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FRIENDS WITH BENEFITS:
SOCIAL CAPITAL AND HOUSEHOLD FINANCIAL BEHAVIOR

Brad Cannon
David Hirshleifer
Joshua Thornton

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ABSTRACT

Using friendship data from Facebook, we find that among three aspects of social capital, Economic Connectedness — the fraction of one's social network with high income, has the strongest and most robust relationship with stock market and saving participation. One standard-deviation greater Economic Connectedness is associated with 10.6% greater stock market participation and 9.2% greater saving participation. Evidence from non-local friendships supports a causal link between household financial behavior and the income of one's friends. Our results indicate that the effect of Economic Connectedness on participation derives from opportunities to interact with high-SES individuals rather than from class-based friending propensities.

Brad Cannon
Binghamton University
School of Management
bcannon@binghamton.edu

Joshua Thornton
Baylor University
joshua_thornton@baylor.edu

David Hirshleifer
University of Southern California
Marshall School of Business
and NBER
hirshlei@marshall.usc.edu

1 Introduction

In classic models of portfolio theory, everyone invests in all risky assets (Merton (1969), Sharpe (1964)). But in practice, a substantial fraction of households do not own stock, even indirectly (Mankiw and Zeldes (1991), Haliassos and Bertaut (1995), Campbell (2006)). Similarly, despite life-cycle and precautionary benefits to saving (Carroll (1997), nearly half of U.S. adults report not having enough liquid savings to cover three months of expenses.[1] These failures of traditional economic theory to describe behavior highlight the need to better understand what drives household participation in the markets for both risky and risk-free assets.

Recent research suggests that social interactions are crucial for participation decisions.[2] In particular, social capital — the quality of an individual's social network and community — has been shown to influence economic decisions, which suggests that it may be important for participation decisions. However, social capital is a broad concept with several different available definitions and interpretations. In this paper, we use Facebook friendship data (Chetty et al. (2022a)) to understand how different dimensions of social capital affect stock market and saving participation.

Our primary finding is summarized in Figures 1 and 2. In these figures, Economic Connectedness — the fraction of one's social network with high income — is the aspect of social capital most strongly related to stock market and saving participation. Controlling for ZIP Code demographic characteristics and county fixed effects, a one-decile increase in Economic Connectedness is associated with an increase of 6.2% in ZIP Code stock market participation and 5.7% in saving participation. This relationship is much stronger and more robust than those of our other social capital measures. These associations suggest that

[1] In the *Report on the Economic Well-Being of U.S. Households in 2024*, the Federal Reserve Board reports that 45% of adults surveyed would not have emergency savings to cover three months of expenses.

[2] See Guiso and Sodini (2013) and Gomes, Haliassos, and Ramadorai (2021) for reviews that discuss the stock market participation puzzle. Hong, Kubik, and Stein (2004), Guiso, Sapienza, and Zingales (2004), Cao, Wang, and Zhang (2005), Brown et al. (2008), Cao et al. (2009), and Bursztyn et al. (2014) all provide evidence that social interactions are important for stock market participation.

the value of being connected with the *right* individuals is substantially more important for household investment than having tighter-knit friend groups (Cohesiveness) or a greater sense of community (Civic Engagement).

To better understand the relationship between Economic Connectedness (EC) and household financial behavior, we provide several additional types of evidence. First, we address potential endogeneity concerns using two strategies: (1) we construct EC using childhood friendships and (2) we exploit income changes to non-local friends. The results using both identification strategies provide support for a causal interpretation: having higher income friends increases household stock market and saving participation.

Second, following Chetty et al. (2022b), we decompose EC into High-SES Exposure and Friending Bias. High-SES Exposure refers to opportunities to interact with wealthy individuals, and Friending Bias refers to selectively befriending low-SES individuals, conditional on High-SES Exposure. We find that High-SES Exposure is much more important in explaining household participation than Friending Bias, suggesting that providing opportunities to interact with high income individuals may be a particularly relevant margin for testing policies aimed at household participation rates.

Finally, we extend our analysis using household-level data from Michigan's Panel Study of Income Dynamics (PSID). Using this detailed data, we find that associations with EC are especially strong among those households without a business degree or among those who are not working in a finance-related occupation. In contrast, we find no evidence that the relation of outcomes with EC is stronger among households that have more social interaction. These patterns suggest that EC promotes participation through financial awareness (Hong, Kubik, and Stein (2004), Brown, Cookson, and Heimer (2019), Lusardi and Mitchell (2014)) as opposed to social utility (Bursztyn et al. (2014)) or social transmission bias (Han, Hirshleifer, and Walden (2022)). Our findings therefore suggest that policies aimed at reducing initial participation frictions – such as improving financial literacy or awareness – may be especially effective.

A challenge for social capital research has been the lack of comprehensive data on the structure of social networks. Such data is crucial as social capital is rooted in human relationships. In the household finance literature, past studies have relied on community-wide proxies — such as electoral participation or credit scores — to study social capital and economic outcomes. This previous work identifies trust as a key determinant of stock market participation (Guiso, Sapienza, and Zingales (2004), Bricker and Li (2017)). However, there has been little exploration of whether other dimensions of social capital (i.e. those related to the structure and composition of social ties) matter for financial decisions.

To address this question, we draw upon the research of Chetty et al. (2022a) to use extensive social network data from Facebook to differentiate between three types of social capital at the ZIP Code level: (1) Economic Connectedness, (2) Civic Engagement, and (3) Cohesiveness. The Facebook network has more than one billion users and has been found to be representative even of offline social connectedness (Bailey et al. (2018), Bailey et al. (2020)). Each social capital measure captures a distinct aspect of social connections that might be related to financial behavior, which allows us to open the "black box" of social capital and understand the component that is most important in determining household financial behavior.

Economic Connectedness (EC) measures the fraction of one's social network with high socioeconomic status. Especially among low-SES households, Economic Connectedness can be thought of as a type of bridging capital. A leading explanation to the participation puzzle is that investors have fixed setup costs of participation (Hirshleifer (1988), Vissing-Jorgensen (2002)). Social interactions can lower such barriers by providing information about how to invest (Hong, Kubik, and Stein (2004), Haliassos, Jansson, and Karabulut (2020)), by increasing familiarity and psychological comfort with stock investing (Cao, Wang, and Zhang (2005), Cao et al. (2009)) or by increasing the social utility derived from investing (Bursztyn et al. (2014)). Since the wealthy tend to be more future-oriented and are more likely to be investors (Mankiw and Zeldes (1991),Haliassos and Bertaut (1995)), these consider-

ations suggest that connectedness to the wealthy will promote stock market participation. We therefore hypothesize that greater Economic Connectedness in a community positively predicts participation.

Civic Engagement, as in several previous studies, captures the sense of community and trust. Civic Engagement is measured by local rates of volunteering. In contrast to the other two social capital measures, this is not network-based. In communities with low trust, investors are likely to have greater fear of expropriation by brokers, market institutions or managers. Consistent with this argument, Guiso, Sapienza, and Zingales (2004) and others have provided evidence that greater trust within a community increases stock market participation. This trust-based mechanism motivates the hypothesis that the Civic Engagement positively predicts participation.

Lastly, Cohesiveness measures the extent to which one's friends are also friends with each other. Cohesiveness captures the possible benefits of tighter social bonds by subgroups within a community. There is evidence that Cohesiveness promotes the spread of information within communities (Alatas et al. (2016)). In tightly knit networks, information can spread more efficiently, social norms may be more effectively enforced, and sensitive topics such as personal finances may be more openly discussed. We therefore hypothesize that more cohesive networks will result in greater participation.

Corresponding to each of the hypotheses about social capital and stock market participation is a hypothesis about social capital and saving participation. For reasons similar to the stock market predictions, we hypothesize that greater Economic Connectedness, Cohesiveness, and Civic Engagement encourage people to engage in positive rather than zero amounts of saving.

To test how these three aspects of social capital are related to household investment decisions, we combine our social network data — Economic Connectedness, Cohesiveness, and Civic Engagement — with aggregated ZIP Code-level tax data from the IRS. The IRS data provides a representative random sample of all U.S. taxpayer information. It contains

information about dividend income and interest income, which we use to proxy for stock market and saving participation.

We start by estimating the univariate relationships between household financial decisions and each of our social capital measures. The results are clearcut. Overwhelmingly, Economic Connectedness is the aspect of social capital most strongly associated with both stock market participation and saving participation. Alone, EC explains over 65% of the variation in stock market and saving participation across ZIP Codes — a fraction larger even than the explanatory power of income or education. After controlling for ZIP Code-level demographic characteristics — including income and education — as well as all social capital measures and county fixed effects, a one-standard deviation increase in Economic Connectedness is associated with a 10.6 percentage point higher stock market participation rate, and a 9.2 percentage point higher saving rate.

Cohesiveness and Civic Engagement are more weakly associated with participation rates. After including the same controls and fixed effects described above, a one-standard deviation higher Cohesiveness is associated with a 0.07 percentage point higher stock market participation rate and a 0.80 percentage point higher saving rate. A one-standard deviation higher Civic Engagement is associated with a 0.17 percentage point lower stock market participation rate and 0.21 percentage point lower saving rate.

A crucial endogeneity problem with the tests described so far is that we expect income and wealth to be positively correlated with both financial participation and with Economic Connectedness (and perhaps other social capital proxies). Although we control for median income and other demographic data, these controls may be imperfect.

A closely related endogeneity problem derives from reverse causality. An individual who is interested in stock investing may befriend other stock investors. As stock investing is positively correlated with wealth, these friends will tend to be wealthy, implying high Economic Connectedness.[3]

[3]A related manifestation of the problem of wealth correlations and reverse causality is the selection bias in the choice of location; wealthy individuals tend to choose to live in expensive neighborhoods. People tend

We employ two strategies to address endogeneity. First, we address reverse causality by constructing EC based on childhood friendships, following Chetty et al. (2022a). Current financial decisions as an adult cannot influence the formation of childhood friendships in the past. We find somewhat weaker but broadly similar results, which suggests that our basic findings are unlikely to be driven entirely by reverse causality.

This test does not, however, rule out other forms of endogeneity associated with imperfect controls for wealth. We therefore also apply a quasi-experimental approach based on changes in the income of non-local friends — those outside 250 miles of the focal ZIP Code. The identifying assumption is that, after controlling for focal ZIP Code income growth and county fixed effects, income changes among geographically distant friends are independent of unobserved factors affecting stock market and saving participation. Thus, any link between non-local income growth and participation reflects social influence transmitted through Economic Connectedness rather than unobserved economic conditions. Because the income changes occur in geographically distant areas and the social network structure is predetermined, this setup provides plausibly exogenous variation in EC.

After accounting for county fixed effects, changes in ZIP Code-level control variables, as well as the focal ZIP Code's income growth, we find that an increase in the income of non-local friends is positively associated with an increase in stock market participation and in saving participation. In terms of economic magnitude, a one standard deviation increase in non-local income growth is associated with a 2.0 percentage point greater increase in stock market participation and a 0.4 percentage point greater increase in saving participation. This evidence supports a causal interpretation of the relationship between Economic Connectedness and stock market and saving participation.

We next examine the question of whether the effect from Economic Connectedness on participation is driven by opportunities to interact with wealthy individuals or from se-

to befriend others in their neighborhood, so this will induce an association between wealth and Economic Connectedness. Since the wealthy tend to invest in stocks, this also induces an association between Economic Connectedness and stock investing.

lectively befriending them. Following Chetty et al. (2022b), we decompose EC into two components: High-SES Exposure and Friending Bias. EC can be expressed as: $EC = (1 - Friending\ Bias) \times High\text{-}SES\ Exposure$. This distinction is relevant for policy design. If the EC-effect is causal and is primarily driven by *High-SES Exposure*, then policies that increase cross-class contact—such as school integration, mixed-income housing, or mentorship programs—may be most effective. In contrast, if the EC-effect is causal but arises mainly from *Friending Bias*, it may be more effective to take steps to lower social barriers within shared environments, for example by fostering inclusive group norms or structured inter-group activities.

To construct these measures, Chetty et al. (2022b) assign Facebook users to groups from six contexts in which people are likely to make friends: high schools, colleges, religious groups, recreational groups, workplaces and neighborhoods. Being a member of groups with high fractions of wealthy people increases High-SES Exposure. Conditional on the High-SES Exposure in these groups, friending low-SES individuals at a higher rate increases Friending Bias. High-SES Exposure and Friending Bias are then averaged by ZIP Code.

