.4 Cryptocurrency Exposure and Bank Deposit Growth by Deposit Type

Table 5 decomposes deposit growth by category. Each specification includes bank fixed effects, year-quarter fixed effects, and the full set of bank controls.

The response is concentrated in savings-type funding. The interaction is statistically indistinguishable from zero for transaction deposits (Column (1): 0.163, $t = 1.50$; implied effect $0.163 \times 0.012 \times 0.825 \approx 0.0016$). In contrast, the interaction is large and negative for time deposits (Column (2): -0.421, $t = -6.78$; implied effect $-0.421 \times 0.012 \times 0.825 \approx -0.0042$) and savings deposits (Column (3): -0.391, $t = -6.28$; implied effect $-0.391 \times 0.012 \times 0.825 \approx -0.0039$). This pattern is consistent with cryptocurrency primarily competing with bank deposits as a savings/investment vehicle rather than as a transactions medium.

3.5 Cryptocurrency Exposure and Bank Loan Growth

Table 6 examines whether crypto-driven funding pressure translates into weaker bank credit supply. Using quarterly Call Report data, we estimate

$$\Delta \ln(\text{Gross Loans}_{b,q}) = \beta\, \mathit{CryptoExposure}_{b,q-1} \times \mathit{Crypto\ Return}_{q-1} + \gamma\, \mathit{CryptoExposure}_{b,q-1} + \mathbf{Z}'_{b,q-1}\delta + \alpha_b + \alpha_{yq} + \varepsilon_{b,q}. \tag{4}$$

Across specifications, the interaction coefficient is negative and statistically significant. In the preferred specification with bank fixed effects and controls (Column (4)), the coefficient is -0.092 ($t = -2.82$). The implied magnitude is about 9 basis points lower quarterly loan growth for a one-standard-deviation increase in both exposure and returns ($-0.092 \times 0.012 \times 0.825 \approx -0.0009$), which is about 5% of mean quarterly loan growth (Table 1). This evidence is consistent with a lending channel in which crypto-related deposit outflows constrain lending by exposed banks.

3.6 Cryptocurrency Exposure, Other Risky Assets, and Bank Loan Growth

Table 7 adds the full set of risky-asset exposure×return controls (equity, bond, and housing), mirroring Table 4. The interaction between crypto exposure and crypto returns remains negative and statistically significant in all columns. In the fully saturated specification (Column (4)), the coefficient is -0.112 ($t = -3.35$), implying about 11 basis points lower quarterly loan growth for a one-standard-deviation increase in both exposure and returns ($-0.112 \times 0.012 \times 0.825 \approx -0.0011$). Appendix Table A3 shows that these loan-growth effects are robust to alternative exposure definitions and sample restrictions.

3.7 Cryptocurrency-Driven Deposit Flows: Pass-Through to Bank Loan Growth (2SLS)

Table 8 quantifies deposit-to-loan pass-through using a 2SLS design. We instrument quarterly domestic deposit growth with $\mathit{CryptoExposure} \times \mathit{Crypto\ Return}$ (lagged one quarter). The first stage is

$$\Delta \ln\big(\text{Domestic Deposits}_{b,q}\big) = \pi\, \mathit{CryptoExposure}_{b,q-1} \times \mathit{Crypto\ Return}_{q-1} + \rho\, \mathit{CryptoExposure}_{b,q-1} + \mathbf{Z}'_{b,q-1}\delta + \alpha_b + \alpha_{yq} + u_{b,q}, \tag{5}$$

and the second stage is

$$\Delta \ln(\text{Gross Loans}_{b,q}) = \theta\, \Delta \ln\big(\widehat{\text{Domestic Deposits}}_{b,q}\big) + \rho\, \mathit{CryptoExposure}_{b,q-1} + \mathbf{Z}'_{b,q-1}\delta + \alpha_b + \alpha_{yq} + \eta_{b,q}. \tag{6}$$

The first stage is strong. In Column (3), the coefficient on the excluded instrument is -0.178 ($t = -5.38$) and the first-stage F-statistic is 32.072. In the second stage, the estimated pass-through in our preferred specification (Column (4)) is $\theta = 0.518$ ($t = 2.58$), implying that a 1% decline in domestic deposit growth reduces quarterly loan growth by about 0.52%. Combining the first stage and second stage implies an overall effect on loan growth similar to the reduced-form estimates (e.g., $0.518 \times 0.0018 \approx 0.0009$ for a one-standard-deviation increase in exposure and returns).

Appendix Table A7 reports robustness checks for the 2SLS design under alternative exposure constructions and sample restrictions, with first-stage F-statistics remaining well above conventional weak-instrument thresholds and pass-through estimates of similar magnitude.

3.8 Cryptocurrency Exposure and Within-County Small Business Loan Growth

Table 9 uses CRA small business lending to test whether exposed banks contract lending *within the same local market* during crypto booms. The bank×county×year regression is

$$\Delta \ln(\text{CRA Loans}_{b,c,t}) = \beta \, \textit{Exposure}_{b,t-1} \times \textit{Crypto Return}_{t-1} + \gamma \, \textit{Exposure}_{b,t-1} + \mathbf{Z}'_{b,t-1}\delta + \alpha_b + \alpha_{c\times t} + \varepsilon_{b,c,t}, \tag{7}$$

where $\alpha_{c\times t}$ are county×year fixed effects. This design holds local credit demand fixed (including any local wealth effects correlated with *CryptoInterest*) and identifies differential lending by banks with different exposure operating in the same county-year.

Using continuous exposure, Column (2) yields a negative and significant interaction coefficient of -6.350 ($t = -2.83$), implying about 6.3 percentage points lower annual CRA loan growth for a one-standard-deviation increase in both exposure and returns ($-6.350 \times 0.012 \times 0.825 \approx -0.063$). Using an indicator for banks in the top tercile of exposure, Column (4) yields -0.056 ($t = -6.83$), implying that high-exposure banks reduce small business loan growth by about 4.6 percentage points when crypto returns rise by one standard deviation ($-0.056 \times 0.825 \approx -0.046$), relative to lower-exposure banks in the same county and year. These within-county results reinforce the interpretation that banks' exposure to crypto-investing households in their broader footprint transmits into local credit supply, even holding local conditions fixed.

3.9 Cryptocurrency Exposure and Local Real Effects

Table 10 examines real effects using county×dependency-group×quarter outcomes from QCEW. The key exposure measure is *HighExposureShare*, defined as the county deposit market share of banks in the top tercile of the *CryptoExposure* distribution (constructed from 2019 SOD deposit shares). We estimate a difference-in-differences specification that allows effects to differ across external-finance-dependent industries:

$$\Delta \ln(Y_{c,g,q}) = \beta_1 \, HES_{c,q-1} \times \mathit{Crypto\ Return}_{q-1} + \beta_2 \, HES_{c,q-1} \times \mathit{Crypto\ Return}_{q-1} \times \mathit{Dependent}_g \\ + \mathbf{W}'_{c,g,q-1}\lambda + \alpha_c + \alpha_{s\times y} + \varepsilon_{c,g,q}, \tag{8}$$

where $HES_{c,q}$ denotes $\mathit{HighExposureShare}_{c,q}$, $\mathbf{W}_{c,g,q-1}$ includes the corresponding lower-order terms, and Columns (2) and (4) additionally include county controls and flexibly control for local crypto participation via *CryptoInterest* and *CryptoInterest*× *Crypto Return*.

For employment growth, the controlled estimate in Column (2) is −0.020 ($t = -2.17$), implying about 0.70 percentage points lower quarterly employment growth for a one-standard-deviation increase in both *HighExposureShare* and *Crypto Return* ($-0.020 \times 0.423 \times 0.825 \approx -0.0070$). The triple interaction is also negative and significant (−0.014, $t = -2.30$), implying stronger effects in external-finance-dependent industries: the total effect for dependent industries is −0.034 ($-0.034 \times 0.423 \times 0.825 \approx -0.0119$).

For establishment growth, the controlled estimate in Column (4) is −0.011 ($t = -1.98$), implying about 0.38 percentage points lower quarterly establishment growth ($-0.011 \times 0.423 \times 0.825 \approx -0.0038$). The differential effect by dependence group is small and statistically insignificant for establishments, consistent with establishment counts adjusting more slowly than employment.

4 Conclusion

This paper identifies an indirect but economically meaningful channel through which cryptocurrency markets affect traditional bank intermediation. Using IRS tax-based measures of county cryptocurrency participation, FDIC Summary of Deposits data, quarterly Call Reports, CRA small-business lending, and county-level real outcomes, we document a funding-to-credit-to-real-activity mechanism that operates through household portfolio reallocations and banks' geographic deposit footprints.

First, we show that deposit outflows following cryptocurrency booms are larger in counties with higher household cryptocurrency participation. Importantly, this relationship holds in within-bank tests that compare counties served by the same bank in the same year, absorbing bank-wide shocks to funding conditions. This evidence supports a depositor-driven mechanism: when cryptocurrency returns rise, households in high-*CryptoInterest* counties withdraw relatively more deposits.

Second, these county-level depositor responses aggregate naturally to the bank level. Banks with greater exposure to cryptocurrency-investing households—measured using a deposit-footprint-weighted average of county *CryptoInterest*—experience weaker deposit growth following cryptocurrency booms. The funding response is concentrated in savings-type deposits (time and savings) rather than transaction deposits, consistent with cryptocurrencies primarily acting as an alternative savings/investment vehicle. The bank-level funding results remain robust to controlling for exposures to other risky assets (equities, bonds, and housing) and to alternative exposure constructions and sample restrictions.

