‘Invest!’: Liberty Bonds and Stock Ownership over the Twentieth Century

Gillian Brunet
Smith College

Eric Hilt
Wellesley College
and NBER

Matthew Jaremski*
Utah State University
and NBER

Abstract: The Liberty Bond drives of World War I were nation-wide interventions aimed at increasing financial literacy and associating bond ownership with patriotism. Using data from the first year of the Survey of Consumer Finances, 1947, through 1971, we investigate whether exposure to the drives shaped investing behavior over the long run. We find that households residing in counties that had high Liberty Bond participation had greater stock and bond ownership rates in later decades, and held more favorable opinions towards retirement saving and stock investment. These effects are present only among cohorts actually exposed to the bond drives, and not among younger cohorts in the same counties, and are robust to an instrumental variables specification that takes advantage of differences in the way the bond drives were conducted. Our estimates imply that household stock ownership rates would have been about 20% lower in the late 1960s if the bond drives had not been conducted.

Keywords: Liberty bonds, financial literacy, investment banking, stockholding, financialization, financial development, trust, war financing

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* Brunet: Department of Economics, Smith College, Wright Hall #226, Northampton, MA 01063. Email: gbrunet@smith.edu.
Hilt: Department of Economics, Wellesley College, Wellesley, MA 02481. Email: ehilt@wellesley.edu.
Corresponding Author: Jaremski: Department of Economics and Finance, Utah State University, 3565 Old Main Hill, Logan, UT 84322. E-mail: matthew.jaremski@usu.edu.

1. Introduction

The low rate of stock market participation is a longstanding puzzle in household finance (Mankiw and Zeldes 1991; Poterba et al. 1995; Haliassos and Bertaut 1995). Among the many factors that have been shown to influence the propensity to hold stocks are dispositional optimism (Puri and Robinson 2007), trust (Guiso et al. 2004, 2008), subjective expectations of equity returns (Dominitz and Manski 2007), non-standard preferences such as loss aversion (Dimmock and Kouwenberg 2010) or ambiguity aversion (Dimmock et al. 2016), and financial literacy (Hilger et al. 2003; Lusardi and Mitchell 2007a, 2007b, 2008; Van Rooij et al. 2011). Given the importance of preferences and beliefs, the scope for policy interventions to increase participation may appear limited. It is not obvious how to instill trust or to influence the financial behavior of individuals with non-standard preferences.

In this paper we study one of the largest-ever public campaigns aimed at shaping households' financial behavior. During World War I (WWI), public debt securities called Liberty Bonds were marketed to American households in a series of five bond drives. These campaigns enlisted celebrities, investment banks, civil society organizations and millions of volunteer salespeople, and combined door-to-door solicitations with parades, rallies, and public speeches. At a time when very few households owned any financial assets other than bank deposits, and financial markets were commonly regarded as a realm of unsavory speculators, the messages of the Liberty Bond drives associated investing in government bonds with patriotism and financial security. These drives implored households to "Invest!" for the sake of the troops and their own financial futures. School children were taught the importance of saving and the basics of compound interest, and were even enlisted as sales agents. The messages to which young people

were exposed, and their early experiences with investing, may have shaped their attitudes and financial behavior later in life.

We use the Survey of Consumer Finances (SCF), from its first year (1947) up to 1971, to measure the effects of the drives on household portfolio choice 30 years later and beyond.[1] We match county Liberty Bond participation rates, which reflect the intensity with which the campaigns were conducted as well as the share of the population that experienced ownership of the bonds, to the county of SCF households, and test whether greater exposure to Liberty Bonds predicts different patterns of investment behavior later in life. The bond drives taught the young the value of saving and investing, and exposed adults to messages legitimizing investing in securities. Subscribers to the bonds gained the experience of owning a financial asset, interacting with a financial institution, and following its market price in newspapers. Coupled with the positive depictions of Wall Street firms during the campaigns, greater exposure to the drives may have made households more willing to invest in financial assets over the rest of their lives.

We find a positive relationship between county Liberty Bond participation rates and the security ownership rates of SCF households over later decades, even when controlling for household income, education, demographic characteristics, and home ownership. A one standard deviation increase in the Liberty Bond participation rate raised the probability of owning stock by 0.9 percentage points and of owning bonds by 1.7 percentage points in the late-1940s, 1950s, and 1960s. The effects are economically meaningful as only 17% of households owned stock and 40% owned bonds during that period overall.

[1] The SCF has primarily been used to study stockholding over the modern period. However, Poterba et al. (1995) used the 1962 SCF to document stockholding compared to later surveys and Malmendier and Nagel (2011) has used the SCF starting in 1960 to examine the effect of early life stock returns on later investment patterns. Moreover, Kuhn et al. (2020) and Derenoncourt et al. (2024) have used the full SCF to examine wealth gaps and inequality.

Consistent with this change in behavior, we also find evidence that Liberty Bond participation shaped household opinion towards investing and savings. In some years, the SCF asked households why they saved or what was the "wisest" place a person could invest. The responses indicate that households that were more exposed to Liberty Bond drives were more likely to believe that savings should be used to fund retirement and that the wisest thing to do with extra money was to invest in stocks. Even those households that lacked the financial means to invest in stocks were more likely to hold this view in areas with high Liberty Bond sales.

Our analysis relies on variation across counties in Liberty Bond participation rates. A natural concern regarding these results might be that unobserved county characteristics are responsible for both Liberty Bond participation rates and investment behavior over subsequent decades. We address this concern in two ways.

First, we conduct a cohort-based analysis, focusing on household heads of different ages in different waves of the SCF. Consistent with a treatment effect of the Liberty Bond drives, we find that their effects are present only among cohorts who experienced them, and not among cohorts in the same counties who were not alive when they were conducted. This analysis suggests that persistent county characteristics are unlikely to be responsible for our results, as only specific cohorts' investment behavior changed. It also highlights the role of the financial literacy campaigns conducted in schools as part of the drives, as individuals who were school-age children during the drives held stocks and bonds at higher rates later in life. A back-of-the-envelope calculation implies that the rate at which American households owned stocks would have been 33% lower in the late 1940s and 21% lower in the late 1960s if the Liberty Bond drives had not been conducted. The declining effect is driven both by the retirement of those exposed to drives and growth over time in the proportion of the population investing in stocks.

Second, we use an instrumental variable specification based on differences in the approaches used to conduct the Liberty Bond drives. Some Federal Reserve districts adopted what was known as the allotment system in the drives, which centralized the process of collecting subscriptions, and enabled local committees to market the bonds much more effectively. This supply-side factor created differences in participation rates that were unrelated to local wealth or investment demand. When we use the allotment system as an instrument for county liberty bond participation rates, Liberty Bond participation remains positively and statistically significantly associated with higher household holdings of stocks and bonds.

We also examine some indirect effects of Liberty Bonds. First, as shown by Hilt et al. (2022), counties with high Liberty Bond participation became more financially developed over the years 1919-1929, with larger numbers of investment banks. This likely created environments in which investments would have sold well. We do indeed find that the presence of investment banks is correlated with higher levels of stockholding in our samples, but the relationship between Liberty Bond participation and securities investing is not affected by controlling for a location's financial development. Our results linking stock ownership to the Liberty Bonds are not simply a product of a greater prevalence of investment banks founded in response to the drives.

Second, the war bond campaigns of World War II (WWII) emulated some elements of the Liberty Bond drives, and the effect of Liberty Bonds on financial behavior in the 1950s and 1960s we observe may have been transmitted through the WWII bond drives. When we include a measure of WWII war bond purchases in our regressions, we find that the effect of Liberty Bonds on stock investing persists. Conditional on Liberty Bond participation, purchases of WWII war bonds in fact do not predict subsequent stock ownership. This may be due to the

differences between the bonds sold in the two wars, and the approaches taken in marketing them. In contrast to the Liberty Bond drives, the WWII bond drives did not lead subscribers to interact with investment banks, and did not expose households to the ownership of securities that were traded in financial markets (since the war bonds of WWII were nonnegotiable savings bonds).[2]

Third, as discussed by Traflet (2013), NYSE-member investment banks started advertising directly to consumers during the 1950s, associating stock ownership with patriotism and support for 'free enterprise' during the Cold War. This new marketing campaign could have appealed to the same types of individuals that the Liberty Bond drives did. We therefore control for county-level measures of patriotism during WWII, and show that Liberty Bonds participation remain significantly associated with investment and saving behavior.

The paper contributes to a growing literature focused on experiences, often from early in life, as a determinant of financial behavior (Brown et al. 2016; Malmendier 2021). For example, immigrants from countries with better legal institutions are more likely to invest in the stock market, reflecting lessons learned at home or in school before emigrating (Osili and Paulson 2008). Early life exposure to local financial institutions has been shown to have substantial impacts on financial behavior later in life (Brown et al. 2019); investors who experienced the stock market collapse of the Great Depression are less likely to invest in stocks (Malmendier Nagel 2011).[3] We advance this literature by showing that exposure to a public campaign aimed at encouraging households to invest in government securities had effects as much as fifty years later among those who were school age at the time.

[2] In WWI, the same instrument was sold to households and institutions in each bond drive; coupon rates and maturities varied over the different drives but all Liberty Bonds were negotiable federal debt securities. By contrast, during WWII, a 10-year nonnegotiable savings bond tailored to ordinary households (series E) was sold to most Americans, whereas different instruments were marketed to institutions and wealthy individuals.

[3] All of the cohorts exposed to the Liberty Bond campaigns were subsequently exposed to the stock market crash of 1929 and Great Depression. The effects of the Liberty Bond drives on investment behavior later in life we observe are therefore net of the impact those events had on investor preferences.