Using these ZIP Code measures, we find that High-SES Exposure has a much stronger association with household financial participation than Friending Bias. In our specification with full controls and county fixed effects, a one-standard deviation increase in High-SES Exposure is associated with a 8.7 percentage point increase in stock market participation and a 7.0 percentage point increase in saving participation. A one-standard deviation increase in Friending Bias, in contrast, is associated with a (statistically insignificant) 0.06 percentage point increase in stock market participation and a 0.94 percentage point decrease in saving participation. This suggests that policies that promote opportunities for interactions with high income individuals may increase household participation rates.

Finally, we also perform tests using PSID data to verify robustness and to provide insight about the mechanism of the effect. This survey has tracked households since 1968 and provides a panel of rich data related to household income dynamics. Among other infor-

mation, it includes data about whether a household owns equities and has a checking or savings account. Combining the 2023 PSID survey of household financial information with the ZIP Code social capital measures described earlier, we test how household stock market and saving participation relate to our three social capital measures. We find again that Economic Connectedness is the most important measure of social capital in explaining the stock market and saving participation of these households.

We then test three mechanisms that could explain the relation between EC and participation: financial awareness, social utility, and social transmission bias. Our evidence is most consistent with EC increasing stock market participation by increasing financial awareness. We test this mechanism using three proxies for financial awareness: whether an individual has a business degree, has a finance occupation such as a finance role in a general firm, or works for a company in the finance industry. Splitting our sample into two groups for each financial awareness measure, we find that for each of the three measures, the relation between Economic Connectedness and stock market participation is strongest among the less financially aware category. For saving participation, we find the same pattern for two of the three financial awareness measures. This evidence corroborates the conclusion that exposure to the wealthy helps less financially sophisticated investors participate.

The evidence in support of the effects of social utility or social transmission bias is weaker. Using the same split sample approach, we generally find a weaker relation between Economic Connectedness and stock market participation among those who are more socially active or among those with more frequent religious attendance. For saving participation, Economic Connectedness has a slightly larger effect for both measures of social activity and one of the two religious attendance measures. Considering both participation measures, the evidence from our study of potential channels is most consistent with theories of limited participation and fixed setup costs associated with financial discomfort or unawareness.

Taken together, our results suggest that *who you know* is the most important aspect of social capital for household financial decisions. Compared to Cohesiveness, and Civic

Engagement, Economic Connectedness is a far stronger and more robust determinant of household investment. Owing to homophily, high-SES individuals tend to have higher Economic Connectedness, which is associated with greater stock market investment. The high returns to market participation thereby promote wealth inequality. One way to encourage investment among low-SES individuals and potentially ameliorate this effect may be to facilitate interactions across socioeconomic classes.[4]

This paper contributes to three streams of literature. First, it extends the literature on social capital by showing that social capital is positively associated with U.S. stock market and saving participation. As such, the paper contributes to the growing field of social finance (Hirshleifer (2020)). Furthermore, we document that Economic Connectedness is the most important social capital proxy in explaining household financial behavior.

Second, we contribute to the household finance literature on stock market and saving participation. We find that the relationship between Economic Connectedness and participation holds even after controlling for well-known determinants such as education, wealth, financial literacy, and race. We also find that the the fraction of income from dividends as well as dividend income per capita each increases with EC. In other words, both the intensive margin and the extensive margin of stock market participation are positively associated with economic connectedness.

Third, we provide new evidence that is relevant for the literature on intergenerational transmission of poverty and lifetime wealth accumulation. All of the results mentioned previously hold in a subsample consisting only of low-SES individuals. Having wealthy friends increases stock market and saving participation for low-SES households, which could

[4]Although stock market participation is generally beneficial, there is evidence that social interactions can cause poor investing decisions such as the disposition effect (Heimer (2016)). In our study, several results point to participation in relation to social capital being beneficial. First, our measure of stock market participation is based on dividend income – stocks which are seen as less speculative investments. This is not obviously indicative of overtrading effects (Barber and Odean (2000), Barber et al. (2022), Welch (2022)). Second, our finding that economic connectedness is the most important aspect of social capital for stock market participation extends to tests based on saving participation; having nonzero saving seems unlikely to be detrimental. Last, we find that economic connectedness dominates in tests with PSID data in which IRA participation is the dependent variable. Participation in retirement saving vehicles seems unlikely to detrimental.

potentially help break intergenerational poverty cycles.

2 Data Description

Proxies for social capital that have been used in past research include cheating on school tests, blood donations, and turnout in elections. Chetty et al. (2022a) argue for the importance of three distinct aspects of social capital – Economic Connectedness, Cohesiveness, and Civic Engagement – and develop geographic measures for each type of social capital using data on friendships from Facebook as well as income information from the American Community Survey. We follow Chetty et al. (2022a) in using these measures, drawing upon the ZIP Code-level dataset at `www.socialcapital.org`. We next describe these measures briefly; see Chetty et al. (2022a) for more details. We focus on 2022 for most of our analysis because the social capital variables are constructed using Facebook data in 2022.

Intuitively, Economic Connectedness (EC) measures the fraction of an individual's friends who have above-median income. Specifically, EC is "two times the share of high-SES friends among low-SES individuals, averaged over all low-SES individuals in the ZIP Code."[5]

Cohesiveness is the tightness of the average circle of friends in a ZIP Code or how connected members of a friend group are to one another. More precisely, it is measured as the "average fraction of an individual's friend pairs who are also friends with each other." This is averaged across all users in a ZIP Code.

Lastly, Civic Engagement is the average level of prosocial involvement of members in the community. It is defined as the percentage of Facebook users in a ZIP Code who are members of a group which is predicted to be about 'volunteering' or 'activism' based on

[5]Because SES is not a datum on Facebook, Chetty et al. (2022a) estimate income for each Facebook user. To do this, the authors collect median income for each census-block group — the smallest geographic area for which census data is available. These incomes are assigned to users who have enabled location history, based on the census block corresponding to their place of residence. Since not all users are assigned an income, Chetty et al. (2022a) estimate a gradient-boosted regression tree to predict income using: age, sex, language, relationship status, location, college, donations, phone model price, mobile carrier, and Facebook usage variables. Finally, to assign an SES status to each user, the authors convert predicted income into percentile ranks based on birth cohort and classify users above median as High-SES.

group title and other group characteristics. This measure is similar in spirit to the blood donations and voter turnout measures used by Guiso, Sapienza, and Zingales (2004).[6]

We obtain tax return information from the the IRS's Statistics of Income (SOI) database. The SOI data is a representative stratified sample of all U.S. taxpayer information, which breaks down tax returns for each tax season by geographic regions and adjusted gross income. Corresponding to our measures of social capital, the SOI data we collect is from Tax Year 2022 and contains information about the cross section of ZIP Codes from that year.

Within the SOI data, there are 6 AGI categories ranging from "under $25,000" to "$200,000 or more". We consider the lowest 3 AGI categories as low-SES households and the highest 3 AGI categories as high-SES households. In other words, households with AGI less than $75,000 are classified as low-SES and households with AGI greater than $75,000 are classified as high-SES.[7]

We assign an Economic Connectedness value to each AGI-ZIP Code group. For the three low-SES groups, we define Economic Connectedness as the fraction of high-SES friends among low-SES individuals. This is the primary measure used in Chetty et al. (2022a). For the three high-SES groups, we define Economic Connectedness as the fraction of high-SES friends among high-SES individuals. This is an analogous measure of Economic Connectedness for high-SES individuals, which is also constructed in Chetty et al. (2022a). For our main analysis, we create one observation per ZIP Code. To do this, we take the weighted average of Economic Connectedness per ZIP Code, where the weights are determined by the number of tax returns in each AGI group.

We also use the SOI data to create investment and saving behavior proxies. There is no record to indicate if a household participates in the stock market, but tax returns contain several pieces of information that are diagnostic of participation. As a proxy for participation in the stock market, our first variable of interest is the receipt of dividend income (Brown

[6]In Appendix Tables OA2 and OA3 we replicate our analysis using alternative measures of Civic Engagement (including voter turnout) and find similar results.

[7]Using alternative weighting methodologies and subsample regressions for each AGI category, we show that our results are robust and not driven exclusively by a certain portion of the AGI distribution.

et al. (2008)). This variable takes a positive value if the household receives dividends from stocks or taxable equity mutual funds. For each ZIP Code, we compute the fraction of tax forms that received dividend income. Since there are households holding stocks that do not have dividend income, this is a lower bound on the fraction of households participating in the stock market.[8]

We also measure saving participation at the ZIP Code level. Analogous to our stock market participation proxy, we use the fraction of households receiving interest income as a proxy for saving participation. This is also a lower bound for saving participation, as there are likely households who save in non-interest bearing accounts or who do not receive enough interest income to be reported on tax forms.

Participation measures are useful to gauge the extensive margin of investment or saving (the decision to participate), but they do not measure how much of one's income is being allocated to stocks or to a savings account. To proxy for the intensive margin for stock market participation, we construct two measures. First, we create a per-capita measure by dividing total ZIP Code-level dividend income by the number of tax returns. Second, we divide total ZIP Code-level dividend income by total ZIP Code-level adjusted gross income to create a variable for the fraction of income from dividends. We construct analogous measures for saving based on total ZIP Code-level interest income.

Several variables other than social capital have been shown to help explain stock market participation and saving behavior across investors. To control for these variables, we collect demographic information for each ZIP Code in 2022 from the American Community Survey. We use the natural logarithms of median income, total population, and population per square mile. We also include percent male, percent Black, percent Asian, percent Pacific Islander, percent Hispanic, median age, and percent with a high school education as controls. Additionally, using data from Stoddard and Urban (2020) we create a dummy variable for each state that has a state-mandated financial education requirement for high-school

[8]In Online Appendix Table OA1, we find similar results using capital gain income as a proxy for stock market participation.

graduation.

Table 1 reports ZIP Code-level summary statistics for each of our variables of interest. The first two variables, *P(Div)* and *P(Int)* are dependent variables in our regressions and capture the probability that a tax return has dividend income or interest income, respectively. The average value of *P(Div)* is 0.190 and *P(Int)* 0.318, so our estimates are comparable to other estimates of participation rates, bearing in mind that our estimates represent lower bounds.

Turning to proxies for social capital, *Economic Connectedness*, which measures two-times the fraction of an individual's friends with high SES, is approximately one. This indicates that the average person in the average ZIP Code has nearly the same fraction of low-SES friends and high-SES friends. However, the standard deviation is 0.254, which indicates that there is a fair amount of variation across ZIP Codes. *Cohesiveness* captures the fraction of an individual's friends that are in turn friends with each other. *Civic Engagement* captures the fraction of individuals in a ZIP Code who are members of 'volunteering' or 'activism' groups, as defined by Chetty et al. (2022a).[9]

Additionally, we include two variables that arise from a decomposition of *Economic Connectedness*, namely *High-SES Exposure* and *Friending Bias*. *High-SES Exposure* is a ZIP Code-level variable which refers to the opportunities that the average individual in a ZIP Code has to interact with High-SES individuals. *Friending Bias*, also a ZIP Code-level variable, captures the extent to which the average individual in a ZIP Code selectively befriends low-SES individuals, conditional on *High-SES Exposure*.

Table 2 reports correlations for our variables of interest. *Economic Connectedness* is strongly associated with *P(Div)* and *P(Int)*. This is partially mechanical, as our construction of *EC* depends on the number of tax returns in each IRS AGI bucket for a given ZIP Code. This makes *Economic Connectedness* higher for ZIP Codes with higher incomes, so it is

[9] *Cohesiveness* and *Civic Engagement* have much lower standard deviations than *Economic Connectedness*. We standardize all our variables in regressions to provide a comparable interpretation of economic significance among these social capital variables.

important in our regressions to include a control variable for median income and other proxies for socioeconomic status such as education.

3 Results

3.1 Stock Market Participation

We first estimate the relationship between social capital and stock market participation. Table 3 reports results for eight regressions of ZIP Code-level stock market participation on our three measures of social capital. Each of the odd-numbered columns report results with no controls, while the even-numbered columns include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. The first six specifications focus on an individual measure of social capital (i.e. *Economic Connectedness*, *Cohesiveness*, or *Civic Engagement*). The last two specifications include all three measures of social capital. In all specifications, we cluster standard errors by county, and we standardize all variables by their standard deviations.

The results from the first row of columns (1), (2), (7) and (8) indicate that *Economic Connectedness* is positively associated with the probability of having dividend income. Regardless of the specification, this relationship is highly significant and suggests that having high-SES friends is associated with greater participation in the stock market. In the model with full controls (column (8)), a one standard-deviation greater *Economic Connectedness* is associated with a 0.91 standard deviation greater stock market participation. Converted to percentage points, this indicates that having 12.7 percentage points more high-SES friends in a ZIP Code is associated with 10.6 percentage points higher stock market participation.[10] Economically, the magnitude of this relationship is quite large, representing an increase of over 50% relative to the mean (0.10/0.19).

