

NEW DEAL, NEW PATRIOTS: HOW 1930s GOVERNMENT SPENDING BOOSTED PATRIOTISM DURING WW II*

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Abstract

We demonstrate an important complementarity between patriotism and public good provision. After 1933, the New Deal led to an unprecedented expansion of the US federal government's role. Those who benefited from social spending were markedly more patriotic during WW II: they bought more war bonds, volunteered more and, as soldiers, won more medals. This pattern was new – WW I volunteering did not show the same geography of patriotism. We match military service records with the 1940 census to show that this pattern holds at the individual level. Using geographical variation, we exploit two instruments to suggest that the effect is causal: droughts and congressional committee representation predict more New Deal agricultural support, as well as bond buying, volunteering, and medals.

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Dulce et decorum est pro patria mori.

— Horace, **Odes** (III.2.13)

How do effective states emerge? One important body of work, starting with Thomas Hobbes' *Leviathan*, emphasizes organizational effectiveness and the need for coercive power, including taxation and military force. The main alternative views the state as a social contract. Enlightenment thinkers including Rousseau and Locke argue that reciprocity between the state and its citizens is key, with the government offering protection and rights in exchange for loyalty and tax compliance. In this perspective, "consensually strong" states emerge from repeated interactions between governments and citizens, fostering intrinsic reciprocity (Acemoglu, 2005; Sobel, 2005).¹ Along these lines, Besley (2020) introduces a generalized model of the co-evolution of civic culture and state capacity, focusing on the interplay of preferences, norms, and common interest public goods.

Testing the contractual view of state capacity empirically is challenging for two main reasons. First, we should ideally examine *costly* and *voluntary* actions that benefit the country as a whole. In contrast, the social contract view of state capacity has mostly been applied to taxation² – but taxation is rarely voluntary. Second, to analyze the role of reciprocity, we should observe either large changes in the government's role in society and the economy over time, or substantial variation in government support in the cross-section.

In this paper, we overcome these twin challenges by looking at military volunteers, financial sacrifice, and combat heroism in the US during World War II. Wartime is a particularly useful setting to analyze the contractual origins of state capacity: Most of the important expansions of government spending and taxation in history occurred during military conflicts (Besley and Persson, 2009; Scheve and Stasavage, 2010; Bowles, 2020). Successful states need motivated citizens to fight – with the rise of mass armies, war became the "business of the people" (von Clausewitz, 1832). Accordingly, an emerging literature has connected public good provision with civic culture and patriotic attitudes.³ As a source of variation, we use data from one of the biggest expansions of government spending in history, Roosevelt's "New Deal." Within less a decade, it redefined the relationship between Americans and the federal government, and offered stability and support

¹Cf. Fehr and Gächter (2000) explore patterns of reciprocity in general. Lindbeck et al. (1999) develop a model of how individual norms evolve as a function of welfare spending. Along the same lines, Weingast (2005) considers the emergence of rules in society as a result of repeated interactions.

²Fjeldstad and Sembøja (2000); Levi and Sacks (2009); Slivinski and Sussman (2019). Besley (2020) and Levi (1989) use tax compliance as a key measure of civic culture.

³Alesina et al. (2017); Bandiera et al. (2018); Aghion et al. (2018); Weber (1976). Politicians from Bismarck to Churchill expanded social spending with a view to military needs, and many wartime governments promised "homes fit for heroes" (Swenarton, 2018).

in times of need ([Wallis and Oates, 1998](#)).

We demonstrate a strong complementarity between patriotism and public good provision, with citizens reciprocating towards their nation: During World War II, citizens who benefited from government largesse engaged in more costly, patriotic actions.⁴ The war – the deadliest conflict in recent history – absorbed a large share of US national resources for 4 years. More than 16 million people served in the US military — 19 percent of them voluntarily. Some 400,000 service personnel died on active duty ([Hastings, 2011](#)). We use three measures of patriotic attitudes: war bond purchases, volunteering rates, and medal recipients. War bonds yielded similar interest rates to other government bonds, but were illiquid for 10 years, requiring a substantial financial sacrifice.⁵ Volunteering was even costlier: Volunteers traded civilian pay, comfort, and security at home for relatively low pay and the risk of violent death. The most costly actions in our data are acts of heroism that often resulted in death. Military awards are designed to recognize and incentivize such forms of heroism.⁶

We exploit geographical and individual-level variation in federal spending: Until 1933, federal non-military spending was less than 1% of GDP ([Wallis, 2010](#)). President Roosevelt’s “New Deal” changed this dramatically ([Schivelbusch, 2006](#)), more than doubling the share of federal spending in GDP. For the first time in US history, the Federal Government directly made payments to millions of citizens ([Fishback et al., 2005](#)). At its peak, the Works Progress Administration (WPA), was the largest employer in the US. From agricultural support helping farmers to emergency relief for home-owners and businesses in distress, from work for the unemployed to old-age pensions, federal spending programs during the 1930s touched the lives of millions. This expansion of the federal government’s spending occurred immediately before WW II.

