Inflation, War Bond Ownership, and the Rise of Republicans in the 1950s

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July 9, 2023

Abstract: We study the role of war bond ownership in the presidential elections of the 1950s. Household saving increased dramatically during World War II, to nearly 20 percent of GDP, and the federal government conducted aggressive campaigns to convince Americans to invest their savings in wartime savings bonds. Although they were nonnegotiable and protected from interest rate fluctuations, the real returns paid by the bonds were eroded by two major inflationary episodes after the war, in 1946-48 and 1950-51, contributing to a political backlash against the incumbent Democrats. In a difference-in-differences framework, we find that counties with higher war bond ownership shifted their votes towards the Republican party in the postwar elections, relative to the elections of the late 1930s and early 1940s. To address concerns related to the endogeneity of war bond ownership, we instrument for WWII bond subscriptions using county data from the World War I liberty loans, and find similar results. Our results indicate that the promotion of savings bonds made Americans more sensitive to the high inflation that prevailed after the war, contributing to the breakdown of the New Deal Democratic coalition and Republicans' victories in the 1950s.

Keywords: War Savings Bonds, Inflation, Political Voting, World War II, Republicans

JEL Codes: N12, H63, D72

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1. Introduction

During World War II, the American government waged an aggressive campaign to convince its citizens to invest in war bonds. Through a payroll deduction program and a series of eight distinct bond drives, American households purchased war savings bonds at very high rates, with more than 85 million Americans subscribing. This reallocation of Americans' savings had far-reaching consequences, not all of which were anticipated. The government-led drives sought to convince Americans that savings bonds were excellent investments; surveys from the period indicate that households were persuaded, as they considered those assets the key to their financial futures. Yet in the years following the war, high inflation substantially eroded the purchasing power of the bonds' returns, leading many Americans to feel bitter. We argue that American households blamed the Democrats for their loss of purchasing power. The fact that the government had induced American households to purchase their bonds and hold them long-term through intensive promotion efforts during WWII may have created a connection between their disappointing returns and the Democrats.

We study the role of war bond ownership in the presidential elections of the 1950s. After two decades of dominance by Democrats, the Republicans won the presidency in 1952 and 1956. Inflation was a major issue for voters in both elections. Whereas inflation had benefitted the Democrats' electoral fortunes in the 1930s following the deflationary years of the Great Depression, many voters perceived the high rates of inflation that prevailed following World War II as harmful and blamed the Democrats (Lubell, 1951). Using a difference-in-differences design with a panel of counties and state-by-time fixed effects, we test whether ownership of wartime savings bonds contributed to the backlash against the Democrats in the 1950s. Our results indicate that counties with higher war bond purchases shifted their preferences towards the Republican party in the postwar elections at higher rates, relative to their voting patterns in the elections of the late 1930s and early 1940s, and relative to other counties within the same state. War bond ownership thus seems to have created a constituency for the anti-inflationary policy that was promised by the Republicans.

A natural concern regarding this finding might be that wealthier counties were likely to have owned more war bonds, and may have shifted their support toward the Republicans for reasons unrelated to bond ownership. We address this concern in a variety of ways. First, we control for average wage income in 1940, as calculated from the federal census, as well as numerous social and economic characteristics of counties. We also control for the value of war spending per capita, a major source of wartime income, and the value of bank deposits per capita, a measure which reflects both wealth and wartime savings that were not allocated to war bonds. Importantly, we find that bank deposits have much

weaker effects on voting outcomes than savings bonds, even though both reflect local wealth and both were impacted by inflation. The fact that households were told to buy war savings bonds, and were promised that those bonds would be a good long-term investment, likely fueled a backlash towards Democrats when inflation eroded the bonds' returns.

Of course, it is possible that other unobservable factors correlated with war bond ownership may have led some counties to turn against the Democrats in the 1950s. To address this possibility, we instrument for WWII savings bond ownership using participation rates in the liberty loan drives of World War I. The WWI bond drives were quite successful and generated high participation rates in many counties. When savings bonds sales during WWII initially failed to meet expectations, the Treasury shifted to strategies that emulated those of the WWI bond drives beginning in 1942. The variation in liberty bond subscription rates was driven in part by the approaches taken to the marketing of the bonds, with some counties adopting a highly centralized technique that quite effectively reached a large share of the population (see Hilt, Jaremski and Rahn 2022). The local lessons learned from those campaigns were remembered and adopted in the promotion of WWII savings bonds. Liberty bond participation rates are a valid instrument in our setting if they produced changes in electoral preferences in the 1950s only through WWII war bond ownership, which we find plausible. 2SLS results using this instrument produce similar (but larger) estimates, confirming the importance of war bond ownership in 1950s presidential elections.

These results highlight the importance of WWII financing policies for the subsequent evolution of American politics. Efforts to promote war savings bonds served multiple objectives: they channeled household resources into long-term savings vehicles, reducing spending on scarce consumption goods and holding down wartime inflation by reducing demand; they raised funds to support the war effort; and, perhaps most importantly, they created opportunities to present the public with messages touting the importance the war effort, and to encourage participation in rallies and campaigns held in support of the war. Yet by inducing Americans to purchase war savings bonds with promises that they would be excellent long-term investments, these campaigns made American households more sensitive to inflation, magnifying its impact on voters' preferences.

There were two major inflationary episodes following the war, in 1946-48 and 1950-51. The inflation of 1946-48 following the relaxation of wartime price controls was generally anticipated. Both survey data and narrative evidence from economists at the time expected deflation to follow the immediate burst of post-WWII inflation. Our estimates indicate that impact of war bond ownership on the 1948 election was muted. But the surge in inflation in 1950-51 at the outbreak of the Korean War was unexpected and made clear that there would be no prolonged deflation. President Truman's efforts in 1951 to pressure the Federal Reserve to continue to peg interest rates at low levels rather than pursue a policy change aimed at curtailing inflation strengthened the association between the Democratic Party and

high inflation. In the 1952 election, Eisenhower and the Republicans won with a platform that argued that if left in office, the Democrats would "further cheapen the dollar, rob the wage earner, impoverish the farmer and reduce the true value of the savings, pensions, insurance and investments of millions of our people." Inflation then fell after the election and remained low over the next four years, and in 1956, Eisenhower won again, with a party platform that boasted of having "fulfilled our 1952 pledge to halt the skyrocketing cost of living."

The importance of inflation as a factor in American elections over the twentieth century was established by the first empirical studies of economic voting (Kramer, 1971; Stigler, 1973), and remains an important focus of elections research (e.g., Palmer and Whitten, 1999; Lewis-Beck and Stegmeier, 2000). We advance this literature by using local variation in the ownership of an asset—war bonds—whose realized returns were unexpectedly reduced by inflation to study the impact of inflation on election outcomes. Our analysis of war bond ownership also contributes to a related literature on the effects of asset ownership on political behavior (e.g., Duca and Saving, 2008; Nadeau et al., 2010; Jha and Shayo, 2019; Hilt and Rahn, 2020).

The changing partisan alignment of the American electorate over the mid-twentieth century has been the subject of considerable research, and our results help explain some of the shifts observed in the 1950s. The Great Depression and 1932 election realigned American voters, shifting the loyalties of large segments of the electorate toward the Democrats (Burnham 1970; Clubb, Flanigan and Zingale, 1980; Sundquist, 1983). The association between the Republican Party and economic depression persisted through the 1950s (Campbell et al., 1964), but our analysis helps explain Republicans' success in that decade as a response to inflation. Our results also help explain some of the shifts in the geographic patterns of support between the parties beginning in the 1950s, although other factors were more important in those changes (see, for example, Black and Black, 2003; Bazzi et al. 2021).

Finally, our paper contributes to the literature on the financing of America's efforts in WWII (e.g., Rockoff, 1995; Ohanian 1997; Hall and Sargent, 2011; Rockoff, 2012). The bond drives of the war in particular have been the subject of considerable research, which includes some early foundational contributions to the study of social psychology (Merton, 1946) and behavioral economics (Katona, 1951), as well as modern works across a range of disciplines (e.g. Kimble 2006; Sparrow 2008). Some of this work has argued that WWII transformed the role of the federal government by eroding popular opposition to a powerful national state and inculcating in Americans a sense of 'fiscal citizenship' (e.g., Sparrow, 2008, 2011; Brinkley, 1989). We advance this literature by quantitatively analyzing the largely unanticipated political consequences of war bond ownership, which created a constituency for anti-inflation policy.