[10] As described in Chetty et al. (2022a), Economic Connectedness is two times the average share of high-SES friends, so one standard deviation greater Economic Connectedness (a 0.254 increase in EC) is equivalent to having 12.7 percent greater fraction of high-SES friends.

The effects are weaker for the other two measures of social capital. While *Cohesiveness* shows a positive point estimate, a one standard-deviation increase in *Cohesiveness* is associated with an insignificant 0.006 standard deviation increase in stock market participation. Furthermore, the point estimate on *Cohesiveness* only becomes positive once other social capital measures and control variables are included. Absent these, *Cohesiveness* has a significantly negative relation with stock market participation. *Civic Engagement*, on the other hand, shows a significantly positive relationship with stock market participation when it is the only measure of social capital. However, once other social capital measures are included, the coefficient on *Civic Engagement* becomes negative. This is interesting because Civic Engagement is the aspect of social capital that is most closely related to many prior studies (e.g. Guiso, Sapienza, and Zingales (2004). The results from columns (5) and (6) confirm the findings in previous work, but the results from columns (7) and (8) suggest that Economic Connectedness is the aspect of social capital that matters the most for stock market participation.

We can also compare the importance of these three explanatory variables using adjusted R^2 values. Column (1) indicates that *Economic Connectedness* explains over 65% of the variation in stock market participation.[11] This is more than 14 times the variation explained by *Cohesiveness* (4.8%), and it is more than 12 times the variation explained by *Civic Engagement* (5.5%). These results indicate that *Economic Connectedness* is the most important aspect of social capital in explaining stock market participation.

3.2 Saving Participation

Next, we run a similar series of tests to study the relationship between social capital and saving behavior. Our proxy for saving participation is the fraction of all tax returns in a ZIP Code that report interest income. The controls and column layout follow Table 3. The first six specifications focus on the measures of social capital individually. The last two

[11] For comparison, the adjusted R^2 of our education control is 0.41 and the adjusted R^2 of median income is 0.53.

specifications include all three measures of social capital.

The saving results are notably similar to the stock market participation results. Again, *Economic Connectedness* is the most important aspect of social capital in explaining saving participation. The results from the first row of columns (1), (2), (7), and (8) show a positive relationship between *Economic Connectedness* and saving participation. This relationship is highly significant across all specifications and provides evidence that having high-SES friends is associated with greater saving rates.

The economic magnitude of this relationship is large, as it is for stock market participation. In the specification with full controls (column (8)), a one standard-deviation greater *Economic Connectedness* is associated with 0.75 standard deviations greater saving participation. This represents an increase of 9.2%, which is more than 25% relative to the mean (0.09/0.32).

Again, the other two measures of social capital are less important in explaining saving participation. They are very similar to the stock market participation results from Table 3. *Cohesiveness* only has a positive and statistically significant relationship with saving participation after controlling for other social capital measures. Additionally, the economic magnitude of *Cohesiveness* is less than one tenth that of *Economic Connectedness*. A one standard-deviation greater *Cohesiveness* is associated with 0.065 standard deviation greater saving participation. Consistent with previous work, *Civic Engagement* on its own has a positive and significant coefficient. However, once controls and the other aspects of social capital are included, *Civic Engagement* has a negative relationship with saving participation.

A comparison of adjusted R^2 values conveys a similar message. Looking at the bottom row of columns (1), (3), and (5) of Table 4, *Economic Connectedness* explains 66% of the variation in saving participation, while *Cohesiveness* explains 0.1% and *Civic Engagement* explains roughly 10%. Therefore, *Economic Connectedness* appears to be the most important aspect of social capital for explaining saving participation.

3.3 Causality

An endogeneity concern with the tests described so far is that omitted variables such as wealth may be correlated with *Economic Connectedness*. Controlling for income or wealth is an incomplete solution if such controls are imperfect. A closely related problem is reverse causality—saving or stock market trading could influence social capital.

To address these causality concerns, we perform two sets of tests. Our first tests address reverse causality by using childhood friendship data. To address causality concerns more broadly, our second set of tests uses cross-ZIP Code social network data and considers the effects of changes in the incomes of non-local friends.

3.3.1 Reverse Causality

An important concern for our tests is that stock market or saving participation may influence an individual's social network. For example, an individual who invests in the stock market might be attracted to and make friends at investment clubs or seminars. Because stock market participation increases with wealth, this results in having high-SES friends. This can induce a positive relationship between *Economic Connectedness* and stock market participation even if *Economic Connectedness* does not cause participation.

To address reverse causality, we follow Chetty et al. (2022a) and run a series of tests with *Childhood Economic Connectedness* as the independent variable. *Childhood Economic Connectedness* is an alternative measure of *Economic Connectedness* using only friendships from childhood. Since *Childhood Economic Connectedness* is only available for counties, this analysis is likewise conducted at the county level. Therefore, we include county-level Cohesiveness and county-level Civic Engagement as dependent variables in these regressions.

The results for our reverse causality tests are presented in Table 5. The first three columns report a positive and statistically significant relationship between childhood *Economic Connectedness* and stock market participation. The last three columns report a positive and statistically significant relationship between childhood *Economic Connectedness* and saving

participation. The mean and standard deviation of *P(Div)* are, respectively, 0.17 and 0.07, in the county data. The mean and standard deviation of *P(Int)* are 0.31 and 0.09. So a one standard deviation increase in *Childhood Economic Connectedness* is associated with a 1.5 percentage point increase in stock market participation and a 2.1 percentage point increase in saving participation. Taken together, these results show the same basic pattern as the results from Tables 3 and 4. Therefore, reverse causality is not likely to be the main driver of our findings.[12]

3.3.2 Non-Local Income Changes

We next address endogeneity more broadly by examining stock market and saving participation following income changes to non-local friends. As we have discussed, a key concern is that omitted variables, such as income or wealth, may affect both *Economic Connectedness* and our dependent variables (if our controls are imperfect). Such omitted variables can also cause self-selection. People with characteristics that promote stock market participation may also be the type of people who are attracted to living in regions with high *Economic Connectedness*.

To address endogeneity, we use a quasi-experimental approach that applies cross-ZIP Code friendship data. We test whether the change in stock market participation of a given ZIP Code increases with the change in income of friends who are non-local to that ZIP Code. Our identifying assumption is that income growth among geographically distant friends is orthogonal to unobserved determinants of the focal ZIP Code's stock market participation, conditional on the focal ZIP Code's own income growth, county fixed effects, and other controls. Therefore, any remaining correlation derives from connections to geographically-

[12]The data for our study is composed from a snapshot of Facebook friendships in 2022. As such, Childhood Economic Connectedness consists of current friends who attended the same high school in the past. This introduces selection as some users' high school friends did not eventually become Facebook friends. However, this is unlikely to explain our findings. Table OA4, indicates that our Childhood Economic Connectedness results are driven by Childhood High-SES Exposure rather than Childhood Friending Bias. Childhood High-SES Exposure is measured as the fraction of high-SES students in past high school classes, which is unrelated to students' future selection of high school friends — this is captured in Childhood Friending Bias.

distant friends.

To perform these tests, we collect data measuring the social connectedness of ZIP Code pairs, $SCI_{i,j}$ Bailey et al. (2018). This data records relative probabilities that any two individuals from two given ZIP Codes are friends on Facebook. The actual probabilities, $\frac{FB\ Connections_{i,j}}{FB\ Users_i * FB\ Users_j}$, are scaled for anonymity in the publicly available data. The relative probabilities, $SCI_{i,j}$, maintain a multiplicative property such that if a relative probability is twice as large as another, the underlying probability is also twice as large. We use this data to estimate, for a given ZIP Code i, the average change in income of its non-local Facebook friends.

Our goal is create a measure that captures the weighted average of income changes in distant ZIP Codes, where the weights represent the relative strength of the social ties between the focal ZIP Code and the distant ZIP Code. Our measure is calculated as follows:

$$\Delta NonlocalIncome_i = \left(1 - \frac{\sum_{k \in K_i} SCI_{i,k} * Pop_k}{\sum_{k \in K_i} SCI_{i,k} * Pop_k + \sum_{j \in J_i} SCI_{i,j} * Pop_j}\right) * \frac{\sum_{j \in J_i} SCI_{i,j} * Pop_j * \Delta Income_j}{\sum_{j \in J_i} SCI_{i,j} * Pop_j} \tag{1}$$

where $J_i = \{j \neq i : dist(i,j) > 250\}$ and $K_i = \{k : dist(i,k) \leq 250\}$.[13]

Focusing on the second piece of the product: for ZIP Code i, we multiply $SCI_{i,j}$ by the population of ZIP Code j to approximate the number of Facebook friends in ZIP Code j per resident of ZIP Code i.[14] We then use these per person non-local ZIP Code friendships to weight the change in income of non-local ZIP Codes from 2011-2022. This time period covers the entirety of the IRS SOI data with consistent data categories, and it aligns with the decade of the SCI data. We exclude ZIP Codes within 250 miles of ZIP Code i, as well as ZIP Code i itself, in this computation to detach our measure from potential local economic shocks. Finally, we multiply this weighted average by one minus the fraction of local friends for a given ZIP Code — the first piece of the product. This accounts for the fact that some ZIP Codes may have a greater fraction of local friends than other ZIP Codes.

[13] k includes ZIP Code i as well as those ZIP Codes within 250 miles.

[14] To align with the timing of the Social Connectedness Index Facebook data, we use ZIP Code populations from 2021 as weights.

We regress the change in a ZIP Code's stock market participation or saving participation on $\Delta NonlocalIncome$. We measure changes in stock market and saving participation from 2011 to 2022 and include changes in all control variables considered in earlier regressions at the ZIP Code level, including the focal ZIP Code's change in income. We further include county fixed effects.[15]

Table 6 indicates that the change in income of non-local friends is positively and significantly associated with changes in stock market and saving participation. In terms of economic magnitude, one standard-deviation greater change in non-local income leads to a 0.62 standard deviation greater change in stock market participation and a 0.09 standard deviation greater change in saving participation. The standard deviations of $\Delta P(Div)$ and $\Delta P(Int)$ are 0.032 and 0.044, respectively. Therefore, one standard-deviation greater change in non-local income is associated with a 2.0 percentage point greater change in stock market participation and a 0.4 percentage point greater change in saving participation. While these changes might seem small, the mean changes in participation are .8% and -5.0%. Therefore, these increases represent meaningful changes in stock market participation and saving participation, relative to the means.

As these findings come from non-local friends, they are immune to effects coming directly from local economic conditions. Furthermore, we control for county fixed effects as well as the change in income of the focal ZIP Code to mitigate concerns about economic linkage between regions. These results provide evidence in support of a causal interpretation of the relationship between *Economic Connectedness* and stock market and saving participation.

3.4 High-SES Exposure and Friending Bias

We next consider whether *High-SES Exposure* or *Friending Bias* plays a larger role in the relationship between *Economic Connectedness* and household financial behavior. In Chetty

[15]Here, our tests span a longer time period. This is to allow for more meaningful variation in income changes and a potential lag in participation. In untabulated results, we have replicated this analysis using alternative time intervals and found similar results.

et al. (2022b), the authors decompose *Economic Connectedness* into two components, *High-SES Exposure* and *Friending Bias*. For each Facebook user, the authors use self-reported data, liked pages, Facebook group membership and friendship networks to assign users to at most one group for each of six contexts in which friendships are commonly made. The contexts are high schools, colleges, religious groups, recreational groups, workplaces and neighborhoods.

For example, Facebook information could be used to identify a user that graduated from Glendale High School in California, earned her bachelor's degree from UCLA, and joined a pickleball club near her work with Kaiser Permanente in Los Angeles. This user would be assigned to the Glendale High School group with classmates from high school, the UCLA group with classmates from college, the Los Angeles Pickleball group with her training partners, and the Kaiser Permanente group with her coworkers. Individuals who are members of multiple groups within the same context are assigned to the group in which they have the largest number of Facebook friends. Once group membership is determined, the fraction of High-SES members in each group is computed, and friendships within the group are identified.

Using this information about friend groups, *High-SES Exposure* is calculated by taking the average share of high-SES individuals in the groups for each user in a ZIP Code, and averaging across ZIP Code users. This measure provides an indication of how likely the average person in a ZIP Code is to have opportunities to interact with high-SES individuals.

Friending Bias, on the other hand, measures the propensity toward friending low-SES individuals in a given ZIP Code conditional on *High-SES Exposure*. Based on the friendship groups identified, *Friending Bias* is calculated for each user as the fraction of high-SES friends made from those groups divided by the average share of high-SES individuals among those groups, all of which is subtracted from one. As a final step, the *Friending Bias* of each individual in the ZIP Code is averaged to create a ZIP Code-level measure. More details about these measures can be found in Chetty et al. (2022b).

