

# The Gender Gap in Stock Market Participation: Evidence from Stock Gifting

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## Abstract

Using recent data from an American app-based consumer stock brokerage, we provide novel evidence about the gender gap in stock market participation. We find that women receive less encouragement than men to participate in the stock market. However, equal encouragement mitigates the stock market participation gender gap. Stock gift cards, a quantifiable measure of behavior, serve as our proxy for encouragement and a nudge to participate in the stock market. We find that even among children too young to express an interest in finance, boys receive more stock gift cards than girls. Additionally, the stock gift gender gap is larger in communities with greater gender inequity. We conclude that women receive less encouragement because of the perception that women are less interested in finance than men.

**Keywords:** Gender; App-Based Investing; Stock Market Participation; Investment Decisions; Personal Finance

**JEL Codes:** J16; G11; G40; G51

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# 1 Introduction

Women are less likely to participate in the stock market than men (Agnew et al., 2003; Almenberg and Dreber, 2015; Ke, 2021; Kaustia et al., 2023). When women do participate in the stock market, they invest less money than their male counterparts (Neelakantan and Chang, 2010). The price of non-participation (and under-participation) in the stock market over long periods of time is staggering, placing women at significant financial disadvantage compared to men.<sup>1</sup>

Why are women less likely to participate in the stock market than men? The reasons are complex, multifaceted, and not entirely understood.<sup>2</sup> In addition to known factors, it is possible that there is a gender gap in stock market participation because women receive less encouragement than men to participate. This may occur for two possible reasons, either because we perceive that women are less interested in finance (Driva et al., 2016; Halko et al., 2012; Ke, 2021), or because women are actually less interested. These possibilities are not mutually exclusive. They, however, are not the same.

How can we foster gender-based equality in stock market participation? If women are as interested as men in participating in the stock market, then a simple nudge to encourage women to participate may be enough to help close the gender gap. However, if women

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<sup>1</sup>For example, (Bovenberg et al., 2007) show that, compared to an optimal strategy, not participating in the stock market for retirement and other savings yields a welfare loss of 12 percent.

<sup>2</sup>Some factors which are known to contribute to disparities in stock market participation include gender gaps in wealth, income, time in the labor force (Blau and Kahn, 2017), financial literacy (Lusardi and Mitchell, 2008; van Rooij et al., 2011), financial confidence (Bucher-Koenen et al., 2021; Jha and Shayo, 2024), and attitudes towards risk (Barber and Odean, 2001). Even after individual characteristics such as age, education, income, net worth, risk aversion and even BMI have been considered, Kaustia et al. (2023) finds that gender remains an important determinant of stock market participation.

are not participating in the stock market because they are less interested than men, then encouragement will not be enough to result in sustained stock market participation.

Jha and Shayo (2024) demonstrate in an experimental setting that a small nudge to begin stock trading results in future stock market participation. We extend the study of the effect of a small nudge to enter the stock market on future stock market participation beyond a highly controlled experimental setting using a novel data set from a American app-based discount stock brokerage firm. Our data set includes detailed stock trade and app log-in data with the unique feature that people can give gift cards which are redeemable for stock through the app. We observe people’s behavior after receiving a stock gift card, which serves as a quantifiable, low-cost, naturally occurring, nudge to enter the stock market.

We find a significant gender gap in the likelihood of being encouraged to enter the stock market. Women receive just 38.8% of all of stock gift cards. The average stock gift card purchased for a female is for 21.9% less value than a gift card purchased for a male. The gender gap also exists among minors. Among children under age 18, girls receive just 38.4% of the stock gift cards.

These initial descriptive results support both the interest and perception hypotheses. Gift givers usually tailor gifts to the recipient’s interests or at least their perceptions of the recipient’s interests.<sup>3</sup> If women are, on average, less interested in finance, then it rationally follows that they will receive fewer stock gift cards. Additionally, if women are *perceived to*

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<sup>3</sup>Research has demonstrated that “implicit biases,” such as the belief that women are less interested in finance likely exist outside of conscious awareness and can persist even as our explicit attitudes evolve (Greenwald and Banaji, 1995).

be less interested in finance, then it also follows that women will receive fewer stock gift cards.

To distinguish between the hypotheses, we observe gift giving to children under 8 years old which is before an average child has the cognitive ability to understand investing and stock trading (Friedline, 2015). In other words, all boys and girls under 8 are equally (un)interested in purchasing stocks. Among the subsample of children who are under 8 years old, the pattern remains consistent. Girls receive fewer stock gift cards than boys. To further distinguish between the hypotheses, we observe differences in people's expectations of gender norms.<sup>4</sup> Not surprisingly, we find a correlation between a community's gender role expectations and the gift card gender gap. As the gender imbalance in a community grows, so does the gender gift card gap.

Next, we turn to gift card value. We find that having received a gift card, on average, women receive lower valued gift cards than men. To confirm that observed differences are not due to confounding variables, we control for income, wealth, and age in several ways. First, we include control variables in a multivariate setting. Next, we compare siblings who are both under 18 years old and live in the same household. Even using paired tests among mixed gendered siblings, we find the gender gift card value gap persists. Sisters receive smaller gifts than their brothers.

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<sup>4</sup>People's beliefs about gender roles shape their perceptions of who is interested in finance. While every community has gender role expectations, they differ from group to group. Following Duchin et al. (2020), we create proxies for a community's gender norms using gender imbalances in income, education, and labor market participation.

Finally, we examine whether gift card redemption is an effective nudge to spur stock market participation. We confirm that 90% of the people who open an account with a gift card remain invested in the stock market after 1 year. Interestingly, although by a small margin, a greater proportion of women (91%) than men (89%) remain invested in the stock market. Next, using both subsequent stock purchases and app login behavior, we find that gift cards do promote sustained stock market interest among both men and women.

Taken together the evidence provides strong support for the hypothesis that we act based on our perception that men are more interested in finance than women. The results likely generalize to other less easily quantifiable behaviors such as how parents speak to their children about finance, and how teachers educate their students, and how financial advisors plan for their clients. The results highlight the differences in how we interact with others around financial inclusion in the informal “pathway” to stock market participation (Milkman et al., 2015). Additionally, the evidence fits within the theory of cumulative disadvantage, which describes how larger gender and racial gaps later in life are the result of many small differences that occur at earlier stages (DiPrete and Eirich, 2006).

By introducing an antecedent, our work makes an important contribution to the literature examining the gender gap in wealth accumulation (Ruel and Hauser, 2013). A gender gap in encouragement to participate in the stock market may perpetuate long-run inequities in stock market participation and wealth accumulation. Unlike prior work that explored innate or learned characteristics like financial literacy, financial confidence, and risk tolerance, we show that other people’s perceptions, a factor outside of one’s direct control, influence stock

market participation. In this way, our paper is more similar to Goldsmith-Pinkham and Shue (2023) who show that women have a different investment experience than men.

## 2 Data

The primary data comes from an American app-based brokerage firm from January 2015 through September 2020.<sup>5</sup> The brokerage data includes the complete records of every trade, dividend payment, deposit, and withdrawal made with the broker. Additionally, we observe how each trade was funded such as cash transfer, debit/credit, cash from the account, and gift card. The data also includes the time and date for every time a user logs into the app, regardless of whether they make a trade. We use this data to observe investor behavior.