Similarly, our results contribute to the literature on the effects of financial literacy interventions. Studies of financial education initiatives coordinated by employers, such as Bernheim and Garrett (2003), Lusardi (2004), and Bayer et al. (2009), have found that retirement seminars have a positive effect on savings and retirement planning. Studying schooling requirements related to financial literacy, Bernheim et al. (2001) and Brown et al. (2019) show that U.S. state expansions of financial curricula led to higher asset accumulation once students became adults. Although the Liberty Bond drives were much broader than the interventions typically studied, our results contribute to that literature by analyzing the effects of an intense nation-wide campaign conducted to encourage savings and investment, in part by providing basic information aimed at increasing financial literacy.

Our analysis also advances the literature on the participation of households in securities markets over the twentieth century (e.g., Warshaw 1924; Means 1930; Edwards 1938; Haven 1940; Friend et al. 1958, 1967; Calomiris 1995, 2002; Baskin and Miranti 1997; Calomiris and Raff 1995; Mitchell 2007; O'Sullivan 2007, 2016; Ott 2011; Traflet 2013; Duca and Walker 2022). Despite all that has been written on the topic, most studies of early stockholding calculate estimates for single years, using different techniques of varying degrees of reliability.[4] For instance, some focus on small samples of companies (McCoy 1927, 1930; Berle and Means 1932), household tax information (Bernheim and Schneider 1935), Gallup polls (Vernon et al. 1973), or surveys of publicly traded companies (Kimmel 1952). Our data source, the SCF, is much more detailed and more representative of the population than the sources underlying some of these works, and thus enables us to produce consistent estimates of the rate of stockholding that are unparalleled in their accuracy over a relatively long span of years.

[4] Rutterford and Sotiroupolos (2017) adjust different estimates of total stockholders from the literature to provide more consistent measures across time. Their evidence suggests that there was a large rise in stockholders after WWI, a decline during the Great Depression, and a rebound after WWII.

Finally, our results contribute to the literature on the Liberty Bond campaigns (Ott 2011; Garbade 2012; Kang and Rockoff 2015; Hilt and Rahn 2020; Ha 2023). In related work, Hilt et al. (2022) study the effects of the bond drives on financial development, and show that counties with greater liberty bond participation saw slower growth of commercial bank assets, a greater presence of investment banks, and stronger competition between investment banks and commercial banks in the 1920s. As secondary evidence that the drives had long-run implications, that paper also carries out an extension using state-level Gallup poll data to study the effects of Liberty Bonds on securities ownership (as the data combined stocks and bonds) in 1937-1938. This paper advances that literature by analyzing the impact of the Liberty Bond drives on investment behavior over the very long run, and by using much more detailed and accurate data which can be used to isolate the effects on cohorts exposed to the bond drives.

2. The Rise in Stockholding, 1947-1971

We begin by describing aggregate patterns in investment behavior as revealed in the SCF.[5] The SCF is the earliest comprehensive accounting of U.S. household savings and investment behavior, and is available through ICPSR by the Survey Research Center of the University of Michigan. We start with 1947 because it was the first year in which the SCF was conducted. We stop with 1971 because the SCF was not conducted again until 1977 and then not again until 1983.[6] The questions asked in different years of the SCF vary significantly, but in most years, respondents were asked about stock and bond ownership. In Figure 1, we present the fraction of households owning any stock in each survey year where information is available. The

[5] The SCF was designed to be more or less nationally representative, and its measurements are relatively consistent across time. Like many consumption surveys, the SCF seems to skew slightly towards higher-income and more-educated households, but the biases are relatively small—and they are consistent across years.
[6] Detailed location information was also excluded from the public data after the survey was redesigned in the 1980s.

data show that the fraction of households owning stock more than doubled over the quarter century following WWII, from 11% in 1947 to 17% in 1964 to 25% in 1971. The underlying household-level data indicates that the increase in the fraction of households owning stock was a broad phenomenon and not concentrated in the highest income brackets or in particular locations.

We also display the fraction of surveyed households who reported owning bonds of any type in the figure. The fraction was quite high (in fact, greater than 50%) in the first few sample years, but contracted substantially over the 1950s. The pattern is expected given the bond drives of WWII. Similar to the Liberty Bond drives, the WWII savings bond drives pushed households to purchase bonds to show their patriotism and support American troops. The drives substantially broadened ownership of savings bonds amongst the general public during the war. The federal government continued to market savings bonds to the public in the post-war years, but once the WWII-era bonds matured in the early-to-mid 1950s, many households did not subscribe again, likely as a response to inflation (Brunet et al. 2024). Savings bond holding thus decreased back down to the level of holding in the absence of government marketing. This level of ownership was roughly the same as stock ownership by the late 1960s. This pattern is remarkable given that savings bonds were generally cheaper and easier to purchase than stocks.

In what follows, we analyze the role of the Liberty Bond campaigns in the increase in stockholding that occurred in the post-WWII years, as households shifted out of war bonds and into equities. We use the relatively long timespan of the data to study the effect of Liberty Bonds on different cohorts who were and were not exposed to the drives, at different ages. We also make use of questions asked only in particular survey years, regarding attitudes towards saving and investment.

3. The Liberty Bond Campaigns

American participation in WWI led to a 25-fold increase in federal government expenditures. Treasury Secretary McAdoo decided to fund most of the cost of the war with borrowing (see Garbade 2012; Kang and Rockoff 2015; Sutch 2015; Hall and Sargent 2019). In addition to reducing the burdens of taxation, McAdoo believed that selling government bonds would give ordinary Americans a financial stake in the war effort. McAdoo (1931: 378) even likened the bond sales campaigns to a military operation, arguing that those "who could not serve in the trenches in France might nevertheless serve in the financial trenches at home." In total, the Liberty Bond drives raised about $22 billion for the federal government, equivalent to more than $5 trillion today as a constant share of GDP.

The Treasury held four distinct bond drives from May 1917 through October 1918, and an additional victory loan drive following the war in April and May 1919. Management of the drives was delegated to the Federal Reserve Banks, whose Liberty Bond committees then created sub-committees to head the sales effort in particular states, which in turn selected county- and city-level organizations. All of civil society was enlisted by these committees, and groups such as fraternal societies, religious organizations, the boy scouts, and women's clubs contributed. Volunteers were taught investment fundamentals in order to communicate them to the public. Speeches, both at major rallies and in smaller settings like movie theaters, described how the bonds worked in order to convince the public that they were safe.

The design of the bond issues and the fulfillment of subscriptions reflected the goal of attracting as many subscribers as possible. The bonds were sold with par values as low as $50, and subscriptions could be fulfilled through installment plans. The bonds were negotiable and market prices varied after their issue. At least 22.8 million people subscribed to a Liberty Bond

(and that is a lower bound).[7] This represented a substantial portion of the adult population (there were about 66.4 million individuals aged 18 or older in 1920). Given how uncommon the ownership of financial assets was before WWI, it is evident that for most subscribers their Liberty Bonds were their first financial asset other than a bank account.

Even though the Treasury did not pay commissions on the sales of Liberty Bonds, investment banks devoted considerable resources to the sales effort, in part because they saw subscribers as future customers. For instance, Charles Mitchell, the President of National City Co, wrote of "the development of a large, new army of investors in this country, who have never heretofore known what it means to own a coupon bond and who may in the future be developed into savers and bond buyers" (Mitchell 1917: 296). Learning from the drives, the investment banking industry adopted new business methods after WWI. Prior to 1914, the securities underwriting business had been dominated by a small number of conservative private banks that marketed new issues to wealthy individuals and large financial institutions. After the war, a new generation of investment banking firms acquired a growing market share in part by promoting securities to the 'army' of small investors that the Liberty Bond drives had created.

4. Data

We use the SCF from 1947 through 1971 to study households' financial portfolios and views on investment. These early SCFs collected household-level information on demographics, income, and asset holdings. Just as importantly, the data for these years contain detailed information on household location, allowing us to control for the local environment and match

[7] The Treasury collected data on the total number of subscribers in each bond drive, but not the total unique subscribers to the Liberty Bonds overall. The number of subscribers to the largest bond drive was 22.8 million.

each household with its area's Liberty Bond experience several decades before.[8] The SCFs were conducted in the first quarter of the year and asked about financial holdings in the previous year. Thus the data span asset holdings from 1946 through 1970. While the SCF was conducted in every year between 1947 and 1971, the survey did not ask about stockholding in every year, most notably omitting stockholding questions throughout the late 1950s (see Appendix Table A1). Figure 2 contains a map of SCF respondent locations. Respondents came from across the nation and lived in both rural and urban areas.

The SCF documentation indicates that the survey was an attempt to be representative of the nation as a whole. To validate this representativeness, we also examined state-level stockholder information from Kimmel (1952). At the behest of the New York Stock Exchange, the Brookings Institute carried out a comprehensive account of stockholding in the United States. The results were published by state. We find a strong positive correlation between state-level information on Liberty Bond participation rate and the number of stockholders in the Kimmel database. The evidence thus suggests that our results are not sensitive to alternative databases, and that the SCF seems to be representative of the broader population.

To measure a location's exposure to Liberty Bonds, we focus on the fourth Liberty Bond drive. This was the largest, and the drive for which the most disaggregated data are available. Several Federal Reserve Districts and states published county-level information collected by the Federal Reserve Banks' Liberty Bond committees, as described in Hilt and Rahn (2020). Following Hilt and Rahn, we calculate participation rates by dividing those totals by county populations as reported in the 1920 census. Because the county-level pamphlets were only published by the Richmond, Cleveland, St. Louis, Minneapolis, and San Francisco Federal

[8] For a few cities in some years, the SCF lists suburbs separately from the main city. Most of these suburbs can be matched to a particular county, but Boston and Philadelphia suburbs were spread across multiple counties and are dropped from our sample for this reason. This choice does not affect our results.