Distinguishing between *High-SES Exposure* and *Friending Bias* provides insight into the mechanism through which *Economic Connectedness* affects financial behavior, which is useful when considering potential policies related to *Economic Connectedness*. For instance, if *High-SES Exposure* is driving our results, then lack of cross-class interactions may be a key limiting factor for participation rates of low-SES households. If so, policies that provide opportunities for cross-class interactions would promote participation among low-SES households. In contrast, if our findings are driven by *Friending Bias*, then facilitating cross-class interactions would have a minimal effect on participation.

To test whether *High-SES Exposure* or *Friending Bias* drives the relation between *Economic Connectedness* and financial behavior, we replicate our main regressions from Tables 3 and 4, replacing *Economic Connectedness* with *High-SES Exposure* and *Friending Bias*. The results are reported in Table 7.

The results from Table 7 show that *High-SES Exposure* is much more important for financial behavior than *Friending Bias*. In our specifications with all control variables, a one standard deviation greater *High-SES Exposure* is associated with a 0.751 standard deviation greater stock market participation and a 0.574 standard deviation greater saving participation. In comparison, the coefficient on *Friending Bias* is economically less important for both stock market (0.005) and saving (-0.076) participation. Therefore, having the opportunity to interact with High-SES individuals appears to be an important mechanism behind the relation between *Economic Connectedness* and financial behavior.

3.5 Robustness Tests

While our earlier tests provide evidence that *Economic Connectedness* helps explain variation in stock market and saving participation, these measures focus on extensive margins. This leaves open the question of whether, for a given participating individual, having wealthy friends encourages greater stock market investment and greater saving.

To test for effects at the intensive margin, we estimate similar regressions to those in

Tables 3 and 4, replacing our dependent variables with two variables to measure the intensive margin. First, we create a dividend (interest) income per capita measure by dividing ZIP Code-level total dividend (interest) income by the number of tax returns in a ZIP Code. Second, we create a fraction of income from dividend (interest) variable by scaling ZIP Code-level total dividend (interest) income by adjusted gross income. The results are reported in Table A1.

In Table A1, we find a strong positive relation between *Economic Connectedness* and the intensive margins of stock market investments and savings. For instance, in column (3) with full controls and fixed effects, the coefficient on *Economic Connectedness* indicates that a one standard deviation greater *Economic Connectedness* is associated with a 0.46 standard deviation greater dividend income per capita. This is similar for our other intensive margin variables. As with our extensive margin results, *Cohesiveness* and *Civic Engagement* are economically less important. Overall, our evidence indicates that *Economic Connectedness* is important for the intensive margins of investing and saving behaviors.

We also test whether the effect of household social capital on financial decisions depends on the household's SES. It is of special interest whether greater social capital is helpful for low-SES households.

To do this, we repeat our analysis for each of the 6 AGI groupings from the SOI data discussed before. For example, the lowest AGI grouping has an AGI under $25,000, whereas the highest AGI grouping has an AGI above $200,000. We create stock market and saving participation measures based on each AGI group's tax returns and assign *Economic Connectedness* values *(EC)* to each AGI-ZIP Code. Chetty et al. (2022a) provide *EC* for high-SES and low-SES individuals separately for each ZIP Code.[16] We assign *EC Low* to the bottom three AGI groups and *EC High* to the top three AGI groups. The results, which are reported in Tables A2 and A3, assess whether each income bracket responds to its own level of connectedness with high-SES individuals.

[16] *EC Low* and *EC High* capture different concepts. *EC Low* represents social connections that cross socioeconomic groups, while *EC High* represents social connections among high-SES individuals.

We find that *Economic Connectedness* remains the most important dimension of social capital for both high- and low-SES groups. For All AGI groups, *Cohesiveness* and *Civic Engagement* have much weaker associations with stock market and saving participation than does *Economic Connectedness*.

There are a few interesting patterns worth discussing. First, while *Economic Connectedness* has a large effect among the low AGI groups, the effect is much smaller than that of the high AGI groups. This is consistent with disposable income being needed to invest. For households living on below-median income, removing barriers for stock market participation is unlikely to induce much change if the households are already struggling to meet daily needs. This idea is reinforced in Appendix Table A4 where we show that *EC High* is more important for stock market and saving participation for the entire ZIP Code than *EC Low*. Additionally, the difference in effect sizes between high-SES and low-SES is more pronounced for stock market participation than for saving participation. This matches intuition and suggests that low-SES individuals might first be convinced to save before investing.

Second, the effects from *Cohesiveness* and *Civic Engagement* differ greatly by SES status. *Cohesiveness* is important for the high AGI groups, potentially due to homophily and more disciplined financial behavior in wealthy circles. *Civic Engagement*, in contrast, is more important for the low AGI groups, suggesting an important role of trust and social norms for these individuals.

We have used the probability of receiving dividend income as a proxy for stock market participation. Another IRS datum that is informative about stock market participation is capital gain income. In Online Appendix Table OA1, we replicate our analysis of stock market participation using capital gain income as our dependent variable and find results consistent with our main analysis and interpretation. In fact, the coefficients are extremely similar.

In addition to our capital gain analysis, we have replicated our main findings using alternative measures for *Cohesiveness* and *Civic Engagement*, called *Support Ratio* and *Civic*

Organizations. These alternate measures are described in Chetty et al. (2022a). Additionally, we consider two other widely used proxies for social capital: *Voter Turnout* and *Average Credit Score*. We obtain ZIP Code-level average credit scores from Bricker and Li (2017). The most granular data we have on *Voter Turnout* is at the county level. In Appendix Table OA2, we find that after considering these other measures of social capital, *Economic Connectedness* continues to be important in explaining stock market and saving participation.

4 PSID Results

The next set of tests merges household-level outcomes from the Panel Survey of Income Dynamics (PSID) with the ZIP Code-level social capital measures from before. The goal of these tests is to examine the robustness of our findings and to help pinpoint the mechanism through which *Economic Connectedness* influences household savings. Using IRS tax forms as our primary measure of stock market participation has the advantage of being representative of the entire tax-paying population of the United States. Furthermore, the information comes from actual tax return information, so it is likely quite accurate. However, the IRS data also has limitations. For example, it does not track individual households, which would be needed for individual level tests on variables such as social interaction frequency. The PSID allows us to access such information.

PSID data consists of a set of survey responses conducted by the University of Michigan which contain detailed information about a broad sample of U.S. households followed over time. We utilize data from the 2023 wave of the PSID. Among other information, this survey tracks whether a household owns equities and whether a household has a savings or checking account. These indicator variables are analogous to our ZIP Code participation measures but at the household level. In addition, PSID allows us to control for a household's income, wealth, household size, age, gender, marital status, race, and education. Wealth is an important control which is not possible in our ZIP Code analysis. The data also allow us

to observe whether a household participates in an IRA account — a form of stock market participation not available at the ZIP Code level. We merge the PSID data with the ZIP Code social capital data of (Chetty et al., 2022a) to examine how social capital is associated with household financial behavior. We report summary statistics and correlations for this sample in Appendix Tables A5 and A6, respectively.

In Tables A7 - A10 of the Appendix, we provide additional evidence supporting our ZIP Code findings. Tables A7 and A8 provide similar tests to Tables 3 and 4. In these tests, *Economic Connectedness* has a strong positive association with both stock market and saving participation for individual households. Furthermore, *Economic Connectedness* is much more important for explaining participation than *Cohesiveness* or *Civic Engagement*. In Table A9, we decompose *Economic Connectedness* into *High-SES Exposure* and *Friending Bias*. Again, we find that *High-SES Exposure* is more important than *Friending Bias* for explaining household participation, though the difference is smaller than in the tests that use the ZIP Code data. Overall, these results confirm the robustness of our conclusions at the household level.

In addition to the replication tests described above, the PSID data allow us to perform tests on determinants of retirement account participation. During each wave of our sample, PSID respondents were asked whether or not they have an individual retirement account (IRA). In Table A11, we perform tests similar to those of Table A7 replacing the dependent variable with an indicator variable that equals one if a household had an IRA. The results are similar. We find that *Economic Connectedness* is the most important aspect of social capital in explaining whether a household has an IRA. This finding helps address whether participation that derives from economic connectedness is beneficial or detrimental. Although stock market participants make systematic mistakes, the positive relationship between EC and IRA ownership suggests that helpful financial information is shared through social networks.

Lastly, the PSID data has the benefit of tracking information along family lines. This allows us to control for extended family fixed effects that remove any intergenerational ef-

fects associated with belonging to a particular family. The results are reported in Table A10. Except for our stock market specification with full controls and fixed effects, we find that *Economic Connectedness* has a significantly positive relationship with stock market and saving participation. In contrast, neither *Cohesiveness* nor *Civic Engagement* has a significant positive effect. Overall, the PSID sample provides additional evidence that *Economic Connectedness* is the most important dimension of social capital for household stock market and saving participation.

4.1 Mechanism

We next use the PSID data to examine why being economically connected influences stock market and saving participation. We test three mechanisms: financial awareness, social transmission bias and social utility.

A leading explanation for the stock market participation puzzle is that investors have fixed setup costs of participation (Vissing-Jorgensen (2002)). Participation occurs when the benefit of participation exceeds the cost. While costs may be pecuniary, there is also evidence that learning how to invest (Hong, Kubik, and Stein (2004), Lusardi and Mitchell (2014)) or the psychological discomfort of investing (Cao, Wang, and Zhang (2005), Cao et al. (2009)) can impede participation. As being economically connected can reduce such costs, we examine mechanisms where financial information reduces fixed setup costs, and refer to this channel broadly as financial awareness.

Social transmission bias can cause more risky investments such as stock market participation. Such investment is predicted to be increasing with proxies for social interactions (Han, Hirshleifer, and Walden (2022). Alternatively, in groups of high-SES individuals, people may enjoy casual discussions about investing, encouraging investment. This effect would also be increasing in the extent of social interactions. We refer to this channel as social utility (Bursztyn et al. (2014).

We test the financial awareness mechanism using three proxies: whether an individual

has a business degree, whether an individual has a finance occupation, and whether an individual works for a company in the finance industry. We hypothesize that increasing financial awareness has larger effects on individuals who start with low awareness. To test this, we split the sample into two groups for each financial awareness measure. The prediction is that the sensitivity of stock market participation to *Economic Connectedness* will be stronger in the group that has less financial awareness.

To test the social transmission bias and social utility mechanisms, we split the sample between those who are more versus less socially active or have more versus less religious attendance. The prediction is that there will be a greater sensitivity of stock market participation to *Economic Connectedness* among those who are more socially connected, i.e., are more socially active and have greater religious attendance.

Our evidence is consistent with wealthy connections influencing stock market participation through financial awareness. As predicted, the relationship between *Economic Connectedness* and stock market participation is strongest among the less financially aware group for each of the three measures. For saving participation, we find the same pattern for two of the three financial awareness measures. These patterns can be observed in Table 8.

In contrast, we do not find consistent evidence in support of the social transmission bias and social utility mechanisms. Using the same split sample approach, we do not consistently find a stronger relation between *Economic Connectedness* and participation among those who are more socially active or among those who have greater religious attendance. This evidence is presented in Table 9. Taken together, the evidence from our study of potential channels is most consistent with theories that explain participation through fixed setup costs related to financial awareness. Greater awareness is likely to derive in part from financial literacy, which is known to improve financial and economic outcomes (Lusardi and Mitchell (2023)).

5 Conclusion

Despite high historical returns to investing in the U.S. stock market, many households do not own any stocks. As participating in the stock market is crucial to building wealth over the life-cycle, understanding what determines stock market participation is important for improving financial well-being.

Social capital has been proposed as a candidate for policy interventions to promote market participation and saving (Ban, Gilligan, and Rieger (2020)). One motivation for this is that social capital has been found to influence many economic and political outcomes. It is plausible that social capital can reduce the fixed costs, whether pecuniary or psychic, to investors of participating in the stock market or of saving for the future. Interacting with members in a community with higher socioeconomic status (who are, in general, more likely to participate in the market and have high rates of saving) can help individuals obtain useful information about how to participate in the stock market or to save for retirement.

In this paper, we apply friendship data from Facebook and financial data from the IRS to test the relationship between social capital and household investment and saving behavior. Using ZIP Code-level data constructed from the individual-level social networks of 27.2 million Facebook users and financial information from IRS tax returns, we consider three aspects of social capital: Economic Connectedness, Cohesiveness, and Civic Engagement.