Third, we connect these funding shocks to credit supply. More exposed banks reduce loan growth following cryptocurrency booms, and this lending response is robust to controlling for exposures to other risky assets. A 2SLS design that instruments deposit growth with the interaction of *CryptoExposure* and cryptocurrency returns implies economically meaningful pass-through from funding to credit: in our preferred specification, a 1% decline in deposit growth reduces loan growth by roughly 0.52%, with estimates up to about 0.73% in more parsimonious models.

Fourth, we provide evidence that these credit effects operate within local markets and spill over to real outcomes. In within-county CRA tests that include county×year fixed effects, high-exposure banks contract small-business lending relative to other banks operating in the same county-year, holding local demand conditions (and local cryptocurrency participation) fixed. At the county level, areas in which high-exposure banks hold larger deposit market shares experience weaker employment and establishment growth during cryptocurrency booms, with stronger employment effects in external-finance-dependent industries. Because these real-effects specifications flexibly control for local cryptocurrency participation and its interaction with returns, the results indicate that local outcomes deteriorate not because households in the county are necessarily more crypto-invested, but because local intermediation depends more on banks whose funding is strained by depositor outflows elsewhere in their geographic footprint.

Taken together, our findings show that household participation in cryptocurrency markets can weaken bank deposit funding during cryptocurrency booms, constrain credit supply, and dampen local economic activity. More broadly, the evidence highlights how innovations in digital finance can generate material spillovers to the traditional banking system even when banks do not directly intermediate cryptocurrency markets.

References

Adam, K., Marcet, A., and Beutel, J., 2017, "Stock price booms and expected capital gains", *American Economic Review*, 107, pp. 2352–2408.

Aiello, D., Baker, S. R., Balyuk, T., Di Maggio, M., Johnson, M. J., and Kotter, J. D., (2023). *The effects of cryptocurrency wealth on household consumption and investment.* Tech. rep. National Bureau of Economic Research.

Auer, R., Farag, M., Lewrick, U., Orazem, L., and Zoss, M., 2023, "Banking in the shadow of Bitcoin? The institutional adoption of cryptocurrencies".

Campbell, J. Y., and Viceira, L. M., 1999, "Consumption and portfolio decisions when expected returns are time varying", *The Quarterly Journal of Economics*, 114, pp. 433–495.

Chava, S., Hu, F., and Paradkar, N., 2022, "Gambling on Crypto Tokens?", *Available at SSRN 4149937*.

Chodorow-Reich, G., Nenov, P. T., and Simsek, A., 2021, "Stock market wealth and the real economy: A local labor market approach", *American Economic Review*, 111, pp. 1613–1657.

Cocco, J. F., Gomes, F. J., and Maenhout, P. J., 2005, "Consumption and portfolio choice over the life cycle", *The Review of Financial Studies*, 18, pp. 491–533.

Divakaruni, A., and Zimmerman, P., 2023, "Uncovering retail trading in bitcoin: The impact of COVID-19 stimulus checks", *Management Science*.

Gilje, E., Ready, R., and Roussanov, N., (2016). *Fracking, drilling, and asset pricing: Estimating the economic benefits of the shale revolution.* Tech. rep. National Bureau of Economic Research Cambridge, MA.

Gilje, E. P., 2019, "Does local access to finance matter? Evidence from US oil and natural gas shale booms", *Management Science*, 65, pp. 1–18.

Greenwood, R., and Shleifer, A., 2014, "Expectations of returns and expected returns", *The Review of Financial Studies*, 27, pp. 714–746.

Hackethal, A., Hanspal, T., Lammer, D. M., and Rink, K., 2022, "The characteristics and portfolio behavior of bitcoin investors: Evidence from indirect cryptocurrency investments", *Review of Finance*, 26, pp. 855–898.

Hartman-Glaser, B., Thibodeau, M., and Yoshida, J., 2023, "Cash to spend: IPO wealth and house prices", *Real Estate Economics*, 51, pp. 68–102.

Hong, H., Kubik, J. D., and Stein, J. C., 2004, "Social interaction and stock-market participation", *The journal of finance*, 59, pp. 137–163.

Khwaja, A. I., and Mian, A., 2008, "Tracing the Impact of Bank Liquidity Shocks: Evidence from an Emerging Market", *American Economic Review*, 98, pp. 1413–42.

Kimball, M. S., Shapiro, M. D., Shumway, T., and Zhang, J., (2018). *Portfolio rebalancing in general equilibrium.* Tech. rep. National Bureau of Economic Research.

Kogan, S., Makarov, I., Niessner, M., and Schoar, A., (2023). *Are cryptos different? evidence from retail trading.* Tech. rep. National Bureau of Economic Research.

Lin, L., 2020, "Bank deposits and the stock market", *The Review of Financial Studies*, 33, pp. 2622–2658.

Morck, R., Shleifer, A., and Vishny, R. W., 1990, "Do managerial objectives drive bad acquisitions?", *The journal of finance*, 45, pp. 31–48.

Parlour, C. A., Stanton, R., and Walden, J., 2012, "Financial flexibility, bank capital flows, and asset prices", *The Journal of Finance*, 67, pp. 1685–1722.

Parra, C., 2022, "Capital Mobility and Regulation Frictions: Evidence from US Lottery Winners", *Available at SSRN 2696283.*

Poterba, J. M., 2000, "Stock market wealth and consumption", *Journal of economic perspectives*, 14, pp. 99–118.

Rajan, R. G., and Zingales, L., 1998, "Power in a Theory of the Firm", *The Quarterly Journal of Economics*, 113, pp. 387–432.

Warther, V. A., 1995, "Aggregate mutual fund flows and security returns", *Journal of financial economics*, 39, pp. 209–235.

FIGURE 1: **County-Level Cryptocurrency Interest**

Panel (a) maps county-level *CryptoInterest*, defined as the share of tax returns reporting digital-asset activity (IRS SOI Virtual Currency Indicator). The map reports the average value across IRS reporting years 2020–2022.

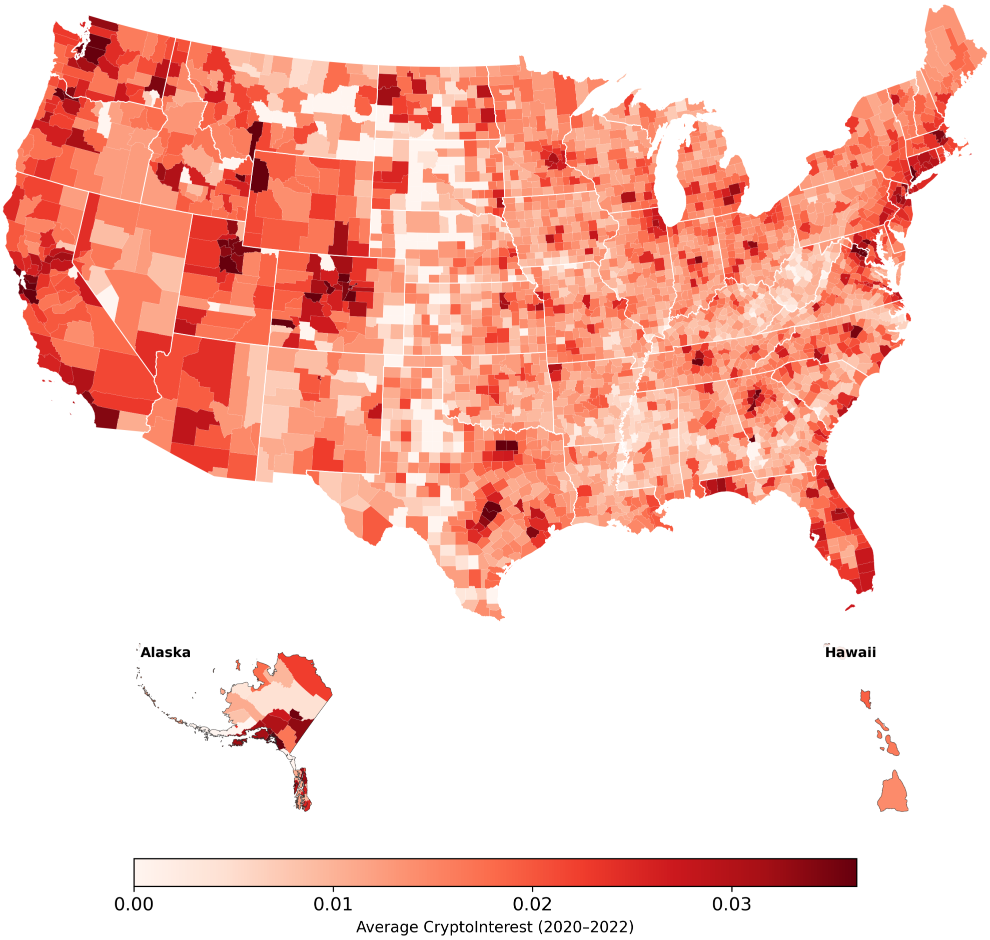


Figure 1: **County-Level Cryptocurrency Interest (continued)**

Panel (b) plots the distribution of county-level *CryptoInterest* across county-year observations in 2020–2022.