2. The Bond Drives of World War II

Although the United States did not enter World War II until December 1941, the war's outbreak in 1939 led to rapid changes in its economy, as it developed into the "great Arsenal of Democracy." As war spending increased, the U.S. Treasury debated different approaches to financing this spending. Ultimately, the spending was financed by a mix of taxes, borrowing, and money creation (Rockoff, 2012).

Some of the borrowing was obtained from households. During the war, household saving reached unprecedented levels, as shown in Figure 1. A number of factors contributed to this surge in savings, including increased incomes and labor force participation due to fiscal expansion, and the strict rationing of durable goods after civilian manufacturing was converted to war production. Other factors which may have contributed to increased saving during WWII include uncertainty (both about when the war would end and economic prospects after the war), government debt increases (Ricardian motive), and saving incentives such as war bond drives and the payroll deduction programs for war bond purchases (see Brunet and Hlatshwayo, 2023). The U.S. Treasury sought to encourage saving and collect some of it for the war effort by promoting the purchase of war bonds among American households.

These efforts benefitted from lessons learned in World War I. The liberty bonds sold during that war were negotiable instruments, whose market prices fell when interest rates rose, resulting in capital losses to many households who sold them prior to maturity. In addition, the smallest denomination liberty bond was $50, a large sum relative to incomes at the time (see Kang and Rockoff, 2015). In WWII, a new series of non-negotiable savings bonds, which had been pioneered in the 1930s, were sold to households, while marketable securities were sold to institutions. The new series E savings bonds marketed to households during wartime were sold in denominations as low as $25, and offered a nominal interest rate of 2.9 percent compounded semi-annually, which was higher than the rates offered by the securities sold to institutions. Owners of savings bonds could not resell them, but could redeem them at a fixed series of values, which protected the holder against interest rate fluctuations, and were structured to incentivize holding them to maturity—early redemptions received lower rates. Series E bond purchases were restricted to individuals, with annual subscription limits ($5,000 maturity value per person); wealthy households could supplement E-bond purchases by buying larger quantities of other savings bonds (series F and G) offering slightly lower returns, or other government securities.

Sales of E bonds began in May 1941, as the Treasury's Defense Savings Staff (later renamed War Savings Staff) began advertising and promoting bond ownership. The staff also promoted a 'payroll savings plan,' in which workers were encouraged to deduct 10 percent from their paychecks for war bonds. After a relatively slow start, sales surged following the attack on Pearl Harbor, and participation in the payroll deduction program expanded rapidly, eventually reaching 27 million workers by 1944. Yet

the Treasury felt that sales of E bonds failed to capture a sufficient share of household incomes. To increase subscriptions, the bond drives of World War I were emulated, in which sales goals over a specific period were announced and intensive high-pressure campaigns to reach the goal were conducted. After a successful pilot test of a bond drive in the town of Vineland NJ, the approach was adopted nationally, and ultimately eight bond drives (called "war loans") were conducted.

Celebrities, movie stars, government officials, popular musicians, hundreds of civil society organizations, and a volunteer sales force of more than five million people were enlisted in these drives, which were seen by the federal government not only as a way to increase bond sales, but also to blanket the population with propaganda in support of the war effort. The messages of the bond drives framed bond subscriptions as patriotic obligations to fund the fight against tyranny and preserve the 'American way of life.' But they also highlighted the attractiveness of the war bonds as investments, describing them as the 'safest investments in the world,' and an opportunity to 'put your money to work' and earn interest in order to secure one's family's financial future. The drives also discouraged households from redeeming their bonds early, with slogans that emphasized that war bonds were 'to have and to hold.' One promotional film, entitled *These Are Your Bonds* (1944), featured President Roosevelt telling Americans that "to buy and hold all that we can of war bonds" is "a small service to ask of those who do not fight." The emphasis of the drives thus was on both buying and holding the bonds.

Table 1 presents some details of these bond drives. The vast majority of the funds raised came from the sale of Treasury securities to institutions, but E bond sales to households were always a major focus of the drives. The Treasury conducted extensive research into its sales methods and adapted its approach over time as it learned what worked best. The first and second drives had no specific goal for E bond sales, and although the total funds raised far surpassed its overall goal ($12.9 billion compared to a goal of $9 billion), sales of E bonds were regarded as disappointing, reaching only $726 million. Later drives had explicit goals for E bond sales and made intensive use of personal solicitations, advertising, and various other marketing strategies that the Treasury's research determined to be effective. The goals for E bond sales for many of the drives were quite aggressive and were not aways met; the third drive had a goal of $3 billion for E bonds, whereas $2.5 billion were sold, and the seventh had a goal of $4 billion, and just under that amount were sold. The ambitious drives were considered generally successful at mobilizing household resources.

Figure 2 presents monthly sales of E bonds from May 1941 to June 1946. The surge in December 1941 and January 1942, following the attack on Pearl Harbor, is clearly evident in the figure, and the growing monthly sales throughout 1942 reflected the increasing success of the payroll savings plan. The first bond drive in December 1942 is barely visible in the figure; sales were not much higher than they would have been under the payroll savings plan alone. Yet most of the later bond drives are clearly

visible in the figure, and represent substantial increases in sales beyond what the payroll deduction program produced in adjacent months. The Treasury's approaches to the conduct of the drives clearly benefitted from experience and became more successful. In the end, about 53 percent of the wartime E bond sales were a product of the bond drives with the remaining 47 percent driven by payroll savings plan (Murphy, 1950). In total, about $30 billion of E bonds were sold to about 85 million Americans during the war years. In the peak year of war bond sales, 1944, net sales of savings bonds accounted for 9.7 percent of personal after-tax income.

The effects of the Treasury's efforts to persuade Americans to purchase war bonds are evident in Table 2, which presents summary data from the Survey of Consumer Finances over 1947 to 1951. The table summarizes data for 16,119 households with a median income of $3,000. On average, savings bonds accounted for about 34 percent of households' liquid assets; the share was slightly lower for households with below-median income, and higher among households with above-median income. Although many households held large savings account balances and other liquid assets, the returns realized from investing in war bonds were clearly important for household finance.

Whether or not the bond drives and payroll savings program actually increased total household savings, or merely converted the form in which they were held from bank balances to E bonds, has been the subject of some debate (see e.g., Friedman and Schwartz, 1963: 559; Murphy, 1950; and Katona, 1951), mirroring more recent debates in public finance. Yet irrespective of whether the drives changed total savings, they certainly reallocated a substantial portion of them, convincing Americas to shift their funds into war bonds and out of bank deposits or other liquid assets.

3. Inflation, Real E Bond Returns, And Voting

3.1 Realized E Bond Returns

The surge in inflation in the years following the war significantly eroded the real value of the earnings produced by E bonds. Figure 3 presents monthly inflation rates from 1930 to 1960, as reflected in the change in the CPI relative to 12 months prior. As the figure makes clear, inflation rose briefly during the war until price controls were imposed, then was very high during 1946-48 following the relaxation of price controls, and surged again during 1950-51 with the outbreak of the Korean War.

The effect of these inflationary episodes on the real returns received by holders of E bonds varied somewhat with the timing of purchases. The returns of bonds purchased in 1941 and held to maturity suffered from the effects of the wartime inflation as well as the postwar inflation; those purchased at the end of the war were bought with dollars whose value had already been impacted by the wartime inflation, and therefore suffered somewhat less. Table 3 presents the returns realized by E bonds of different

purchase dates, on the assumption that they were held to maturity (10 years). Real returns were negative no matter when the bonds were purchased, but the real returns from bonds purchased early in the war were significantly worse than those purchased late in the war.

Many holders of E bonds chose to redeem them well before maturity, and the impact of inflation on the returns earned at redemption varied on the timing of their redemptions. In Figure 4, we use the official redemption schedule and realized inflation rates to compute the cumulative nominal and real returns at six month intervals for an E bond purchased in mid-1944, the peak year of savings bond sales. The lines show the value of the nominal and real cumulative returns an investor would have received if they had chosen to redeem their bond at different dates.[1] The nominal cumulative return does not grow at a constant rate: in order to provide an incentive for investors to hold their bonds rather than redeem them early, the redemption schedule of E bonds offered low nominal returns over the first five years, before increasing them over the second half of the bond's time to maturity. The surge in inflation in 1946-48 produced steeply negative returns over this period. An investor who redeemed their bond at any point after mid-1946 would have earned substantially negative real returns. Later in the bond's life, the higher nominal returns were greater than prevailing inflation rates, and cumulative real returns rose somewhat, but they were never better than -22 percent.