Our evidence indicates that Economic Connectedness is especially important for household financial decisions. A one standard deviation increase in Economic Connectedness is associated with a 10.6 percentage-point increase in stock market participation and a 9.2 percentage-point increase in saving participation. Relative to their mean values, this represents over a 50% increase in stock market participation and over a 25% increase in saving participation. Furthermore, while Cohesiveness and Civic Engagement explain, at most, 6% of variation in stock market participation, Economic Connectedness explains over 65%. Using changes in income of non-local friends as exogenous shocks to Economic Connectedness, we provide evidence in favor of a causal interpretation of these results.

The effect of Economic Connectedness on household financial behavior can derive from opportunities to interact with wealthy individuals or because of wealthy individuals' willingness to form friendships (i.e. lower Friending Bias). Understanding which mechanism drives our findings clarifies whether facilitating cross-class encounters can suffice to improve outcomes, or whether improving friending rates for existing interactions is required. We test which of these two mechanisms has a greater effect on household financial behavior and find that High-SES Exposure has a large and significant effect, while Friending Bias does not.

As discussed in the introduction, economists have argued that undersaving and insufficient stock market risk exposure, particularly among low-SES households, are barriers to lifetime well-being. A failure to invest can contribute to an intergenerational cycle of poverty.

We provide evidence that greater opportunities for social interaction with wealthy individuals is associated with financial behaviors that can improve lifetime wealth accumulation. For the average household, having more exposure to high-SES households is associated with increased stock market and saving participation. Cross-class interaction is common at casual restaurant chains such as Olive Garden and Applebee's (Massenkoff and Wilmers (2025)). Among publicly funded spaces, libraries and parks provide the most opportunity for low-SES individuals to interact with high-SES individuals. Our findings suggest that the presence of cross-class establishments may promote stock market and saving participation of low-SES households.

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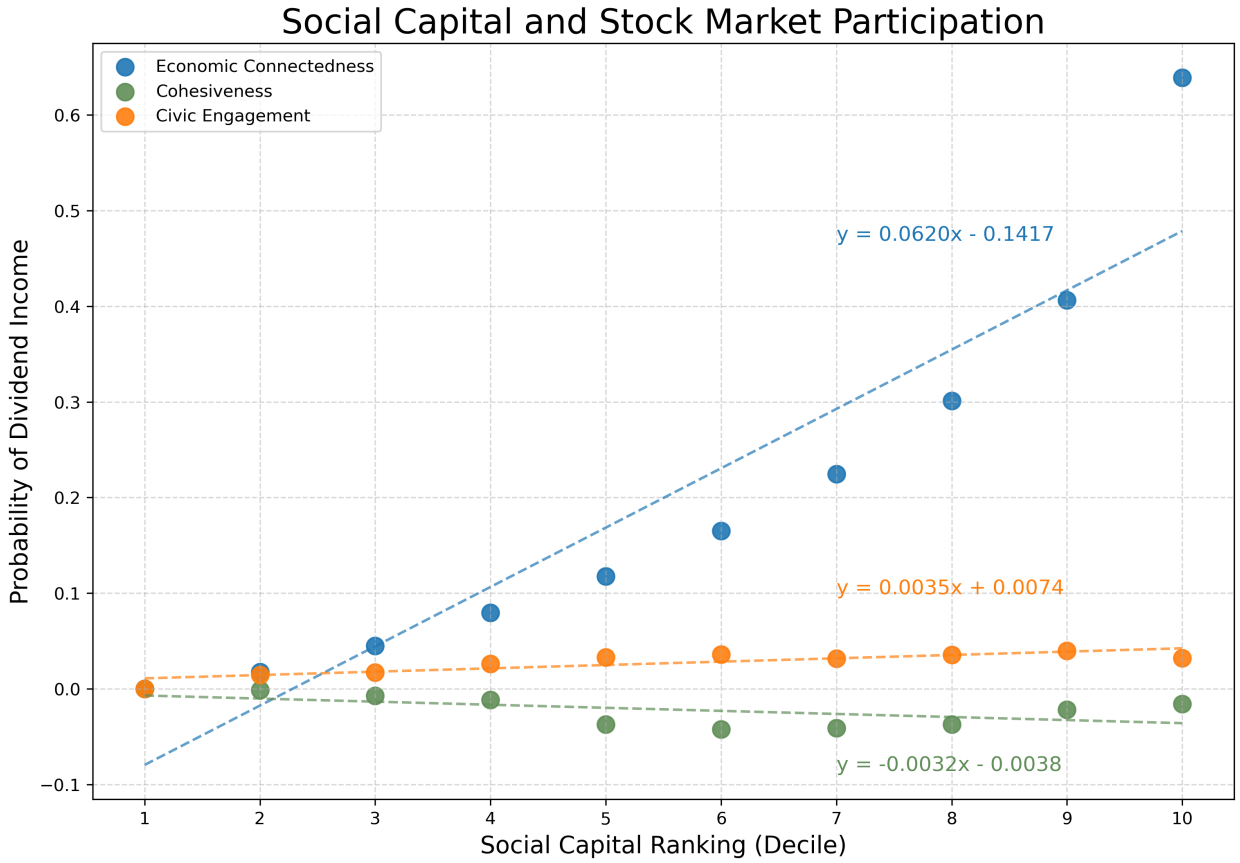

Figure 1: **Social Capital and Stock Market Participation.** This figure reports coefficients from a regression of ZIP Code-level stock market participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. *Economic Connectedness* is two times the fraction of an individual's friends with high SES, for the average person in a ZIP Code. *Cohesiveness* is the fraction of an individual's friends that are friends with each other, for the average person in a ZIP Code. *Civic Engagement* is the fraction of individuals in a ZIP Code who are members of 'volunteering' or 'activism' groups. We capture ZIP Code-level stock market participation using the probability of dividend income from tax returns. Each measure of social capital is divided into ten groups. We have a total of 27 indicator variables, 9 for each of the three aspects of social capital. We also include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. The equations represent best-fit lines from regressions of social capital coefficients on decile ranking. The slopes of these lines represent the average increase in stock market participation that results from a one-decile increase in a given aspect of social capital.

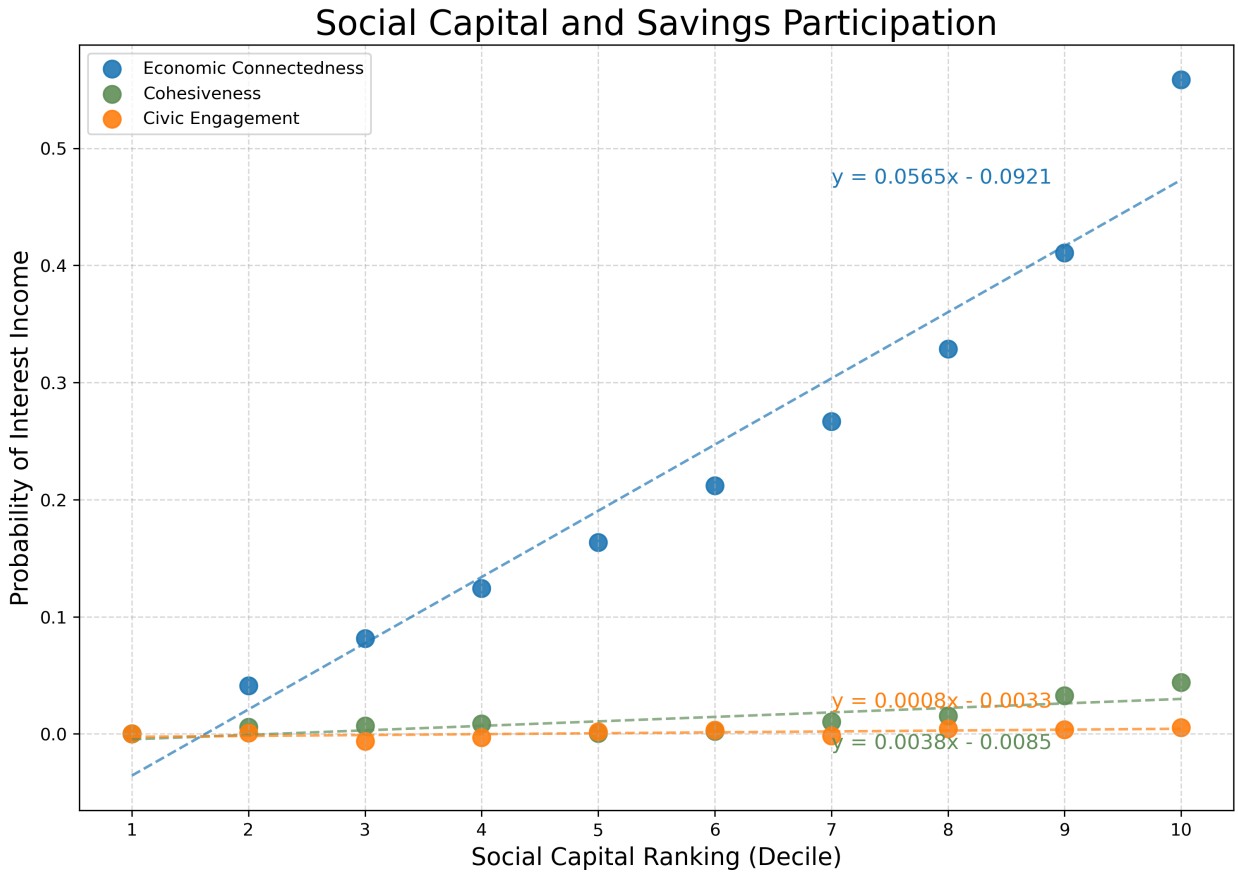

Figure 2: **Social Capital and Saving.** This figure reports coefficients from a regression of ZIP Code-level saving participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. *Economic Connectedness* is two times the fraction of an individual's friends with high SES, for the average person in a ZIP Code. *Cohesiveness* is the fraction of an individual's friends that are friends with each other, for the average person in a ZIP Code. *Civic Engagement* is the fraction of individuals in a ZIP Code who are members of 'volunteering' or 'activism' groups. We capture ZIP Code-level saving participation with nonzero interest income from tax returns. Each measure of social capital is divided into ten groups. We have a total of 27 indicator variables, 9 for each of the three aspects of social capital. We also include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. The equations represent best-fit lines from regressions of social capital coefficients on decile ranking. The slopes of these lines represent the average increase in saving participation associated with a one-decile increase in a given aspect of social capital.

Table 1: **Summary Statistics.** This table reports ZIP Code-level summary statistics. *P(Div)* is the probability that a tax return has dividend income. *P(Int)* is the probability that a tax return has interest income. *Economic Connectedness* is the first aspect of social capital that we study. It measures the fraction of an individual's friends with high SES, for the average person in a ZIP Code. *Cohesiveness* is the second aspect of social capital that we study. It captures the fraction of an individual's friends that are friends with each other, for the average person in a ZIP Code. *Civic Engagement* is the third aspect of social capital that we study. It captures the fraction of individuals in a ZIP Code who are members of 'volunteering' or 'activism' groups. We break *Economic Connectedness* into *High-SES Exposure* and *Friending Bias*. *High-SES Exposure* measures the opportunity to interact with high SES people for a ZIP Code. *Friending Bias* captures the tilt toward befriending low-SES people for a ZIP Code, conditional on *High-SES Exposure*. The variables *Population* and *Median Income* are ZIP Code-level control variables. *Financial literacy* is a dummy variable that equals one if a state had financial literacy high school graduation requirement in 2018. *Percent High School or Higher* measures the fraction of a ZIP Code that has graduated high school.

Variable	Obs.	Mean	Std	p25	p50	p75
P(Div)	22,640	0.190	0.116	0.109	0.169	0.244
P(Int)	22,640	0.318	0.123	0.231	0.308	0.400
Economic Connectedness	18,775	1.025	0.254	0.846	1.017	1.205
Cohesiveness	22,640	0.106	0.020	0.091	0.104	0.117
Civic Engagement	22,637	0.077	0.037	0.052	0.071	0.094
High-SES Exposure	18,157	1.062	0.253	0.885	1.059	1.242
Friending Bias	18,157	-0.006	0.065	-0.050	-0.017	0.025
Ln(Population)	22,639	8.868	1.262	7.785	8.857	9.978
Ln(Median Income)	22,497	11.159	0.373	10.921	11.139	11.385
Financial Literacy	22,640	0.488	0.500	0.000	0.000	1.000
Percent HS or Higher	22,639	0.894	0.076	0.860	0.912	0.947

Table 2: **Correlation Matrix.** This table reports ZIP Code-level correlations for each of our variables of interest. *P(Div)* is the probability that a tax return has dividend income. *P(Int)* is the probability that a tax return has interest income. *Economic Connectedness* is the first aspect of social capital that we study. It measures the fraction of an individual's friends with high SES, for the average person in a ZIP Code. *Cohesiveness* is the second aspect of social capital that we study. It captures the fraction of an individual's friends that are friends with each other, for the average person in a ZIP Code. *Civic Engagement* is the third aspect of social capital that we study. It captures the fraction of individuals in a ZIP Code who are members of 'volunteering' or 'activism' groups. We break *Economic Connectedness* into *High-SES Exposure* and *Friending Bias*. *High-SES Exposure* measures the opportunity to interact with high SES people for a ZIP Code. *Friending Bias* captures the tilt toward befriending low-SES people for a ZIP Code, conditional on *High-SES Exposure*. The variables *Population* and *Median Income* are ZIP Code-level control variables. *Financial literacy* is a dummy variable that equals one if a state had financial literacy high school graduation requirement in 2018. *Percent High School or Higher* measures the fraction of a ZIP Code that has graduated high school.