Higher government spending at the county level in the 1930s is strongly and positively correlated with more patriotic actions during WW II. [Figure I](#) illustrates the main pattern. We bin-scatter the county-level value of relief grants per capita (on the x-axes) against three measures of patriotism (on the y-axes) — per capita value of war bond purchases (Panel A), the share of volunteers among the population (Panel B), and the number of military awards per 1,000 inhabitants (Panel C). These correlations survive the inclusion of many controls, including a full set of state fixed effects, measures of WW I patriotism, and exposure to

⁴[Bau \(2021\)](#) explores a similar question and finds evidence of government social spending affecting culture.

⁵We discuss this point in more detail in the section on historical background.

⁶Many factors affect heroism on the battlefield ([Costa and Kahn, 2003](#)), but commitment to the national cause is arguably one of them.

natural disasters.⁷ Independent of the measure we use, greater federal spending before 1940 went hand-in-hand with many more patriotic actions. These effects are sizable: moving from 25th to 75th percentile of the New Deal grants distribution added between 6 and 15 volunteers, depending on the specification (6 at the median, 15 at the mean of the population distribution). This compares with a median number of volunteers of 176 per county: an increase between 3.4% and 8.5%.

We find similar results using granular evidence from 12 million American men of military age. We match military service records with the 1940 census, and analyze volunteering. Those who personally benefited from New Deal policies were more likely to volunteer: Men employed by the WPA were more likely to sign up; the same is true of farm-owners in areas with more government support for farmers, and of home-owners in areas with more housing support. Conversely, where government intervention had negative consequences – as in the case of agricultural laborers in areas receiving farm support – the opposite is true, with markedly lower volunteering rates.

Areas benefiting from more government largesse during the 1930s might still have been more distressed in 1941. This could lower the opportunity cost of volunteering, and make omitted variable bias a concern. Also, individuals believing in a form of "social contract" with the government may have been simultaneously more likely to apply for support payments, and been more likely to volunteer/win medals/buy war bonds. To suggest causality, we focus on one particular type of government support, using two instruments. The Agriculture Adjustment Administration (AAA) extended grants to farmers in distress, and was one of the first and biggest New Deal programs, accounting for 12 percent of total New Deal spending ([Fishback et al., 2003](#)). It was complemented by Farm Credit Administration (FCA) loans. These programs had complex effects. On the one hand, they typically benefited farmers, a group hit hard by the Great Depression. On the other hand, some of the programs reduced rural employment. Importantly, AAA grants and FCA loans were often made in response to local weather shocks, especially droughts. The level of support was also higher in congressional districts whose Member of Congress sat on the Agricultural Committee. New Deal era droughts and committee membership drove agricultural spending and they strongly predict all three measures of patriotism after 1941. Two-stage least squares estimates confirm the existence of a strong, positive relationship between agricultural relief — determined by drought incidence and committee memberships — and patriotism. Both

⁷While our results are robust to the inclusion of these controls, results hold throughout without them.

OLS and IV at the individual-level confirm the importance of reciprocity, negative and positive: rich AAA outlays led farm-owners to join the Army, while farmhands hurt by the program volunteered markedly *less*. Throughout, we control for measures of patriotism during WW I, levels of urbanization and population size as well as occupational structure in 1930, and immigrant shares.

Could negative shocks — such as adverse weather — have had a direct effect on patriotic actions?⁸ Severe droughts also hit parts of the United States before 1933, when farmers received little relief. We examine the record of droughts from 1897-1940; pre-New Deal era droughts do not predict post-1941 patriotism. Similarly, neither pre-World War I droughts nor pre-World War I representation on the Agricultural Committee correlate with WW I patriotism. These placebo results strengthen the case for a causal interpretation of our IV estimates.⁹

We also examine whether more economic distress mapped into higher effects of support payment. Using income or unemployment to stratify our sample, the link between New Deal and patriotism is tight both where the economy is strong or where it is weak. We also examine whether gratitude towards Roosevelt — rather than the nation — drove patriotic actions. When we interact the effect of federal spending on patriotic actions with the 1940 vote share of Roosevelt, we find no additional effects: Areas that hardly voted for FDR show similar responses to public good provision and social spending as his strongholds.