The brokerage records include data for 697,465 accounts which represent a broad cross-section of the U.S. population. Account data includes investor-reported birth-year, zip code, employment status, and gender, which must be reported in a binary format as either male or female. 59.0% of the users are male. As the brokerage operates via a new, app-based platform with several features that encourage novices, investors skew younger than the population as a whole. The average age of an investor is 32 years old. Investors of all ages, however, are represented. 14.3% of accounts are custodial accounts for minors. 45.7% of users are between 18-34, 32.1% are between 35-54, and 7.9% are 55 or older. Table 1 reports the full breakdown of investors by age and gender.<sup>6</sup> Our data is similar to other data sets which

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<sup>5</sup>We use the same primary dataset as the one described by Itzkowitz et al. (2023).

<sup>6</sup>Between April, 2017 and March, 2018 the broker initiated a promotion whereby new users received a bonus \$5 gift card for joining the brokerage platform. We exclude users who opened their account using this promotional giveaway since these investors may have different behaviors and characteristics than the overall

report individual investor behavior. An advantage of our data is that it includes a broader range of investors. For example, in the original dataset used by Barber and Odean (2001) the average age of an investor is 50 and approximately 20% of the accounts were opened by women compared to an average age of 32 with women accounting for 41.0% of the accounts in our dataset.

[Insert Table 1 Here]

The app-based trading platform has several advantages and unique features which we exploit in our analysis. First, the app-based brokerage encourages novice investors by reducing the barriers to trading. The app-based brokerage has no minimum account size, allows fractional shares, and has a negligible \$0.99 trade fee which encourages participation by minimizing the fixed costs of stock market entry (Vissing-Jørgensen, 2002).

Another unique feature of the app is the ability to purchase and redeem stock gift cards.<sup>7</sup> Gift cards are given for a specific dollar amount and must be used to purchase stock in one company. Fractional share trading allows gift cards of any value to be purchased and fully redeemed for a single stock regardless of how much the stock is trading for.<sup>8</sup> Redeeming a stock gift card is a common method of opening an account. 36.8% of users opened their account through gift card redemption. Gift cards are also much more likely to be used to

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customer base. We also exclude accounts transferred from another broker because we cannot observe market entry.

<sup>7</sup>We use gift cards redeemed as a proxy for gift cards received. In informal conversations with app-based stock brokerage that provided us with this data, we learned that approximately 85% of all gift cards purchased are eventually redeemed.

<sup>8</sup>Most of the stock gift cards are for the stock of a particular company. The user, however, has the option of using the dollar amount to purchase stock in a different company. The amount, however, cannot be split between multiple companies.

open an account as opposed to funding a subsequent stock purchase. Only 10.8% of second purchases are funded via a gift card.

In addition to standard accounts, we also observe custodial accounts, which are accounts created for minors. The user data includes an identifier which links each custodial account to its parent (standard adult) account. By identifying multiple custodial accounts linked to the same parent account, we construct a sample of siblings.

We supplement the primary data with data from the 2016 American Community Survey (ACS) created by the U.S. Census Bureau. From the ACS, we add median income data and the percent of residents who earn at least a college reported by zip code. Median income by zip code is used as a proxy for user income (Bhattacharya and Lakdawalla, 2006; Morris et al., 2017). The percentage of residents who earn at least a college degree is used a proxy for whether the user is college educated. We include the population distribution of boys and girls within a family as a basis for comparison. We also include median income by gender, percentage of people employed by gender, and the percent of residents who earn at least a college degree by gender in each zip code as a proxies for gender role expectations in each community (Duchin et al., 2020).

We divide the sample the sample according to the U.S. Census Bureau’s geographic regions and income measures based on user zip codes. We find that each of the four geographic regions in the U.S. are well-represented in the sample. In addition, we divide the sample according to the median zip code income quartile breakpoints from the 2016 American Community Survey. Not surprisingly, the lowest income level is underrepresented in the



sample. However, all income levels are represented. Taken together, the evidence indicates that the sample is well-diversified.

### **3 Empirical Results**

We begin by showing two main results. We first establish that women receive fewer gift cards than men. We then show that on average the value of the gift cards redeemed by women is lower than those redeemed by men. Next, we turn to cross-sectional differences in cultural attitudes towards gender roles. Here we show that there is a correlation between cultural factors and the gender gap in stock gift card giving. Finally, we show that conditional on receiving a gift card, women and men remain active investors in roughly equal proportions.

#### **3.1 Number of Stock Gifts**

According to the U.S. Census Bureau, 50.8% of the United States population is female. If men and women are equally likely to receive stock gifts, then the proportion of females redeeming stock gift cards should match the proportion in the overall U.S. population. Table 2 reports the number of redeemed gift cards by gender. Panel A reports the number of all gift cards redeemed and Panel B reports the number of gift cards redeemed to open an account (initial gift cards).

[Insert Table 2 Here]

In the Percent Female column, we compare the percent of gift cards received by women to the null hypothesis that women receive gift cards in proportion to their share of the U.S. population (for the full sample). The results in Panel A indicate that women are considerably less likely to receive gift cards than men. In our sample, only 38.8% of all gift cards are redeemed by women. Thus, women are 12 points under-represented among those gifted stocks as compared to the general U.S. population.

The initial data show that men receive more stock gift cards than women. It is possible that the difference reflects expressed personal preferences. If men exhibit a greater interest in investing in the stock market, then they should be more likely to receive stock gift cards. It is also possible that the difference reflects our perception of people's interest in investing. A challenge in a study like this is that people's preferences cannot be directly observed. Instead, we identify two other ways distinguish between expressed and perceived personal preference, gift receivers age and initial purchases.

Camerer (1988) notes that gifts are often given to children with the intent of educating or shaping their tastes, rather than as the result of their expressed preferences. Table 2 reports the number of gift cards given by gender to children under the age of 18. Here, we see that only 38.0% of all gift cards to children under the age of 18 are to females. The results for children under 18 are even stronger than the full sample. Girls receive fewer gift cards than boys.

It is possible that this gender gap may arise because we only observe gift cards that have been redeemed, rather than all of the cards that have been gifted. If this is the case, then

this provides support for the theory that the gift card gender gap measures a gender gap in stock market interest. Looking at gifts to minors under 18 years old helps us to rule this out as a possibility. First, the approximately 15% of gift cards which are not redeemed are not enough to close the gender gap among minors under 18 years old.<sup>9</sup> Additionally, minors under 18 are not capable of redeeming a gift cards themselves. That parents may be more likely to redeem a stock gift card for their son than their daughter contributes to the evidence that the gender gap is the result perception of interest rather than actual stock interest.

To further control for gender differences in stock market interest, we look at gifts to children under 8. Friedline (2015) shows that almost no children under 8 have any interest in or even the cognitive ability to understand the stock market. Observing gift card giving behavior to young children therefore reflects only perceived preferences rather than the stated preferences of the receiver. Even among very young children, girls receive only 46.2% of all gift cards.

To help us further distinguish, we identify whether gift cards are used to open an account (i.e. an initial gift card). While later gift cards may be the result of feedback from the gift receiver, gift cards given to people who are not yet participants are more likely to reveal the thoughts of the gift giver. As shown in Table 2 Panel B, when we consider only gifts used for account initiation, women remain under-represented by 5.1 points.

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<sup>9</sup>Assume that the 15% of cards gifted to minors but unredeemed were all given to girls. Then, if we assign all of these cards to girls, while the gender gap would shrink it would still remain that 47% of gift cards given to girls with the remaining 53% given to boys (where  $47\% = 38\%$  of the 85% of cards redeemed + all 15% of unredeemed cards).

### 3.1.1 The Gender Composition of Siblings in a Family

To further confirm that stock market interest is not the sole reason for the gender gap in gift card giving we exploit a unique sub-sample in our data, siblings. It is unlikely that there are gender gaps in awareness, knowledge, or interest of two young children raised in the same home at the same time. Additionally, siblings share the same income, wealth, and living conditions. Thus, gender differences in wages and wealth do not explain differences in stock gift giving to siblings.