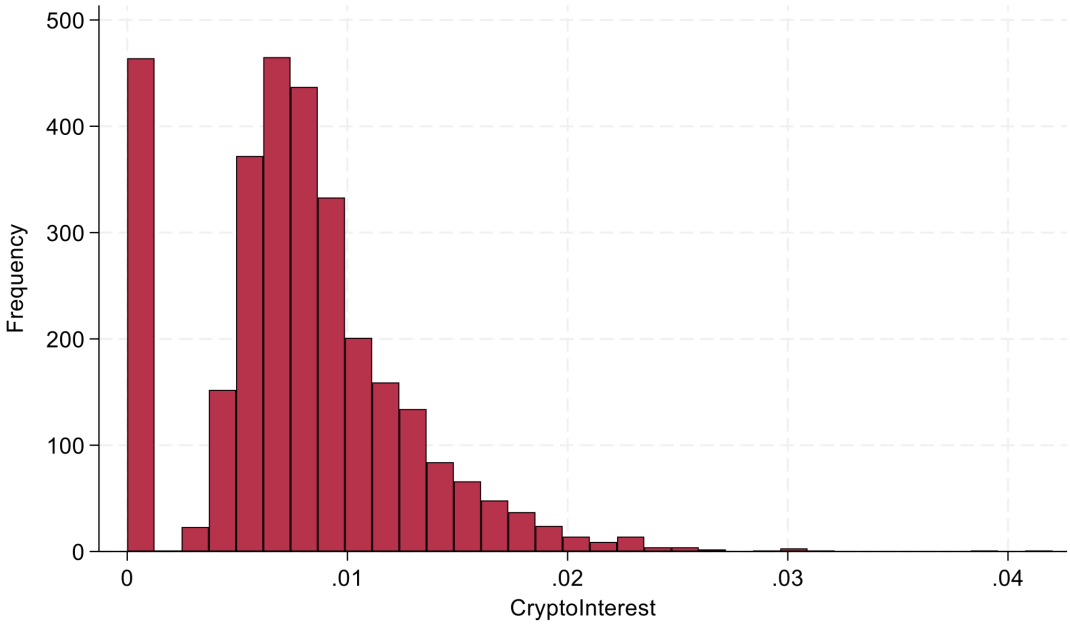


Figure 2: **Bank-Level Distribution of Cryptocurrency Exposure**

This figure plots the distribution of bank-level *CryptoExposure* (labeled *BankExposure* in the histogram). *CryptoExposure* is constructed as a deposit-share-weighted average of county *CryptoInterest* across each bank's geographic footprint, using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD). The distribution is shown for bank-quarter observations in 2020:Q1–2022:Q4.

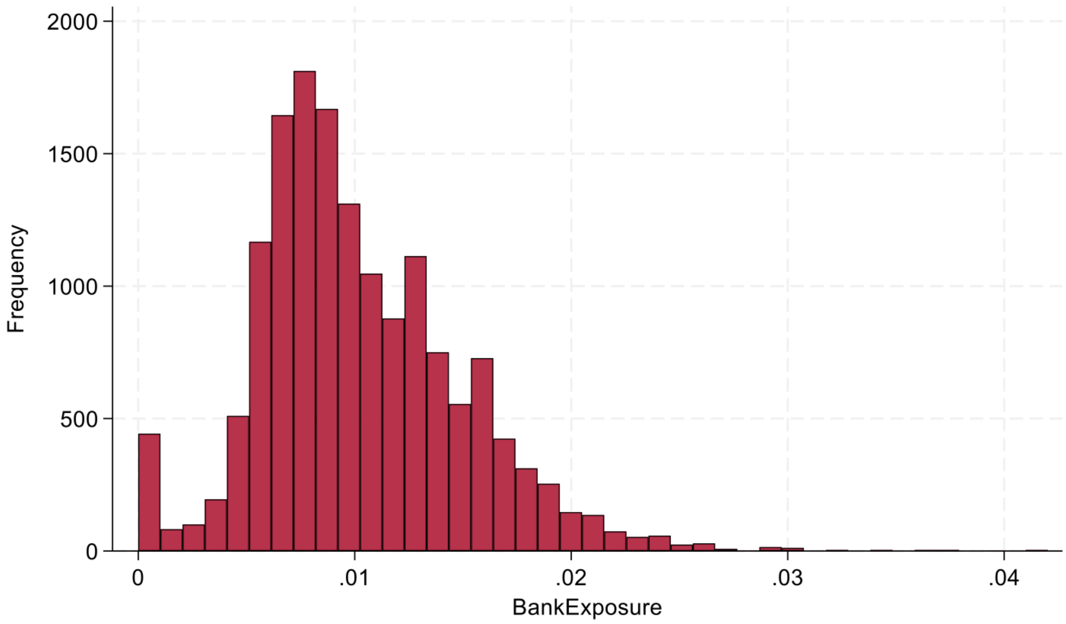
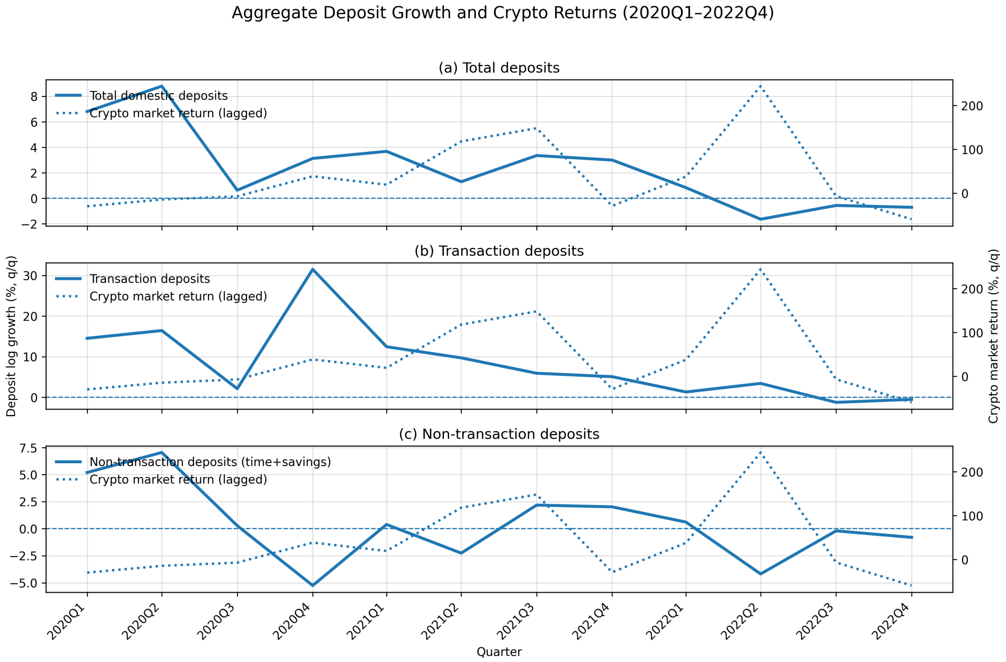


Figure 3: **Deposit Growth and Cryptocurrency Returns**

Panel (a) plots aggregate quarterly deposit growth and lagged *Crypto Return*. Panel (b) plots the difference in deposit growth between high- and low-*CryptoExposure* banks (high minus low), together with lagged *Crypto Return*. Deposit growth is shown separately for total, transaction, and non-transaction deposits. Deposit data are from FFIEC Call Reports. The sample period is 2020:Q1–2022:Q4.

Panel (a): Aggregate deposit growth



Panel (b): High-minus-low deposit growth

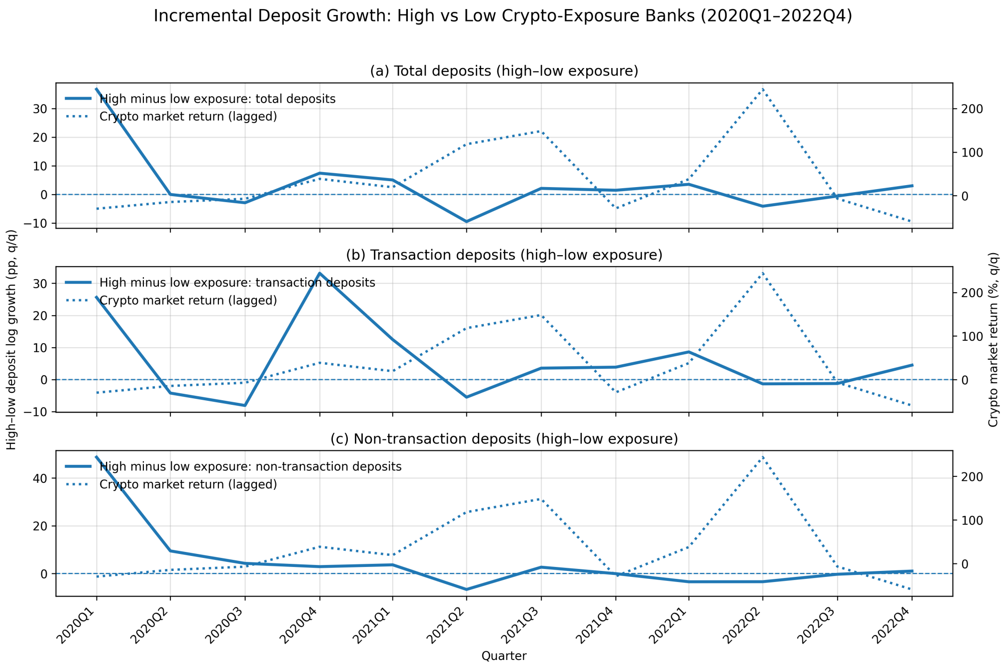


Figure 4: **County-Level Distribution of High Exposure Share**

This figure plots the distribution of *High Exposure Share*, defined as the deposit market share in county c held by banks in the top tercile of the *CryptoExposure* distribution. Deposit shares are computed from the 2019 FDIC Summary of Deposits (SOD) and are held fixed.

Figure 4 placeholder (to be replaced).