Our results are robust: First, we consistently use state-fixed effects, only exploiting within-state variation, while finding results that are strong and highly significant. Second, results are unaffected when we correct standard errors for spatial autocorrelation (Conley, 1999). Third, we apply the Conley et al. (2012) method and show that IV estimates are robust to violations of the exclusion restriction. Only if the direct effects of post-1933 droughts and committee on patriotism had accounted for more than 70 percent of the overall effect could we rule out a causal link between New Deal spending and patriotism. Given the near-zero correlation between pre-1933 IVs and patriotism, this seems unlikely. Fourth, we verify that the Dust Bowl is not driving our results: We drop either high-migration counties or counties most affected by soil erosion in the 1930s; results hold. Fifth, we verify that results are robust to dropping individual states or controlling for the inverse of the population and measures of individualism. Finally, we find strong results with entropy

⁸This would be in line with recent work by Bauer et al. (2016), who show that pro-sociality increases after conflicts.

⁹Our evidence that idiosyncratic weather shocks (droughts) can interact with the policy environment (New Deal) and affect people behavior also speaks to the recent literature studying the impact of weather on economic (Dell et al., 2012) or political (Acemoglu et al., 2020) outcomes.

balancing (Hainmueller, 2012), where we re-weight observations to ensure balance on observables across the entire sample, coarsened exact matching (Iacus et al., 2012), nearest neighbor matching or when we restrict the sample to counties on state borders and include a full set of border-segment fixed effects.

In addition to work on the co-evolution of political institutions and civic culture, and the origins of state capacity more broadly, our research relates to two main literatures – one on nationalism and state formation, the other on cultural change.

Nation states are “imagined communities” (Anderson, 2006), artificial constructs created through public schooling (Bandiera et al., 2018), standardization of language (Hobsbawm, 1990; Weber, 1976; Gellner and Breuilly, 1983), and the homogenization of culture via the media (Anderson, 2006; Hobsbawm, 1990).¹⁰ Alesina and Reich (2013) and Acemoglu et al. (2016) show how elites use nationalism to create more capable states, levying high taxes and enforcing laws effectively. Tilly (1992) famously argued that "states make war, and wars make states", and Titmuss (1958) observed that military conflict appears to make welfare states as well.¹¹ Alesina et al. (2017) suggest that states created comprehensive social benefits to induce citizens to fight for their country. Relative to this literature, we are the first to show empirically that government spending and public good provision can induce citizens to undertake more costly actions that benefit their "fatherland".

Our paper also relates to the literature in cultural economics studying the persistence and changes of attitudes and beliefs (Bisin and Verdier, 2000; Akerlof and Kranton, 2000; Shayo, 2009). In the aggregate, many cultural traits persist over long periods (Becker et al., 2016; Guiso et al., 2016; Valencia Caicedo, 2018; Nunn, 2020). At the same time, cultural change can be surprisingly rapid (Fernández et al., 2019). How and when attitudes change is an open question. Giuliano and Nunn (2021) demonstrate that more variable environments favor more rapid cultural change. Alesina and Fuchs-Schündeln (2007) show that Communist rule in East Germany strongly affected attitudes about the role of the state and social policy. Voigtländer and Voth (2012) find that massive immigration diluted the effect of past anti-Semitism on present-day persecution. Fouka et al. (2019) show that recent US immigrants in the early 19th century integrated better in areas receiving large inflows of African-Americans from the South, while Fernández et al. (2019) argue that

¹⁰Such nation-building efforts reinforce the effect of collective memory and shared traditions (Hobsbawm and Ranger, 1983; Smith, 1991).

¹¹Besley and Persson (2009) show how wars can help to solve collective action problems, leading to greater state capacity building.

the AIDS epidemic after 1980 contributed to the de-stigmatization of homosexuality. Our setting allows us to measure rapid change in exactly the same behavior – volunteering and heroic actions for one’s country. Because we observe these two actions twice, only two decades apart, we can show how a new geography of American patriotism emerged in response to the New Deal of the 1930s.

I Historical Background

In this section, we introduce the historical context. We first describe the Great Depression in the United States and the “New Deal.” We then summarize America’s involvement in WW II.