Table 3 shows the gender composition of families in our sample compared to the actual family composition (shown in parentheses) in the United States where the population distribution of boys and girls within a family is derived from the 2016 ACS.<sup>10</sup> We can not observe actual family make-up. Instead, we observe the distribution of initial gift cards within a family.

[Insert Table 3 Here]

If boys and girls are equally likely to be given a gift card, then the distribution of gift cards should mirror the distribution of boys and girls for given family sizes in the overall population. We find that families with more sons than daughters are significantly over-represented in our brokerage data. For example, among single child families, only 51.4% should have a boy. In the sample, however, among single child families, 64.5% have a boy. Similarly, among 2 child families, 23.4% of families in the U.S. are composed of two girls, however only 17.9% of the two-child families in our sample are two-girl families. A  $\chi^2$  goodness-of-fit test confirms

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<sup>10</sup>We restrict our analysis to families with 4 or fewer children. Only 0.5% of families in the sample report 5 or more children.

that there is a statistically significant difference in observed family composition relative to expected family composition in every family size. This result is consistent with Duchin et al. (2020) who finds that family composition influences financial gender gaps.

There are two possible explanations for these results. Either families with boys are more likely to receive stock gift cards, or only the male children in families are given stock gift cards. Both of these explanations are consistent with the perception theory.

Observing the pattern of sibling giving allows us to reject another alternative hypothesis. It is possible that some gift cards may be gifts given to married couples. If the husband is more likely than the wife to redeem the gift card, it will appear that men receive more stock gifts. By observing only siblings who are under age 18, we reject the hypothesis that gender roles in a relationship merely give the appearance of a male dominated sample.

Additionally, observing siblings allows us to reject sample selection concerns as well. As we are only able to observe the gift cards that are redeemed, it is possible that the gender gap is the result of a gap in gift card redemption rather than a gender gap in gift cards received. However, it is highly unlikely that once a parent has downloaded the app and created a custodial account for one of their children, the same parent would redeem only a gift card for their son but not their daughter. And, if a parent does only redeem their son's gift card, this provides support rather than refutes the theory that perceptions of stock market interest influence who is encouraged to participate in the stock market.

### 3.1.2 Cultural Differences

To further distinguish between hypotheses, we consider differences in community gender norms. While every society, ethnic group, and culture has gender role expectations, they differ from group to group. So far, we have operated under the broad assumption that gender norms are consistent across the United States. Given the size and diversity of the United States, this is not necessarily the case. Gender norms differ across communities.

People develop gender norms by inferring the relative social status of men and women in their community, extrapolating from such cues as labor force participation, traditional occupations, and representation in positions of authority. For example, individuals brought up by mothers who do not work outside the home are more likely to develop stereotyped gender attitudes (Gold and Andres, 1978; Weinraub et al., 1984; Farré and Vella, 2013). Similarly, an individuals brought up by a mother with less formal education than their father develop a less egalitarian gender attitude (Martin et al., 1980). Using empirical data, (Alesina et al., 2013) confirm the causal effect of community norms on residents' gender attitudes.

Following, Duchin et al. (2020) we introduce three proxies for the relative economic status of men and women to measure the relative strength of community gender norms. First, Income Imbalance is the difference between the average annual income of employed men and women, scaled by the average income. Second, Education Imbalance is the difference between the years of education for men and women, scaled by average education. Third, Labor Force Participation Imbalance is the difference in the labor force participation rate between men

and women. Each proxy is from the 2016 ACS and measure the results in the zip code in which the gift receiver lives.

If stock gifts are given based on the gift giver's beliefs about gender roles around finance, then we would expect to see a larger gender gap in stock gift cards in communities with larger differences in gender role expectations. To understand the influence of gender norms in the gift givers' communities, we divide the sample into quartiles based on the within-sample percentile rank of each attribute.

Ideally, we would be able to distinguish between the community of the gift giver and receiver. However, we only have information about the gift receiver. Given that our perceptions of gender roles are shaped by our community, it is likely that the gift giver and receiver share similar beliefs about gender norms. More specifically, anecdotal evidence from conversations with the app-based brokerage's CEO suggests that many of the gift cards given to children are from immediate relatives such as grandparents, aunts, and uncles. As parents' implicit gender-role associations and observable behaviors are strong indicators of children's attitudes towards gender roles (Croft et al., 2014), it is likely that the gift givers and receivers have similar beliefs about gender norms. We, therefore, use the community of the gift receiver as a proxy for the community of the gift giver.

Table 4 presents statistics about various groups of gift card recipients. The sample is limited to only investors who opened an account and made their first stock purchase by redeeming a stock gift card. The statistics are based only on the first gift card redeemed.

[Insert Table 4 Here]

Panel A of Table 4 includes all gift card recipients. In each quartile, if males and females are equally likely to receive stock gifts, then the proportion of females redeeming stock gift cards should match the proportion in the overall U.S. population which is 50.8%. The first set of columns breaks up the sample according to Income Imbalance quartiles. In the first quartile in which Income Imbalance is the smallest, women receive 49.2% of the gift cards. The resulting gender gift card gap is just 1.6%. As the gender imbalance in income grows, so does the proportion of gift cards which are given to men. In the quartile with the largest gender income imbalance, the gift card gender gap grows to 15.0%. A two sample test of proportions confirms that the difference in differences (15.0% - 1.6%) is statistically significant.

In the following columns of Panel A, we use the Education Imbalance as a proxy for community norms of gender roles. In the last three columns, we use the Labor Force Participation Imbalance as a proxy for community norms. Across all three measures, regardless of the community proxy that we use, we observe similar patterns. In communities where there is a larger gender role imbalance, there is a larger gift card gender gap.

In Panel B, we restrict the sample to only children who are younger than 8 years. In the lowest Income Imbalance quartile, the gift card gender gap is 5.4%. As the gender imbalance in income grows, so does the proportion of gift cards which are given to boys. In the quartile with the largest Income Imbalance, the gift card gap nearly doubles to 10.7%. A two sample test of proportions confirms that the difference in differences (10.7% - 5.4%) is statistically significant. The results are consistent across the other measures of community attitudes towards gender. As children under 8 years old are all uninterested in the stock market, the



results are consistent with the theory that a gift giver’s belief about a someone’s interest in stock market investing is shaped by gender norms in their community.

In Panel D, we restrict the sample to only adults who are older than 18 years old. Here the gift card gender gap in the lowest Income Imbalance quartile favors women at roughly the same proportion as the number of women in the population. However, by the highest income imbalance quartile the gender gift card gap has grows to 11.57%. The same is true across other measures of gender role imbalances. This is consistent with the theory that a gift giver’s belief about a woman’s interest in stock market investing is shaped by the gender norms in their community. Among adults, it is also possible that interest in stock market investing has been shaped by the community. In other words, women in communities with a large differences in gender role expectations may also be less interested in stock market investing. We investigate this further later.

### **3.2 Value of Stock Gifts**

We have shown that women are given fewer stock gift cards than men. We next consider the differences in the value of stock gifted to men and women. Table 5 reports the average value of gift cards by gender. Panel A includes all gift cards while Panel B restricts the sample to only gift cards used to open an account (initial gift cards).<sup>11</sup>

[Insert Table 5 Here]

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<sup>11</sup>Both this study and Jha and Shayo (2024) endow participants with money to study the effect of a low cost nudge on future stock market participation. In Jha and Shayo (2024) participants are endowed with either \$50 or \$100 which is surprisingly similar to the average value of an initial gift card in our data set at \$42.67.