TABLE 1: **Descriptive Statistics**

This table reports descriptive statistics for the main regression variables; all variables are winsorized at the 1% and 99% levels. The bank panel is quarterly (2020:Q1–2022:Q4) using Call Reports. The CRA bank–county panel and the county exposure panel are annual (2020–2022). The FDIC Summary of Deposits (SOD) deposit-growth measures use June 30 snapshots through 2023 to construct annual growth. County real outcomes are measured at the county×dependency-group×quarter level using QCEW. Counts reflect the relevant estimation sample for each variable/panel.

Variable	Count	Mean	SD	25%	50%	75%
Key Independent Variables						
CryptoInterest	9581	0.015	0.012	0.007	0.011	0.019
Crypto Return	46149	0.413	0.825	-0.144	0.194	0.386
Bank Panel: Crypto Exposure Measures						
Crypto Exposure (deposit-weighted)	46149	0.018	0.012	0.009	0.014	0.023
Crypto Exposure (branch-weighted)	46149	0.018	0.012	0.009	0.014	0.023
1[Crypto Exposure in top tercile]	46149	0.358	0.479	0.000	0.000	1.000
Bank Panel: Other Risky-Asset Exposure Measures						
Equity Exposure	46149	0.019	0.009	0.013	0.017	0.024
Bond Exposure	46149	0.008	0.003	0.006	0.008	0.010
Housing Exposure	46149	0.593	0.088	0.549	0.598	0.647
Equity Return	46149	0.031	0.128	-0.036	0.083	0.119
Bond Return	46149	-0.008	0.038	-0.024	0.007	0.018
Housing Return	46149	0.030	0.015	0.017	0.036	0.043
County Equity-Market Participation	9581	0.016	0.011	0.010	0.014	0.020
County Bond-Market Participation	9581	0.008	0.005	0.005	0.007	0.009
County Housing-Market Participation	9581	0.590	0.095	0.539	0.598	0.652
Bank Panel: Key Dependent Variables						
Δ ln(Gross Loans)	46149	0.018	0.054	-0.008	0.008	0.039
Δ ln(Domestic Deposits)	46149	0.028	0.056	-0.004	0.021	0.053
Bank Panel: Other Dependent Variables						
Δ ln(Transaction Deposits)	46036	0.052	0.146	-0.016	0.031	0.093
Δ ln(Time Deposits)	46149	-0.009	0.091	-0.048	-0.015	0.014
Δ ln(Savings Deposits)	46149	0.034	0.091	-0.006	0.032	0.074
Δ ln(Insured Deposits)	46149	0.019	0.057	-0.010	0.011	0.038
Δ ln(Uninsured Deposits)	46149	0.047	0.116	-0.017	0.039	0.103
Bank Panel: Control Variables						

Continued on next page.

Descriptive Statistics (continued)

Variable	Count	Mean	SD	25%	50%	75%
ln(GTA)	46149	13.017	1.358	12.087	12.825	13.706
Capital Ratio	46149	0.108	0.036	0.088	0.102	0.120
ROA	46149	0.006	0.006	0.003	0.006	0.009
NPL/Total Loans	46149	0.016	0.021	0.003	0.009	0.020
Total Loans/GTA	46149	0.627	0.147	0.535	0.646	0.738
Total Expense/GTA	46149	0.019	0.013	0.010	0.017	0.025
County Exposure Panel: Key Independent Variables						
County Exposure	6112	0.021	0.013	0.010	0.017	0.031
1[County Exposure $\geq$ 75th percentile]	6112	0.250	0.433	0.000	0.000	0.500
County Exposure (top-tercile banks only)	6112	0.018	0.016	0.001	0.016	0.031
County Real Outcomes (QCEW): Dependent Variables						
Δ ln(Employment)	71885	0.004	0.306	-0.040	0.002	0.043
Δ ln(Wages)	71885	0.020	0.331	-0.078	0.037	0.115
Δ ln(Establishments)	71885	0.009	0.201	-0.008	0.006	0.026
High Exposure Share (top-tercile banks)	71885	0.350	0.423	0.000	0.096	0.918
Δ ln(CRA Small Business Loans) (county-level)	6112	-0.127	0.288	-0.292	-0.163	0.006
County Panel: Control Variables						
Δ ln(County GDP)	6112	0.012	0.072	-0.032	0.010	0.052
Δ ln(Population)	6112	0.001	0.013	-0.006	0.001	0.008
CRA Bank–County Panel: Key Variables						
Δ ln(CRA Small Business Loans) (bank–county)	205259	0.043	1.250	-0.566	0.000	0.620
1[Crypto Exposure in top tercile]	205259	0.306	0.461	0.000	0.000	1.000
1[Crypto Exposure in top quartile]	205259	0.242	0.429	0.000	0.000	0.000

Table 2: **Cryptocurrency Interest and Deposit Growth: Cross-County and Within-Bank Evidence**

This table examines how local cryptocurrency participation predicts deposit growth following changes in cryptocurrency returns, using FDIC Summary of Deposits (SOD) data (branch deposits as of June 30). The dependent variable is annual log deposit growth, $\Delta \ln(\text{Deposits}) = \ln(\text{Deposits}_t) - \ln\big(\text{Deposits}_{t-1}\big)$. The main explanatory variable is *CryptoInterest*× *Crypto Return*, where *CryptoInterest* is the share of tax returns in a county reporting digital-asset activity and *Crypto Return* is a value-weighted cryptocurrency market return index. All independent variables are lagged by one year. Controls include county GDP growth and population growth. Panel A aggregates deposits to the county-year level and includes county fixed effects and state×year fixed effects; standard errors are clustered at the county level. Panel B uses bank–county–year deposit growth and includes bank×county fixed effects, bank×year fixed effects, and state×year fixed effects; standard errors are clustered at the bank×county level. With bank×year fixed effects, the Panel B coefficients are identified from differences across counties served by the same bank in a given year. The sample covers 2020–2023. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

Panel A: County-Level Deposit Growth
Dependent variable: $\Delta \ln(\text{Deposits}_c)$

	(1)	**(2)**	**(3)**	**(4)**
CryptoInterest × Crypto Return	-3.046***	-3.042***	-3.114***	-3.802***
	(-6.69)	(-6.69)	(-4.35)	(-5.06)
CryptoInterest	2.633	2.642	8.248***	3.461
	(1.59)	(1.60)	(4.95)	(1.43)
Condition	Full Sample		CryptoInterest > 0	
Controls	No	Yes	No	Yes
County FE	Yes	Yes	Yes	Yes
State×Year FE	Yes	Yes	Yes	Yes
Adj. R^2	0.580	0.579	0.630	0.615
Obs.	5494	5494	4868	4870

Panel B: Bank–County Deposit Growth
Dependent variable: $\Delta \ln\big(\text{Deposits}_{b,c}\big)$

	(1)	**(2)**	**(3)**	**(4)**
CryptoInterest × Crypto Return	-0.591***	-0.606***	-0.769***	-0.769***
	(-3.68)	(-3.79)	(-3.74)	(-3.75)
CryptoInterest	0.582	0.604	0.326	0.384
	(1.30)	(1.35)	(0.60)	(0.70)
Condition	Full Sample		CryptoInterest > 0	
Controls	No	Yes	No	Yes
Bank×County FE	Yes	Yes	Yes	Yes
Bank×Year FE	Yes	Yes	Yes	Yes
State×Year FE	Yes	Yes	Yes	Yes
Adj. R^2	0.044	0.044	0.050	0.050
Obs.	36792	36792	35590	35590

Table 3: **Cryptocurrency Exposure and Bank Deposit Growth**

This table examines how banks' exposure to cryptocurrency-investing households affects deposit growth in a quarterly bank panel. The dependent variable is the log growth rate of total domestic deposits from Call Reports, measured as $\Delta \ln\big(\text{Domestic Deposits}_{b,q}\big) = \ln\big(\text{Domestic Deposits}_{b,q}\big) - \ln\big(\text{Domestic Deposits}_{b,q-1}\big)$. The main explanatory variable is *Crypto Exposure* × *Crypto Return*, where *Crypto Exposure* is a deposit-share-weighted average of county-level *CryptoInterest* across the bank's geographic footprint, using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD) to mitigate reverse causality from banks' subsequent branch or deposit strategy adjustments. *Crypto Return* is a value-weighted cryptocurrency market return index. All independent variables are lagged by one quarter. Controls include ln(Gross Total Assets), the equity capital ratio, return on assets, nonperforming loans to total loans, total expenses to gross total assets, and total loans to gross total assets. All specifications include year-quarter fixed effects; Columns (3) and (4) additionally include bank fixed effects. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

Dependent variable: Δ ln(Domestic Deposits)	**(1)**	**(2)**	**(3)**	**(4)**
Crypto Exposure × Crypto Return	-0.186***	-0.163***	-0.186***	-0.178***
	(-5.18)	(-4.51)	(-5.17)	(-5.38)
Crypto Exposure	0.307***	0.108**	0.303***	0.280***
	(6.75)	(2.16)	(4.68)	(4.28)
Controls	No	Yes	No	Yes
Bank FE	No	No	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
Adj. R^2	0.224	0.234	0.262	0.345
Obs.	46149	46149	46049	46049

Table 4: **Cryptocurrency Exposure, Other Risky Assets, and Bank Deposit Growth**