Reserve districts, plus the state of Iowa, we also make use of similar participation data published for the largest cities, published by the Treasury. Since these cities make up such large portions of their county's population, we use their participation rates to fill in missing county-level observations.[9] Figure 2 is shaded based on whether Liberty Bond participation data is available for the SCF location. Overall, Liberty Bond data are available for 93 of the 156 counties with SCF data and for 70.6% of SCF households. Our sources include counties from every census division and cover the majority of households contained in the SCF data.

5. Analysis of the Effect of Liberty Bonds on Household Investing Behavior

The Liberty Bond drives urged households to save and invest, and gave them hands-on experience with securities ownership in the late-1910s. While the drives likely influenced aggregate investing, this influence coincided with other factors that likely increased investing among households in the 1920s (e.g., tax changes, rising incomes, etc.). Therefore, we identify the effect of the Liberty Bond drives using their differential intensity across counties. There was significant variation in exposure to Liberty Bonds (See Appendix Table A2) driven by how the local campaigns were run (see Hilt et al. 2022).

After estimating the cross-sectional relationship between Liberty Bond participation rates and security ownership, we extend the analysis to identify whether the OLS estimates represent a causal effect. First, we conduct a cohort-based analysis, focusing on household heads of different ages in different waves of the SCF. Specifically, we test whether the Liberty Bond drives differentially affected securities ownership among people alive and old enough to attend school

[9] When multiple cities are reported in the same county, we aggregate them to generate the county participation rate. We drop any city that did not make up over 55% of their county's population to be sure we are capturing an accurate participation rate for the entire county. As shown in Table A3, the results are similar if we exclude the city-level data though with less statistical precision due to the lower number of observations.

during WWI, relative to those born later in the same county. This within-county, across-cohort analysis sweeps out any persistent county characteristics, such as those related to human capital or wealth in a county. Second, we use an instrumental variable (IV) approach that focuses on how the drives were carried out. The IV utilizes variation in supply side factors, rather than potentially endogenous demand-side factors, in the estimation.

5.1 Baseline Analysis

The SCF provides information on bond, stock, and bank account holdings. We examine both the value of each asset class held by the household and indicators for whether the household held that particular asset class.[10] Summary statistics are provided in Appendix Table A2. When describing the results, we focus on the indicator for whether any of the asset class was held because relatively few households held any stocks or bonds. The indicator variable provides the cleanest measures of whether the Liberty Bond drives induced households to change their asset portfolio, while the value mix both the extensive and instance margins. Moreover, while the value of asset holdings provides additional support for our analysis, their specific coefficients must be taken with a grain of salt. When using the value of each asset, we need to transform the values before regressing them to avoid outlier households from swamping the results. We use the logarithm plus one method, but the results are similar when using the inverse hyperbolic sine method.

While the main variable of interest is the county-level Liberty Bond participation rate, many other factors influence investment behavior. For this reason, we include a host of controls, listed in Table 1. First, we control for characteristics of the household. These include the age and

[10] In some years, the SCF reports value bins rather than a continuous number. We assign the midpoint of each bin as the value for these years. Because reporting of bonds was split amongst several types and varied across time, we generate a combined bond measure that includes all bonds included in each survey year.

education level of the household head, the gender of the survey respondent, total wage income, an indicator for having any wage income, the number of people living in the household, and the household's homeownership status.[11] Second, we control for the household's location type (by population size bin). Third, we control for characteristics of a household's county using 1940 Census information from Hanes (2004). These include the number of farms per square mile in the county to capture the importance of agriculture to the community, the fraction of the county's population that was non-white to capture the influence of racial discrimination, and an indicator for the main country of origin of the county's white immigrants to capture any cultural differences related to investing. Finally, we control for each survey year to capture nation-wide changes in investing behavior and any differences in the surveyed households over time.

The Ordinary Least Squares model is:

$$Outcome_{i,c,t} = a + \beta_1 Liberty_c + \theta X_i + \delta_t + e_{i,c,t} \quad (1)$$

where $Outcome_{i,c,t}$ is one of the measures of asset holdings described above for household *i* in county *c* and survey year *t*; $Liberty_c$ is the participation rate for the fourth Liberty Bond issue in county *c*, in percentage points; X_i is the vector of household-level characteristics described above; δ_t are indicators for each survey year, and $e_{i,c,t}$ is standard error term that is clustered by the county-year.[12]

We present the estimated coefficients of Eq. (1) in Table 2. Higher levels of Liberty Bond participation in the late-1910s are associated with significantly higher savings and a greater likelihood of owning financial assets. We find a positive relationship between county Liberty Bond participation and the probability that the household owned any bonds, stocks, and bank

[11] The results are not sensitive to the inclusion of any of the controls. For instance, if we drop the income or housing variables, the Liberty Bond drives remain strongly predictive of higher levels of financial asset ownership.
[12] We cluster at the county-year because the survey was different each year as investigators examined various topics. However, as shown in Appendix Table A4, the results remain statistically significant when we cluster by county.

accounts in 1947-71. For a one standard deviation increase in the Liberty Bond participation rate, the probability of owning stock increased by 0.9 percentage points, of owning bonds by 1.7 percentage points, and of having a bank account by 2 percentage points. These effects are economically meaningful for stocks and bonds as only 17% of sample households owned stocks and 40% owned bonds, compared to 78% that owned a bank account during the period.[13]

The effect of Liberty Bonds is also statistically significantly associated with the value of each asset class. Given the large number of households who do not hold stocks and bonds, some of the effects we are measuring are on the extensive rather than intensive margins. However, as shown in Appendix Table A5, the results are similar if we use the inverse hyperbolic sine transformation instead of the logarithm plus one method.

5.*2 Cohort-Based Analysis*

The cross-sectional results show that households with more exposure to the Liberty Bond drives held more securities and saved more in the long-run, even after controlling for a wide variety of household and location characteristics. Nevertheless, it is possible that the demand for Liberty Bonds may have been correlated with unobservable county characteristics that influenced investment behavior over time, such as the level of wealth or social capital of a county. To address this concern, we conduct a cohort-based analysis. If counties with high Liberty Bond participation rates possessed some persistent characteristic that was responsible for both Liberty Bond participation rates and stock ownership in later decades, then all cohorts in those counties should display an elevated level of stock ownership. If instead only those cohorts

[13] As shown in Appendix Table A6, the effect of Liberty Bond participation remains positive and significant for the stock outcomes when we control for a household's bank account value. In this way, the results are robust to including measure of income, real estate wealth, and traditional savings. Appendix Table A7 also shows that the results are not solely driven by state-level variation. Specifically, we include state-fixed effects in the regressions and while this reduces the amount of household variation we can study (because some states only have one county), the results remain positive and statistically significant for the bond and stock outcomes.

directly exposed to the Liberty Bond drives own stock at higher rates, this would suggest that the bond drives themselves are responsible for our results. Importantly, we can include county fixed effects in this analysis, and sweep out any unchanging county characteristics, including the Liberty Bond participation rate itself, and focus on the variation across cohorts within counties.

The SCF waves provide information about the age of respondents, enabling us to observe the investment behavior of household heads of a variety of ages at different points in time. We use this variation to identify the specific cohorts exposed to the Liberty Bond drives, and separate them from cohorts that were not exposed because they were too young or not yet born in 1918. Schoolchildren were enlisted in the bond drives as selling agents, and were taught the importance of thrift and basic concepts related to financial literacy. Thus anyone at least six years old in 1918 (born before 1913) would likely have been exposed to at least some element of the campaigns. In most waves of the SCF, the exact age of the respondent is not provided, but instead, ten-year age bins are reported. From these age bins, we construct an indicator for the household head being born in 1913 or before.[14] We also include age bin by year interactions, to permit the effects of age on financial behavior to vary over time.

The model is:

$$Outcome_{i,c,t} = a + \beta_1 Liberty_c \times BornBefore1913_{i,c} + \theta X_i + \mu_C + \delta_t \times age_i + e_{i,c,t} \quad (2)$$

Where $BornBefore1913_{i,c}$ is an indicator variable equal to one if the head of household *i* was born before 1913 (and thus would have been at least 6 in 1918), μ_C is a county fixed effect, and $\delta_t \times age_i$ is the interaction between the age bins and year fixed effects. The rest of the variables retain their definitions from before.

[14] Given that we have ten-year age bins, we cannot always accurately observe whether an individual was born before 1913. We code the variable equal to one if the age bin includes birth years earlier than 1913. The results are not sensitive to instead using the midpoint of the age bin, or the starting point.

We report the estimates of Eq. (3) in Table 3. The estimates suggest that households with a head who was born before 1913 were more likely to own bonds and stocks, and to hold larger values of them, in response to higher Liberty Bond participation, relative to other households in the same county. Specifically, for a one standard deviation increase in the Liberty Bond participation rate, the probability of owning stock increased by 1.5 percentage points and of owning bonds by 2.5 percentage points if the household head was directly exposed to the bond drives. The effect of the bond drives on bonds and stocks for those who lived through them is about 40-60% higher than the average effect measured in Table 4. In this way, the Liberty Bond drives seem to have increased overall saving in the country but particularly encouraged more securities investment specifically from those with direct exposure to the Liberty Bond drives. With regard to bank accounts, households headed by individuals born before 1913 had higher balances, although they were not more likely to have any bank account at all.

Extending the results in Table 3, we can investigate whether cohorts not exposed to the Liberty Bond drives exhibited a stronger propensity to hold stocks, as a falsification test. In Table 4, we report estimates of a version of Equation (2) with the county fixed effects replaced by the county Liberty Bond subscription rate, with our stock variables as outcomes. In both cases (Columns (1) and (4)), the estimate associated with the Liberty Bond participation rate is very small and statistically insignificant, indicating that among the cohorts born in 1913 or later, there was no differential effect of greater exposure to Liberty Bonds.[15]

One concern with this result could be that it is somehow driven by age effects, for example if there were geographical patterns in investment behavior that were age-specific. To test this, we estimate age-specific interactions with the Liberty Bond participation rate for the

[15] Appendix Table A8 shows the results of this specification for all the investment outcomes.

very earliest years (1948-1950) and the very latest years of the survey (1967-1971).[16] The years are far enough apart that we should expect to see that the effect of Liberty Bond participation starts with younger age cohorts in earlier survey years and with older age cohorts in the later years. Moreover, we make use of an expanded set of age bins separating household heads aged 45-54 from 55-64, but is not available for 1947.