3.2 Inflation and Post-War Politics

The low real returns paid by E bonds suggest that a voter in the 1950s motivated by economic concerns and retrospectively evaluating the performance of the incumbent Democrats might decide to punish them and vote for the Republicans. Yet to evaluate the significance of that motive, it is important to understand what voters' expectations of inflation had been, and also what their expectations of future inflation were at the time of the elections. If expectations of inflation remained high at the time of the 1952 election, this would suggest that prospective economic evaluations, rather than only retrospective ones, may also have led voters to shift their preferences toward the Republicans.[2]

To understand inflation expectations it is helpful to consider the deflationary episodes displayed in Figure 3. The substantial deflation in 1930-33, and the smaller deflation in 1938 were highly significant events, and contributed to persistent fears of an economic collapse following WWII. But they also may have contributed to expectations of deflation following periods of inflation—as were typical prior to and immediately after WWI.

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[1] Cumulative real returns at time T are calculated at six month intervals as: $\prod_{t=0}^{T}\left(\frac{1+\frac{P_t-P_{t-1}}{P_{t-1}}}{1+\pi_t}\right)-1$, where P_t is the redemption value at time t.

[2] Research on voting distinguishes between retrospective and prospective economic evaluations

The surge in inflation that began in mid-1946 was a consequence of the relaxation of wartime price controls, which had artificially suppressed price increases. This immediate post-war inflation episode was widely expected. Inflation had been significant before strict price controls were adopted, so it was understood that the price controls had restricted inflation, and that their relaxation would cause inflation to increase. After several years of strict rationing, pent-up consumer demand was also widely expected—though ex post many observers were surprised by how long elevated consumer demand persisted. Many commentators expected deflation to follow the immediate post-war inflation as reconversion was completed and supply chain issues were resolved. And indeed, a mild deflation did occur in 1949, but it was much smaller than expected—and was quickly reversed after the outbreak of the Korean War in July 1950 (Friedman and Schwartz 1963, pp. 597-598; Binder and Brunet, 2022). The outbreak of inflation associated with the Korean War was quite sudden, and also signaled to voters that there would be no major downward revision in prices that would raise the real returns to their financial asset holdings.

Some evidence on inflation expectations is available from the Survey of Consumer Finances, which asked respondents whether they expected inflation or deflation to prevail in the following year. Figure 5 presents the margin by which inflation or deflation was expected in each year from 1947 to 1953, calculated as the difference between the share expecting inflation, and the share expecting deflation. When the value is negative, the share expecting deflation was larger than the share expecting inflation, and the value of the series shows the size of the difference. These surveys were conducted during the first quarter of the year, so unfortunately they do not directly coincide with the timing of elections.

In the first quarter of 1948, respondents were equally likely to expect inflation and deflation, and by the first quarter of 1949, deflation was more widely expected than inflation. At the time of the 1948 election, voters likely expected mild deflation. This suggests that voters focused on prospective economic evaluations would not have had a strong motive to oppose the incumbent Democrats.

As the data presented in Figure 3 make clear, these expectations were not fulfilled, and a sudden increase in inflation occurred at the onset of the Korean War. In 1952, a voter focused on retrospective economic evaluations might have concluded that inflation (and therefore the returns paid by their E bonds) was much worse than had been expected. In early 1952, many more voters expected inflation than deflation, so if those expectations persisted through the November election, voters may also have had a reason to prefer the Republicans on the basis of prospective economic evaluations (if they found the Republican's anti-inflation agenda convincing).

The major inflation episodes of the late 1940s and early 1950s had a number of different impacts, but the erosion of the purchasing power of the returns paid by wartime savings bonds increased the

saliency and political significance of the high inflation. Interviews with voters revealed a simmering frustration. "The Democrats are pushing too far…When I cashed [my war bond], I though how much more I could have bought for the money back in 1940 than now. This inflation has got to be stopped" (Lubell, 1951: 161). Opinion poll data from August 1952 showed that a majority (57 percent) of Americans felt that inflation was among the most important issues in that year's political campaign, and that more Americans felt that the Republicans would be more likely to "keep prices from going higher" than the Democrats.[3]

The parties' platforms in the 1950s focused on inflation to an unusual degree. Figure 6 presents a simple count of the number of sentences containing the word "inflation" or equivalent terms such as "high cost of living," "rising prices," "stable currency," "sound currency," "honest dollar," "integrity of our national currency," etc. These mentions rose somewhat for both parties in 1948, before increasing substantially in 1952, especially for the Republicans. That party's platform blamed inflation on the Democrats' policy choices, and mentioned many different consequences of inflation, including its effect on the value of Americans' savings and investments.[4]

Although inflation did indeed fall subsequently and remained low in the mid-1950s, in part due to a significant shift in the Fed policy, it remained an important topic in American politics. The 1956 Republican Party platform boasted of having "curbed the runaway inflation," and claimed that the Eisenhower Administration had fulfilled its pledge to "halt the skyrocketing cost of living that in the previous 13 years had cut the value of the dollar by half, and robbed millions of the full value of their wages, savings, insurance, pensions and social security."[5] Polling data showed that this rhetoric was effective; voters in 1956 stated that the Republicans would "do the best job of holding down inflation" relative to the Democrats by a margin of 39 percent to 31 percent.[6]

4. Empirical Analysis

4.1 Data

[3] Roper poll sponsored by NBC broadcasting, conducted August 1952 among 3,917 adults (Roper 31097073; https://ropercenter.cornell.edu/ipoll).
[4] Under "Taxation and Monetary Policy," the platform reads: "The wanton extravagance and inflationary policies of the Administration in power have cut the value of the dollar in half and imposed the most confiscatory taxes in our history. These policies have made the effective control of Government expenditures impossible. If this Administration is left in power, it will further cheapen the dollar, rob the wage earner, impoverish the farmer and reduce the true value of the savings, pensions, insurance and investments of millions of our people. Further inflation must be and can be prevented."
[5] The mention of social security is quite significant; far from attacking that pillar of the New Deal, the Republicans argued that controlling inflation would benefit its recipients.
[6] Opinion Research Center Poll, August 1956, face-to-face interviews with 1,471 adults (Roper 31103157; https://ropercenter.cornell.edu/ipoll).

The analysis that follows focuses on county E bond subscription rates, as reported in the 1947 *County Data Book*. The available data report only purchases during the year 1944; our main variable of interest is 1944 E bond subscriptions in thousands of dollars, scaled by the county's 1940 adult (21+) population. The E bond subscription data are matched to data on county voting patterns from Clubb, Flanigan and Zingale (2006). In order to control for county characteristics, we also match these counties to 1940 county characteristics as reported in historical federal censuses, compiled in Haines (2010) and from the *Consolidated City and County Data Books*. County bank deposits in 1944 are also obtained from the *Consolidated City and County Data Books*. War spending data by county has been reconstructed from the microdata on individual war production contracts tabulated by the Civilian Production Administration,[7] supplemented by war facilities spending as reported in the 1947 *County Data Book*. Finally, in order to obtain a measure of pre-war wage income, we use the full-count microdata from the 1940 census to compute median wage income (conditional on having wage income), and the share of households whose income was top coded.

4.2 Empirical Analysis

Some initial evidence indicating that E bond ownership may have played a role in Eisenhower's victory in 1952 is presented in Figures 7a and 7b. The top panel presents a map of E bond subscription rates in 1944, by county. The bottom panel shows the change in the Republicans' vote share between the presidential elections of 1944 and 1952, and is shaded so that areas that showed stronger support for Republicans are darker.[8] Clearly, there are many similarities between the two maps. The darker areas in the E bond map, such as much of the states of Iowa, northern North Dakota, Montana, and some counties in the far west correspond to places that shifted toward the Republicans at high rates. Likewise the lighter areas of the E bond map, such as much of New Mexico, Missouri, Kentucky, and West Virginia, did not shift toward the Republicans. Yet there are also some differences; the general trend towards the Republicans in the South does not correspond to high E bond subscription rates across that region.

To analyze this variation more rigorously and expand the set of elections included, we construct a panel of county election data from 1936 to 1956. To sweep out the strong regional trends evident in Figure 7b, we use state-by-year fixed effects in our analysis, to use only variation within states. More formally, we first estimate regressions of the form:

[7] War production contracts are listed by the city and state of the main establishment of production. These locations were mapped to counties by Gillian Brunet and Elisabeth Perlman.