I.A Depression and “New Deal”

During the Great Depression, US GDP shrank by more than one fourth ([Christiano et al., 2004](#); [Sutch, 2006](#); [Fishback, 2017](#)); unemployment reached 25 percent, and a wave of bank failures destroyed a large part of the financial system ([Calomiris and Mason, 2003](#); [Bernanke, 1983](#)). Consumer prices fell by over 20%. At the trough of the Depression in 1932, stocks were down 89% from their peak in 1929. Home prices slumped in all major US cities. Deflation increased the real value of debt and disincentivized investments ([Mishkin, 1978](#)). Farmers were particularly hard-hit because of a combination of low prices and adverse weather.

The Great Depression brought more than just economic distress. During the early 1930s, insecurity afflicted the majority of Americans, as jobs were few and often temporary ([Hickok, 1981](#); [Romer, 1992](#)). Misery and lack of opportunities undermined trust in the economic and political system ([Kennedy, 1999](#); [Hemingway, 1935](#); [Dickson and Allen, 2006](#)). In the minds of many, the very survival of the free enterprise system was in doubt:

“A malaise was seizing many Americans, a sense at once depressing and exhilarating, that capitalism itself was finished” ([Schlesinger, 1957](#), p.205)

After the election of Franklin D. Roosevelt in 1932, the US government intervened in the economy on an unprecedented scale. A national bank holiday in 1933 put an end to bank runs, and Federal Deposit Insurance was introduced ([Folsom, 2009](#)). The US dollar was devalued relative to gold. Farm prices stabilized, and unemployment slowly declined. Despite rapid output and productivity growth, unemployment remained

stubbornly high ([Field, 2003](#); [Margo, 1993](#)). The years 1937-38 saw another recession. Major droughts in the Mid-West created the “Dust Bowl,” causing a wave of bankruptcies ([Hornbeck, 2012](#)).

To overcome the Great Depression, the Roosevelt administration implemented the “New Deal” — the greatest peacetime expansion of the public sector in US history (at least until the COVID relief package). The government intervened in price and wage setting, dispensed support payments to distressed farmers, home-owners, and companies, and it created public sector jobs on an unprecedented scale, intending to bring “relief, recovery and reform” ([Fishback et al., 2003](#)). Between 1933 and 1939, the government share of GNP rose from 4 to 9 percent ([Wallis and Oates, 1998](#)). Even if not all policies were equally effective ([Fishback et al., 2003](#); [Cole and Ohanian, 2004](#); [Eggertsson, 2012](#)) the New Deal revolutionized the relationship between Americans and their government ([Barone, 1990](#)). Some historians have argued that it helped to overcome Americans’ fundamental suspicion of a capable federal government, laying the foundation for a new relationship based on reciprocity, cooperation, and mutual support ([Wallis, 2010](#)).

Numerous agencies implemented the New Deal. The Federal Emergency Relief Administration (FERA) offered money and work relief to poor and unemployed workers in 1933-35. It was replaced by the Works Progress Administration (WPA), which provided work relief ([Kennedy, 1999](#)). Several programs including the Public Work Administration (PWA), Public Road Administration (PRA) and Public Building Administration (PBA) employed workers to build airports, dams, schools, and community facilities all over the country. AAA dispensed almost 2 billion dollars to American farmers. Some of it paid farmers to take land out of production; other funds were used to buy animals from ranchers directly ([Folsom, 2009](#)). The Home Owners Loan Corporation (HOLC) purchased and refinanced roughly 1 million loans that were likely to be foreclosed upon. The Social Security Act of 1935 introduced old age support and aid to single mothers. Before 1933, most Americans had interacted with the Federal Government only through the US Post Office; by 1939, the Federal Government had become the largest employer in the country.

The determinants of funding varied by program, and many of these policies served Roosevelt’s political agenda ([Wright, 1974](#); [Anderson and Tollison, 1991](#); [Wallis, 1998](#)). A close confidante of Roosevelt, Harry Hopkins, oversaw the relief programs (FERA, WPA), with the objective of reaching as many unemployed workers as quickly as possible. This led him to withhold funds to states run by corrupt politicians ([Wallis, 2010](#)). Black households accounted for 4.5 percent of HOLC mortgages while the black share held by

all other lenders was 2.5 percent in 1940 ([Fishback et al., 2022](#)). AAA grants reached counties affected by weather disasters, as well as constituencies of influential politicians. Together, these programs targeted every major group suffering from the Depression. By helping countless Americans, reinforced by effective radio propaganda, the New Deal underwrote Roosevelt's popularity and electoral success ([Strömberg, 2004](#); [Schlesinger, 1958, 1960](#)).