We find that, conditional on receiving a gift card, men receive larger gift cards than women. On average, men receive gift cards that are \$10.81 larger than women. Considering that the average gift card is only \$50.53 (with a median of \$25) this difference is striking both economically and statistically. It represents a 21.4% difference in the average stock gift between men and women. This result is consistent with prior work finds that female entrepreneurs obtain less funding than their male peers (Brooks et al., 2014; Hebert, 2020). Female fund managers have lower fund flows (Niessen-Ruenzi and Ruenzi, 2019), and there is a gender gap in capital allocation to CEOs (Duchin et al., 2020). Consistent with this research we show that the funding gap exists at a personal level too.

### **3.2.1 Controlling for Other Factors**

Differences in gift card value may be the result of other factors unrelated to either perception or interest in investing. The gender wage gap may contribute to men receiving larger stock gifts. For example, the size of a gift may partially reflect the giver’s perception of what the receiver would find a valuable gift. This perception is likely to be influenced by the receiver’s financial standing. It is also possible that a user’s age or level of education influence the value of a stock gift.

[Insert Table 6 Here]

Table 6 presents the results of the OLS regressions in which the dependent variable is the value of a gift card. The primary independent variable of interest is Female, an indicator variable for the user’s gender. Even after controlling for age, income, and education the

coefficient of the Female indicator variable, the primary variable of interest is both economically and statistically significant. Adding additional control variables lowers the coefficient on the Female indicator variable suggesting that the age, income, and education do partially explain our results. However, the gap in gift card amounts is not driven solely by these other factors.

### 3.2.2 Differences in Sibling Pairs

The results in Table 5 indicate that among minors, there is only a small difference in the value of gift cards given to boys compared to girls. To further investigate this, we look at a subsample of sibling pairs. When gift cards are given to siblings on the same days, we expect them to be for the same amount. For example, when an aunt buys holiday gifts for a niece and nephew at the same time, they will likely be for the same amount. It is unlikely that people are overtly choosing to gift less to girls, instead it is likely to be a non-conscious action. Only when gift cards are given to siblings on different days do we expect that they will be for different amounts since the amount of the first gift is not as immediately accessible in the gift givers memory.<sup>12</sup>

Table 7 compares the values of gift cards given to pairs of brothers and sisters in the same family. This subsample allows us to cleanly and clearly evaluate one sibling pair per family.

If a family has more than 2 children, we only consider the oldest child of each gender.

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<sup>12</sup>For example, the gift card might be given on each child's birthday. Thus, the gift giver might not remember the exact amount given to the first child and will let unconscious bias impact the value of the gift card given to the second child.

[Insert Table 7 Here]

The results in 7 provide evidence that there is a gender gap in capital allocation to boys and girls. Paired t-tests indicate that when gift cards are given to pairs of mixed gender siblings on the same day the amounts are indistinguishable. However, we find that even when siblings within the same family are compared, brothers receive more money in the form of stock gift cards than their own sisters provided they are gifted on different days. This supports the theory that the gender differences in gift card giving is non-conscious, rather than explicit.

### **3.2.3 The Influence of Sibling Age**

Even after controlling for many factors, it is still possible that older children receive larger gift cards. In untabulated results, we compare the ages of the siblings in the matched sample and confirm that the average difference in age among mixed sibling pairs is not statistically different from 0. To further confirm the influence of age on the results, we subset the sample of all siblings according to birth order. In Table 8, we report the mean initial gift card given to the oldest child and the second oldest child. We then break down the results by the gender of both the oldest and second oldest child.

[Insert Table 8 Here]

The results presented in Table 8 confirm that older siblings receive gift cards which are worth more than younger siblings, on average. The difference between the amount given to the oldest and second oldest child is always positive and statistically significant regardless of the

gender of the oldest and second oldest child. The difference is largest when the oldest child is a boy and the second oldest child is a girl, whereas the difference is smallest when the oldest child is a girl and the second oldest child is a boy.

We further investigate the interrelationships between sibling birth order, gender, and stock gift value. Table 9 presents the results of regressions in which the dependent variable is the value of a gift card and the independent variables are indicator variables for whether the sibling is female and the first-born. The omitted category is first born, male siblings. Coefficients can be interpreted as the difference between the average value of a gift card received by a first born, male and their sibling in the given category.

[Insert Table 9 Here]

Similar to Table 8, Table 9 compares the results of gift cards given to siblings. Table 8 includes only the oldest sibling of each gender and can only compare one group of siblings at a time. By contrast 9 provides more holistic results, including all siblings.

The results indicate that only when a younger sister receives a gift card on the same day as her older brother is it likely to be for the same amount of money. Otherwise, younger sisters, are given significantly smaller gift cards than their older brothers. Surprisingly, the results in column (6) indicate that when a first-born sister receives a stock gift card on a different day than her younger brother, she is still given \$3.60 less, on average.

Overall, we find large and persistent gender differences in stock gift giving. When a woman does receive a stock gift card, it is for less money. Comparing siblings allows us to rule

out alternative theories such as the influence of income or wealth on gift size. In addition, comparing gift cards given to siblings on the same and different days confirms that the difference is non-conscious rather than intentional.

### **3.3 Stock Market Participation**

We now turn our attention to stock market participation. We observe patterns of behavior after gift card redemption. We find support for the idea that gift cards serve as a nudge to not only promote stock market entry, but also stock market participation. Next, we compare the sustained participation rates of men versus women.

Redeeming a stock gift card is an effective way to encourage someone to enter the stock market as gift cards help overcome inertial behavior (Bertaut and Haliassos, 1995). However, a stock gift card does not necessarily result in future stock market participation beyond entry. There is nothing stopping a gift card redeemer from cashing out their account. Additionally, there is no guarantee that the recipient takes any further action.

If men are more interested in the stock market, then we expect men to continue participating in the stock market after gift card redemption at a higher rate than women. However, if men are given gift cards because of the perception that they are more interested, then we do not expect to observe a gender participation gap following market entry.

We first measure stock market participation by using a simple indicator equal to 1 if someone is still invested in stocks one year after their first stock purchase. This is the most common

measure of stock market participation and is similar to Almenberg and Dreber (2015), van Rooij et al. (2011), and Ke (2021), among others. Additionally, we create two more measures of sustained stock market participation. First, we observe whether investors make additional stock purchases after their initial stock purchase. This measure of continued participation is in the spirit of Jha and Shayo (2024) who measure market participation as an additional stock trade following their initial intervention. Next, we observe whether investors continue to login to the brokerage app to monitor their investments.

For all of the tests in this section, the data is restricted to samples of males and females over 18 years old who initiated their accounts by redeeming gift cards. There are several reasons for using this subsample. Investors under 18 years old may not have discretionary income to invest. Additionally, for investors who are under 18 years old, the data does not allow us to distinguish whether subsequent purchases and logins are being made by the minor or the parent.

We observe three patterns of behavior about stock market participation. First, following a stock gift card redemption, account holders continue to participate in the stock market indicating that the nudge is successful. Second, the gender gap (or lack thereof) in participation is consistent across varying community attitudes towards gender roles which suggests that gender norms in a community influence our perception of who is interested in participating in the stock market. Third, men and women continue to participate in the stock market in relatively equal proportions. This is consistent with the idea that if we offer men and women equal encouragement to enter the stock market then we can minimize the gender gap in stock market participation.

### 3.3.1 Univariate Results

Table 10 reports the percentage of accounts that remain 1 year after account initiation. Table 11 reports univariate statistics for subsequent stock trades and app logins as measures of sustained stock market participation. As in Table 4, we present the results for the sample broken up by quartiles based on Income Imbalance to determine if the prevailing culture influences stock market participation. We repeat all of the tests in Table 10 and Table 11 for the other cultural measures used in Table 4. For brevity, the results which are qualitatively the same are not reported.