This table examines whether the sensitivity of bank deposit growth to cryptocurrency returns is distinct from banks' exposures to other risky assets. The dependent variable is the quarterly log growth rate of total domestic deposits from Call Reports, $\Delta \ln\big(\text{Domestic Deposits}_{b,q}\big) = \ln\big(\text{Domestic Deposits}_{b,q}\big) - \ln\big(\text{Domestic Deposits}_{b,q-1}\big)$. The main variable of interest is *Crypto Exposure* × *Crypto Return*. *Crypto Exposure* is a deposit-share-weighted average of county-level *CryptoInterest* across a bank's geographic footprint, using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD). *Crypto Return* is a value-weighted cryptocurrency market return index. Columns (1)–(3) add controls for equity, bond, and housing exposure (and their interactions with the corresponding returns) one at a time, and Column (4) includes all risky-asset controls jointly. All exposure measures are constructed analogously using banks' 2019 deposit footprints. All independent variables (including returns) are lagged by one quarter. Controls include ln(Gross Total Assets), the equity capital ratio, return on assets, nonperforming loans to total loans, total expenses to gross total assets, and total loans to gross total assets. All specifications include bank fixed effects and year-quarter fixed effects. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

	(1)	(2)	(3)	(4)
	Δ ln(Domestic Deposits)			
Crypto Exposure × Crypto Return	-0.149***	-0.171***	-0.174***	-0.125***
	(-4.62)	(-5.31)	(-5.38)	(-3.80)
Crypto Exposure	0.282***	0.229***	0.283***	0.157**
	(4.29)	(3.44)	(4.19)	(2.25)
Equity Exposure × Equity Return	-0.742***			-1.109***
	(-3.13)			(-4.56)
Equity Exposure	-0.305**			-0.129
	(-2.42)			(-0.84)
Bond Exposure × Bond Return		0.874		2.931
		(0.34)		(1.12)
Bond Exposure		-1.306***		-1.551***
		(-5.32)		(-5.63)
Housing Exposure × Housing Return			0.179	0.219
			(0.92)	(1.13)
Housing Exposure			-0.010	0.027*
			(-0.75)	(1.67)
Controls	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
Adj. R^2	0.345	0.345	0.345	0.346
Obs.	46049	46049	46049	46049

Table 5: **Cryptocurrency Exposure and Bank Deposit Growth by Deposit Type**

This table examines how banks' exposure to cryptocurrency-investing households affects deposit growth across deposit categories in a quarterly bank panel. The dependent variable is the quarterly log growth rate of (i) transaction deposits, (ii) time deposits, and (iii) savings deposits from Call Reports, measured as $\Delta \ln(y_{b,q}) = \ln(y_{b,q}) - \ln(y_{b,q-1})$. The main explanatory variable is *Crypto Exposure* $\times$ *Crypto Return*. *Crypto Exposure* is a deposit-share-weighted average of county-level *CryptoInterest* across the bank's geographic footprint, using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD). *Crypto Return* is a value-weighted cryptocurrency market return index. All independent variables are lagged by one quarter. Controls include ln(Gross Total Assets), the equity capital ratio, return on assets, nonperforming loans to total loans, total expenses to gross total assets, and total loans to gross total assets. All specifications include bank fixed effects and year-quarter fixed effects. The sample covers 2020:Q1–2022:Q4. The number of observations in Column (1) is 115 smaller due to missing values for transaction-deposit growth. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

Dependent variable:	Δ ln(Transaction Deposits)	Δ ln(Time Deposits)	Δ ln(Savings Deposits)
	(1)	**(2)**	**(3)**
Crypto Exposure × Crypto Return	0.163	-0.421***	-0.391***
	(1.50)	(-6.78)	(-6.28)
Crypto Exposure	0.286	-0.319***	0.286***
	(1.64)	(-2.80)	(2.61)
Controls	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
Adj. R^2	0.131	0.125	0.143
Obs.	45934	46049	46049

Table 6: **Cryptocurrency Exposure and Bank Loan Growth**

This table examines how banks' exposure to cryptocurrency-investing households affects loan growth in a quarterly bank panel. The dependent variable is the quarterly log growth rate of gross loans from Call Reports, measured as $\Delta \ln(\text{Gross Loans}_{b,q}) = \ln(\text{Gross Loans}_{b,q}) - \ln(\text{Gross Loans}_{b,q-1})$. The main explanatory variable is *Crypto Exposure* × *Crypto Return*. *Crypto Exposure* is a deposit-share-weighted average of county-level *CryptoInterest* across the bank's geographic footprint, using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD). *Crypto Return* is a value-weighted cryptocurrency market return index. All independent variables are lagged by one quarter. Controls include ln(Gross Total Assets), the equity capital ratio, return on assets, nonperforming loans to total loans, total expenses to gross total assets, and total loans to gross total assets. All specifications include year-quarter fixed effects; Columns (3) and (4) additionally include bank fixed effects. Columns (2) and (4) include the full set of bank controls. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

	(1)	**(2)**	**(3)**	**(4)**
	Δ ln(Gross Loans)			
Crypto Exposure × Crypto Return	-0.223***	-0.200***	-0.136***	-0.092***
	(-6.24)	(-5.58)	(-4.00)	(-2.82)
Crypto Exposure	0.298***	0.109**	-0.439***	-0.317***
	(6.45)	(2.23)	(-5.70)	(-4.61)
Controls	No	Yes	No	Yes
Bank FE	No	No	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
Adj. R^2	0.223	0.230	0.291	0.368
Obs.	46149	46149	46049	46049

Table 7: **Cryptocurrency Exposure, Other Risky Assets, and Bank Loan Growth**

This table examines whether the sensitivity of bank loan growth to cryptocurrency returns is distinct from banks' exposures to other risky assets. The dependent variable is the quarterly log growth rate of gross loans from Call Reports, $\Delta \ln(\text{Gross Loans}_{b,q}) = \ln(\text{Gross Loans}_{b,q}) - \ln(\text{Gross Loans}_{b,q-1})$. The main variable of interest is *Crypto Exposure* × *Crypto Return*. *Crypto Exposure* is a deposit-share-weighted average of county-level *CryptoInterest* across the bank's geographic footprint, using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD). *Crypto Return* is a value-weighted cryptocurrency market return index. Columns (1)–(3) add controls for equity, bond, and housing exposure (and their interactions with the corresponding returns) one at a time, and Column (4) includes all risky-asset exposure–return interactions jointly. All exposure measures are constructed analogously using banks' 2019 deposit footprints. All independent variables (including returns) are lagged by one quarter. Controls include ln(Gross Total Assets), the equity capital ratio, return on assets, nonperforming loans to total loans, total expenses to gross total assets, and total loans to gross total assets. All specifications include bank fixed effects and year-quarter fixed effects. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

	(1)	**(2)**	**(3)**	**(4)**
	Δ ln(Gross Loans)			
Crypto Exposure × Crypto Return	-0.127***	-0.090***	-0.083***	-0.112***
	(-3.83)	(-2.80)	(-2.59)	(-3.35)
Crypto Exposure	-0.300***	-0.326***	-0.350***	-0.387***
	(-4.56)	(-4.65)	(-5.24)	(-5.46)
Equity Exposure × Equity Return	1.091***			0.879***
	(5.56)			(4.62)
Equity Exposure	0.206			0.205
	(1.54)			(1.34)
Bond Exposure × Bond Return		5.316***		2.368
		(2.65)		(1.22)
Bond Exposure		-0.347		-0.776***
		(-1.36)		(-3.01)
Housing Exposure × Housing Return			-0.086	-0.127
			(-0.62)	(-0.92)
Housing Exposure			0.034**	0.039***
			(2.56)	(2.64)
Controls	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
Adj. R^2	0.368	0.368	0.368	0.369
Obs.	46049	46049	46049	46049

Table 8: **Cryptocurrency-Driven Deposit Flows: Pass-Through to Bank Loan Growth (2SLS)**

This table estimates the pass-through from cryptocurrency-driven deposit growth to loan growth using a two-stage least squares (2SLS) framework in a quarterly bank panel. In the first stage, the dependent variable is the quarterly log growth rate of total domestic deposits from Call Reports, $\Delta \ln\big(\text{Domestic Deposits}_{b,q}\big) = \ln\big(\text{Domestic Deposits}_{b,q}\big) - \ln\big(\text{Domestic Deposits}_{b,q-1}\big)$. The excluded instrument is *Crypto Exposure* × *Crypto Return*, where *Crypto Exposure* is a deposit-share-weighted average of county-level *CryptoInterest* across the bank's geographic footprint using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD), and *Crypto Return* is a value-weighted cryptocurrency market return index. In the second stage, the dependent variable is the quarterly log growth rate of gross loans, $\Delta \ln(\text{Gross Loans}_{b,q})$, and the main regressor is *Predicted Domestic Deposit Growth*, the fitted value from the first stage. All independent variables are lagged by one quarter. Controls include ln(Gross Total Assets), the equity capital ratio, return on assets, nonperforming loans to total loans, total expenses to gross total assets, and total loans to gross total assets. Columns (1) and (3) report first-stage estimates and the first-stage F-statistic for the excluded instrument; Columns (2) and (4) report the corresponding second-stage pass-through estimates. All specifications include bank fixed effects and year-quarter fixed effects; Columns (3) and (4) additionally include bank controls. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

	(1) Domestic Δ ln(Deposits)	**(2)** Gross Δ ln(Loans)	**(3)** Domestic Δ ln(Deposits)	**(4)** Gross Δ ln(Loans)
Predicted Domestic Deposit Growth		0.733***		0.518**
		(3.19)		(2.58)
Crypto Exposure × Crypto Return	-0.186***		-0.178***	
	(-5.17)		(-5.38)	
Crypto Exposure	0.303***	-0.661***	0.280***	-0.462***
	(4.68)	(-7.26)	(4.28)	(-6.30)
Controls	No	No	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
F-statistic (excluded instrument)	31.229		32.072	
Obs.	46049	46049	46049	46049