During WW II, there was a growing realization that government social spending and warfare were intimately linked. The war led to an unprecedented expansion of the government's role ([Timmins, 2001](#)). In 1944, President Roosevelt promised an "economic bill of rights" during his state of the Union address:

"... true individual freedom cannot exist without economic security and independence... People who are hungry and out of a job are the stuff of which dictatorships are made. ... a second Bill of Rights under which a new basis of security and prosperity can be established for all... the right to a useful and remunerative job ... the right to earn enough ... the right of every family to a decent home... the right to adequate medical care ... the right to adequate protection from the economic fears of old age, sickness, accident, and unemployment... the right to good education... *after this war is won we must be prepared to move forward in the implementation of these rights, to new goals of human happiness and well-being.*" ([Dellums, 1986](#), emphasis added, p. 41)

I.B US Involvement in World War II

The US entered WW II after Japan's attack on Pearl Harbor, in December 1941. Nazi Germany declared war on the US shortly thereafter. By 1941, the US armed forces were already expanding rapidly. After Pearl Harbor, the total US armed forces grew to over 16 million men and women ([Angrist and Krueger, 1994](#)), and the economy was quickly put on a wartime footing. By 1944, the US was spending 45% of its GDP on the war. By the time the conflict ended in 1945, it had suffered over a million dead and wounded ([Clodfelter, 2002](#)).

Patriotism took a variety of forms. The war was financed through both taxes and debt. Private consumption was severely restricted as cars and tyres were rationed and many consumer durables were no longer produced ([Jones, 1945](#)). To help finance the war, the Federal Government issued war bonds ("Series E bonds") starting from May 1941. Overall, the bonds financed about 186 billion dollars of war expenditure

(Census Bureau, 1975). The first bonds appeared before the declaration of war and were known as “defense bonds.” After Pearl Harbor, the Federal Government marketed bonds through war loan drives, appealing to patriotic sentiment. While other long-dated government bonds had yields similar to the 2.9% paid by war bonds, war bonds were highly illiquid – effectively committing their holders to keep the bond for 10 years (Federal Reserve, 1941, p.408). We cannot assess precisely what the cost of this illiquidity was. Illiquidity premia are typically in the 2-4% range for financial assets (Ang et al., 2014; Hagströmer et al., 2013). Americans buying war bonds agreed to receive only about half of the market return for a similarly illiquid asset.

¹² This suggests that war bond buying constituted a substantial financial sacrifice.

Accordingly, sales of war bonds were regularly regarded as a gauge of patriotic sentiment during WW II: “loan drives [were] the most sensitive register of fluctuating citizen morale and identification with the war effort . . .” (Sparrow, 2011). The Treasury commissioned psychologist Rensis Likert to examine the motivation of war bond buyers. He found that "...roughly 95 percent of bond buyers consistently specified throughout the war that they bought bonds for “patriotic” reasons . . .” (Sparrow, 2011).

To create armed forces numbering 16 million Americans, the United States used conscription. In addition, just as in 1917, the US Army, Navy, Marines, and Army Air Corps accepted volunteers. Within one year from the outbreak of war, more than 1.1 million men had volunteered to join the US Army (National Archives and Records Administration, 2002). During both conflicts, volunteering was eventually replaced by a Selective Service System that equalized the risk of military service across districts. The US Army stopped taking volunteers in December 1942. Some men volunteered strategically, joining the Navy or the Marines to avoid fighting in the Army. Volunteering for the Army had few material benefits: it spelled risk, relatively low pay and often, dangerous service overseas.¹³ For this reason, our measure of volunteering considers only Army volunteers. The US draft selected about one in five eligible men; volunteers therefore increased the risk of service by a factor of five.

Medals awarded to soldiers are another indicator of patriotic actions. We focus on five main awards

¹²Hagströmer et al. (2013) estimate that the illiquidity premium in US stocks was 1.7-2.1% in the period 1927-2010; Ang et al. (2014) calculate a figure of 4% for other illiquid assets. This would suggest that a highly illiquid bond should have yielded 4.98-6.88% instead of the 2.9% actually paid. For a ten-year zero coupon bond this implies a sale price of 61-51 cents on the dollar, instead of 75, the actual price of war bonds – an overpayment for patriotic reasons by 14-24 cents, or 23%-47% relative to fair value. Had Americans only accepted market rates for war bonds, the 8 war bond drives would have raised 106.4-127.2 billion dollars, instead of 156.4.