[Insert Table 10 Here]

The statistics presented in Table 10 indicate that on average 90% of accounts opened following the redemption of a gift card remain open after 1 year. This indicates that the small nudge provided by receiving a gift card leads to sustained stock market participation. Interestingly, although by a small margin, a greater percentage of women's accounts (91.1%) remain open after 1 year compared to men's accounts (89.1%).

Panel A of Table 11 reports subsequent stock purchases. In the first columns, we report the average of the number of subsequent stock purchases made at any time after the initial stock purchase. Men make an average of just over 3 more stock purchases than women. This is consistent with the results of Barber and Odean (2001) that, on average, men trade more frequently than women.

[Insert Table 11 Here]



However, many trades are not required to be an active stock market participant. In the remainder of the columns in Panel A, we instead measure the percentage of women and the percentage of men who continue to invest after their initial purchase made with a gift card. First, participation is measured as making at least one additional stock purchase following the initial purchase. In the last two columns, we measure the percentage of men and women who make a subsequent stock purchase more than one year after their first stock purchase to determine if gift card recipients remain active investors. Here, we restrict the subsample to accounts initiated on or before September 30, 2019 to ensure enough time in the sample period for investors to make a subsequent purchase.

Our first observation is that more than half of all gift card recipients continue investing after redeeming their first gift card. The conclusion that we draw from these results is that stock gift cards are an effective way to encourage stock market participation, which is consistent with the results of Jha and Shayo (2024).

Second, the gender gap in continued investment at any time following the initial gift card redemption is relatively small at just under 5%. This indicates that men and women continue to participate in the stock market in relatively equal proportions.

Third, and perhaps most interestingly, the gender gap in participation remains both relatively small and consistent across changes in a community's attitude about gender roles. Specifically, 56.7% of females and 59.1% of males in the lowest Income Gender Inequity quartile continue to participate in the stock market after gift card redemption. There is only a 2.5% difference in stock market participation. Among the largest Income Imbalance quar-

tile, the gap in continued stock market participation increases to only 4.0%. By comparison, for the same groups of people, the gap in the percentage of gift cards received increases to 11.6% from -1.8%. This is consistent with the theory that gift cards are given because of perception of rather than actual stock market interest.

Panel B of Table 11 reports investor app logins as an additional proxy for stock market interest. In the first columns, we report the average of the total number of all logins for females and males. Consistent with our earlier results, males are more active users of the app, logging in to the app more frequently than females.

In the remainder of columns of Panel B, rather than report the number of logins, we report the percentage of females and the percentage of males who login more than 4 times after their initial purchase. And, we report the percentage of females and males that login more than 4 times after more than 1 year since their initial purchase for accounts.<sup>13</sup> Here, we again restrict the subsample to accounts initiated on or before September 30, 2019.

The results are consistent with those in Panel A. Regardless of gender, once people have a stock account, they continue to remain engaged. Even after one year from market entry, more than half of investors over 18 years old continue to login to their account. Additionally, there is no discernible trend across Income Imbalance quartiles.

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<sup>13</sup>In untabulated tests, we test for more than 1 subsequent login as opposed to 4 and the results remain qualitatively unchanged.

### 3.3.2 Controlling for Other Factors

Differences in sustained stock market participation may be the result of other factors unrelated to either our perception of or interest in investing. The gender wage gap may contribute to men being more able to participate in the stock market. For example, if men have more discretionary income than women, then men may be more likely to make subsequent stock purchases. Similarly, women may be more interested in withdrawing their initial investment to spend as discretionary income, rather than continuing to invest in the stock market. As in Table 6, in Tables 12 we use median income by zip code from the 2016 ACS as a proxy for individual users income. Additionally, we use the percentage of residents who earn at least a college graduates by zip code from the 2016 ACS as a proxy for the individuals level of education. It is also possible that a user's age and the size of the initial gift influence whether an account holder continues to participate in the stock market.

[Insert Table 12 Here]

Table 12 Panel A presents the results of probit regressions in which the dependent variable is an indicator for whether an account remains open one year after an account was opened. After controlling for user age, income, and the initial gift card value, the coefficient of the Female indicator variable in column (3) is indistinguishable from 0.

Table 12 Panel B presents the results of probit regressions in which the dependent variable is an indicator for whether the account holder made at least one trade more than 1 year after they redeemed a stock gift card. After controlling for user age, income, and the initial

gift card value, the coefficient of the Female indicator variable in column (3) is 0.017. In contrast to our earlier results, this indicates that women are 0.6% *more* likely than men to make a make a stock trade more than a year after their first trade.

Further, after controlling for other factors, in the 2nd, 3rd, and highest income inequity quartiles, the gender gap in continued stock market participation is indistinguishable. That is, men and women are equally likely to continue to trade in the future regardless of their community's gender norms. In the lowest income inequity quartile, women are, on average 1.8% (the marginal effect of the coefficient of 0.055) more likely to continue trading more than a year after their first stock purchase.

Next, we turn to our final proxy for sustained stock market participation, app logins, measured in a multivariate setting. Panel C of Table 12 presents the results of probit regressions in which the dependent variable is an indicator for whether the account holder logs into the app more than 4 times after one year following account initiation.

We find that women and men are equally likely to remain active. For example, the coefficient of Female in Panel C column (3) is not statistically or economically significant. Taken together, the results indicate that the proportion of active men and the proportion of active women are the roughly same. This offers strong support for the idea that having received the same nudge, the same proportion of men and women participate in the stock market.

## 4 Conclusion

Stock gift cards encourage stock market entry and participation. However, women receive only 38.3% of all stock gift cards. Additionally, conditional on receiving a gift card, women's gift cards are for \$10.81, or 21.4%, less than men's gift cards.

We conclude that the stock gift card gender gap is the result of people acting on the perception that men are more interested in investing than women. We do not find support for the alternative hypothesis that men are more interested in finance than women. To distinguish between perceived interest and actual interest, we observe gift cards to children under 8 years old, before they have the cognitive ability to be interested in investing (Friedline, 2015). Even for children under 8 years old, the pattern remains consistent, girls under 8 receive just 45.7% of initial gift cards. To further distinguish between the hypotheses, we consider community characteristics. We find that in communities where there is a larger gender role imbalance, there is also larger stock gift card gender gap. This evidence is consistent with the theory that part of the gift card gap can be attributed to the gender norms of a community.

We then turn to the value of gift cards received. It is possible that gift card value is related to an individual's optimal level of investment, rather than either of our original hypotheses. Even after we include control variables such as income, wealth, and age in a multivariate setting, we find that men receive higher valued gift cards than women. Next, we compare siblings who are both under 18 years old and part of the same household, which effectively controls for income, wealth, quality of education, and family attitudes towards investing.

Even among pairs of mixed gendered siblings, sisters receive gift cards for less value than their brothers.

Finally, we confirm that a stock gift card is an effective nudge to encourage stock market participation. One year after a stock gift card redemption, 90% of people remain invested in the stock market. Most importantly, roughly the same proportion of men and women continue to participate in the stock market. Using subsequent stock purchases and app logins as measures of sustained stock market interest and participation, we find that men and women are equally likely to continue to participate in the stock market. This indicates that if men and women were encouraged to enter the stock market in equal proportions then the gender gap in stock market participation would fall.