[8] In the 1952 election, the Republican candidate (Eisenhower) appeared on the ballot as an "Independent" in states such as South Carolina. This renders the votes for the Republican party as recorded in Clubb, Flanigan and Zingale (2006) an inaccurate reflection of the share of votes won by Eisenhower. We therefore delete those states from our analysis.

$$Repshare_{ist} = \alpha_i + \gamma_{st} + \sum_{t=1936}^{1956} \delta_t ebonds44_i \times year_t + \varepsilon_{ist}, \quad (1)$$

where $Repshare_{ist}$ is the percentage of the vote won by the Republican candidate, α_i is a county fixed effect, γ_{st} is state-by-year fixed effects, $ebonds44_i$ is the subscription rate for E bonds in 1944 (total sales in county *i* divided by 1940 adult population), and $year_t$ is year fixed effects.

The results are presented in Figure 8, with 1944 as the excluded year. Reassuringly, the estimates in the figure show no evidence of differential changes prior to 1944; counties with high E bond subscription rates in 1944 were not trending away from the Democrats in presidential elections prior to that year. After the 1944 election, the effect of E bond subscriptions becomes positive in 1948, although insignificant, and then positive and statistically significant in 1952-56. These effects were unlikely to have been decisive, at least on average; a one-SD increase in E bond rates led to a 1.81 percent increase (=0.063 × 28.73) in the vote share for the Republicans in 1952, whereas the median county share of the Republicans was 46.6 percent. Yet E bond ownership clearly contributed to support for Eisenhower. In Appendix Figure A1, we present estimates of Equation (1) applied to Congressional elections, and find similar patterns.

A natural concern regarding those results might be that they simply capture the effect of wealthier counties (or counties that were different along other dimensions) turning toward the Republicans in 1952 for reasons other than E bonds and inflation. To investigate the role of other county characteristics that may have influenced both E bond subscriptions and election outcomes, we estimate a simpler version of our model, with E bonds interacted with a post-1944 indicator:

$$Repshare_{ist} = \alpha_i + \gamma_{st} + \delta_t ebonds44_i \times post44_t + \beta_t X_i \times post44_t + \varepsilon_{ist}, \quad (2)$$

where $post44_t$ is the indicator for years after 1944, X_i is a vector of various county characteristic controls (also interacted with post-1944), and the other variables retain their previous definitions.

The results of these regressions are reported in Table 4. In column (1), we control for bank account balances in 1944, the most likely alternative investment for funds allocated to E bonds and highly correlated with E bonds ($\rho = 0.65$). The estimated effect of bank accounts is positive, indicating that counties with higher levels of wealth did indeed shift toward the Republicans. However, the estimated effect is far smaller than for E bonds, suggesting that efforts to shift balances out of bank accounts and into E bonds had lasting political effects.

In column (2), we add per capita war production contracts, and find that war production had strongly negative effects on Republican vote shares. War spending appears to have fostered loyalty to the Democratic party, and counties receiving large amounts of it shifted toward the Republicans at much

lower rates. In column (3), we add median wage income and the share of incomes that were top coded, from the 1940 census. Median wage incomes had a small but significantly positive estimated effect on the Republican vote share, whereas the share of top-coded incomes does not seem to matter. In columns (4) and (5), we add other county characteristics (from the 1940 Census) that likely influenced voting patterns. Even when all these county characteristics (interacted with post-1944) included in the regression, the effect of E bond subscriptions remains quite robust. Finally, in column (6), we restrict the sample to the 1944-52 elections, reducing the pre- and post- periods of the sample, and find similar effects. In Appendix Table A1, we present estimates of Equation (2) using Congressional election data, and find very similar results.

In Table 5, we further explore the robustness of our results to changes in the sample. In the columns of the table, we drop different regions, and also counties with very small populations, and obtain very similar results. In column (6) of the table we expand the sample from our usual 20-year period of 1936-56 to a 40-year period, 1928-68. The estimated effect is smaller, but it remains statistically significant.

4.3 IV Analysis

Finally, to address the concern that some unobserved factor such as income may have been associated both with E bond ownership and subsequent political behavior, we instrument for E bond subscriptions in 1944 using county subscription rates for the liberty bonds of World War I. The 1918 subscription rates for liberty bonds (measured as subscribers as a share of the population) occurred sufficiently far in the past to be considered unrelated to current income, especially in a framework where 1944 bank deposits are included in the regression. They were driven in part by the approaches taken to the marketing of the bonds, with some counties adopting a highly centralized approach that quite effectively reached a large share of the population (see Hilt, Jaremski and Rahn 2022). The local lessons learned from the liberty bond campaigns were remembered and adopted in the promotion of the E bonds.

We present the results in Table 6. In column (1) of the data, we report a baseline OLS regression, which is the specification of column (3) of Table 4. Then in column (2), we instrument for $ebonds44_i \times post44_t$ with $libertybonds_i \times post44_t$, and estimate the same regression via 2SLS. The F-statistic is reasonably strong, about 17, and the first stage shows a clear positive effect of liberty bond subscriptions on E bond subscriptions at the county level, in a framework with state-by-year fixed effects. The IV estimate in column (2) is larger than the OLS estimate, but not unreasonably so. In columns (3) through (5), we add additional controls and change the sample as in columns (4) though (6) of Table 4. Although the estimated effect of E bonds varies somewhat in magnitude, we consistently find a strong positive effect on the Republicans' vote share in presidential elections.

5. Conclusion

This paper has analyzed the role of war bond ownership in presidential elections in the 1950s. The E bonds themselves were well designed for retail investors, and offered an attractive nominal return relative to prevailing interest rates. The promotion of E bonds to American households encouraged them to postpone consumption, which may have helped control inflationary pressures somewhat during the war, while also raising funds and providing an opportunity to wage a propaganda campaign in support of the war effort. Yet by inducing households to allocate their savings into those assets with the claim that they were excellent long-term investments, the E bond campaigns made Americans more sensitive to inflation after WWII. When an unexpected surge of inflation during the onset of the Korean War made it clear that a sustained postwar deflation would not occur, voters shifted their preferences towards the Republicans.

It is not clear whether an alternative approach to raising funds from households would have been in the interests of the incumbent Democrats. The increased support for America's role in the war created by the bond drives may well have been very important, and is difficult to evaluate. Yet one mistake the Truman Administration arguably made that compounded the political problems they faced after the war was resisting the Fed's efforts to control inflation in 1951. During WWII and in the years that followed, the Fed maintained a policy of fixing the interest rates paid by long-term government securities by purchasing them in large quantities. In response to high inflation in late 1950, the Fed sought to end this policy but was vigorously opposed by Truman and the Treasury.[9] Ultimately the conflict became quite heated, and was resolved through the negotiation of the Treasury-Fed Accord in 1951, which helped establish the foundations of the Fed's modern independence.

The Republican Party's 1952 platform advocated for "A Federal Reserve System exercising its functions in the money and credit system without pressure for political purposes from the Treasury or the White House," calling attention to Truman's efforts to force the Fed to maintain lower rates. If Truman had permitted the Fed to alter its policy and act to control inflation at an earlier date, the costs of servicing the federal debt would have been higher, but the public might not have seen the Democrats as the party of high inflation.

[9] Truman was motivated in part by a desire to protect households by preventing a depreciation in the values of Treasuries that would result from rate increases, which had happened with the WWI liberty bonds (see Hilt and Rahn, 2020). He failed to recognize that E bonds were nonnegotiable and would not be affected by interest rate changes.