Columns (2) and (5) in Table 4 show that the effect of the Liberty Bond drives starts at younger ages in the late-1940s sample. All age groups above 25 years have a significantly large positive effect of Liberty Bond participation.[17] However, after taking into account the now negative average effect of Liberty Bond participation, the coefficient on those aged 25-34 is eliminated. In this way, the positive effect of the Liberty Bond drives on stock purchases seem to have started for households aged 35 and older during the 1940s. Columns (3) and (6) show that the Liberty Bond effect starts at older ages in the late-1960s. The differential effect is only statistically significant for those aged 55-64. Those aged 25-55 in the late 1960s, who were too young to have been exposed to the Liberty Bond drives, exhibit no greater propensity to own stock in areas with high Liberty Bond participation, whereas individuals of those same ages did show the effects of Liberty Bonds in the years 1948-1950. This confirms that exposure to the Liberty Bond drives, rather than some kind of age-specific geographical pattern in investment behavior, is responsible for our results.

Using Table 4, we can use a back-of-the-envelope calculation to assess the aggregate importance of the Liberty Bond drives in each period using the age specific effects. To obtain a counterfactual estimate, we apply the average Liberty Bond participation rate across all

[16] We cannot estimate the same regression for a middle year because the SCF did not ask about stock holding in-between 1955 and 1960.

[17] It is important to note that the negative coefficient on the level of Liberty Bonds is driven by the very low holdings of the excluded age group (below 25) in the earliest years. Therefore, it is helpful to think about the effect being negative for those aged below 25, zero for those aged 25-34, and positive for all other age groups.

households in the sample (27.06) to each coefficient in columns (5) and (6) than take a weighted average by the size of each age group in the sample for those years. The regressions imply that without the Liberty Bond drives the fraction of households owning stock would have been 3.85 percentage points lower for the period 1948-1950 and 5.18 percentage points lower for the period 1967-1971. While the effect is nominally higher in the later period, the increased size does not make up for the nation-wide expansion of stock ownership. Instead, the Liberty bond effect makes up 33.1% of total stockholding in the earlier period, but only 21.4% in the later period.[18] This is to be expected as the individuals directly exposed to the drives comprise a smaller share of the sample in later years, as older cohorts exit the sample due to mortality.

5.3 Instrumental Variables Analysis

We further address the concern that unobserved county characteristics may be responsible for our results by instrumenting for Liberty Bond participation. In most of the country, the Liberty Bond campaigns were somewhat loosely coordinated, with many organizations promoting the bonds to households and collecting subscriptions. By contrast, some Federal Reserve Districts adopted a more centralized approach, generally known as the allotment system. In places that adopted the allotment system, the drives began with the usual rallies, parades, and advertising, and continued with volunteer groups giving speeches and promoting the bonds. The innovation of the allotment system was that local Liberty Bond committees divided counties into small districts, and used property tax records to assign a subscription quota

[18] We obtain slightly higher values (35.8% and 23.1%) if we were to use the median Liberty Bond participation rate and slightly lower values (28.8% and 18.6%) if we were to use the average of each county in the SCF. The counterfactual values are lower (28.3% and 10.4%) if we use the coefficients from column (4) and weight by the age groups in the two sample periods.

to every household. The committee then communicated those quotas to the households, and collected subscriptions directly, thereby monitoring participation during the drive.

The allotment system was intended to "overcome the indifference" of less populated areas to the campaigns (Holbrook and Appel 1932: 203). It was developed during the second bond drive in a handful of communities in Minnesota. The success of the approach led to its adoption beyond Minnesota's borders. The leadership of the Liberty Loan Committee for the Minneapolis (Ninth) Fed District used it throughout the District for the third and subsequent bond drives. Just south of Minnesota, the state of Iowa adopted it for the third and subsequent bond drives. The rest of the Chicago (Seventh) Fed District and the state of Idaho then adopted it for the fourth and victory drives. Figure 3 displays the counties that utilized the allotment system during any of the Liberty Bond drives.[19]

An important reason for the effectiveness of the allotment system is that it compelled local committees to assemble lists of all potential subscribers, and enabled them to follow up with non-subscribers on their lists in order to increase participation rates in a targeted way. Appendix Figure A1 shows the distribution of participation rates for the fourth Liberty Bond issue for counties utilizing the allotment system in Panel A and counties in bordering states that did not use it in Panel B. While the upper tails of the distributions are relatively similar, the lower tails of the distributions are quite different. Very few allotment system counties' participation rates were below the median (18.4%) for the border states, and many were tightly clustered just above that level. The figure suggests that the allotment system raised participation rates the most in counties where take up would otherwise have been quite low.

[19] In some cases, slightly different versions of the centralized system were adopted. We code the location as having used the allotment system if contemporary sources indicated that some version of the system was used.

The allotment system has an important advantage for our analysis: it was imposed on local committees by the state and Federal Reserve District committees that oversaw them. For example, publications from the Minneapolis Fed reported that the District's leadership was "insistent upon its being put into effect everywhere," and conducted an extensive campaign to train and educate local committees on how to implement the system (Ninth District Liberty Loan Committee 1918: 3). Thus the decision to adopt the allotment system was not a local decision and did not respond to local financial conditions or demand.[20]

Our IV specification, estimated via 2SLS, is as follows:

$$Outcome_{i,c,t} = a + \beta_1 Liberty_c + \theta X_i + \delta_t + e_{i,c,t} \quad (3A)$$

$$Liberty_c = a + \pi Allotment_c + \xi X_i + \delta_t + u_{i,c,t}, \quad (3B)$$

where the second-stage regression in Eq. (3A) is essentially the same as Eq. (1) above. In the first-stage regression below it, the Liberty Bond participation rate is regressed on an indicator for whether the allotment system was used in county *c* for the 4th Liberty Bond drives ($Allotment_c$) as well as household characteristics and the survey year indicators as in the second stage.

Table 5 present the estimates of β and π. The first-stage regressions, presented at the bottom of the table, show a strong, positive effect of the allotment system on Liberty Bond participation rates. The Kleibergen-Paap *F*-statistics for the various models are all over 100, ruling out concerns related to weak instruments.

The IV results for the effect of Liberty Bond participation are relatively similar to those in Table 2. Households that were more exposed to the Liberty Bond drives were significantly more likely to invest in bonds, stocks, and bank accounts. While the effects are larger for the IV

[20] In Appendix Table A9, we show that there is no significant difference between allotment and non-allotment counties within our sample in various 1920 county-level Census measures.

than those for the OLS, their consistency across specifications indicates a causal relationship between exposure to the Liberty Bond drives and long-run securities ownership.

5.4 Indirect Effects of Liberty Bonds on Asset Holdings

We find that the Liberty Bond drives had an effect on security holdings in the long run that was primarily concentrated on those who were alive to participate in them. This suggests there was a direct effect of the campaigns on investment behavior over the life cycle. However, the Liberty Bond drives could have had several other indirect effects on investing. First, counties with high Liberty Bond participation became more financially developed over the 1920s, with new investment banks and greater financial sophistication of businesses. This would have lowered the cost of accessing securities markets and could have enabled more households to purchase securities. Second, although they marketed very different securities, the bond drives of WWII emulated the Liberty Bond drives. The effect of the Liberty Bond drives might have operated indirectly through the WWII drives. Third, many of the securities industry's marketing campaigns during the Cold War associated stock ownership with patriotism. The same households who purchased Liberty Bonds in WWI may have been particularly responsive to those marketing campaigns, and invested in stocks. This section tests these three indirect effects.

5.4.1 Effect of Financial Development

Hilt et al. (2022) show that areas with high Liberty Bond participation rates saw increased growth in investment banks over the 1920s. All else equal, investment banks would have made it easier for individuals to invest in stocks and bonds. To test this specific indirect mechanism, we control for the number of investment banks per thousand people in the county in

1929 from Hilt et al. (2022) and for the number of commercial banks and trust companies per thousand people in the county in 1940 from Jaremski and Wheelock (2020). These controls help strip out any indirect effect of Liberty Bond drives through institutional growth. The model is:

$$Outcome_{i,c,t} = a + \beta_1 Liberty_c + \beta_2 IB_{c,1929} + \beta_3 CB_{c,1940} + \theta X_i + \delta_t + e_{i,c,t} \quad (4)$$

where $IB_{c,1929}$ is the log number of investment banks per thousand people in county c in 1929, $CB_{c,1940}$ is the log number of commercial banks per thousand people in county c in 1940, and the rest of the variables retain their previous definitions.

Table 6 estimates Eq. (4) to test whether the results are driven by differential financial development across locations. The effects of the Liberty Bond participation rate are similar to those in previous tables. Higher participation rates in the 1910s still correspond to higher levels of bank accounts, bonds, stocks in the post-WWII period. Investment banks are correlated with more stock and bond ownership, whereas commercial banks are also correlated with more stocks, bonds, and bank accounts. Therefore, as we would expect, higher levels of financial development are associated with more saving and investment, and thus the investment bank entry induced by the Liberty Bond drives led to an indirect effect on investment behavior. Yet the effect of the Liberty Bond drives on investment behavior we have estimated is not a result of excluding controls related to those institutions.