	P(Div)	P(Int)	EC	Cohes	CivEng	Exp	Bias	Pop	Inc	FinLit	HS+
P(Div)	1.00										
P(Int)	0.86	1.00									
Economic Connectedness	0.83	0.81	1.00								
Cohesiveness	-0.22	-0.03	-0.19	1.00							
Civic Engagement	0.23	0.32	0.34	0.09	1.00						
High-SES Exposure	0.77	0.72	0.96	-0.27	0.28	1.00					
Friending Bias	-0.46	-0.55	-0.57	-0.12	-0.32	-0.40	1.00				
Ln(Population)	0.14	-0.08	0.02	-0.53	-0.26	0.10	0.25	1.00			
Ln(Median Income)	0.73	0.67	0.81	-0.36	0.15	0.81	-0.45	0.22	1.00		
Financial Literacy	-0.05	-0.05	-0.08	0.00	-0.01	-0.10	-0.02	-0.02	-0.06	1.00	
Percent HS or Higher	0.61	0.60	0.69	-0.11	0.35	0.62	-0.51	-0.01	0.54	-0.04	1.00

Table 3: **Probability of Stock Market Participation.** This table reports results for regressions of ZIP Code-level stock market participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. We capture ZIP Code-level stock market participation using the probability of dividend income from tax returns. Columns (1) and (2) report results for *Economic Connectedness*. Columns (3) and (4) report results for *Cohesiveness*. Columns (5) and (6) report results for *Civic Engagement*. In columns (7) and (8), we include all three aspects of social capital in the regressions. In columns (2), (4), (6), and (8) we include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

	(1) P(Div)	(2) P(Div)	(3) P(Div)	(4) P(Div)	(5) P(Div)	(6) P(Div)	(7) P(Div)	(8) P(Div)
Economic Connectedness	0.830***	0.906***					0.836***	0.913***
	(57.72)	(44.08)					(54.00)	(45.01)
Cohesiveness			-0.219***	-0.044***			-0.007	0.006
			(-11.47)	(-3.30)			(-0.81)	(0.49)
Civic Engagement					0.234***	0.071***	-0.022***	-0.015*
					(14.81)	(7.47)	(-2.77)	(-1.74)
Controls		YES		YES		YES		YES
County FE's		YES		YES		YES		YES
Observations	18,775	18,099	22,640	22,098	22,637	22,095	18,775	18,099
Adj. R^2	0.689	0.836	0.048	0.748	0.055	0.749	0.690	0.836

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: **Probability of Saving Participation.** This table reports results for regressions of ZIP Code-level saving participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. We capture ZIP Code-level saving participation using the probability of nonzero interest income from tax returns. Columns (1) and (2) report results for *Economic Connectedness*. Columns (3) and (4) report results for *Cohesiveness*. Columns (5) and (6) report results for *Civic Engagement*. In columns (7) and (8), we include all three aspects of social capital in the regressions. In columns (2), (4), (6), and (8) we include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

	(1) P(Int)	(2) P(Int)	(3) P(Int)	(4) P(Int)	(5) P(Int)	(6) P(Int)	(7) P(Int)	(8) P(Int)
Economic Connectedness	0.812***	0.735***					0.830***	0.749***
	(76.16)	(45.22)					(72.50)	(46.96)
Cohesiveness			-0.032	0.016			0.171***	0.065***
			(-1.45)	(1.54)			(16.27)	(6.54)
Civic Engagement					0.324***	0.058***	0.041***	-0.017***
					(18.86)	(7.57)	(4.31)	(-2.86)
Controls		YES		YES		YES		YES
County FE's		YES		YES		YES		YES
Observations	18,775	18,099	22,640	22,098	22,637	22,095	18,775	18,099
Adj. R^2	0.659	0.892	0.001	0.819	0.105	0.821	0.691	0.893

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: **Childhood Economic Connectedness.** This table reports results for regressions of county-level stock market participation (columns (1) - (3)) or saving participation (columns (4) - (6)) on *Childhood EC*. *Childhood EC* is a measure of *Economic Connectedness* based only on friendships from high school. In columns (1) and (2) and columns (4) and (5), we only include the focal aspect of social capital in our regressions, namely *Childhood EC*. In columns (3) and (6), we include all three aspects of social capital in our regressions. In columns (2), (3), (5), and (6) we include controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. Standard errors are adjusted for heteroskedasticity

	(1)	(2)	(3)	(4)	(5)	(6)
	P(Div)	P(Div)	P(Div)	P(Int)	P(Int)	P(Int)
Childhood EC	0.622***	0.201***	0.208***	0.449***	0.222***	0.233***
	(38.75)	(8.00)	(8.38)	(28.86)	(8.62)	(9.24)
Cohesiveness			0.129***			0.196***
			(7.27)			(9.67)
Civic Engagement			-0.003			0.024*
			(-0.24)			(1.84)
Controls		YES	YES		YES	YES
Observations	2,706	2,705	2,705	2,706	2,705	2,705
Adj. R^2	0.387	0.723	0.729	0.201	0.657	0.671

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: **Non-local Income Changes.** This table reports results for regressions of ZIP Code-level change in stock market participation (columns (1) and (2)) or change in saving participation (columns (3) and (4)) on the change in income of non-local friends. The dependent variables capture participation changes from 2011 to 2022. The independent variable measures the change in the income of non-local friends from 2011 to 2022. Friends are classified as non-local if they live more than 250 miles from the focal ZIP Code. In columns (2) and (4), we include county fixed effects, income growth for the focal ZIP Code from 2011 to 2022, and controls for changes in population, race, age, gender, and education. All variables are standardized. All standard errors are clustered at the county level.

	(1) Δ P(Div)	(2) Δ P(Div)	(3) Δ P(Int)	(4) Δ P(Int)
Δ Nonlocal Income	0.502***	0.621***	0.188***	0.092***
	(16.05)	(21.44)	(9.21)	(3.26)
Controls		YES		YES
County FE	YES	YES	YES	YES
Observations	21,037	20,452	21,037	20,452
Adj. R^2	0.252	0.539	0.035	0.573

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: **High-SES Exposure and Friending Bias.** This table breaks *Economic Connectedness* into two components: *High-SES Exposure* and *Friending Bias*. *High-SES Exposure* measures the opportunity to interact with high-SES people for a ZIP Code. *Friending Bias* captures the tilt toward befriending low-SES people for a ZIP Code, conditional on *High-SES Exposure*. Columns (1) and (2) regress ZIP Code-level stock market participation on the two components of *Economic Connectedness*. Columns (3) and (4) regress ZIP Code-level saving participation on the two components of *Economic Connectedness*. In all specifications, we include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

	(1) P(Div)	(2) P(Div)	(3) P(Int)	(4) P(Int)
High-SES Exposure	0.755***	0.751***	0.566***	0.574***
	(30.02)	(28.99)	(26.75)	(26.14)
Friending Bias	0.004	0.005	-0.075***	-0.076***
	(0.46)	(0.55)	(-9.10)	(-9.31)
Cohesiveness		0.015		0.073***
		(0.89)		(5.92)
Civic Engagement		0.021**		0.009
		(2.21)		(1.33)
Controls	YES	YES	YES	YES
County FE's	YES	YES	YES	YES
Observations	17,466	17,466	17,466	17,466
Adj. R^2	0.801	0.801	0.870	0.871

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: **Financial Awareness Mechanism.** This table reports subsample regressions from households in Michigan's Panel Study of Income Dynamics. Subsamples are split based on three proxies for financial awareness: whether or not the reference person has a business degree (columns (1) and (2)); whether or not the reference person works in a finance occupation (columns (3) and (4)); and whether or not the reference person works in the finance industry (columns (5) and (6)). Panel A reports results for regressions of household stock market participation on *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement* at the ZIP Code-level. Panel B reports results for regressions of household saving participation on *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement* at the ZIP Code-level. All specifications include county fixed effects and household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

Panel A: Stock

	BusDeg=0	BusDeg=1	FinOcc=0	FinOcc=1	FinInd=0	FinInd=1
EC	0.079***	-0.054	0.061***	-0.066	0.053***	-0.004
	(4.57)	(-1.34)	(3.98)	(-0.91)	(3.46)	(-0.05)
Cohes.	0.012	0.017	0.020	-0.026	0.015	0.012
	(0.60)	(0.68)	(1.01)	(-0.39)	(0.81)	(0.18)
Civ.Eng.	0.009	0.045	0.013	0.029	0.015	0.017
	(0.52)	(1.30)	(0.81)	(0.49)	(1.00)	(0.29)
Controls	YES	YES	YES	YES	YES	YES
County FE	YES	YES	YES	YES	YES	YES
Observations	5,650	834	6,003	470	6,083	387
Adj. R^2	0.188	0.247	0.208	0.170	0.209	0.216

Panel B: ChkSav

	BusDeg=0	BusDeg=1	FinOcc=0	FinOcc=1	FinInd=0	FinInd=1
EC	0.086***	0.166***	0.093***	-0.000	0.098***	0.070
	(4.23)	(2.78)	(4.52)	(-0.00)	(4.91)	(0.78)
Cohes.	-0.035	-0.013	-0.026	-0.114*	-0.031	-0.100
	(-1.55)	(-0.39)	(-1.10)	(-1.87)	(-1.55)	(-1.28)
Civ.Eng.	-0.011	-0.026	-0.012	0.021	-0.019	0.173***
	(-0.64)	(-0.61)	(-0.68)	(0.33)	(-1.10)	(2.89)
Controls	YES	YES	YES	YES	YES	YES
County FE	YES	YES	YES	YES	YES	YES
Observations	5,650	834	6,003	470	6,083	387
Adj. R^2	0.132	0.083	0.136	0.067	0.137	0.053

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: **Social Utility Mechanism.** This table reports from households in Michigan's Panel Study of Income Dynamics. Subsamples are split based on four proxies of sociality. For each proxy, households are split into below-median and above-median social utility. The four social utility proxies are: how frequently the reference person interacts socially (columns (1) and (2)); how frequently the spouse of the reference person interacts socially (columns (3) and (4)); how frequently the reference person attends religious services (columns (5) and (6)); and how frequently the spouse of the reference person attends religious services (columns (7) and (8)). Panel A reports results for regressions of household stock market participation on *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement* at the ZIP Code-level. Panel B reports results for regressions of household saving participation on *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement* at the ZIP Code-level. All specifications include county fixed effects and household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

Panel A: Stock

	RPI=1	RPI=2	SPI=1	SPI=2	RPR=1	RPR=2	SPR=1	SPR=2
EC	0.040**	0.084*	0.068***	0.028	0.083***	0.025	0.072***	0.012
	(2.32)	(1.90)	(2.62)	(1.43)	(3.65)	(1.09)	(3.57)	(0.34)
Cohes.	0.026	-0.044	0.018	0.003	-0.011	0.027	0.016	0.007
	(1.33)	(-1.25)	(0.65)	(0.13)	(-0.52)	(1.08)	(0.72)	(0.25)
CivEng	0.033**	-0.051	0.007	0.015	0.004	0.028	0.005	0.036
	(2.06)	(-1.62)	(0.28)	(0.92)	(0.18)	(1.36)	(0.27)	(1.48)
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Cnty FE	YES	YES	YES	YES	YES	YES	YES	YES
Obs.	5,247	1,234	2,818	3,661	3,356	3,116	4,495	1,973
Adj. R^2	0.205	0.230	0.193	0.220	0.198	0.223	0.202	0.223

Panel B: ChkSav

	RPI=1	RPI=2	SPI=1	SPI=2	RPR=1	RPR=2	SPR=1	SPR=2
EC	0.085***	0.159***	0.077***	0.090***	0.110***	0.078***	0.081***	0.108***
	(4.01)	(3.24)	(2.90)	(3.39)	(3.35)	(2.77)	(3.29)	(2.89)
Cohes.	-0.040*	-0.022	-0.024	-0.041**	-0.052*	-0.014	-0.038	-0.006
	(-1.82)	(-0.47)	(-0.65)	(-2.40)	(-1.72)	(-0.47)	(-1.48)	(-0.18)
CivEng	-0.004	-0.035	-0.014	-0.019	-0.030	0.019	-0.020	0.000
	(-0.18)	(-0.98)	(-0.48)	(-1.06)	(-1.19)	(1.01)	(-0.95)	(0.00)
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Cnty FE	YES	YES	YES	YES	YES	YES	YES	YES
Obs.	5,247	1,234	2,818	3,661	3,356	3,116	4,495	1,973
Adj. R^2	0.133	0.139	0.127	0.146	0.135	0.135	0.121	0.171