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Table 1: Bond Drives of World War II (Amounts in Billions of Dollars)

	First Dec '42	Second Apr-May '43	Third Sep-Oct '43	Fourth Jan-Feb '44	Fifth Jun-Jul '44	Sixth Nov-Dec '44	Seventh May-Jun '45	Victory Oct-Dec '45
Total Goal	9	13	15	14	16	14	14	11
Total Raised	12.9	18.6	18.9	16.7	20.6	21.6	26.3	21.1
Goal for E Bonds	--	--	3	3	3	2.5	4	2
Raised from E Bonds	0.726	1.473	2.5	3.2	3.036	2.9	3.976	2.2

Table 2: Holdings of Liquid Assets, by Income Group, 1947-51

		Annual Income:						
	All	1 to 999	1,000 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 to 4,999	5,000 to 6,999	7,000 and up
Savings bond holdings	653.5	137.9	197.4	362.5	519.1	999.5	1,472.2	3,138.6
Other US bond holdings	140.0	14.5	42.5	49.6	23.1	158.8	102.3	1,339.0
Savings account balance	747.5	265.6	356.4	502.3	738.6	965.9	1,418.1	2,778.0
Checking account balance	353.1	74.1	114.7	148.3	217.1	368.5	501.7	2,560.5
Currency holdings	56.3	20.9	44.1	54.1	71.4	59.5	64.3	111.8
Savings bonds/all liquid assets	0.34	0.27	0.26	0.32	0.33	0.39	0.41	0.32

Table 3: E Bond Returns, 10-Year Holding Periods

Holding Period	Nominal Annual Return	Realized Real Annual Return
Dec '41 - Dec '51	2.900%	-2.478%
Jun '42 - Jun '52	2.900%	-2.004%
Dec '42 - Dec '52	2.900%	-1.711%
Jun '43 - Jun '53	2.900%	-1.397%
Dec '43 - Dec '53	2.900%	-1.461%
Jun '44 - Jun '54	2.900%	-1.402%
Dec '44 - Dec '54	2.900%	-1.210%
Jun '45 - Jun '55	2.900%	-1.052%
Dec '45 -Dec '55	2.900%	-1.021%

Table 4: Effect of E Bonds and Other County Characteristics on Republicans' Vote Share, Presidential Elections 1936-56

	(1)	(2)	(3)	(4)	(5)	(6)
Post-1944 ×						
E Bonds per capita, 1944	16.145**	18.204**	16.345**	18.389**	18.671**	17.372**
	(2.712)	(2.890)	(2.735)	(2.708)	(2.697)	(3.355)
Bank deposits per capita, 1944	3.245**	3.226**	2.477**	2.132**	2.495**	1.425*
	(0.493)	(0.494)	(0.472)	(0.493)	(0.498)	(0.555)
War spending per capita		-0.125*	-0.343**	-0.402**	-0.443**	-0.361**
		(0.060)	(0.063)	(0.063)	(0.063)	(0.070)
Median wage income			0.004**	0.004**	0.002**	0.001
			(0.000)	(0.001)	(0.001)	(0.001)
Share incomes top coded			-1.519	-2.257	-1.130	-1.835
			(1.573)	(1.571)	(1.552)	(1.696)
Percent black				11.486**	14.903**	13.821**
				(1.049)	(1.122)	(1.392)
Adult population (000s)				-0.004**	-0.002*	-0.002
				(0.001)	(0.001)	(0.001)
Share urban				0.013+	0.003	0.009
				(0.007)	(0.007)	(0.008)
Fraction agricultural workers					-13.228**	-11.888**
					(2.437)	(2.792)
Fraction owner occupied housing					7.676**	5.060**
					(1.523)	(1.753)
Constant	50.246**	50.133**	49.438**	48.109**	46.845**	49.550**
	(0.283)	(0.289)	(0.294)	(0.308)	(1.113)	(1.220)
Observations	17,932	17,932	17,920	17,914	17,914	9,006
R-squared	0.965	0.965	0.966	0.967	0.967	0.976
County FE	YES	YES	YES	YES	YES	YES
State × Year FE	YES	YES	YES	YES	YES	YES
Sample	1936-56	1936-56	1936-56	1936-56	1936-56	1944-52

Notes: Robust standard errors clustered by county in parentheses; ** p<0.01, * p<0.05, + p<0.1

Table 5: Effect of E Bonds on Republicans' Vote Share in Presidential Elections: Alternative Samples

	(1) Baseline	(2) Drop South	(3) Drop Far West	(4) Drop Northeast	(5) Drop Small Counties	(6) Long Panel 1928-68
Post-1944 ×						
E Bonds per capita, 1944	18.671**	15.028**	20.518**	20.232**	17.903**	12.255**
	(2.697)	(2.426)	(2.892)	(2.928)	(2.902)	(2.631)
Bank deposits per capita, 1944	2.495**	1.399**	3.215**	2.880**	2.833**	2.759**
	(0.498)	(0.465)	(0.549)	(0.535)	(0.551)	(0.551)
War spending per capita	-0.443**	-0.331**	-0.459**	-0.499**	-0.424**	-0.348**
	(0.063)	(0.060)	(0.066)	(0.067)	(0.064)	(0.064)
Median wage income	0.002**	0.002**	0.002**	0.003**	0.001*	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Share incomes top coded	-1.130	-2.532+	-1.883	-1.475	-0.203	1.876
	(1.552)	(1.520)	(1.586)	(1.588)	(1.595)	(1.616)
Percent black	14.903**	-9.396**	12.884**	15.115**	15.305**	16.488**
	(1.122)	(2.897)	(1.172)	(1.128)	(1.139)	(1.236)
Adult population (000s)	-0.002*	-0.001	-0.003+	-0.002*	-0.002*	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Share urban	0.003	0.011	0.001	0.001	0.009	-0.003
	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)
Fraction agricultural workers	-13.228**	-5.376+	-13.650**	-12.957**	-15.579**	-0.809
	(2.437)	(2.743)	(2.642)	(2.498)	(2.624)	(2.439)
Fraction owner occupied housing	7.676**	6.884**	7.012**	8.091**	7.007**	1.563
	(1.523)	(1.886)	(1.607)	(1.561)	(1.563)	(1.671)
Constant	46.845**	54.690**	47.274**	45.254**	47.199**	38.966**
	(1.113)	(1.373)	(1.180)	(1.122)	(1.178)	(1.172)
Observations	17,914	11,652	16,244	16,612	17,017	33,013
R-squared	0.967	0.953	0.968	0.966	0.968	0.925
County FE	YES	YES	YES	YES	YES	YES
State × Year FE	YES	YES	YES	YES	YES	YES

Notes: Robust standard errors clustered by county in parentheses; ** p<0.01, * p<0.05, + p<0.1

Table 6: IV Regressions: Effect of E Bonds on Democrats' Vote Share, Presidential Elections, 1936-56

	(1)	(2)	(3)	(4)	(5)
					1944-52
	OLS	IV-2SLS	IV-2SLS	IV-2SLS	IV-2SLS
Post-1944 ×					
E Bonds per capita, 1944	16.345**	33.778*	25.419+	29.443*	39.621*
	(2.735)	(14.944)	(14.301)	(14.516)	(15.622)
Bank deposits per capita, 1944	2.477**	0.456	0.261	0.386	-1.996
	(0.472)	(1.356)	(1.496)	(1.485)	(1.597)
War spending per capita	-0.343**	-0.419*	-0.365*	-0.439*	-0.424*
	(0.063)	(0.168)	(0.167)	(0.173)	(0.182)
Median wage income	0.004**	0.004**	0.003**	0.001	-0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Share incomes top coded	-1.519	-1.034	-2.121	-0.647	-0.828
	(1.573)	(1.784)	(2.002)	(2.090)	(2.016)
Percent black			8.686**	11.766**	9.802**
			(1.233)	(1.340)	(1.315)
Adult population (000s)			-0.002	-0.001	0.001
			(0.001)	(0.001)	(0.001)
Share urban			0.024*	0.016	0.025*
			(0.011)	(0.011)	(0.011)
Fraction agricultural workers				-13.117**	-8.803**
				(3.192)	(3.304)
Fraction owner occupied housing				6.334**	2.823
				(1.783)	(1.759)
Observations	17,920	8,305	8,305	8,305	4,177
R-squared	0.966	0.862	0.867	0.868	0.854
County FE	YES	YES	YES	YES	YES
State × Year FE	YES	YES	YES	YES	YES
Kleibergen-Paap F	--	16.96	17.33	16.84	16.86