¹³In 1942, Roosevelt passed the Pay Readjustment Act that set pay for a regular soldier at \$50 a month. This compares to a median wage of adult males of \$94 in 1939 or an average monthly wage in manufacturing of \$102 (Ruggles et al., 2021).

including the Congressional Medal of Honor and the Silver star. These are given for major acts of heroism, and exclude those awarded to high-ranking officers.¹⁴ Recipients of these awards had to show conspicuous gallantry in the face of the enemy, go well beyond the call of duty, and expose themselves to great danger. For instance, the DoD Manual specifies that the Medal of Honor is awarded for actions that must have involved the risk of life ([U.S. Department of Defense, 2016](#)). Some 10 percent of WW II “heroes” received their medals posthumously, though the figure is higher for the most prestigious awards: 64 percent of Medal of Honor and 18 percent of Distinguished Cross recipients received the medal for actions in which they were killed (during WW I, 19 percent of medal recipients were killed in action; see also [Willbanks \[2011\]](#)). We consider counties that were home to more men performing outstanding deeds on the battlefield as more “patriotic.”

II Data

In this section, we describe the indicators of patriotic behavior that we use, and our data sources.

II.A Patriotism

We use three variables to capture local patriotic sentiment and actions: purchases of war bonds, military volunteering and military awards.

War Bonds. The Treasury Department collected data on war bond sales from reports of the Federal Reserve Banks. We use average purchases per capita in 1944 as our indicator, excluding sales to corporations. The data are taken from County Data Book of 1947, as published by the Census Bureau, and digitized by ICPRS ([Haines, 2005](#)). 1944 is the only war year for which this information is available.

Volunteers. Data on volunteering comes from two separate sources. For WW I, we use data from [Crowder \(1918\)](#). Under Gen. Crowder, the War Office collected county-level data on voluntary Army enlistments up to June 30, 1917 ([Crowder, 1918](#), p.15). We digitize these data and calculate WW I volunteering as a share of soldiers from each county.

We construct an equivalent measure for WW II with enlistment data from the National Archives ([National](#)

¹⁴For details, see below in the Data section.

[Archives and Records Administration, 2002](#)). The National Archives used pictures of the original punch cards to digitize 6.6 million individual service records of US soldiers who served in the Army between 1938 and 1946. We use the full population of digitized records and identify volunteers and inducted men by the first digit of their serial number. Our measure of volunteering in WW II is equal to the number of men who volunteered divided by the total population of each county.¹⁵ Additionally, [National Archives and Records Administration \(2002\)](#) also records some 130,000 women in the Women's Army Corp. All of these women joined voluntarily and we use them as an additional measure of patriotism.

Medals. We collect data on five military awards: the Congressional Medal of Honor, the Crosses of three branches (Army's Distinguished Service Cross, the Navy Cross and the Air Flying Cross) and the Silver Star. We deliberately exclude recipients of the Distinguished Service Medals of the Army and the Navy, which were often given to high-ranking officers in non-combat positions ([Van Creveld, 1982](#)). War medal recipients for both WW I and WW II come from the online sources *Home of Heroes* and *Hall of Valor*.¹⁶ These websites assemble information on war medals throughout US history. For both wars, we normalize the number of medal recipients by population.

PCA Patriotism. We also calculate a summary measure of patriotism by extracting the first principal component of our three patriotism variables.

II.B Individual-Level Data – Census Matching

While our main analysis is carried out at the county level, we also examine individual-level behavior. To this end, we match military service records with the 1940 census. We use the set of tools from recent work on census matching. Specifically, we examine 6,620,862 military service records born between 1900 and 1929 in the NARA-ASN files. These we match against the 14,851,932 men in the 18-30 age bracket in the 1940 census, following the record linking method of [Abramitzky et al. \(2012\)](#) based on names, place and year of birth (allowed to fall within a +/- 2 years window). The algorithm matches 28.7% of the 6,620,862 ASN soldiers, a match rate comparable to other exercises using US censuses ([Abramitzky et al., 2021](#)). The

¹⁵Most records of men joining the US Army in Service Command 7 are missing ([National Archives and Records Administration, 2002](#)) and we exclude these states from volunteering and medal regressions. Service Command 7 included: Colorado, Iowa, Kansas, Minnesota, Wyoming, Missouri, Nebraska, North and South Dakota. In Appendix B.7 we examine the consequences of dropping these states.