5.4.2 Effect of WWII Bond Purchases

As in WWI, the government sought to finance a substantial share of WWII expenditures through borrowing. The government issued a number of different debt securities that were marketed to institutions and to the wealthy during the war, including a new series of savings bonds, denoted Series E, which were marketed to households. E Bonds were registered and non-

negotiable, and could be redeemed prior to maturity according to a fixed schedule, insulating their owners from market fluctuations. With strict annual subscription limits of $5,000 maturity value per person per year and attractive interest rates, E Bonds were specially designed to enable ordinary households to purchase war bonds on favorable terms during WWII.

The Treasury's War Savings Staff (WSS) sold E bonds beginning in May 1941. The WSS also promoted a payroll savings plan, in which workers at participating employers were encouraged to deduct 10 percent from their paychecks to purchase war bonds. Sales surged following the attack on Pearl Harbor. To increase participation, the WSS emulated the Liberty Bond drives. As in WWI, millions of volunteers were recruited from the ranks of America's civic, religious, and business organizations (Morse 1971; Olney 1971). They canvassed their communities, asking neighbors to do their part to "buy our boys back" (Sparrow 2008, 263).

As the structure of the WWI Liberty Bond drives was emulated by the WWII E bonds drives, there is a positive correlation between Liberty Bond participation and E Bonds purchases (see Brunet et al. 2023). Thus it is possible that the Liberty Bond effect we observe may be a product of greater E bond participation during WWII. We test this hypothesis using the value of E bonds purchased by county in 1944 from the *1947 County Data Book*.[21] The model is:

$$Outcome_{i,c,t} = a + \beta_1 Liberty_c + \beta_2 EBondsPC_{c,1944} + \theta X_i + Year_t + e_{i,c,t} \quad (5)$$

where $EBondsPC_{c,1944}$ is the value of E bonds purchased in 1944 per adult person in county *c*, and the rest of the variables retain their original definitions.

Table 7 presents the estimated coefficients of Eq. (5). The effects of Liberty Bond participation are similar to those in previous tables with the exception of the bond outcomes. Specifically, higher exposure to the Liberty Bond drives leads to more stocks and bank accounts.

[21] 1944 is the only year during WWII where county-level bond subscriptions were computed. However, state-level data for other years suggest a strong positive correlation in bond subscriptions over time.

However, the effect on bonds is mitigated. This would be expected as those areas with higher purchases of E bonds were likely to continue owning more bonds after WWII. Liberty Bond drives may have encouraged bond holding indirectly through their influence on the later E bond drives, but controlling for E bonds does not explain the effect of Liberty Bond participation on stock ownership.

The slightly different effects of E bonds and Liberty Bonds are likely the product of differences in the characteristics of the bonds themselves, and the ways they were sold. Liberty Bonds were negotiable, and their value fluctuated over time with market forces. In response to the wide ownership of Liberty Bonds, many newspapers began publishing information on their prices, and individuals responded to these prices (Hilt and Rahn 2020). Moreover, Liberty Bonds were often marketed by investment banks, leading to direct contact between households and the institutions that marketed stocks after WWI. By contrast, E bonds were non-negotiable, carried a fixed interest rate, and were marketed by commercial banks. In this way, Liberty Bonds would have taught investors much more about securities investing and exposed them to investment banks (which is positively correlated with stockholding in Table 6), whereas E bonds were designed to insulate the households that owned them from securities markets and exposed them to commercial banks (which is not positively correlated with stockholding in Table 6).

5.4.3 Effect of Patriotism

During the Cold War, many investment banks marketed their services to households using patriotic themes (Traflet 2013). They highlighted the ownership of corporations by the public as a key difference between the capitalist United States and communist Russia. These marketing campaigns used many of the same themes of the WWI and WWII bond drives to urge

Americans to show their patriotism by buying stocks. To the extent that counties subscribing to Liberty Bonds at high rates were more supportive of the war efforts, more patriotic, or more nationalistic, the bond drives may have opened up households to this later marketing campaign.

To test this potential mechanism, we control for two measures of support for the WWII effort: the rate at which people volunteered for service and the rate at which service members from the county were awarded medals, which are both from Caprettini and Voth (2023). To the extent that those variables capture the strength of support for the war effort in a county, their inclusion in our regressions as controls should help address this concern. The model is:

$$Outcome_{i,c,t} = a + \beta_1 Liberty_c + \beta_2 Patriotism_c + \theta X_i + Year_t + e_{i,c,t} \quad (6)$$

where $Patriotism_c$ is the rate people volunteered for service and the rate service members were awarded medals in county *c*. The rest of the variables retain their previous definitions.

The estimates for Equation (6) are reported in Table 8. The patriotism variables are generally negatively and significantly correlated with bond holdings, but not stocks and bank accounts. However, the inclusion of the patriotism variables does not reduce the effect of the Liberty Bond participation rates. The fact that Liberty Bonds had a strong effect on savings and investing even conditional on other measures of support for the war suggests that they affected households through the financial literacy channel rather than through subsequent patriotic marketing campaigns.

6. Analysis of Household Investing Perspectives

The previous sections have shown that greater exposure to the Liberty Bond drives during the 1910s was associated with increased savings and investment in the mid-20th century. The evidence so far has been based on household asset holdings. This is in some sense restrictive

as many households may have changed their investment preferences but were not able to purchase securities. This leads us to look at investing perspectives and preferences.

Whereas almost no households owned securities before 1914, securities ownership was widespread by the 1940s, and there is some evidence that war bonds were considered different from other assets by their owners. In a survey by Board of Governors of the Federal Reserve System published in the *Federal Reserve Bulletin* (1945, shown in Table A10), few households said they would use savings bonds to purchase luxuries or durable goods. Instead, households planned to use them to buy "permanent assets." In contrast, households planned to use both time and (especially) demand deposits for luxuries and durable goods. This perception of bonds can be seen in the SCF as well. In 1949 and 1951, the SCF asked households that owned maturing savings bonds what they planned to do with the money. The majority of responding bond holders indicated that they planned to use their maturing bonds as continued investments or permanent assets rather than for paying off debt or financing consumption.[22] Individuals might have saved because of the war, but mimicking the bond campaigns, they saw savings bonds as long-term investments. This suggests that those exposed to either the Liberty Bond or E bond campaigns might also have been more likely to look towards future investment after the drives were over.

To isolate the Liberty Bond effect from other factors, we look at two types of SCF questions. First, the SCFs in 1947-1953 and 1969 asked households about what people should do with extra money. For instance, from 1951 through 1953, the question was: "Suppose a man has some money over and above what he needs for his expenses. What do you think would be the wisest thing for him to do with it nowadays--put it in the bank, buy government savings bonds

[22] While anecdotal, households in the late 1940s and early 1950s who reported a decrease in savings bonds in a year often also reported purchasing a new car or house.

with it, invest it in real estate or buy common stock?"[23] Using the same regression framework as Eq. (1), Table 9 shows that households in locations with higher Liberty Bond participation were much more likely to believe that the wisest place to invest extra money was the stock market, and much less likely to recommend bonds.

Second, the SCFs in 1963, 1964, and 1968 asked people why they save. For instance, in 1964, the question is: "In your case, what are the main purposes of savings?" We focus on the main outcome categories: retirement, durable or permanent asset purchases, emergencies, and paying bills/other reasons. Table 10 separately examines the fraction of households that reported those categories using a model similar to Eq (1). Households in locations with more exposure to Liberty Bond drives were much more likely to indicate that they saved for retirement or large purchases (e.g., homes, business, cars, equipment, etc.) but less likely to save for other reasons.

The evidence on investment perspectives reinforces our findings and their policy implications. Not only is greater exposure to the Liberty Bond drives associated with increased stock holding by those with resources to invest, but exposure to the Liberty Bond drives also seems to have influenced how Americans viewed investing. This result matches those found by other studies of financial literacy. For instance, Vissing-Jorgensen (2004) and Van Rooij et al. (2012) show that individuals with more financial literacy are more likely plan for retirement. The Liberty Bonds drives successfully shaped the views of those who were exposed to the drives—with effects persisting more than half a century later.

[23] In most years, the question was only asked of households who made more than $3,000 in income. Responses that include two outcomes (e.g., "Savings bonds and common stock") are counted towards both groups.

7. Conclusion

The Liberty Bond drives of WWI were nation-wide interventions aimed at shaping attitudes toward investing by increasing financial literacy and appealing to patriotism. Although the primary goal of these bond drives was to generate support for the war effort, we find that they helped shape American finance over the next half-century. By matching nationally representative survey data from households over 1947 to 1971 with Liberty Bond participation rates from WWI, we estimate a positive relationship between exposure to Liberty Bonds and later financial asset ownership in the same county, even when controlling for income, education, demographic characteristics, and home ownership. The Liberty Bond participation rate is associated with greater ownership of stocks and bonds as well as saving through bank accounts. Moreover, households with greater exposure to the Liberty Bond drives were more likely to save for retirement (or to make major purchases) and were more likely to believe that the wisest thing to do with extra money was to invest in stocks. These effects are present only among cohorts exposed to the bond drives, and are robust to the use of an instrumental variables specification based on supply-side factors unrelated to investment demand.

The results of this paper highlight the power of early life experiences in shaping investment behavior throughout the lifecycle. The Liberty Bond drives presented school-age children with messages conveying the importance of saving and investing, which were coupled with basic information regarding compound interest. Young adults were also enlisted in the drives, and gained first-hand experience with investing in securities if they subscribed. We find that these cohorts were more likely to own shares of stock 40 years later and beyond, and that the Liberty Bond drives of WWI in fact contributed substantially to household stock ownership rates in the 1950s and 1960s.