Figure 1: Household Saving, 1929-60

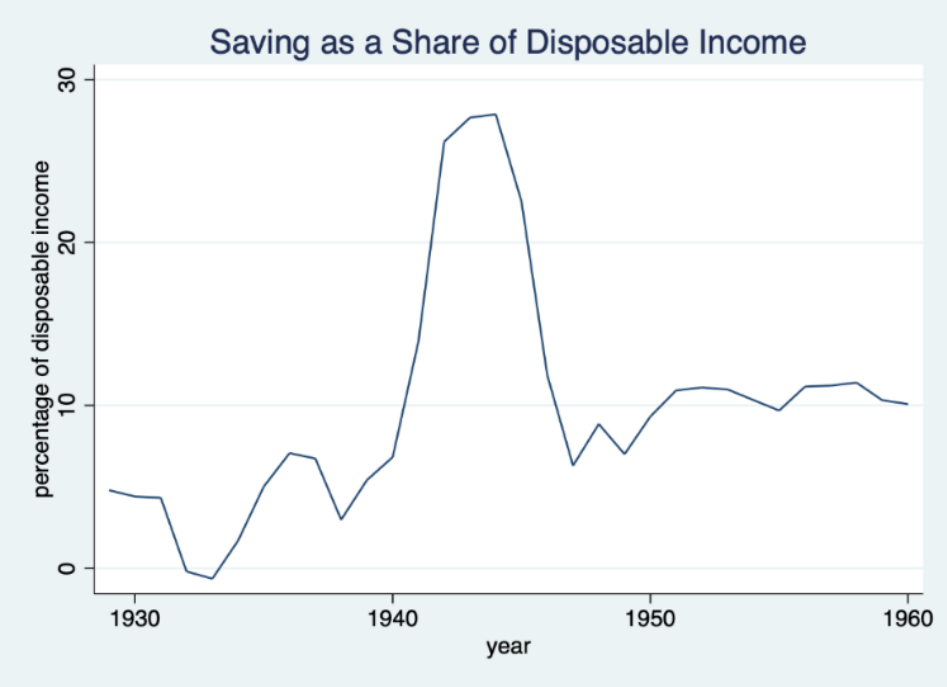


Figure 2: Monthly Sales of E Bonds, 1941-46

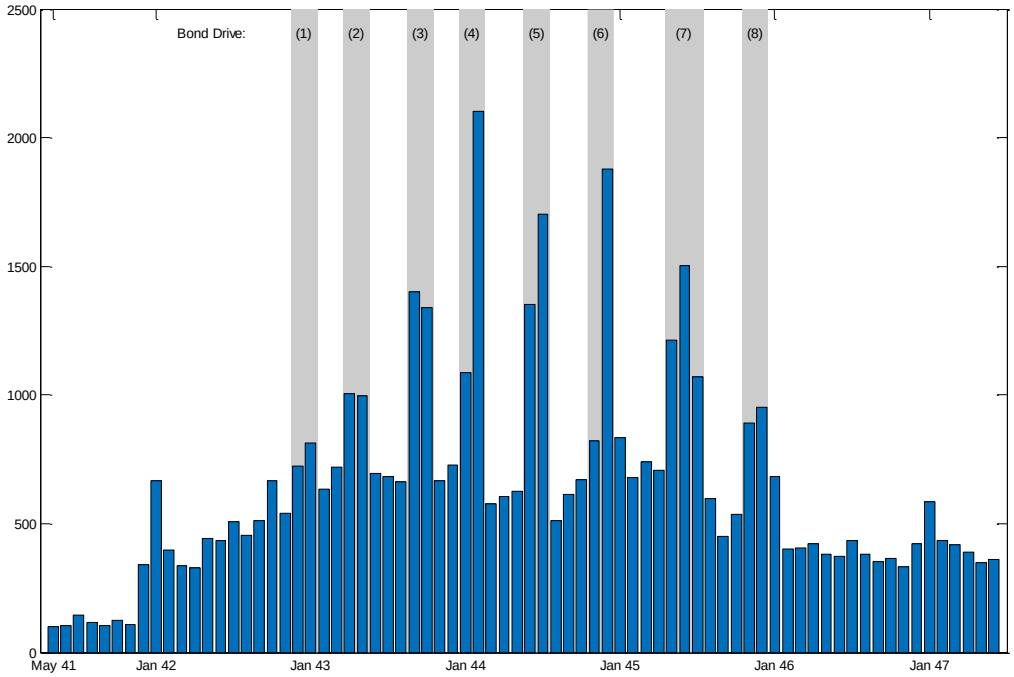


Figure 3: Monthly CPI inflation rates and Presidential Elections, 1930-1960

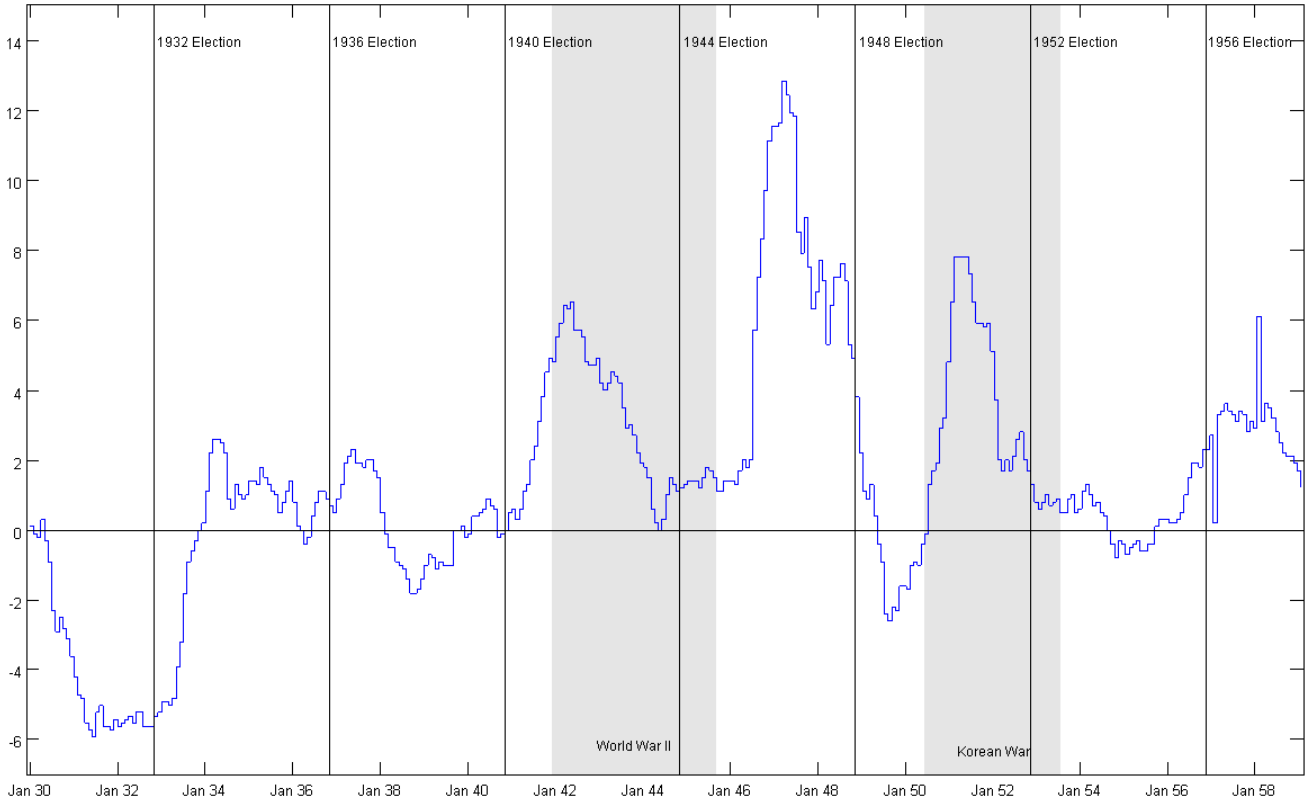
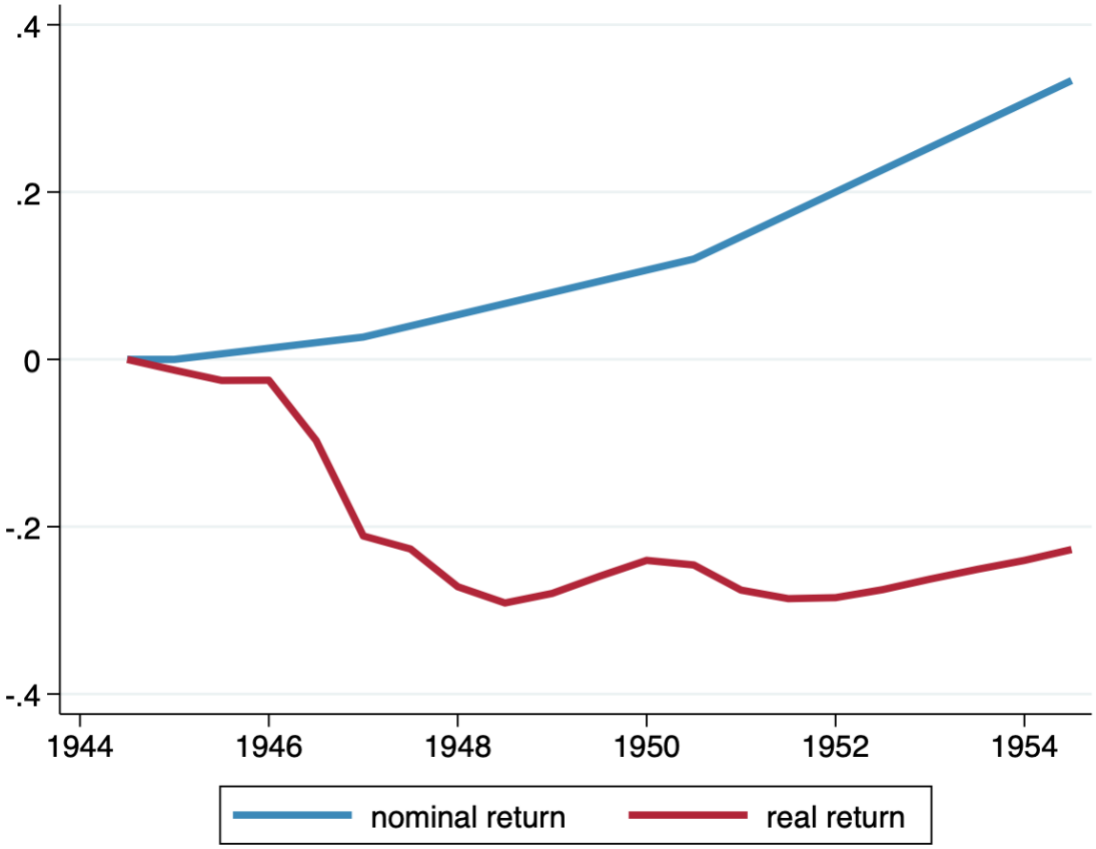