We recognize that the data has limitations. The stakes of the financial decisions analyzed in this paper are small. The average stock gift card amount is just \$50.53. This app may not be thought of as a vehicle for long-term investments. And, many investors likely have other savings accounts prohibiting us from seeing the full picture. Despite the limitations of the data set, our work provides a measurable way to evaluate the implications of our non-conscious perceptions of stock market interest. In line with the theory of cumulative advantage, even if the dollar amount is small, the impacts are large as stock market entry and exposure contribute to financial confidence, financial literacy, and a life time of stock market participation. We hope that the basic facts in this paper will encourage future work to understand and ultimately reduce gender gaps in finance.

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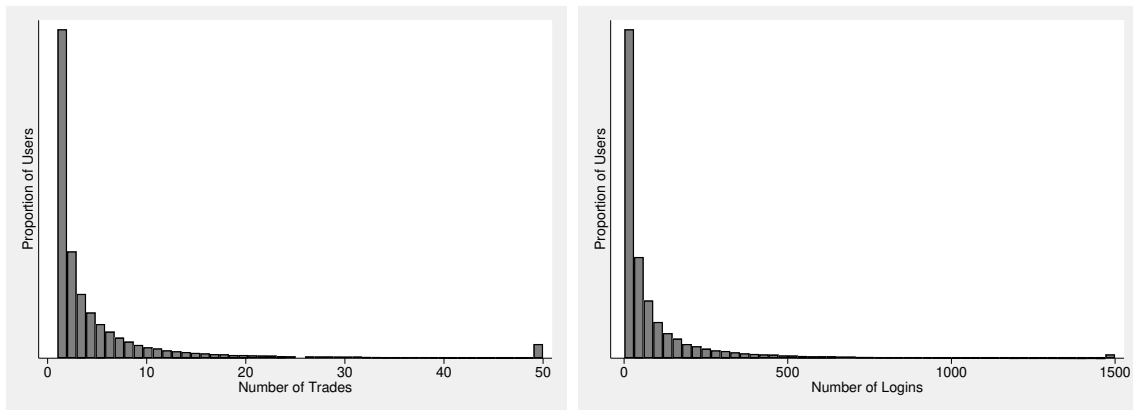
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Figure 1: Histogram of Number of Trades and Logins



(a) Trades

(b) Logins

(a) presents the histogram of the proportion of users who make a given number of trades. Note that in this figure the number of trades is top-coded to 50. (b) presents the histogram of the proportion of users who have a given number of logins. Note that in this figure the number of logins is top-coded to 1,500.

Table 1: User Demographics

This tables reports the breakdown of unique users by demographic characteristics. Minors are users who are younger than 18 years old. Male and Female are self-reported. Region is determined by the U.S. Census Bureau’s geographic region by zip code. Median Income (Zip Code) is the median income of the user’s zip code per the 2016 ACS.

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**Panel A: Users by Age & Gender**

Age	Male	Female	Total
Under 8	15,702	13,658	29,360
8-17	44,948	25,112	70,060
18-24	83,754	34,317	118,071
25-34	121,934	77,219	199,153
35-44	77,420	63,112	140,532
45-54	39,677	42,057	81,734
55-64	17,420	19,879	37,299
65+	8,450	8,770	17,220
Total	409,305	284,124	693,429

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**Panel B: Users by Location & Income**

Region	< 30K	Median Income (Zip Code)			Total
		30K-70K	70K-100K	>100K	
Northeast	7,244	68,848	32,829	17,282	126,203
South	13,123	201,281	51,346	19,834	285,584
Midwest	8,547	91,189	26,470	5,843	132,049
West	2,647	89,333	41,144	16,469	149,593
Total	31,561	450,651	151,789	59,428	693,429

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Table 2: Number of Gift Cards Received by Gender

This table reports the number of gift cards given to males and females. Panel A includes all gift cards given. Panel B restricts the sample to Initial Gift Cards, that is, gift cards used to open an account. Percent Females column significance is based on a one proportion Z-test comparing the proportion of gift cards given to females to the US population for each age group. \* < 0.10, \*\* < 0.05, \*\*\* < 0.01

<b>Panel A: All Gift Cards</b>				
Sample	Total	Male	Female	Percent Females
Full Sample	423,861	259,203	164,658	0.388***
Children (Under 18)	98,147	60,898	37,249	0.380***
Children (Under 8)	32,843	17,671	15,172	0.462***
<b>Panel B: Initial Gift Cards</b>				
Sample	Total	Male	Female	Percent Females
Full Sample	180,131	98,937	81,194	0.451***
Children (Under 18)	37,544	23,130	14,414	0.384***
Children (Under 8)	12,355	6,707	5,648	0.457***

Table 3: Distribution of Accounts for Female Children by Family Size

This table reports the distribution of accounts opened using a gift card for families of different sizes. Number of Kids is the number of accounts opened using a gift card for minors linked to a single adult account. Number of Families is the total number of unique parent accounts with at least one linked custodial account. In each row, we report the proportion of families of a given size that have  $X$  number of girls. The expected proportion of gender by family size is reported in parenthesis and is derived from the 2016 American Community Survey.  $\chi^2$  is the results of a  $\chi^2$  goodness-of-fit test comparing the observed distribution of female children to the expected distribution. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Number of Kids	Number of Families	Number of Girls					$\chi^2$
		0	1	2	3	4	
1	21,196	0.645 (0.514)	0.355 (0.486)				1,472.11***
2	4,476	0.330 (0.257)	0.491 (0.509)	0.179 (0.234)			230.02***
3	908	0.191 (0.142)	0.401 (0.379)	0.310 (0.354)	0.098 (0.125)		45.72***
4	190	0.084 (0.084)	0.309 (0.252)	0.358 (0.359)	0.203 (0.236)	0.046 (0.068)	9.19*

Table 4: Cultural Factors and the Stock Gift Card Gender Gap

This table reports the proportion of gift cards given to females versus males across the cultural spectrum. The sample is divided into quartiles based on cultural measures of differences between men and women within the user's zip code. Income Imbalance is measured as differences between the median wage of males and females, scaled by the average wage within each zip code. Education Imbalance is defined as the difference between the proportion of males and females who have a bachelor's degree or higher, scaled by the average proportion of people who have a bachelor's degree or higher in the zip code. Labor Force Participation Imbalance is measured as the difference between the male and female labor participation rate within the zip code.

<b>Panel A: All Investors</b>									
	<u>Income Imbalance</u>			<u>Education Imbalance</u>			<u>Labor Participation Imbalance</u>		
	Female	Male	Difference	Female	Male	Difference	Female	Male	Difference
Lowest	0.492	0.508	0.016	0.493	0.507	0.014	0.476	0.525	0.049
2nd	0.457	0.543	0.087	0.455	0.545	0.091	0.453	0.547	0.094
3rd	0.438	0.562	0.124	0.435	0.565	0.131	0.446	0.554	0.107
Highest	0.417	0.583	0.166	0.423	0.577	0.155	0.429	0.571	0.142
Difference (High-Low)			0.150***			0.141***			0.093***

<b>Panel B: Under 8 Years Old</b>									
	<u>Income Imbalance</u>			<u>Education Imbalance</u>			<u>Labor Participation Imbalance</u>		
	Female	Male	Difference	Female	Male	Difference	Female	Male	Difference
Lowest	0.473	0.527	0.054	0.475	0.525	0.051	0.457	0.543	0.086
2nd	0.456	0.544	0.088	0.458	0.542	0.083	0.457	0.543	0.086
3rd	0.456	0.544	0.088	0.439	0.561	0.123	0.461	0.539	0.078
Highest	0.447	0.553	0.107	0.446	0.554	0.108	0.439	0.561	0.123
Difference (High-Low)			0.052***			0.058***			0.037***