Table 9: **Cryptocurrency Exposure and Within-County Small Business Loan Growth**

This table examines whether banks more exposed to cryptocurrency-investing households reduce small business lending within the same local market during cryptocurrency booms, using Community Reinvestment Act (CRA) small business loan data in a bank–county–year panel. The dependent variable is the annual log growth rate of CRA small business loans: $\Delta \ln(\text{CRA Small Business Loans}_{b,c,t}) = \ln(\text{CRA Small Business Loans}_{b,c,t}) - \ln(\text{CRA Small Business Loans}_{b,c,t-1})$. The main explanatory variable is *Exposure*× *Crypto Return*, where *Crypto Return* is a value-weighted cryptocurrency market return index. In Columns (1) and (2), *Exposure* is continuous *Crypto Exposure*, defined as the deposit-share-weighted average of county-level *CryptoInterest* across the bank's geographic footprint using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD). In Columns (3) and (4), *Exposure* is an indicator for banks in the top tercile of the *Crypto Exposure* distribution. All independent variables are lagged by one year. Columns with controls include lagged bank characteristics (ln assets, capital ratio, ROA, nonperforming loans to total loans, total expenses to assets, and total loans to assets). All specifications include bank fixed effects and county×year fixed effects, so identification comes from comparing banks with different exposure within the same county and year. The sample covers 2020–2022. Standard errors are clustered at the bank×county level. ∗, ∗∗, and ∗ ∗ ∗ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

Dependent variable: Δ ln(CRA Small Business Loans)	**(1)**	**(2)**	**(3)**	**(4)**
Exposure × Crypto Return	-4.057*	-6.350***	-0.048***	-0.056***
	(-1.91)	(-2.83)	(-6.62)	(-6.83)
Exposure	11.876*	21.450***	0.087***	0.111***
	(1.66)	(2.84)	(3.66)	(4.52)
Exposure measure	Crypto Exposure		1[Top-tercile Crypto Exposure]	
Controls	No	Yes	No	Yes
Bank FE	Yes	Yes	Yes	Yes
County×Year FE	Yes	Yes	Yes	Yes
Adj. R^2	0.107	0.109	0.107	0.109
Obs.	196623	196623	196623	196623

Table 10: **Cryptocurrency Exposure and Local Real Effects**

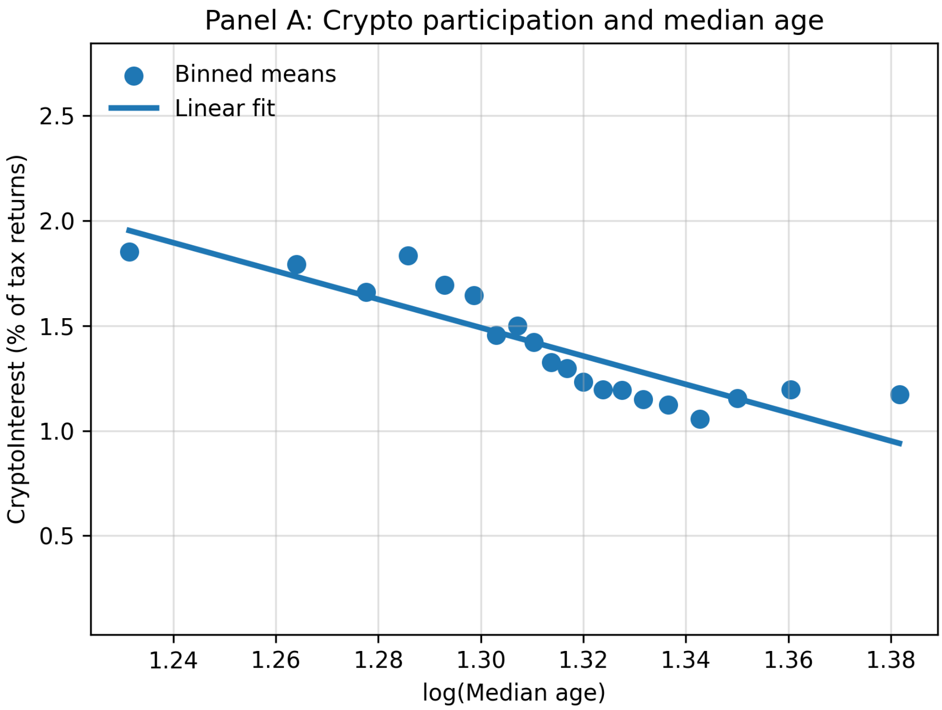
This table examines local real effects associated with exposure to banks that are highly exposed to cryptocurrency-investing households. The unit of observation is county × dependency group × quarter. The dependent variables are quarterly log growth in employment (Columns (1)–(2)) and establishments (Columns (3)–(4)) from QCEW: $\Delta \ln(Y_{c,g,q}) = \ln(Y_{c,g,q}) - \ln(Y_{c,g,q-1})$, where g indicates whether the observation corresponds to external-finance-dependent industries. The main variable of interest is *High Exposure Share* × *Crypto Return*. *High Exposure Share* is the deposit market share in county c held by banks in the top tercile of the *Crypto Exposure* distribution (in the relevant year), computed using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD). *Dependent* is an indicator equal to one for external-finance-dependent industries (and zero otherwise); the interaction terms allow the treatment effect to differ for dependent vs. nondependent industries. All independent variables are lagged by one quarter. All specifications include county fixed effects and state×year fixed effects. Columns (2) and (4) add county controls (GDP growth and population growth) and additionally include *CryptoInterest* and *CryptoInterest* × *Crypto Return* to flexibly control for differential local responses to crypto wealth shocks in counties with higher crypto participation. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the county level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

Dependent variable:	Δ ln(Employment)		Δ ln(Establishments)	
	(1)	**(2)**	**(3)**	**(4)**
High Exposure Share × Crypto Return	-0.044***	-0.020**	-0.025***	-0.011**
	(-5.43)	(-2.17)	(-4.67)	(-1.98)
High Exposure Share	0.025***	0.007	0.011*	0.001
	(3.07)	(0.90)	(1.93)	(0.13)
High Exposure Share × Crypto Return × Dependent	-0.014**	-0.014**	-0.001	-0.001
	(-2.31)	(-2.30)	(-0.35)	(-0.35)
High Exposure Share × Dependent	-0.004	-0.004	-0.001	-0.001
	(-0.86)	(-0.88)	(-0.18)	(-0.19)
Crypto Return × Dependent	0.016***	0.016***	0.001	0.001
	(4.36)	(4.40)	(0.26)	(0.29)
Dependent	-0.004*	-0.004*	0.001	0.001
	(-1.85)	(-1.87)	(0.77)	(0.75)
CryptoInterest × Crypto Return		-1.545***		-0.875***
		(-5.92)		(-5.15)
CryptoInterest		1.770***		1.157***
		(5.79)		(5.29)
Controls	No	Yes	No	Yes
County FE	Yes	Yes	Yes	Yes
State×Year FE	Yes	Yes	Yes	Yes
Adj. R^2	0.015	0.016	-0.003	-0.003
Obs.	71756	71756	71849	71849

Appendix

Figure A.1: **County Characteristics and Cryptocurrency Participation**

This figure plots binned scatter relationships between county-level cryptocurrency participation (*CryptoInterest*) and county characteristics. The left panel relates *CryptoInterest* to the log of median age, and the right panel relates *CryptoInterest* to the log of per-capita income.