Figure 4: Cumulative Nominal and Real Returns for an E Bond Purchased in June 1944



sFigure 5: Margin by which Inflation or Deflation was Expected

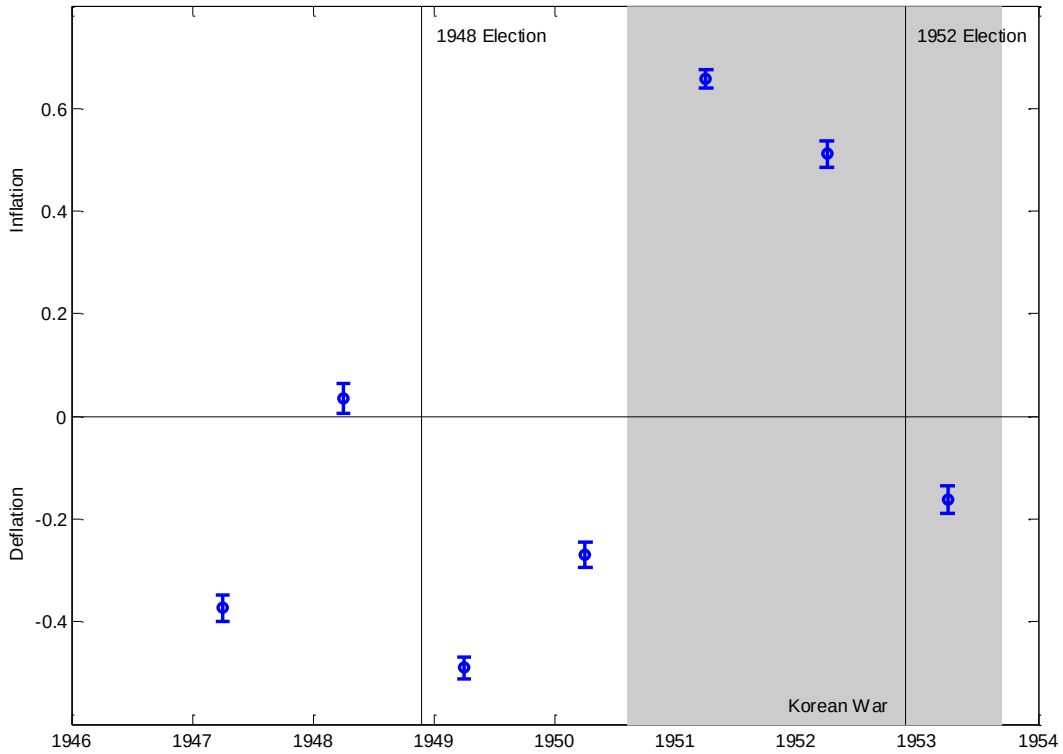


Figure 6: Mentions of Inflation in Party Platforms, 1932-56

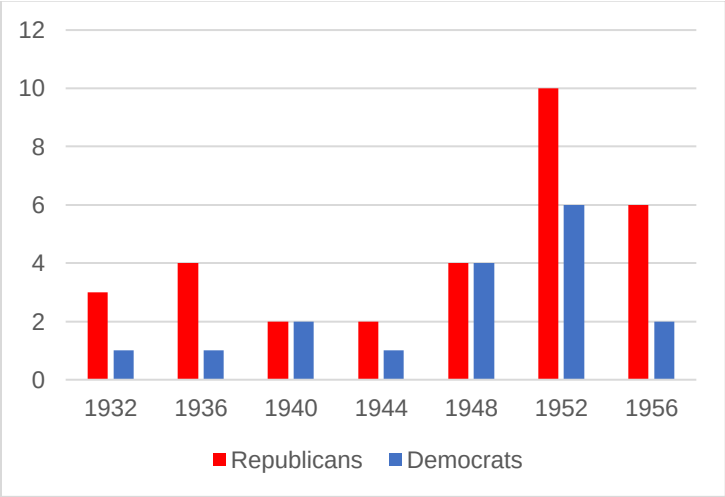


Figure 7a: E Bond Subscriptions Per Capita, 1944

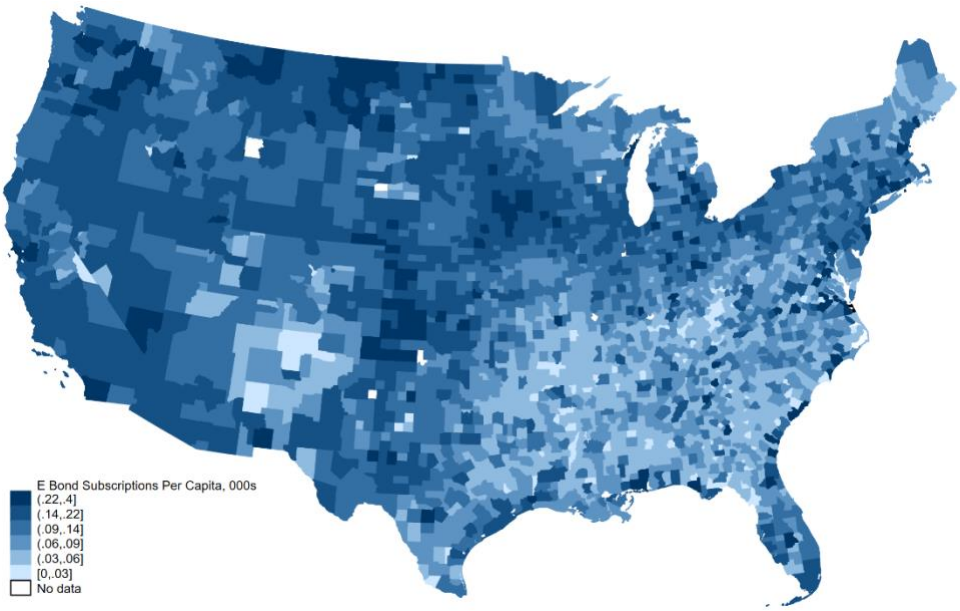


Figure 7b: Change in Republicans' Vote Share, 1952 vs. 1944

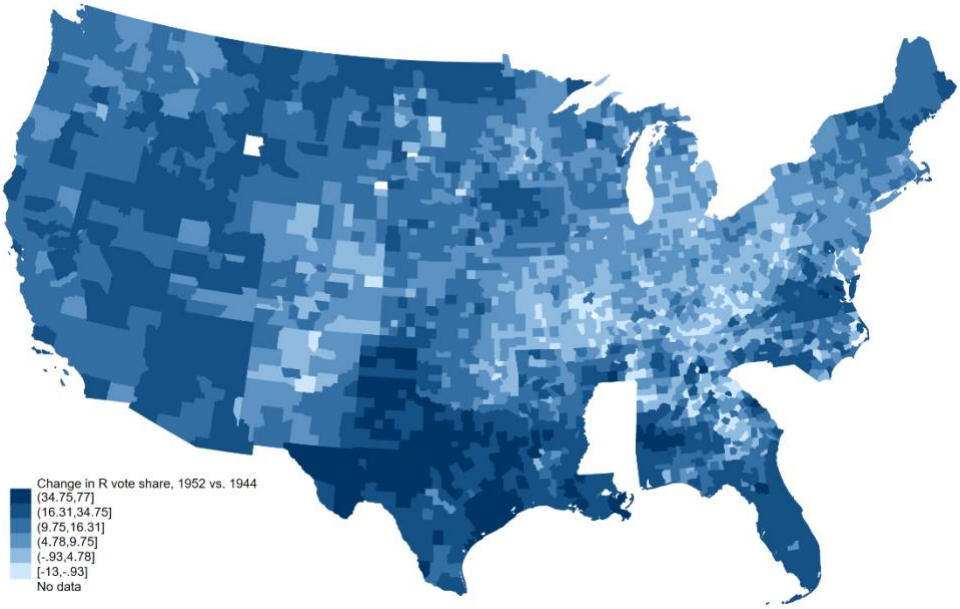
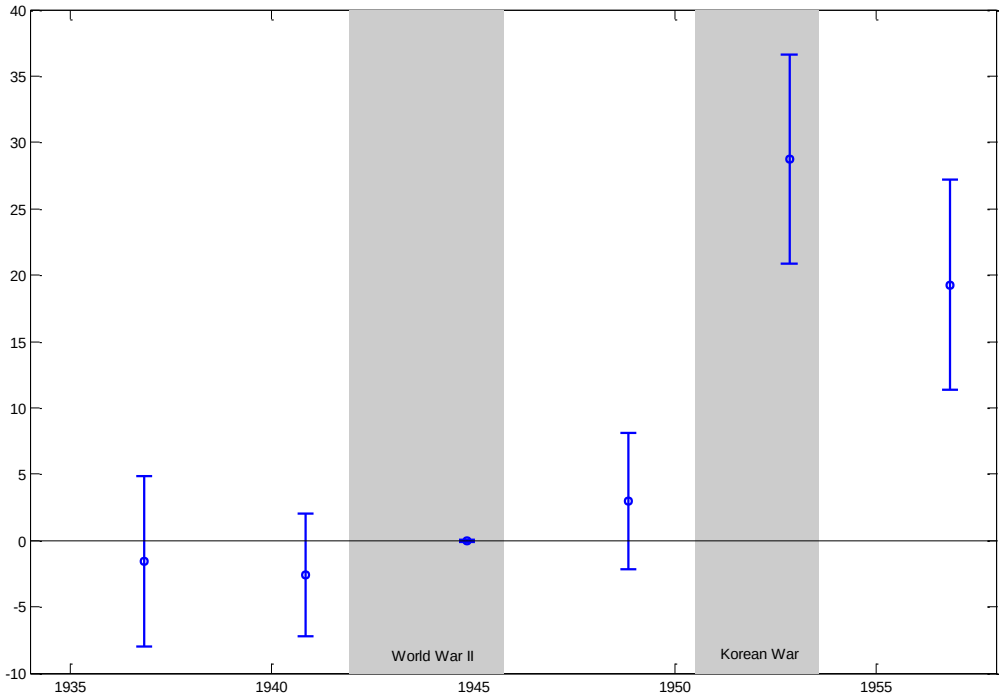


Figure 8: Effect of 1944 E Bond Subscriptions on the Republican Vote Share, 1936-56, Presidential Elections



Appendix: Additional Figures and Tables

Figure A1: Effect of 1944 E Bond Subscriptions on the Republican Vote Share, 1934-58, Congressional Elections

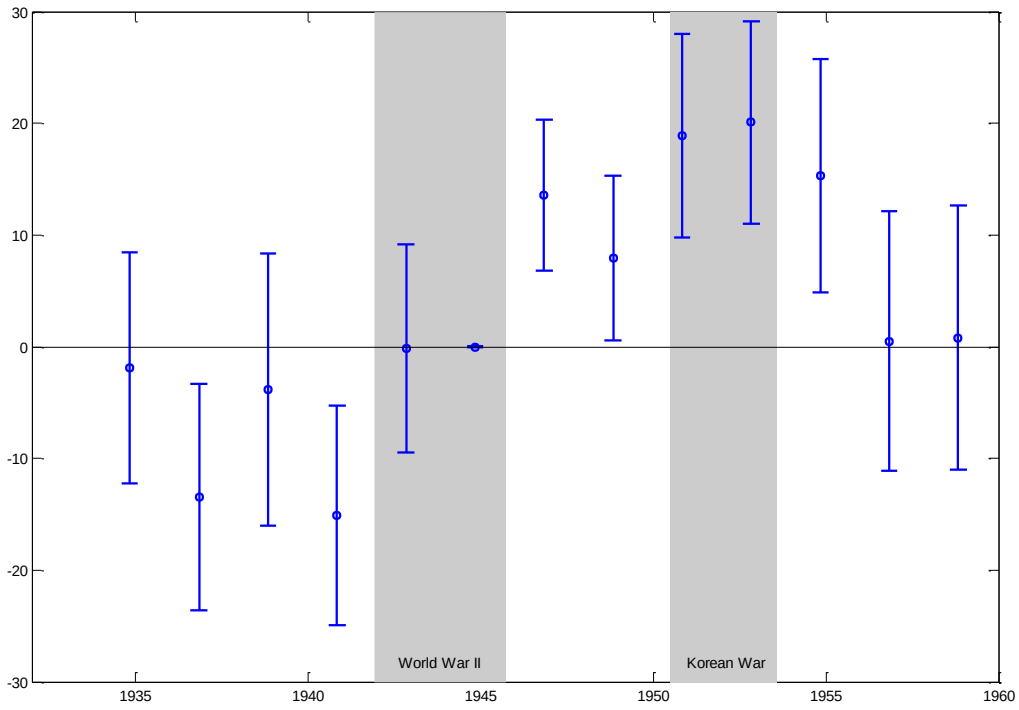


Table A1: Effect of E Bonds and Other County Characteristics on Republicans' Vote Share, Congressional Elections 1934-58

	(1)	(2)	(3)	(4)	(5)	(6)
Post-1944 ×						
E Bonds per capita, 1944	12.579**	17.068**	17.335**	17.262**	16.915**	17.307**
	(3.124)	(3.392)	(3.407)	(3.515)	(3.490)	(3.365)