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix

Table A1: **Intensive Margins.** This table reports results for the intensive margin of stock market and saving participation. In Panel A, we focus on per capita measures. The dependent variable is total ZIP Code-level dividend income divided by the number of tax returns in the ZIP Code (columns (1) - (3)) or total ZIP Code-level interest income divided by the number of tax returns in the ZIP Code (columns (4) - (6)). In Panel B, we focus on the fraction of income coming from dividends or interest. The dependent variable is total ZIP Code-level dividend income divided by the total ZIP Code-level AGI (columns (1) - (3)) or total ZIP Code-level interest income divided by the total ZIP Code-level AGI (columns (4) - (6)). In columns (1) and (2) and columns (4) and (5), we only include the focal aspect of social capital in our regressions, namely *Economic Connectedness*. In columns (3) and (6), we include all three aspects of social capital in our regressions. In columns (2), (3), (5), and (6) we include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

Panel A: Per Capita	(1) Div/HH	(2) Div/HH	(3) Div/HH	(4) Int/HH	(5) Int/HH	(6) Int/HH
EC	0.300***	0.418***	0.461***	0.215***	0.275***	0.319***
	(13.76)	(11.53)	(11.30)	(10.30)	(6.22)	(6.42)
Cohesiveness			-0.035**			-0.020
			(-2.02)			(-1.24)
Civic Engagement			-0.116***			-0.115***
			(-4.74)			(-4.19)
Controls		YES	YES		YES	YES
County FE's		YES	YES		YES	YES
Panel B: Fraction of Income	(1) Div/AGI	(2) Div/AGI	(3) Div/AGI	(4) Int/AGI	(5) Int/AGI	(6) Int/AGI
EC	0.411***	0.715***	0.736***	0.348***	0.537***	0.586***
	(21.43)	(18.69)	(18.73)	(16.66)	(12.03)	(12.29)
Cohesiveness			-0.007			0.065***
			(-0.22)			(3.33)
Civic Engagement			-0.052***			-0.104***
			(-3.63)			(-5.38)
Controls		YES	YES		YES	YES
County FE's		YES	YES		YES	YES
Observations	18,775	18,099	18,099	18,775	18,099	18,099
Adj. R^2	0.169	0.387	0.388	0.121	0.249	0.254

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A2: **Probability of Stock Market Participation - By AGI.** This table reports results for regressions of ZIP Code-level stock market participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. Each column represents a different IRS AGI bucket. Column (1) includes tax returns with AGI under $25,000. Column (2) includes tax returns with AGI between $25,000 and $50,000. Column (3) includes tax returns with AGI between $50,000 and $75,000. Column (4) includes tax returns with AGI between $75,000 and $100,000. Column (5) includes tax returns with AGI between $100,000 and $200,000. Column (6) includes tax returns with AGI over $200,000. For columns (1)-(3), *Economic Connectedness* is computed for low-SES households in a ZIP Code, *EC Low*. For columns (4)-(6), *Economic Connectedness* is computed for high-SES households in a ZIP Code, *EC High*. In all specifications, we include county fixed effects and controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

AGI Bucket =	1	2	3	4	5	6
	P(Div)	P(Div)	P(Div)	P(Div)	P(Div)	P(Div)
EC Low	0.415***	0.502***	0.421***			
	(15.44)	(19.21)	(16.06)			
EC High				0.716***	0.868***	0.783***
				(38.88)	(35.86)	(35.31)
Cohesiveness	0.013	0.014	-0.017	0.091***	0.035	0.099***
	(0.89)	(0.82)	(-1.05)	(5.74)	(1.62)	(4.28)
Civic Engagement	0.027**	0.022*	0.042***	0.003	0.006	-0.051***
	(2.44)	(1.75)	(3.29)	(0.27)	(0.60)	(-4.03)
Controls	YES	YES	YES	YES	YES	YES
County FE's	YES	YES	YES	YES	YES	YES
Observations	18,124	18,122	18,124	18,118	18,110	16,935
Adj. R^2	0.670	0.631	0.587	0.653	0.698	0.538

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: **Probability of Saving Participation - By AGI.** This table reports results for regressions of ZIP Code-level saving participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. Each column represents a different IRS AGI bucket. Column (1) includes tax returns with AGI under $25,000. Column (2) includes tax returns with AGI between $25,000 and $50,000. Column (3) includes tax returns with AGI between $50,000 and $75,000. Column (4) includes tax returns with AGI between $75,000 and $100,000. Column (5) includes tax returns with AGI between $100,000 and $200,000. Column (6) includes tax returns with AGI over $200,000. For columns (1)-(3), *Economic Connectedness* is computed for low-SES households in a ZIP Code, *EC Low*. For columns (4)-(6), *Economic Connectedness* is computed for high-SES households in a ZIP Code, *EC High*. In all specifications, we include county fixed effects and controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

AGI Bucket =	1	2	3	4	5	6
	P(Int)	P(Int)	P(Int)	P(Int)	P(Int)	P(Int)
EC Low	0.351***	0.469***	0.369***			
	(20.26)	(23.60)	(16.14)			
EC High				0.426***	0.523***	0.520***
				(13.20)	(14.17)	(19.80)
Cohesiveness	0.080***	0.071***	0.085***	0.127***	0.131***	0.163***
	(5.76)	(5.05)	(6.00)	(7.83)	(8.83)	(5.85)
Civic Engagement	0.006	0.005	0.042***	0.003	0.003	-0.017
	(0.77)	(0.59)	(4.13)	(0.32)	(0.37)	(-1.19)
Controls	YES	YES	YES	YES	YES	YES
County FE's	YES	YES	YES	YES	YES	YES
Observations	18,124	18,122	18,124	18,118	18,110	16,935
Adj. R^2	0.810	0.776	0.724	0.692	0.726	0.369

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: **Low-SES vs. High-SES Economic Connectedness.** Instead of combining *Economic Connectedness* for low-SES (*EC Low*) and high-SES (*EC High*) individuals into one ZIP Code-level measure, this table keeps *EC Low* and *EC High* as separate independent variables. The dependent variables are ZIP Code-level stock market participation (columns (1) and (2) and saving participation (columns (3) and (4). In columns (2) and (4), we include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

	(1) P(Div)	(2) P(Div)	(3) P(Int)	(4) P(Int)
EC Low	0.147***	0.074***	0.360***	0.165***
	(4.94)	(3.01)	(16.71)	(10.41)
EC High	0.696***	0.702***	0.464***	0.456***
	(23.98)	(33.93)	(20.38)	(19.46)
Cohesiveness	0.063***	0.030**	0.200***	0.077***
	(6.17)	(2.19)	(16.80)	(6.79)
Civic Engagement	0.010	-0.021***	0.062***	-0.017***
	(1.12)	(-2.74)	(6.35)	(-2.87)
Controls		YES		YES
County FE		YES		YES
Observations	18,778	18,100	18,778	18,100
Adj. R^2	0.658	0.837	0.632	0.883

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: **Summary Statistics - PSID.** This table reports household-level summary statistics from Michigan's Panel Study of Income Dynamics. *Stock* is an indicator variable equal to one if a household holds non-IRA stock. *ChkSav* is an indicator variable equal to one if a household has a checking or savings account. *Economic Connectedness* is the first aspect of social capital that we study. It measures the fraction of an individual's friends with high SES. *Cohesiveness* is the second aspect of social capital that we study. It captures the fraction of an individual's friends that are friends with each other. *Civic Engagement* is the third aspect of social capital that we study. It captures the fraction of individuals in a region who are members of 'volunteering' or 'activism' groups. All social capital measures are at the ZIP Code level. We break *Economic Connectedness* into *High-SES Exposure* and *Friending Bias*. *High-SES Exposure* measures the opportunity to interact with high SES people for a ZIP Code. *Friending Bias* captures the tilt toward befriending low-SES people for a ZIP Code, conditional on *High-SES Exposure*. The variables *Total Household Income*, *Total Household Wealth*, and *Household Size* come from the PSID and capture household-level income, wealth, and size respectively. *Age* and *Male* correspond to the age and gender of the reference person in the PSID. *HS or Higher* is an indicator variable equal to one if the reference person has graduated from high school. *Married* refers to the reference person's marital status.

Variable	Obs.	Mean	Std	p25	p50	p75
Stock	8,836	0.146	0.353	0.000	0.000	0.000
ChkSav	8,836	0.716	0.451	0.000	1.000	1.000
Economic Connectedness	8,640	1.047	0.368	0.719	1.039	1.364
Cohesiveness	8,836	0.095	0.019	0.083	0.092	0.104
Civic Engagement	8,836	0.063	0.031	0.040	0.059	0.079
High-SES Exposure	8,585	1.052	0.297	0.828	1.050	1.275
Friending Bias	8,585	-0.024	0.137	-0.140	-0.046	0.093
Ln(Total Household Income)	8,549	10.988	1.096	10.434	11.100	11.695
Ln(Total Household Wealth)	6,808	11.501	2.217	10.204	11.910	12.967
Household Size	8,836	2.540	1.495	1.000	2.000	3.000
Age	8,836	47.608	16.227	35.000	44.000	61.000
Male	8,836	0.661	0.473	0.000	1.000	1.000
HS or Higher	8,836	0.526	0.499	0.000	1.000	1.000
Married	8,836	0.433	0.495	0.000	0.000	1.000

Table A6: **Correlation Matrix - PSID.** This table reports a correlation matrix for key variables from Michigan's Panel Study of Income Dynamics. *Stock* is an indicator variable equal to one if a household holds non-IRA stock. *ChkSav* is an indicator variable equal to one if a household has a checking or savings account. *Economic Connectedness* is the first aspect of social capital that we study. It measures the fraction of an individual's friends with high SES. *Cohesiveness* is the second aspect of social capital that we study. It captures the fraction of an individual's friends that are friends with each other. *Civic Engagement* is the third aspect of social capital that we study. It captures the fraction of individuals in a region who are members of 'volunteering' or 'activism' groups. All social capital measures are at the ZIP Code level. We break *Economic Connectedness* into *High-SES Exposure* and *Friending Bias*. *High-SES Exposure* measures the opportunity to interact with high SES people for a ZIP Code. *Friending Bias* captures the tilt toward befriending low-SES people for a ZIP Code, conditional on *High-SES Exposure*. The variables *Total Household Income*, *Total Household Wealth*, and *Household Size* come from the PSID and capture household-level income, wealth, and size respectively. *Age* and *Male* correspond to the age and gender of the reference person in the PSID. *HS or Higher* is an indicator variable equal to one if the reference person has graduated from high school. *Married* refers to the reference person's marital status.

	Stock	ChkSav	EC	Cohes	CivEng	Exp	Bias	Inc	Wealth	Size	Age	Male	Mar	HS+
Stock	1.00													
ChkSav	0.24	1.00												
Economic Connectedness	0.33	0.34	1.00											
Cohesiveness	-0.03	0.02	-0.06	1.00										
Civic Engagement	0.14	0.18	0.41	0.15	1.00									
High-SES Exposure	0.32	0.31	0.92	-0.15	0.42	1.00								
Friending Bias	-0.21	-0.28	-0.76	-0.07	-0.22	-0.53	1.00							
Total Household Income	0.30	0.30	0.67	-0.04	0.15	0.55	-0.65	1.00						
Total Household Wealth	0.39	0.22	0.46	-0.00	0.16	0.40	-0.39	0.48	1.00					
Household Size	-0.01	-0.07	0.16	-0.00	-0.02	0.09	-0.23	0.26	0.09	1.00				
Age	0.12	0.15	0.03	0.05	0.03	0.03	-0.02	0.00	0.30	-0.19	1.00			
Male	0.14	0.14	0.32	0.03	0.11	0.24	-0.34	0.36	0.24	0.22	-0.01	1.00		
Married	0.17	0.17	0.40	0.05	0.13	0.30	-0.44	0.47	0.38	0.41	0.15	0.57	1.00	
HS or Higher	0.12	0.18	0.20	0.04	0.16	0.18	-0.18	0.18	0.15	-0.09	-0.07	0.02	0.03	1.00

Table A7: **Probability of Stock Market Participation - PSID.** This table reports results for regressions of household-level stock market participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. All social capital measures are at the ZIP Code level. The dependent variable, *Stock*, is an indicator variable equal to one if a household owns non-IRA stock. Column (1) reports results for *Economic Connectedness*. Column (2) reports results for *Cohesiveness*. Column (3) reports results for *Civic Engagement*. In columns (4) and (5), we include all three aspects of social capital in the regressions. In columns (4) and (5) we include household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. In column (5), we include county fixed effects. All variables are standardized. All standard errors are clustered at the county level.