¹⁶<https://homeofheroes.com> and <https://valor.militarytimes.com/>. These websites claim to cover all known recipients of these awards. We made sure to avoid double-counting medals from the two sources.

matching allows us to observe volunteering behavior for the population of men of military age. Once we control for covariates, our effective sample size for individual-level outcomes is 12 million.

II.C New Deal Spending and its Determinants

We take the other main variables from the following sources.

New Deal Grants. [Fishback et al. \(2003\)](#) collected county-level data on each federal program implemented between 1933 and 1939 from the US Office of Government reports. New Deal grants include all non-repayable grants paid by any agency between 1933 and 1939; it is normalized by 1930 population. We also use the value of grants and loans disbursed by individual programs: AAA, FCA, public assistance (old age and aid to dependent children), public works (PWA, PRA, PBA), HOLC and RFC. We normalize the level of support of these programs with the relevant target population: farmers for AAA and FCA, social security beneficiaries for public assistance, workers for public works, home-owners for HOLC and total population for RFC. We also observe the number of emergency workers employed by WPA in the 1937 Census of Unemployment: we normalize them by the sum of unemployed (partially or completely) and emergency workers in that year.¹⁷

Droughts. Agricultural relief was higher in counties hit by adverse weather. We identify the causal effect of agricultural relief by predicting agricultural support with the number of summer months with a severe drought between 1933 and 1940. We take drought data from NOAA's National Climatic Data Center ([National Oceanic and Atmospheric Administration, 2014](#)), which maintains monthly weather records for a panel of 376 climate divisions over the continental US since 1900. We use the Palmer Drought Severity Index. The index ranges from -10 to 10, and we define droughts as summer months (June through August) with a Palmer index of -3 or lower.

Committee Membership. We take Congressional Committee membership from [McKibbin \(1997\)](#). For every congressional term, and for every member of Congress, we observe biographical and tenure data,

¹⁷In the regressions we consider AAA grants and FCA loans together as agricultural support: results with the two separate programs are similar. Public assistance beneficiaries come from the 1930 Census: they are single mothers plus 55+ year old wage-workers not employed in agriculture, railroads, government or non-profit organizations. We do not observe blind people and we exclude aid to the blind grants. Target workers of public works programs are the sum of workers who are either employed in emergency work or are fully or partially unemployed in the 1937 Census of unemployment. Emergency workers in 1937 exclude FERA emergency workers (discontinued in 1935).

including term in office and committee membership. We focus on membership in the House Agricultural Committee during the 73rd Congress: 1933–35 ([Canon et al., 1998](#)).¹⁸ After the start of the AAA, a seat on the Agricultural Committee offered the opportunity to channel more money back to the home constituency. For every congressional district, we predict agricultural relief with the tenure in the Agricultural Committee of the congressmen representing the district. We then assign this value to all the counties within the congressional district, based on the NHGIS maps.

Other Controls. All other variables come from the US Census of 1930 ([Ruggles et al., 2021](#)), with four exceptions. First, because we do not observe income in 1930, we use the 1939 wage from the 1940 US Census instead. Second, we take number of farmers and farm income from the 1929 Agricultural Census ([Haines et al., 2018](#)). Third, we collect 1941–45 war contracts per capita at the county level from the County Data Book of 1947 ([Haines, 2005](#)). Fourth, we take the 1898–1928 average Democratic vote share from [Fishback et al. \(2003\)](#) and the 1940 FDR vote share from [Clubb et al. \(2006\)](#).

US Map. We conduct our analysis at the county level, using 1930 counties. We consolidate a few counties in Virginia and New York to accommodate New Deal spending data.¹⁹ Whenever a variable is defined at a different level of geographical aggregation, we use NHGIS georeferenced historical maps ([Manson et al., 2019](#)) and the method of [Hornbeck \(2010\)](#) to create a correspondence. Appendix A provides further details on data construction.