Bank deposits per capita, 1944	1.747**	1.737**	1.750**	1.831**	1.885**	0.390
	(0.608)	(0.607)	(0.610)	(0.685)	(0.682)	(0.630)
War spending per capita		-0.303**	-0.285**	-0.275**	-0.289**	-0.228*
		(0.080)	(0.082)	(0.084)	(0.085)	(0.094)
Median wage income			-0.000	-0.000	0.001	-0.002+
			(0.001)	(0.001)	(0.001)	(0.001)
Share incomes top coded			4.137+	4.141+	3.112	5.635**
			(2.313)	(2.369)	(2.372)	(2.079)
Percent black				-2.421+	-1.751	-3.321+
				(1.414)	(1.503)	(1.858)
Adult population				-0.000	-0.000	-0.000
				(0.000)	(0.000)	(0.000)
Share urban				0.002	0.009	0.016+
				(0.009)	(0.010)	(0.009)
Fraction agricultural workers					5.246	-4.720
					(3.296)	(3.318)
Fraction owner occupied housing					4.504*	0.230
					(2.029)	(2.160)
Constant	40.725**	40.462**	40.279**	40.326**	36.503**	46.952**
	(0.375)	(0.383)	(0.422)	(0.431)	(1.386)	(1.568)
Observations	29,246	29,246	29,220	29,207	29,207	15,801
R-squared	0.920	0.920	0.920	0.920	0.920	0.949
County FE	YES	YES	YES	YES	YES	YES
State × Year FE	YES	YES	YES	YES	YES	YES
Sample	1936-56	1936-56	1936-56	1936-56	1936-56	1940-52