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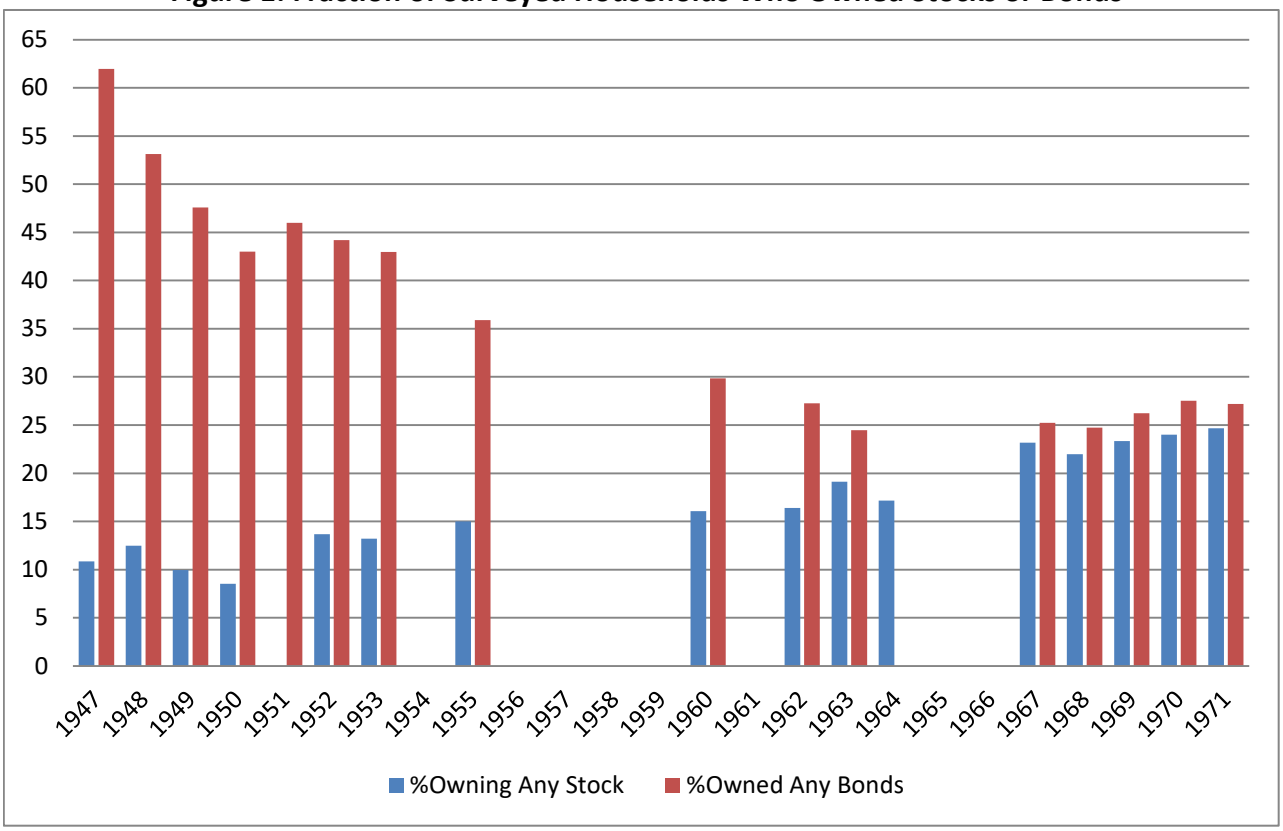
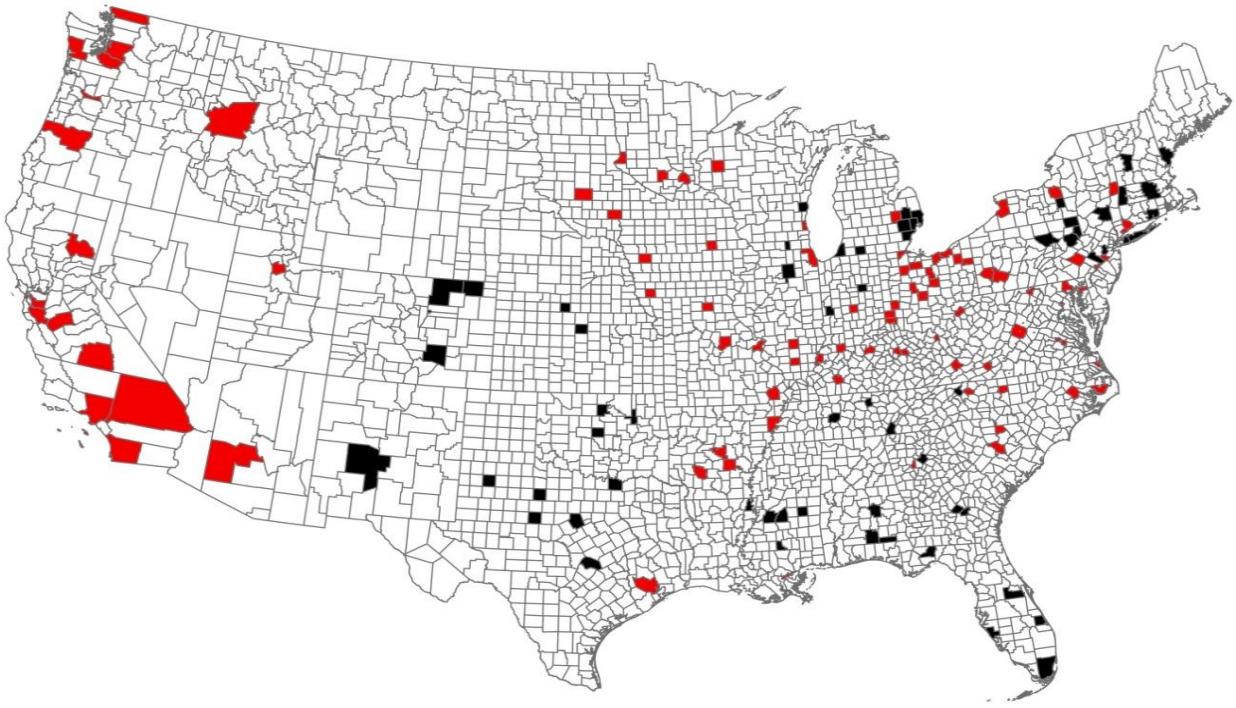
Figure 1: Fraction of Surveyed Households Who Owned Stocks or Bonds



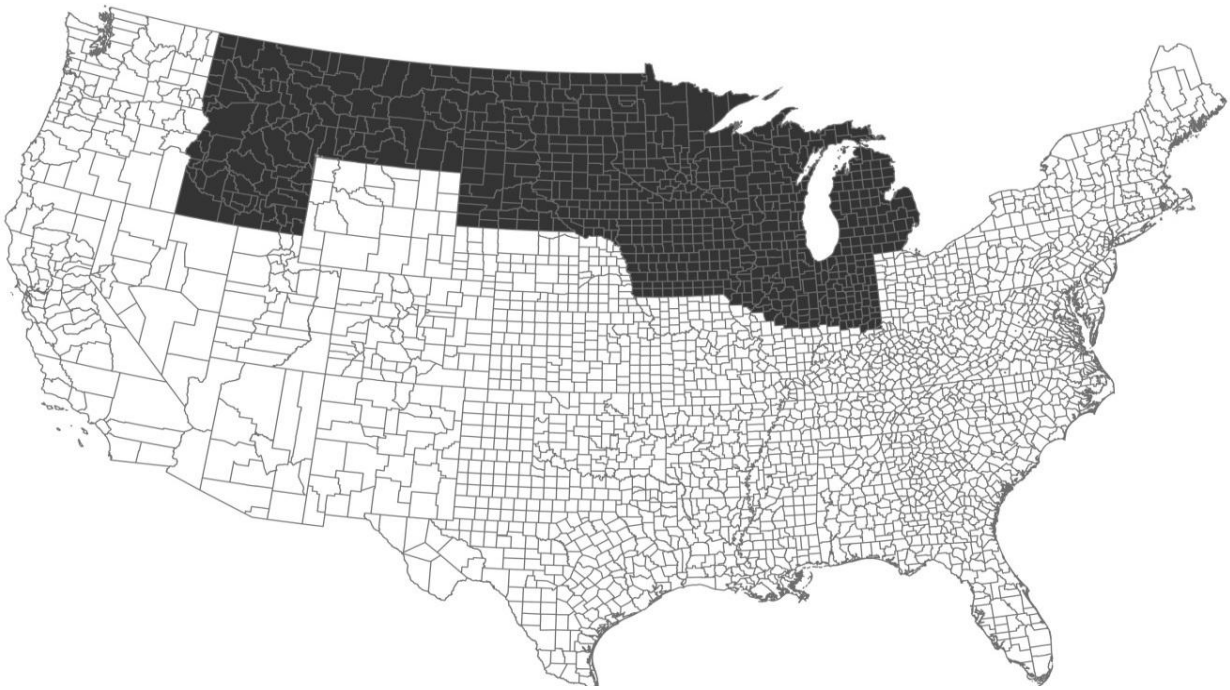
Notes: Figure provides the fraction of surveyed households that owned any stock or any bonds in each year.

Figure 2: Geographic Distribution of SCF and Liberty Bond Data



Notes: Map displays the location of SCF households across all years shaded by whether data is available for the Liberty Bond Participation rate for rhe 4th Liberty Bond drive. Counties in red are those for which data are available in both databases. Boundaries were obtained from Manson et al. (2022).

Figure 3: Locations Where Allotment System Utilized



Notes: Figure displays areas where the allotment system was utilized during the Liberty Bond drives. Boundaries were obtained from Manson et al. (2022).