<b>Panel C: 8-18 Years Old</b>									
	<u>Income Imbalance</u>			<u>Education Imbalance</u>			<u>Labor Participation Imbalance</u>		
	Female	Male	Difference	Female	Male	Difference	Female	Male	Difference
Lowest	0.385	0.615	0.230	0.409	0.591	0.182	0.359	0.641	0.281
2nd	0.349	0.651	0.302	0.383	0.618	0.235	0.342	0.658	0.316
3rd	0.332	0.668	0.337	0.370	0.630	0.260	0.323	0.677	0.354
Highest	0.324	0.676	0.352	0.361	0.639	0.278	0.334	0.666	0.332
Difference (High-Low)			0.122***			0.097***			0.051***

<b>Panel D: Older than 18 Years Old</b>									
	<u>Income Imbalance</u>			<u>Education Imbalance</u>			<u>Labor Participation Imbalance</u>		
	Female	Male	Difference	Female	Male	Difference	Female	Male	Difference
Lowest	0.509	0.491	-0.018	0.510	0.490	-0.021	0.494	0.506	0.012
2nd	0.475	0.525	0.051	0.474	0.526	0.052	0.472	0.528	0.057
3rd	0.458	0.542	0.084	0.456	0.544	0.087	0.470	0.530	0.060
Highest	0.442	0.558	0.116	0.445	0.555	0.111	0.451	0.549	0.097
Difference (High-Low)			0.133***			0.131***			0.086***

Table 5: Average Gift Card Amount Received by Gender

This table reports the mean value of gift cards in dollars by gender. Panel A reports all gift cards given, and Panel B restricts the sample only to gift cards used to open an account (i.e. initial gift cards). The difference column reports the differences between the average amount given to males and females. Standard errors are report in parenthesis. In the difference column, significance is determined by a two sample t-test. \* < 0.10, \*\* < 0.05, \*\*\* < 0.01

<b>Panel A: All Gift Cards</b>				
Sample	Overall	Male	Female	Difference
Full Sample	50.53 (0.16)	54.73 (0.23)	43.92 (0.23)	10.81*** (0.34)
Minors Only	54.50 (0.29)	54.75 (0.37)	54.11 (0.46)	0.64 (0.59)
<b>Panel B: Initial Gift Cards</b>				
Sample	Overall	Male	Female	Difference
Full Sample	42.67 (0.21)	46.74 (0.31)	37.72 (0.27)	9.02*** (0.42)
Minors Only	56.34 (0.45)	56.82 (0.59)	55.57 (0.70)	1.25 (0.93)

Table 6: The Influence of Gender on Gift Card Value

This table reports OLS regressions in which the dependent variable is the dollar amount of a gift card. Female is an indicator for whether the account registered to a female user. User Age is the age of the person who received the gift card. Income is defined as the median income (in thousands) for the user's zip code. % College is the The percentage of residents who earn at least a college degree in the user's zip code. In columns (1) & (2) we report the results for all gift cards. In columns (3) & (4) we include only initial gift cards. Standard errors are reported in parenthesis. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

	<u>All Gift Cards</u>		<u>Initial Gift Cards</u>	
	(1)	(2)	(3)	(4)
Female	-10.812*** (0.336)	-9.810*** (0.337)	-9.020*** (0.421)	-6.450*** (0.423)
User Age		0.014 (0.010)		-0.257*** (0.012)
Log(Income)		0.050*** (0.009)		0.091*** (0.012)
% College		44.251*** (1.421)		48.133*** (1.853)
Constant	54.731*** (0.209)	34.786*** (0.564)	46.740*** (0.283)	31.169*** (0.730)
Observations	423,861	421,916	180,131	179,418
Adjusted R-Sq.	0.002	0.009	0.003	0.019



Table 7: Comparison of Gift Cards Given to Mixed Gender Siblings

This table reports the dollar amount of the initial gift card given to mixed gender sibling pairs. Only families with at least one male and one female child are included. If a family includes multiple children of a given gender, only the eldest child of each gender is included. The first row contains all families with both a male and female child. Same day refers to families where the male and female child opened their account on the same day. Different Days include families where the two children opened their accounts on different days. Paired standard errors are included in parenthesis.  $*p < 0.10$ ,  $**p < 0.05$ ,  $***p < 0.01$ .

	Male	Female	Difference	Pairs
Overall	40.70 (0.81)	39.31 (0.81)	1.40** (0.65)	4,859
Same Day	40.33 (1.34)	40.40 (1.33)	-0.07 (0.50)	1,746
Different Days	40.91 (1.02)	38.69 (1.02)	2.22** (0.97)	3,113

Table 8: Comparison of Initial Gift Cards Given to Sibling Pairs

In this table, we report the difference in the initial gift card given to the oldest and second oldest child in a family. The first row contains all families with at least two children. Rows two through five then breakdown the results by the gender of the oldest and second oldest child. Paired standard errors are included in parenthesis.  $*p < 0.10$ ,  $**p < 0.05$ ,  $***p < 0.01$ .

Gender of Oldest Child	Gender Second Child	Amount to Oldest Child	Amount to Second Child	Difference	Pairs
	Overall	41.83 (0.61)	37.95 (0.61)	3.31*** (0.48)	8,126
Male	Male	41.83 (1.06)	37.95 (1.04)	3.88*** (0.79)	2,706
Male	Female	42.99 (1.28)	38.18 (1.27)	4.82*** (1.11)	1,998
Female	Male	40.29 (1.23)	38.70 (1.28)	1.59** (0.91)	1,902
Female	Female	40.47 (1.37)	38.03 (1.35)	2.44** (1.02)	1,520

Table 9: The Influence of Gender and Birth Order on Initial Gift Card Amount

This table reports the coefficients of regressions in which the dependent variable is the initial gift card dollar amount. The main variables of interest are the interaction between gender (male vs. female) and firstborn status (first born vs. non-first born). The omitted base category is male firstborn. Columns (1) & (2) include the full sample. Columns (3)-(4) include only families where all of the families children opened their account on the same day, whereas columns (5)-(6) include families where accounts were opened for different children on different days. Standard errors are clustered by family and reported in parenthesis. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

	Full Sample		Same Day		Different Days	
	(1)	(2)	(3)	(4)	(5)	(6)
Female×Non-First Born	-8.817*** (1.422)	-6.517*** (1.568)	-6.796*** (2.232)	-0.732 (0.785)	-13.521*** (2.153)	-8.767*** (2.163)
Male×Non-First Born	-7.056*** (1.315)	-5.142*** (1.237)	-5.077** (2.065)	-0.783 (0.954)	-11.171*** (1.824)	-6.808*** (1.675)
Female×First Born	-3.294* (1.681)	-2.782** (1.191)	-4.155 (2.711)	-0.784 (0.895)	-3.213 (2.135)	-3.602** (1.709)
User Age	-0.077 (0.072)	-0.271 (0.179)	0.017 (0.020)	0.241 (0.184)	-1.107*** (0.231)	-0.416* (0.223)
Constant	48.142*** (1.473)	48.367*** (2.305)	48.779*** (1.979)	42.623*** (2.065)	58.633*** (3.346)	49.923*** (2.943)
Family FE	No	Yes	No	Yes	No	Yes
Observations	21,439	20,490	7,448	6,499	13,991	13,991
Adjusted R-Sq.	0.002	0.709	0.001	0.923	0.006	0.624

Table 10: Keeping Account Open for at least One Year after a Gift Card

This table reports the proportion of males and females who keep their account open for at least one year after redeeming a gift card to open their account. The sample is divided into quartiles (Lowest, 2nd, 3rd, and Highest) based on the Income Imbalance as measured by the differences between the median wage of males and females, scaled by the average wage in each zip code.