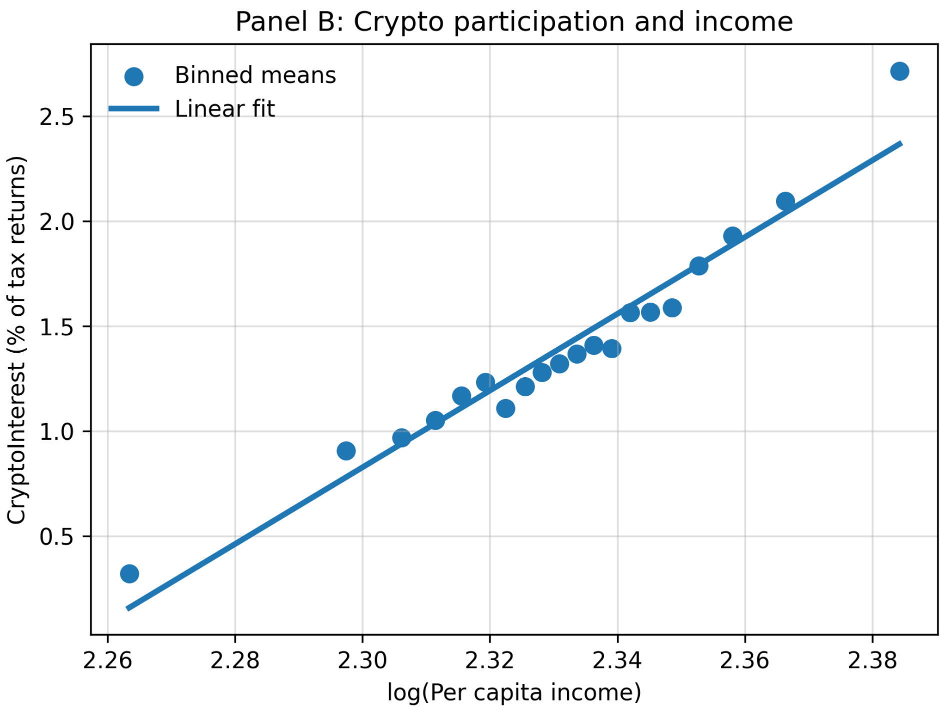


Table A1: **Variable Definitions**

Variable	**Definition**
Key Independent Variables	
CryptoInterest	County-level share of tax returns reporting digital-asset activity (IRS SOI Virtual Currency Indicator): $CryptoInterest_{c,t} = \frac{\#\text{returns with crypto activity}_{c,t}}{\#\text{returns}_{c,t}}$. In quarterly regressions, the annual value is assigned to all quarters in year t.
Crypto Return	Value-weighted cryptocurrency market return index. Returns enter in decimal units and are lagged by one period (one quarter in quarterly panels; one year in annual panels).
Bank-Level Exposure Measures	
Crypto Exposure (deposit-weighted)	Bank exposure to crypto-investing households, constructed as a deposit-footprint-weighted average of county CryptoInterest across the bank's geographic footprint using deposit shares fixed in the 2019 FDIC Summary of Deposits (SOD): $CryptoExposure_{b,t} = \sum_{c\in\mathcal{C}_b}\left(\frac{\text{Deposits}_{b,c,2019}}{\text{Deposits}_{b,2019}}\right) \times CryptoInterest_{c,t}$.
Crypto Exposure (branch-weighted)	Same as Crypto Exposure, replacing deposit-share weights with branch-count weights from the 2019 SOD.
High Exposure Indicator (Top tercile)	Indicator equal to 1 if a bank's Crypto Exposure is in the top tercile of the sample distribution (year-specific where applicable).
Other Risky-Asset Exposure Measures	
Equity Exposure	Deposit-footprint-weighted average of county equity-market participation across the bank's 2019 SOD footprint.
Bond Exposure	Deposit-footprint-weighted average of county bond-market participation across the bank's 2019 SOD footprint.
Housing Exposure	Deposit-footprint-weighted average of county housing-market participation across the bank's 2019 SOD footprint.
Equity Return	Broad equity-market return, lagged one period.
Bond Return	Broad bond-market return, lagged one period.
Housing Return	Housing-market return (e.g., FHFA house-price growth), lagged one period.
County Equity-Market Participation	County-level share of tax filers participating in equity markets (used to construct Equity Exposure).
County Bond-Market Participation	County-level share of tax filers participating in bond markets (used to construct Bond Exposure).
County Housing-Market Participation	County-level proxy for housing/real-estate participation (used to construct Housing Exposure).
Dependent Variables — Bank Panel (Quarterly Call Reports)	

Continued on next page.

Table A1 (continued): Variable Definitions

Variable	Definition
$\Delta\ln$(Domestic Deposits)	$\ln(\text{Domestic Deposits}_{b,q}) - \ln(\text{Domestic Deposits}_{b,q-1})$.
$\Delta\ln$(Transaction Deposits)	$\ln(\text{Transaction Deposits}_{b,q}) - \ln(\text{Transaction Deposits}_{b,q-1})$.
$\Delta\ln$(Time Deposits)	$\ln(\text{Time Deposits}_{b,q}) - \ln(\text{Time Deposits}_{b,q-1})$.
$\Delta\ln$(Savings Deposits)	$\ln(\text{Savings Deposits}_{b,q}) - \ln(\text{Savings Deposits}_{b,q-1})$.
$\Delta\ln$(Insured Deposits)	Log growth in insured deposits (balances $\leq$ $250,000) from $q-1$ to q.
$\Delta\ln$(Uninsured Deposits)	Log growth in uninsured deposits (balances > $250,000) from $q-1$ to q.
$\Delta\ln$(Gross Loans)	$\ln(\text{Gross Loans}_{b,q}) - \ln(\text{Gross Loans}_{b,q-1})$.
County Deposit Variables (Annual SOD, June 30)	
$\Delta\ln(\text{Deposits}_c)$	Annual log growth in county deposits aggregated from branch deposits in SOD: $\ln(\text{Deposits}_{c,t}) - \ln(\text{Deposits}_{c,t-1})$.
$\Delta\ln(\text{Deposits}_{b,c})$	Annual log growth in bank–county deposits aggregated from branch deposits in SOD: $\ln(\text{Deposits}_{b,c,t}) - \ln(\text{Deposits}_{b,c,t-1})$.
County Exposure Measures	
County Exposure	County-level exposure aggregating banks' Crypto Exposure using local deposit market shares (based on banks' 2019 SOD footprints).
High Exposure Share	County deposit market share held by banks in the top tercile of Crypto Exposure, computed using 2019 SOD deposit shares.
Dependent Variables — Bank–County CRA Panel (Annual)	
$\Delta\ln$(CRA Small Business Loans)	Annual log growth in CRA small business loans at the bank–county level: $\ln(\text{CRA Loans}_{b,c,t}) - \ln(\text{CRA Loans}_{b,c,t-1})$.
Dependent Variables — County Real Outcomes (Quarterly QCEW)	
$\Delta\ln$(Employment)	Quarterly log growth in employment (county $\times$ dependency group).
$\Delta\ln$(Wages)	Quarterly log growth in wages (county $\times$ dependency group).
$\Delta\ln$(Establishments)	Quarterly log growth in the number of establishments (county $\times$ dependency group).
Dependent (indicator)	Indicator equal to 1 for external-finance-dependent industries (constructed from Compustat following Rajan and Zingales (1998)), and 0 otherwise.
Control Variables — Bank Level (Call Reports)	
ln(GTA)	Log of gross total assets.
Capital Ratio	Total equity divided by gross total assets.
ROA	Net income divided by gross total assets.
NPL/Total Loans	Nonperforming loans divided by total loans.
Total Loans/GTA	Total loans divided by gross total assets.
Total Expense/GTA	Total expenses divided by gross total assets.

Continued on next page.

Table A1 (continued): Variable Definitions

Variable	Definition
Control Variables — County Level	
$\Delta \ln(\text{GDP})$	Log growth rate of county GDP.
$\Delta \ln(\text{Population})$	Log growth rate of county population.
County Characteristics and Market Structure (Appendix Tests)	
Deposit HHI	County deposit concentration (Herfindahl–Hirschman Index) computed from SOD: $HHI_{c,t} = \sum_{b \in \mathcal{B}_c} \left(\frac{\text{Deposits}_{b,c,t}}{\text{Deposits}_{c,t}} \right)^2$.
%ThirtyOrBelow	County population share aged 30 or below.
100KorAbove	County population share with annual income at least $100,000.
ΔFF	Change in the effective federal funds rate over the relevant period (quarterly in the bank panel; annual in annual panels).
Constructs Used in Regressions	
Crypto Exposure × Crypto Return	Interaction between Crypto Exposure and Crypto Return (both lagged one period).
Equity Exposure × Equity Return	Interaction between Equity Exposure and Equity Return (both lagged one period).
Bond Exposure × Bond Return	Interaction between Bond Exposure and Bond Return (both lagged one period).
Housing Exposure × Housing Return	Interaction between Housing Exposure and Housing Return (both lagged one period).
High Exposure Share × Crypto Return	Interaction between High Exposure Share and Crypto Return (both lagged one period).
Predicted Domestic Deposit Growth	First-stage fitted value of $\Delta \ln(\text{Domestic Deposits})$ in 2SLS specifications.
Crypto Boom Indicator	Indicator equal to 1 if lagged Crypto Return is above the sample median, and 0 otherwise.
Crypto Bust Indicator	Indicator equal to 1 if lagged Crypto Return is below the sample median, and 0 otherwise.
Crypto Return^{+}	Censored positive returns: $\textit{Crypto Return}^{+} = \textit{Crypto Return} \cdot \mathbf{1}\{\textit{Crypto Return} > 0\}$.
Crypto Return^{-}	Censored negative returns: $\textit{Crypto Return}^{-} = \textit{Crypto Return} \cdot \mathbf{1}\{\textit{Crypto Return} < 0\}$.

Table A2: **Cryptocurrency Exposure and Bank Deposit Growth: Robustness**

This table reports robustness checks for the bank-level relationship between cryptocurrency exposure and deposit growth in a quarterly Call Report panel. The dependent variable is the quarterly log growth rate of total domestic deposits, $\Delta \ln\big(\text{Domestic Deposits}_{b,q}\big) = \ln\big(\text{Domestic Deposits}_{b,q}\big) - \ln\big(\text{Domestic Deposits}_{b,q-1}\big)$. The main regressor is *Exposure* × *Crypto Return*. Column (1) constructs exposure using branch-count weights (2019 SOD); Column (2) uses an indicator for banks in the top tercile of Crypto Exposure (interacted with Crypto Return); Column (3) excludes banks with assets ≥ \$250B; Column (4) excludes banks with assets ≤ \$100M; and Column (5) restricts to banks with Exposure > 0. Except for Column (1), Crypto Exposure is constructed using deposit-share weights from the 2019 SOD, so exposure varies over time only through county CryptoInterest. All independent variables are lagged by one quarter. All specifications include bank controls, bank fixed effects, and year-quarter fixed effects. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
	Δ ln(Domestic Deposits)				
Exposure × Crypto Return	-0.179***	-0.003***	-0.178***	-0.158***	-0.166***
	(-5.30)	(-5.23)	(-5.38)	(-4.54)	(-4.81)
Exposure	0.291***	-0.001	0.280***	0.259***	0.289***
	(4.25)	(-1.33)	(4.28)	(3.84)	(4.23)
Condition	Branch weights	Top-tercile indicator	Assets < \$250B	Assets > \$100M	Exposure > 0
Controls	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.345	0.345	0.345	0.349	0.345
Obs.	46049	46049	46049	41419	45219