Table 1: Control Variable Definitions

Name	Type	Description 1940s
Household Controls		
Age of Head of Household	Categorical	18-24 years, 25-34 years, 45-64 years, 65+ years
Education of Head of Household	Categorical	Grammar School (1-8 grades), High School (9-12 grades), College
Race of Head of Household	Categorical	White, Black, Other
Gender of Respondent	Categorical	Female, Male
Any Wage Income Indicator	Categorical	Reports no household wage income, Reports some household wage income
Ln(Wage Income)	Continuious	Logarthm of the household's reported wage income
Family Size	Categorical	1 person, 2 people, 3 people, 4 people, 5 people, 6 people, 7 people, 8+ people
Owns or Rents House	Categorical	Owns Home, Pays Rent, Neither
City Size Indicators		
City Size	Categorical	Metropolitan area, City of 50,000+ but not Metropolitan, City of 2,500 to 50,000, Town under 2,500, Open Country
County Controls		
Liberty Bond Participation Rate in 1918	Continuious	Fraction of People in County in 1918 that purchased a 4th Liberty Bond (in Percentage Points)
Fraction-Non White in County in 1940	Continuious	Fraction of County Population That is Non-White in 1940
Souce of Largest White Immigrant Group in County in 1940	Categorical	United Kindom, Northern Europe, Western Europe, Southern Europe, Mexico, Canada, Australia, Russia, Turkey, Central/South America, Other Asia, Other
Number of Farms Per Square Mile In County in 1940	Continuious	Number of farms per square mile in county in 1940

Notes: Tables provides definitions of the various control variables used in the paper's regressions.

Table 2: Effect of Liberty Bond Participation on Future Portfolio Compositions (1947-1971)

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0113***	0.0017***	0.0085***	0.0012***	0.0188***	0.0022***
	[0.0032]	[0.0005]	[0.0030]	[0.0003]	[0.0030]	[0.0004]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.187	0.164	0.152	0.155	0.292	0.224
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 3: Effect of Liberty Bond Participation on Future Portfolio Compositions - Interacting With People Alive During Liberty Bonds (With County Fixed Effects)

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate * Born Before 1913	0.0111*** [0.0034]	0.0014*** [0.0005]	0.0110*** [0.0038]	0.0014*** [0.0004]	0.0104*** [0.0035]	0.0004 [0.0005]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.209	0.184	0.167	0.170	0.306	0.240
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (3). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The models also include the interaction of the age indicators and year fixed effects. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 4: Effect of Liberty Bond Participation on Future Portfolio Compositions - Interacting With People Alive During Liberty Bonds In Alternative Samples

	Ln(Stock Value)			Any Stock Indicator		
	1947-71	**1948-50**	**1967-71**	**1947-71**	**1948-50**	**1967-71**
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0010	-0.0117	0.0078	0.0002	-0.0015**	0.0007
	[0.0035]	[0.0074]	[0.0096]	[0.0004]	[0.0007]	[0.0012]
Liberty Bond Participation Rate * Born Before 1913	0.0127***			0.0015***		
	[0.0037]			[0.0004]		
Liberty Bond Participation Rate * Aged 25-34 in Survey Year		0.0128**	-0.0008		0.0016**	0.0007
		[0.0060]	[0.0099]		[0.0007]	[0.0013]
Liberty Bond Participation Rate * Aged 35-44 in Survey Year		0.0237**	0.0038		0.0030***	0.0004
		[0.0095]	[0.0110]		[0.0010]	[0.0014]
Liberty Bond Participation Rate * Aged 45-54 in Survey Year		0.0217*	0.0062		0.0037***	0.0017
		[0.0112]	[0.0116]		[0.0011]	[0.0015]
Liberty Bond Participation Rate * Aged 55-64 in Survey Year		0.0315***	0.0244*		0.0043***	0.0029*
		[0.0105]	[0.0126]		[0.0011]	[0.0015]
Liberty Bond Participation Rate * Aged Over 65 in Survey Year		0.0410***	0.0046		0.0048***	0.0014
		[0.0147]	[0.0146]		[0.0015]	[0.0017]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21625	4189	6981	26526	6312	7961
R-squared	0.156	0.121	0.167	0.160	0.132	0.170
Mean of Dependent Variable	1.164	0.771	1.638	0.172	0.116	0.243

Notes: Tables presents the results of equation (2). The column headings provide the outcome variable and sample of years used. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The models in columns (1) and (4) also include the interaction of the age indicators and year fixed effects. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 5: Effect of Liberty Bond Participation on Future Portfolio Compositions - Using Allocation System As Instrumental Variable

	Second-Stage Regressions: See Column Headings					
	Ln(Any Bonds Value)	**Any Bonds**	**Ln(Stock Value)**	**Any Stock Indicator**	**Ln(Total Bank Accounts Value)**	**Any Bank Accounts**
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0564***	0.0070***	0.0231***	0.0025**	0.0248***	0.0023*
	[0.0109]	[0.0015]	[0.0089]	[0.0011]	[0.0090]	[0.0012]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.172	0.155	0.150	0.155	0.292	0.224
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754
Kleibergen-Paap F-statistic	119.72	130.95	175.09	151.71	140.01	140.01
	First-Stage Regression: 4th Liberty Bond Participation Rate					
Allotment System for Liberty Bonds	8.9063***	9.1106***	9.5671***	9.1247***	8.8359***	8.8359***
	[1.0258]	[1.0065]	[1.0715]	[1.0048]	[0.9862]	[0.9862]

Notes: Tables presents the results of equations (3A) and (3B). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. The top panel of each group provides the second stage results, whereas the bottom panel provides the first stage results. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 6: Effect of Liberty Bond Participation on Future Portfolio Compositions - Controlling for Financial Development

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0121***	0.0019***	0.0080***	0.0011***	0.0189***	0.0023***
	[0.0032]	[0.0005]	[0.0031]	[0.0003]	[0.0031]	[0.0005]
Number of Investment Banks P.C. in 1929	0.5813	0.0431	0.6561*	0.0776*	0.7144*	0.0802
	[0.4003]	[0.0587]	[0.3921]	[0.0460]	[0.4328]	[0.0539]
Number of Commercial Banks P.C. in 1940	2.1530***	0.3158***	0.5835	0.0320	1.4494***	0.2270***
	[0.4347]	[0.0633]	[0.4377]	[0.0533]	[0.3936]	[0.0526]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.189	0.165	0.152	0.156	0.293	0.225
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (4). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 7: Effect of Liberty Bond Participation on Future Portfolio Compositions - Controlling for E-Bonds Per Capita in 1944

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0054	0.0009	0.0061*	0.0008**	0.0116***	0.0014**
	[0.0041]	[0.0006]	[0.0036]	[0.0004]	[0.0037]	[0.0005]
Value of E-Bonds P.C. in 1944	2.2297**	0.2861**	0.8661	0.1339	2.7421***	0.3159***
	[0.8681]	[0.1299]	[0.7628]	[0.0854]	[0.6814]	[0.0940]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.188	0.164	0.152	0.156	0.293	0.225
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (5). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 8: Effect of Liberty Bond Participation on Future Portfolio Compositions - With Patriotism

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0182***	0.0026***	0.0087***	0.0011***	0.0216***	0.0023***
	[0.0033]	[0.0005]	[0.0032]	[0.0004]	[0.0033]	[0.0005]
WW2 volunteers per 100 people	-0.6065***	-0.0675***	-0.0369	0.0103	0.2271*	0.0391**
	[0.1403]	[0.0217]	[0.1403]	[0.0169]	[0.1338]	[0.0189]
WW2 medals per 1000 people	-0.9833**	-0.0906	0.3708	0.0525	0.0449	0.0935*
	[0.4861]	[0.0723]	[0.4307]	[0.0513]	[0.4173]	[0.0541]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21877	22776	19452	23536	23948	23948
R-squared	0.178	0.153	0.148	0.151	0.298	0.233
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (6). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 9: Effect of Liberty Bond Participation on Investment Preferences

	Wisest Place to Invest Extra Funding (1948-1953, 1969):			
	Bank Accounts	**Bonds**	**Stocks**	**Real Estate**
	(1)	(2)	(3)	(4)
Liberty Bond Participation Rate	0.0009	-0.0031***	0.0015***	0.0003
	[0.0008]	[0.0008]	[0.0005]	[0.0006]
Household Controls	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes
Observations	7057	7057	7057	7057
R-squared	0.061	0.179	0.101	0.041

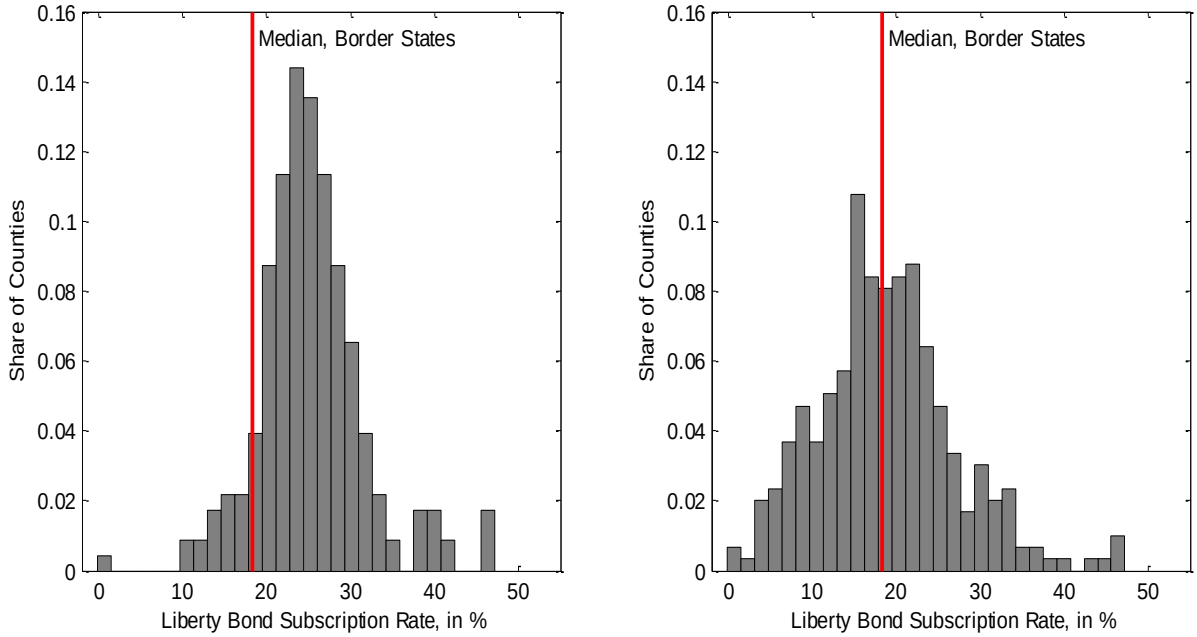
Notes: Tables presents the results of an OLS regression similar to equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households that can be matched to the liberty bond participation rate data in the years specified. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table 10: Effect of Liberty Bond Participation on Saving Preferences