	(1) Stock	(2) Stock	(3) Stock	(4) Stock	(5) Stock
Economic Connectedness	0.333***			0.060***	0.054***
	(21.38)			(3.85)	(3.58)
Cohesiveness		-0.028		0.010	0.013
		(-1.44)		(0.41)	(0.74)
Civic Engagement			0.143***	0.017	0.015
			(8.57)	(1.15)	(1.00)
Controls				YES	YES
County FE					YES
Observations	8,640	8,836	8,836	6,521	6,500
Adj. R^2	0.111	0.001	0.020	0.203	0.210

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: **Probability of Saving Participation - PSID.** This table reports results for regressions of household-level saving participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. All social capital measures are at the ZIP Code level. The dependent variable, *ChkSav*, is an indicator variable equal to one if a household has a checking or savings account. Column (1) reports results for *Economic Connectedness*. Column (2) reports results for *Cohesiveness*. Column (3) reports results for *Civic Engagement*. In columns (4) and (5), we include all three aspects of social capital in the regressions. In columns (4) and (5) we include household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. In column (5), we include county fixed effects. All variables are standardized. All standard errors are clustered at the county level.

	(1) ChkSav	(2) ChkSav	(3) ChkSav	(4) ChkSav	(5) ChkSav
Economic Connectedness	0.379***			0.082***	0.077***
	(26.71)			(3.79)	(3.73)
Cohesiveness		0.038		-0.024	-0.031
		(1.29)		(-1.03)	(-1.21)
Civic Engagement			0.198***	0.027**	0.036***
			(11.67)	(2.08)	(2.70)
Controls				YES	YES
County FE					YES
Observations	8,640	8,836	8,836	6,521	6,500
Adj. R^2	0.140	0.002	0.038	0.160	0.162

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A9: **High-SES Exposure and Friending Bias - PSID.** This table breaks *Economic Connectedness* into two components for our household-level regressions: *High-SES Exposure* and *Friending Bias*. *High-SES Exposure* measures the opportunity to interact with high-SES people for a ZIP Code. *Friending Bias* captures the tilt toward befriending low-SES people for a ZIP Code, conditional on *High-SES Exposure*. In all specifications, we include county fixed effects and household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

	(1) Stock	(2) Stock	(3) ChkSav	(4) ChkSav
Exposure	0.100***	0.101***	0.080***	0.088***
	(4.57)	(4.40)	(3.36)	(3.54)
Friending Bias	0.080***	0.081***	-0.032*	-0.031
	(4.50)	(4.52)	(-1.72)	(-1.65)
Cohesiveness		0.015		-0.031
		(0.84)		(-1.51)
Civic Engagement		-0.000		-0.016
		(-0.03)		(-0.93)
Controls	YES	YES	YES	YES
County FE	YES	YES	YES	YES
Observations	6,456	6,456	6,456	6,456
Adj. R^2	0.215	0.214	0.133	0.133

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A10: **Family Fixed Effects.** This table reports results from regressions of household-level stock market participation (columns (1) and (2)) or saving participation (columns (3) and (4)) on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. All social capital measures are at the ZIP Code level. All columns include extended-family fixed effects. In columns (2) and (4), we include household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. All variables are standardized. All standard errors are clustererd at the county level.

	(1) Stock	(2) Stock	(3) ChkSav	(4) ChkSav
Economic Connectedness	0.165***	0.004	0.192***	0.067**
	(10.59)	(0.24)	(11.37)	(2.45)
Cohesiveness	0.006	0.020	-0.004	-0.035*
	(0.35)	(0.83)	(-0.23)	(-1.66)
Civic Engagment	-0.028	0.016	-0.051***	-0.005
	(-1.52)	(0.74)	(-3.24)	(-0.25)
Controls		YES		YES
Family FE	YES	YES	YES	YES
Observations	7,990	5,809	7,990	5,809
Adj. R^2	0.259	0.273	0.203	0.157

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A11: **Probability of Retirement Accounts - PSID.** This table reports results for regressions of household-level retirement accounts on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. All social capital measures are at the ZIP Code level. The dependent variable, *IRA*, is an indicator variable equal to one if a household has an individual retirement account or a private annuity. Column (1) reports results for *Economic Connectedness*. Column (2) reports results for *Cohesiveness*. Column (3) reports results for *Civic Engagement*. In columns (4) and (5), we include all three aspects of social capital in the regressions. In columns (4) and (5) we include household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. In column (5), we include county fixed effects. All variables are standardized. All standard errors are clustered at the county level.

	(1) *IRA*	(2) *IRA*	(3) *IRA*	(4) *IRA*	(5) *IRA*
EC	0.383***			0.080***	0.083***
	(32.91)			(5.07)	(4.86)
Cohesiveness		-0.004		0.029*	0.012
		(-0.22)		(1.95)	(0.78)
Civic Engagement			0.185***	0.035**	0.026*
			(11.36)	(2.31)	(1.69)
Controls				YES	YES
County FE					YES
Observations	8,640	8,836	8,836	6,521	6,500
Adj. R^2	0.147	-0.000	0.034	0.272	0.277

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Online Appendix

Table OA1: **Probability of Stock Market Participation: Capital Gain Income.** This table reports results for regressions of ZIP Code-level stock market participation on three facets of social capital: *Economic Connectedness*, *Cohesiveness*, and *Civic Engagement*. We capture ZIP Code-level stock market participation using the probability of capital gain income (or losses) from tax returns. Columns (1) and (2) report results for *Economic Connectedness*. Columns (3) and (4) report results for *Cohesiveness*. Columns (5) and (6) report results for *Civic Engagement*. In columns (7) and (8), we include all three aspects of social capital in the regressions. In columns (2), (4), (6), and (8) we include county fixed effects as well as controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. All standard errors are clustered at the county level.

	(1) P(CG)	(2) P(CG)	(3) P(CG)	(4) P(CG)	(5) P(CG)	(6) P(CG)	(7) P(CG)	(8) P(CG)
Economic Connectedness	0.825***	0.919***					0.831***	0.929***
	(55.04)	(42.56)					(51.13)	(43.33)
Cohesiveness			-0.217***	-0.049***			-0.011	0.002
			(-11.52)	(-3.67)			(-1.26)	(0.14)
Civic Engagement					0.237***	0.066***	-0.023***	-0.024***
					(15.31)	(6.98)	(-2.69)	(-2.70)
Controls		YES		YES		YES		YES
County FE		YES		YES		YES		YES
Observations	18,775	18,099	22,640	22,098	22,637	22,095	18,775	18,099
Adj. R^2	0.681	0.827	0.047	0.736	0.056	0.737	0.681	0.827

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA2: **Alternative Measures of Social Capital - SOI.** This table reports results for regressions of ZIP Code-level stock market participation (columns (1) through (3)) or saving participation (columns (4) through (6)) on *Economic Connectedness* and four alternative measures of social capital: *Support Ratio*, *Civic Organizations*, *Voter Turnout*, and *Average Credit Score*. *Support Ratio* is an alternative measure of *Cohesiveness*. It is the fraction of within-ZIP Code friendships that share a third mutual friend within the ZIP Code. *Civic Organizations*, *Voter Turnout*, and *Average Credit Score* are alternative measures of trust or community engagement, which can be compared to *Civic Engagement*. *Civic Organizations* measures the number of Facebook Pages predicted to be 'Public Good' pages per 1,000 users in the ZIP Code. *Voter Turnout* is the fraction of the voting-age population in the county who voted in the 2018 elections. *Average Credit Score* measures the average credit score in a ZIP Code and comes from Bricker and Li (2017). In all specifications, we include controls for population, median income, race, age, gender, education, and financial literacy. In columns (1), (3), (4), and (6) we include county fixed effects. All variables are standardized. All standard errors are clustered at the county level.

	(1) P(Div)	(2) P(Div)	(3) P(Div)	(4) P(Int)	(5) P(Int)	(6) P(Int)
Economic Connectedness	0.853***	0.540***	0.266***	0.725***	0.646***	0.192***
	(40.68)	(21.62)	(24.67)	(45.78)	(20.26)	(26.57)
Support Ratio	-0.053***	0.075***	-0.080***	0.018**	0.113***	0.0010
	(-5.95)	(4.08)	(-7.68)	(2.13)	(5.08)	(1.05)
Civic Organizations	0.059***			0.025***		
	(5.82)			(4.72)		
Voter Turnout		0.064			-0.020	
		(1.55)			(-0.61)	
Avg. Credit Score			0.002***			0.002***
			(22.71)			(36.34)
Controls	YES	YES	YES	YES	YES	YES
County FE	YES		YES	YES		YES
Observations	18,037	2,985	18,099	18,037	2,985	18,099
Adj. R^2	0.841	0.770	0.859	0.892	0.734	0.912

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA3: **Alternative Measures of Social Capital - PSID.** This table reports results for regressions of household-level stock market participation (columns (1) and (2)) or saving participation (columns (3) and (4)) on *Economic Connectedness* and three alternative measures of social capital: *Support Ratio*, *Civic Organizations*, and *Voter Turnout*. *Support Ratio* is an alternative measure of *Cohesiveness*. It is the fraction of within-ZIP Code friendships that share a third mutual friend within the ZIP Code. *Civic Organizations* and *Voter Turnout* are alternative measures of *Civic Engagement*. *Civic Organizations* measures the number of Facebook Pages predicted to be 'Public Good' pages per 1,000 users in the ZIP Code. *Voter Turnout* is the fraction of the voting-age population in the county who voted in the 2018 elections. In all specifications, we include household level controls for income, wealth, household size, age, gender, education, marital status, and race. We also include controls for population, population density, and financial literacy. In columns (1) and (3), we include county fixed effects. All variables are standardized. All standard errors are clustered at the county level.

	(1) Stock	(2) Stock	(3) ChkSav	(4) ChkSav
Economic Connectedness	0.052***	0.050***	0.092***	0.095***
	(3.25)	(3.22)	(4.94)	(4.79)
Support Ratio	-0.040**	-0.042**	-0.007	-0.007
	(-2.04)	(-2.17)	(-0.44)	(-0.42)
Civic Organizations	0.023*		-0.010	
	(1.88)		(-0.79)	
Voter Turnout		0.021		-0.019
		(1.07)		(-1.23)
Controls	YES	YES	YES	YES
County FE	YES		YES	
Observations	6,499	6,500	6,499	6,500
Adj. R^2	0.212	0.211	0.133	0.133

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table OA4: **Childhood High-SES Exposure and Childhood Friending Bias.** This table breaks *Childhood Economic Connectedness* into two components: *Childhood High-SES Exposure* and *Childhood Friending Bias*. *Childhood High-SES Exposure* measures the opportunity to interact with high-SES classmates during high school for a ZIP Code. *Childhood Friending Bias* captures the tilt toward befriending low-SES classmates from high school for a ZIP Code, conditional on *Childhood High-SES Exposure*. Columns (1) through (3) regress county-level stock market participation on the two components of *Childhood Economic Connectedness*. Columns (5) through (6) regress ZIP Code-level saving participation on the two components of *Childhood Economic Connectedness*. In columns (1) and (2) and columns (4) and (5), we only include *Childhood High-SES Exposure* and *Childhood Friending Bias* in our regressions. In columns (3) and (6), we include the other aspects of social capital in our regressions. In columns (2), (3), (5), and (6) we include controls for population, median income, race, age, gender, education, and financial literacy. All variables are standardized. Standard errors are adjusted for heteroskedasticity.

	(1) P(Div)	(2) P(Div)	(3) P(Div)	(4) P(Int)	(5) P(Int)	(6) P(Int)
Childhood Exposure	0.620***	0.144***	0.153***	0.495***	0.168***	0.182***
	(37.06)	(5.76)	(6.16)	(29.94)	(6.70)	(7.33)
Childhood Bias	-0.033**	0.053***	0.057***	-0.186***	-0.003	0.003
	(-2.19)	(4.47)	(4.85)	(-10.78)	(-0.26)	(0.27)
Cohesiveness			0.134***			0.198***
			(7.44)			(9.71)
Civic Engagement			-0.002			0.025*
			(-0.13)			(1.89)
Controls		YES	YES		YES	YES
Observations	2,706	2,705	2,705	2,706	2,705	2,705
Adj. R^2	0.376	0.722	0.728	0.239	0.653	0.667

Standardized beta coefficients; t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$