	Female	Male	Difference
Lowest	0.906	0.893	-0.013
2nd	0.911	0.896	-0.015
3rd	0.916	0.896	-0.020
Highest	0.912	0.880	-0.032
Overall	0.911	0.891	-0.020

Table 11: Ongoing Stock Market Participation after a Gift Card

This table reports the stock market participation of males and females older than age 18 who opened their account by redeeming a gift card before 2020. Average number of trades is the average number total number of trades a person makes at any time following account initiation. Percent who Continue to Trade after Initial Purchase is the percentage of people who make more than one stock purchase at any time after their initial stock purchase. Percent who continue to trade after 1 year is the percentage of people who make at least one stock purchase more than a year after their initial stock purchase. This subsample is limited to people who opened their account prior to 2019. Average number of log-ins is the average of the number of times a person opens the stock trading app and logs into their account. Percent who log in more than 4 times is the percentage of people who log in 4 or more times any time after their initial purchase. Percent who log in more than 4 times after 1 year is the percentage of people who log in 4 or more times after 1 year following their initial purchase. This subsample is limited to people who opened their account prior to 2019. The sample is divided into quartiles (Lowest, 2nd, 3rd, and Highest) based on the Income Imbalance as measured by the differences between the median wage of males and females, scaled by the average wage in each zip code.

**Panel A: Trade Data**

	Average Number of Trades			Percent who Continue to Trade after Initial Purchase			Percent who Continue to Trade after 1 Year		
	Female	Male	Difference	Female	Male	Difference	Female	Male	Difference
Lowest	9.41	12.47	3.06	0.567	0.591	0.025	0.046	0.059	0.013
2nd	9.40	12.46	3.06	0.558	0.603	0.044	0.046	0.065	0.018
3rd	9.81	12.93	3.12	0.558	0.609	0.051	0.052	0.067	0.015
Highest	9.76	12.92	3.17	0.559	0.599	0.040	0.055	0.075	0.019

**Panel B: Login Data**

	Average Number of Logins			Percent who Login more than 4 Times			Percent who Login more than 4 Times after 1 Year		
	Female	Male	Difference	Female	Male	Difference	Female	Male	Difference
Lowest	96.42	141.56	45.14	0.855	0.865	0.010	0.533	0.510	-0.023
2nd	97.60	148.81	51.21	0.852	0.871	0.019	0.521	0.522	0.001
3rd	98.64	150.04	51.39	0.852	0.869	0.016	0.530	0.523	-0.007
Highest	97.19	147.83	50.64	0.848	0.861	0.013	0.531	0.528	-0.003

Table 12: Stock Market Participation and Gender after Receiving a Gift Card

This table reports the relationship between stock market participation after the redemption of a gift certificate. Panel A reports a probit regression in which the dependent variable is an indicator for whether the account remains open for at least 1 year after opening of the account. Panel B reports probit regressions in which the dependent variable is whether an account holder purchased a stock more than 1 year after opening their account. Panel C reports a probit regression in which the dependent variable is an indicator for whether the user logged in at least four times to their account more than a year after the account's opening. In columns (4) - (7), the sample is divided into quartiles (Lowest, 2nd, 3rd, and Highest) based on the Income Imbalance as measured by the differences between the median wage of males and females, scaled by the average wage in each zip code. Age is the age of the person who received the gift card. Income is defined as the median income (in thousands) for the user's zip code. % College is the The percentage of residents who earn at least a college degree in the user's zip code. Initial Gift Card Value is the amount of money that the first gift card was redeemed for. Marginal average effects are included in square brackets. Standard errors are reported in parenthesis. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

<b>Panel A: Account Open for at least 1 Year</b>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	0.090*** (0.010) [0.014]	0.069*** (0.010) [0.011]	0.008 (0.010) [0.001]	0.006 (0.020) [0.001]	-0.013 (0.020) [-0.002]	0.005 (0.022) [0.001]	0.054** (0.022) [0.008]
User Age		0.006*** (0.000)	0.006*** (0.000)	0.005*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.007*** (0.001)
Log(Income)			-0.013 (0.020)	-0.063* (0.038)	-0.031 (0.039)	-0.028 (0.046)	-0.101** (0.048)
% College			-0.048 (0.044)	0.156* (0.089)	0.103 (0.082)	-0.152 (0.094)	-0.147 (0.094)
Log(Initial GC Value)			-0.450*** (0.005)	-0.451*** (0.010)	-0.459*** (0.010)	-0.462*** (0.011)	-0.428*** (0.010)
Constant	1.307*** (0.007)	1.098*** (0.015)	2.702*** (0.073)	2.819*** (0.140)	2.771*** (0.150)	2.870*** (0.173)	3.025*** (0.182)
Observations	134,193	134,193	133,703	35,107	35,737	32,201	30,658
Pseudo R-Sq.	0.001	0.004	0.109	0.103	0.109	0.114	0.118
Sample	Full	Full	Full	Lowest	2nd	3rd	Highest

Table 12 (Continued)

<b>Panel B: Trader After 1 Year</b>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	0.040*** (0.007) [0.013]	0.007 (0.007) [0.002]	0.017** (0.008) [0.005]	0.055*** (0.015) [0.018]	-0.003 (0.015) [-0.001]	0.000 (0.015) [0.000]	0.011 (0.016) [0.004]
User Age		0.009*** (0.000)	0.009*** (0.000)	0.010*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.008*** (0.001)
Log(Income)			0.042*** (0.014)	0.075*** (0.028)	0.053* (0.029)	0.094*** (0.033)	-0.017 (0.034)
% College			-0.157*** (0.032)	-0.111* (0.067)	-0.060 (0.061)	-0.279*** (0.070)	-0.129* (0.068)
Log(Initial GC Value)			0.107*** (0.004)	0.105*** (0.008)	0.118*** (0.008)	0.120*** (0.008)	0.085*** (0.008)
Constant	-0.660*** (0.005)	-0.981*** (0.012)	-1.432*** (0.053)	-1.625*** (0.102)	-1.520*** (0.109)	-1.647*** (0.124)	-1.078*** (0.129)
Observations	134,193	134,193	133,703	35,107	35,737	32,201	30,658
Pseudo R-Sq.	0.000	0.006	0.011	0.013	0.011	0.013	0.008
Sample	Full	Full	Full	Lowest	2nd	3rd	Highest

<b>Panel C: More than 4 Logins after 1 Year</b>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Female	0.038*** (0.007) [0.015]	0.003 (0.007) [0.001]	0.007 (0.007) [0.003]	0.041*** (0.014) [0.016]	-0.013 (0.014) [-0.005]	-0.008 (0.014) [-0.003]	0.008 (0.015) [0.003]
User Age		0.009*** (0.000)	0.009*** (0.000)	0.010*** (0.001)	0.009*** (0.001)	0.011*** (0.001)	0.008*** (0.001)
Log(Income)			0.058*** (0.013)	0.085*** (0.026)	0.101*** (0.027)	0.107*** (0.030)	-0.053* (0.032)
% College			-0.176*** (0.030)	-0.161*** (0.062)	-0.102* (0.056)	-0.287*** (0.064)	-0.065 (0.064)
Log(Initial GC Value)			0.058*** (0.004)	0.064*** (0.007)	0.064*** (0.007)	0.064*** (0.008)	0.040*** (0.007)
Constant	-0.102*** (0.005)	-0.435*** (0.011)	-0.789*** (0.049)	-0.949*** (0.094)	-0.970*** (0.101)	-1.005*** (0.114)	-0.266** (0.120)
Observations	134,193	134,193	133,703	35,107	35,737	32,201	30,658
Pseudo R-Sq.	0.000	0.006	0.008	0.008	0.007	0.010	0.006
Sample	Full	Full	Full	Lowest	2nd	3rd	Highest