	Purpose of Saving (1963, 1964, 1968):			
	Retirement	**Purchase Home, Business or Durables**	**Emergencies**	**Bills or Other Reasons**
	(1)	(2)	(3)	(4)
Liberty Bond Participation Rate	0.0015*	0.0019***	0.0010	-0.0044***
	[0.0009]	[0.0007]	[0.0012]	[0.0011]
Household Controls	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes
Observations	2755	2755	2755	2755
R-squared	0.143	0.107	0.033	0.076

Notes: Tables presents the results of an OLS regression similar to equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households that can be matched to the liberty bond participation rate data in the years specified. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Figure A1: Distribution of Liberty Bond Subscription Rates: Allotment System vs. Neighboring Counties



Notes: This figure presents the distribution of county subscription rates for the fourth Liberty Bond issue for counties that used the allotment system vs. counties in bordering states that did not ("Border States"). Panel A shows the distribution for 220 sample counties in Wisconsin, South Dakota, Montana, Michigan, Idaho, and Iowa, whereas Panel B shows the distribution for 297 sample counties in the bordering states of Washington, Oregon, Ohio, and Missouri, as well as those located in the Kansas City Fed District of Illinois. The vertical line denotes the median subscription rate in border state counties, which was 18.37%.

Table A1: Availability of Outcome Variables By Survey Year

	Bank Accounts	Stocks	Savings Bonds	US Gov bonds	Other Bonds	Total Bonds
1947	Value	Indicator	Value	Value	Indicator	
1948	Value	Indicator	Value	Value	Indicator	
1949	Value	Value Cat	Value	Value	Indicator	
1950	Value	Value Cat	Value	Value		
1951	Value		Value	Value		
1952	Value	Value	Value	Value		
1953	Value	Value	Value	Value		
1955	Value	Value	Value	Value		
1960	Value	Value Cat	Value			
1962	Value	Value	Value	Value	Value	
1963	Value	Value Cat	Value	Value Cat	Value Cat	
1964		Value Cat				
1967	Value Cat	Value Cat				Value Cat
1968	Value	Value				Value
1969	Value	Value				Value
1970	Value	Value	Value		Value	
1971	Value	Indicator	Indicator		Indicator	

Notes: Table describes which outcome variables are available for which years. "Indicator" denotes that the question only asked about any holdings not their value. "Value" indicates years when a continuous measure of the value of holdings was provided. "Value Cat" indicates years indicates years when a catagorical measure of the value of holdings was provided

Table A2: Summary Statistics

	Mean	Std. Dev.	Min	Median	Max
Ln(Any Bonds Value)	2.48	3.20	0.00	0.00	12.18
Any Bonds	0.40	0.49	0.00	0.00	1.00
Ln(Stock Value)	1.16	2.88	0.00	0.00	13.82
Any Stock Indicator	0.17	0.38	0.00	0.00	1.00
Ln(Total Bank Accounts Value)	5.07	3.31	0.00	6.08	13.11
Any Bank Accounts	0.75	0.43	0.00	1.00	1.00
Liberty Bond Participation Rate	27.06	10.78	0.72	29.29	50.11

Notes: Table provides the summary statistics of the main regression variables. Before taking the logarithm of any number we add one.

Table A3: Effect of Liberty Bond Participation on Future Portfolio Compositions (1947-1971) - Only County-Level Liberty Bond Data

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0088**	0.0011*	0.0059	0.0008*	0.0206***	0.0025***
	[0.0041]	[0.0006]	[0.0039]	[0.0005]	[0.0037]	[0.0005]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16483	17245	15165	18076	18246	18246
R-squared	0.168	0.147	0.141	0.146	0.301	0.243

Notes: Tables presents the results of equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table A4: Effect of Liberty Bond Participation on Future Portfolio Compositions (1947-1971) - Clustering By County

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0113**	0.0017*	0.0085*	0.0012**	0.0188***	0.0022***
	[0.0056]	[0.0009]	[0.0043]	[0.0005]	[0.0051]	[0.0007]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.187	0.164	0.152	0.156	0.292	0.224
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table A5: Effect of Liberty Bond Participation on Future Portfolio Compositions (1947-1971) - Using Invese Hyperbolic Sine Transformation

	Ln(Any Bonds Value)	Asinh(Any Bonds Value)	Ln(Stock Value)	Asinh(Stock Value)	Ln(Total Bank Accounts Value)	Asinh(Total Bank Accounts Value)
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0113***	0.0125***	0.0085***	0.0092***	0.0188***	0.0203***
	[0.0032]	[0.0035]	[0.0030]	[0.0032]	[0.0030]	[0.0033]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	24823	21625	21625	27126	27126
R-squared	0.187	0.186	0.152	0.151	0.292	0.289

Notes: Tables presents the results of equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table A6: Effect of Liberty Bond Participation on Future Portfolio Compositions (1947-1971) - Controlling for Bank Account Value

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator
	(1)	(2)	(3)	(4)
Liberty Bond Participation Rate	0.0047	0.0009*	0.0052*	0.0008**
	[0.0030]	[0.0004]	[0.0031]	[0.0003]
Ln(Total Bank Accounts Value)	0.3262***	0.0451***	0.1668***	0.0220***
	[0.0079]	[0.0012]	[0.0071]	[0.0009]
Household Controls	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes
Observations	24493	25290	20331	25040
R-squared	0.269	0.232	0.180	0.183

Notes: Tables presents the results of equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. . The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table A7: Effect of Liberty Bond Participation on Future Portfolio Compositions (1947-1971) - State Fixed Effects

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0219***	0.0031***	0.0122**	0.0012*	0.0065	0.0001
	[0.0056]	[0.0009]	[0.0059]	[0.0007]	[0.0054]	[0.0007]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.198	0.174	0.157	0.159	0.298	0.231
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (1). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table A8: Effect of Liberty Bond Participation on Future Portfolio Compositions - Interacting With People Alive During Liberty Bonds

	Ln(Any Bonds Value)	Any Bonds	Ln(Stock Value)	Any Stock Indicator	Ln(Total Bank Accounts Value)	Any Bank Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
Liberty Bond Participation Rate	0.0042	0.0007	0.0010	0.0002	0.0124***	0.0020***
	[0.0035]	[0.0006]	[0.0035]	[0.0004]	[0.0035]	[0.0005]
Liberty Bond Participation Rate * Born Before 1913	0.0120***	0.0016***	0.0127***	0.0015***	0.0113***	0.0006
	[0.0036]	[0.0005]	[0.0037]	[0.0004]	[0.0037]	[0.0005]
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes
City Size Indicators	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey Year Indicators	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24823	25817	21625	26526	27126	27126
R-squared	0.193	0.168	0.156	0.160	0.296	0.228
Mean of Dependent Variable	2.481	0.400	1.164	0.172	5.068	0.754

Notes: Tables presents the results of equation (2). The column headings provide the outcome variable. "Household Controls" includes: Age of Head of Household, Education of Head of Household, Race of Head of Household, Gender of Respondent, Any Wage Income Indicator, Ln(Wage Income), Family Size, amd Owns or Rents House Indicators. "County Controls" includes: Fraction-Non White in County in 1940, Source of Largest White Immigrant Group in County in 1940, and the Number of Farms Per Square Mile In County in 1940. Table 1 contains a full definition of each of the included control variables. The models also include the interaction of the age indicators and year fixed effects. The sample includes all SCF households from 1947 to 1971 that can be matched to the liberty bond participation rate data. Before taking the logarthm of any number we add one. Standard errors clustered by county-survey year are in parentheses. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table A9: Balance Test for Allotment vs. Non-Allotment SCF Counties

	Non-Allotment	Allotment	Diff
	Mean	Mean	Mean
Ln(Population) in 1920	11.36	11.12	0.24
Fraction Urban in 1920	0.52	0.51	0.01
Ln(# of Farms) in 1920	7.68	7.85	-0.17
Ln(# of Mfg Estab.) in 1920	5.42	5.16	0.26
Ln(Banks) in 1919	2.81	3.20	-0.40

Notes: The Table provdies the means for those counties in our database that have both SCF and Liberty Bond information. *, **, and *** denotes significance at the 10%, 5%, and 1% levels, respectively.

Table A10: Results of Federal Reserve Survey of Households (1945)

	% Would Use Asset For:			% Would Not Use Asset For:		
	Luxuries	Durable Goods	Permanent Assets	Luxuries	Durable Goods	Permanent Assets
Birmingham:						
Demand Deposits	57	58	55	36	28	20
Time Deposits	32	40	68	63	58	24
War Bonds	11	19	56	87	76	36
Douglas County:						
Demand Deposits	62	63	65	33	30	24
Time Deposits	26	22	66	60	68	20
War Bonds	15	21	72	84	72	22

Notes: Table presents the fraction of households that would use the specified asset in the row heading to purchase the type of good in the column heading. Data from Federal Reserve Bulletin (1945, p. 870).