Table A3: **Cryptocurrency Exposure and Bank Loan Growth: Robustness**

This table reports robustness checks for the bank-level relationship between cryptocurrency exposure and loan growth in a quarterly Call Report panel. The dependent variable is the quarterly log growth rate of gross loans, $\Delta \ln(\text{Gross Loans}_{b,q}) = \ln(\text{Gross Loans}_{b,q}) - \ln(\text{Gross Loans}_{b,q-1})$. The main regressor is *Exposure* × *Crypto Return*. Exposure is defined by column as in Appendix Table A2. Except for Column (1), Crypto Exposure is constructed using deposit-share weights from the 2019 SOD, so exposure varies over time only through county CryptoInterest. All independent variables are lagged by one quarter. All specifications include bank controls, bank fixed effects, and year-quarter fixed effects. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

	(1)	(2)	(3)	(4)	(5)
	Δ ln(Gross Loans)				
Exposure × Crypto Return	-0.081**	-0.001**	-0.092***	-0.077**	-0.086**
	(-2.41)	(-2.33)	(-2.82)	(-2.31)	(-2.57)
Exposure	-0.350***	-0.002*	-0.317***	-0.294***	-0.405***
	(-4.94)	(-1.90)	(-4.61)	(-4.20)	(-5.80)
Condition	Branch weights	Top-tercile indicator	Assets < \$250B	Assets > \$100M	Exposure > 0
Controls	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.368	0.367	0.368	0.385	0.369
Obs.	46049	46049	46049	41419	45219

Table A4: **Cryptocurrency Exposure and Bank Funding and Lending: Booms vs. Busts**

This table examines whether the effects of cryptocurrency returns are asymmetric across booms and busts. The dependent variables are quarterly log growth in domestic deposits (Columns (1)–(3)) and gross loans (Columns (4)–(6)) from Call Reports. The key regressors interact *Crypto Exposure* with (i) indicators for a crypto boom or a crypto bust (Columns (1), (2), (4), (5)) and (ii) positive and negative cryptocurrency returns (Columns (3) and (6)). *Crypto Boom* (*Crypto Bust*) is an indicator equal to one if lagged *Crypto Return* is above (below) the sample median. $\textit{Crypto Return}^{+} = \textit{Crypto Return} \cdot \mathbf{1}\{\textit{Crypto Return} > 0\}$ and $\textit{Crypto Return}^{-} = \textit{Crypto Return} \cdot \mathbf{1}\{\textit{Crypto Return} < 0\}$. All regressors are lagged by one quarter. Controls include ln(Gross Total Assets), the equity capital ratio, return on assets, nonperforming loans to total loans, total expenses to gross total assets, and total loans to gross total assets. All columns include bank fixed effects and year-quarter fixed effects. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% level, respectively. T-statistics are reported in parentheses.

Dependent variable:	Δ ln(Domestic Deposits)			Δ ln(Gross Loans)		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Crypto Exposure × 1[Crypto Boom]	-0.164***			-0.248***		
	(-3.07)			(-5.01)		
Crypto Exposure × 1[Crypto Bust]		0.560***			0.186***	
		(9.80)			(3.15)	
Crypto Exposure × Crypto Return^{+}			-0.151***			-0.127***
			(-3.19)			(-3.11)
Crypto Exposure × Crypto Return^{-}			-0.323			0.162
			(-1.38)			(0.75)
Crypto Exposure	0.236***	0.020	0.247***	-0.215***	-0.415***	-0.252***
	(3.26)	(0.32)	(2.94)	(-3.10)	(-6.49)	(-3.42)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.344	0.346	0.345	0.368	0.368	0.368
Obs.	46049	46049	46049	46049	46049	46049

Table A5: **County-Level Deposit Growth: Deposit Concentration and Monetary Policy**

This table replicates the county-level deposit-flow specification with additional controls for local deposit-market concentration. The dependent variable is annual log deposit growth constructed from FDIC Summary of Deposits (SOD), $\Delta\ln(\text{Deposits}_{c,t}) = \ln(\text{Deposits}_{c,t}) - \ln(\text{Deposits}_{c,t-1})$. The key regressor is *CryptoInterest*× *Crypto Return*. *Deposit HHI* is the county-level Herfindahl index of deposit concentration computed from SOD. Column (2) allows deposit concentration to affect sensitivity to cryptocurrency returns by including *Deposit HHI*×*Crypto Return*. Column (3) allows deposit concentration to interact with monetary policy by including *Deposit HHI*×ΔFF, where ΔFF is the change in the federal funds rate over the period. Controls include county GDP growth and population growth. All independent variables are lagged by one year. All columns include county fixed effects and state×year fixed effects. The sample covers 2020–2023. Standard errors are clustered at the county level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% level, respectively. T-statistics are reported in parentheses.

Dependent variable: $\Delta\ln$(Deposits)	**(1)**	**(2)**	**(3)**
CryptoInterest × Crypto Return	-2.203***	-1.963***	-1.963***
	(-4.83)	(-3.70)	(-3.70)
CryptoInterest	6.676***	6.451***	6.451***
	(5.13)	(4.96)	(4.96)
Deposit HHI	0.580	0.536	0.494
	(1.08)	(1.00)	(0.90)
Deposit HHI × Crypto Return		0.014	
		(1.06)	
Deposit HHI × ΔFF			0.026
			(1.06)
Controls	Yes	Yes	Yes
County FE	Yes	Yes	Yes
State×Year FE	Yes	Yes	Yes
Adj. R^2	0.598	0.598	0.598
Obs.	5492	5492	5492

Table A6: **County-Level Deposit Growth: Demographics and Cryptocurrency-Driven Deposit Flows**

This table replicates the county-level deposit-flow specification with additional controls for county demographics. The dependent variable is annual log deposit growth constructed from FDIC Summary of Deposits (SOD), $\Delta \ln(\text{Deposits}_{c,t})$. The key regressor is *CryptoInterest* × *Crypto Return*. Columns (1)–(2) add demographic levels: the share of the population aged 30 or below (*% Age* ≤ 30) and the share of households with income at least $100,000 (*% Income* ≥ $100*K*). Columns (3)–(4) allow these characteristics to interact with cryptocurrency returns by including *Demographic*×*Crypto Return*. Column (5) includes both demographics and both interaction terms jointly. Controls include county GDP growth and population growth. All independent variables are lagged by one year. All columns include county fixed effects and state×year fixed effects. The sample covers 2020–2023. Standard errors are clustered at the county level. ∗, ∗∗, and ∗∗∗ denote statistical significance at the 10%, 5%, and 1% level, respectively. T-statistics are reported in parentheses.

Dependent variable: Δ ln(Deposits)	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
CryptoInterest × Crypto Return	-2.265***	-2.136***	-2.238***	-1.960***	-1.924***
	(-4.87)	(-4.44)	(-4.83)	(-3.88)	(-3.82)
CryptoInterest	6.647***	6.349***	6.433***	6.245***	5.978***
	(5.17)	(4.76)	(4.79)	(4.68)	(4.31)
% Age ≤ 30	0.710		0.785		0.829
	(0.93)		(1.01)		(1.08)
% Income ≥ $100*K*		-0.000		-0.000	-0.000
		(-1.09)		(-0.31)	(-0.29)
(% Age ≤ 30) × **Crypto Return**			-0.029		-0.028
			(-0.67)		(-0.66)
(% Income ≥ $100*K*) × **Crypto Return**				-0.000	-0.000
				(-1.29)	(-1.32)
Controls	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes
State×Year FE	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.596	0.596	0.596	0.606	0.610
Obs.	5492	5492	5492	5492	5492

Table A7: **Cryptocurrency-Driven Deposit Flows: Pass-Through to Bank Loan Growth (2SLS) — Robustness**

This table reports robustness checks for the 2SLS pass-through estimates in a quarterly Call Report panel. The dependent variable is the quarterly log growth rate of gross loans, $\Delta \ln(\text{Gross Loans}_{b,q}) = \ln(\text{Gross Loans}_{b,q}) - \ln(\text{Gross Loans}_{b,q-1})$. The endogenous regressor is the quarterly log growth rate of total domestic deposits, $\Delta \ln\big(\text{Domestic Deposits}_{b,q}\big)$. The excluded instrument is *Exposure* × *Crypto Return*, where *Crypto Return* is a value-weighted cryptocurrency market return index and *Exposure* is defined by column. Column (1) constructs exposure using branch-count weights from the 2019 FDIC Summary of Deposits (SOD). Column (2) uses an indicator for banks in the top tercile of the Crypto Exposure distribution (interacted with Crypto Return). Column (3) excludes banks with assets ≥ $250B. Column (4) excludes banks with assets ≤ $100M. Column (5) restricts to banks with Exposure > 0. Except for Column (1), Crypto Exposure is constructed using deposit-share weights from the 2019 SOD, so exposure varies over time only through county CryptoInterest. All regressors are lagged by one quarter. All specifications include the full set of bank controls, bank fixed effects, and year-quarter fixed effects. The sample covers 2020:Q1–2022:Q4. Standard errors are clustered at the bank level. $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. T-statistics are reported in parentheses.

	(1)	(2)	(3)	(4)	(5)
	Δ ln(Gross Loans)				
Predicted Domestic Deposit Growth	0.450**	0.399**	0.518**	0.488**	0.519**
	(2.27)	(2.13)	(2.58)	(2.14)	(2.32)
Exposure	-0.481***	0.002**	-0.462***	-0.420***	-0.555***
	(-6.43)	(2.21)	(-6.30)	(-5.53)	(-7.16)
Condition	Branch weights	Top-tercile indicator	Assets < $250B	Assets > $100M	Exposure > 0
Controls	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes
F-statistic (excluded instrument)	30.553	32.483	32.072	22.962	25.981
Obs.	46049	46049	46049	41419	45219