II.D Descriptives

[Table I](#) presents summary statistics for our main variables. On average, citizens bought \$65 of war bonds. During WW II in the average county, there were 6 volunteers and 0.14 WW II medal recipients per 1,000 people. Americans were slightly less patriotic during WW I: during that conflict, we observe 4 volunteers and 0.05 medals per 1,000 people. From all New Deal programs combined, counties on average received \$150 per capita between 1933 and 1939. Farmers received more than the average American: Agricultural support amounted to \$643 for every farmer, \$386 in grants and \$257 in loans. The average county experienced 4.6 months of summer drought between 1933 and 1940. Only 8.6 percent of the counties had a representative

¹⁸Results are robust to using tenure in the 1933–39 House Committees. While Senators in the Agricultural Committee could also attract funds to their home state, state fixed effects make it impossible to identify their impact on agricultural support and patriotism.

¹⁹We thank Price Fishback for sharing this consolidated list of counties.

on the Congressional Agricultural Committee, with an average tenure of around 2.6 years. We transform all variables with the inverse hyperbolic sine transformation (i.h.s.), except volunteering. [Table I](#) shows moments of the transformed variables.²⁰ [Figure II](#)—Panels A–C illustrate the spatial distribution of per capita war bonds purchases, volunteering, and medal awards during WW II. [Figure II](#)—Panel D displays the geographic distribution of total New Deal grants per capita, and Panel E that of agricultural support per farmer. Finally, [Figure II](#)—Panel F shows the spatial distribution of New Deal droughts.

III Empirical Analysis

In this section, we demonstrate a strong link between WW II patriotism and New Deal spending, using county- and individual-level variation in government support. An IV strategy allows us to argue that the link is causal.

III.A War Support and New Deal Expenditure

[Figure I](#) summarizes our main result. We binscatter indicators of patriotic actions against New Deal spending: Counties receiving more New Deal support are more patriotic during WW II. They buy more war bonds, volunteer more, and perform more heroic deeds. ²¹

To go beyond the graphical evidence, we estimate:

$$\text{WW II Patriotism}_i = \beta \text{New Deal grants pc}_i + \gamma \text{WW I Patriotism}_i + \delta X_i + \xi_s + u_i \quad (1)$$

Our unit of observation is a county. We are interested in coefficient β , i.e. the link between patriotic actions and government largesse. We control for socio-economic characteristics in 1930 — the (log of) population, the unemployment rate, the share of veterans, of African-Americans, and the share of people born in one of the major Axis countries (Germany, Japan and Italy). These variables mattered for the allocation of New Deal funds and may correlate with patriotism (for instance, blacks were less likely to volunteer and had less access to New Deal programs: cf. [Fishback et al. \[2020\]](#)). We also control for the share of people living

²⁰Results with i.h.s. of volunteers per capita are similar.

²¹Importantly, in these graphs we plot the residuals of WW II patriotism after controlling for WW I volunteers and medals. This implies that we look at the effect of the New Deal on WW II war support that is not explained by pre-existing patriotic sentiment.

on a farm in 1930, 1929 farm income and a urban dummy. The 1898-1928 average Democratic vote share captures political factors that may affect New Deal support and patriotism. We also include two variables observed at the end of the New Deal: the value of WW II war contracts per capita and the average 1939 wage of employees. We include these variables to control for alternative mechanisms driving our results. For example, it is possible that WW II patriotism responded to 1940s local economic conditions, or that men and women employed in war industries became more patriotic.²²

Crucially, just as in [Figure I](#), we control throughout for both the WW I volunteering rate and the WW I number of medals per 1,000 inhabitants. Equation (1) therefore effectively analyses changes in patriotic actions at the county level between WW I and II. In addition, we always include 48 state fixed effects (ξ_s) to account for unobserved heterogeneity.²³ Our estimates therefore measure the impact of relief on patriotism *within states*, and are not driven by the general pattern that Western, sparsely-populated states simultaneously received more New Deal support and displayed more patriotism than states in the South.

[Table II](#)-Panel A shows the basic patterns, using county-level controls and state fixed effects. We find strong and significant effects throughout. Col. 1 implies an elasticity of 0.19 between New Deal spending and war bonds purchases.²⁴ Next, we examine volunteering for military service. We observe 1,145,054 Army volunteers: almost one in five soldiers in the NARA database. In the average county there were 6 volunteers for every 1,000 people in 1940. The estimate in Col. 2 implies an elasticity of 0.07 between New Deal expenditure and volunteering. We look at medal recipients in Col 3. In the baseline specification we find an elasticity of 0.16. Finally, Col. 4 reports estimates using the first principal component of patriotism as dependent variable: the coefficient is positive and significant. At the bottom of the table, we report the implied effect of moving from the 25th to the 75th percentile of New Deal support: the impact ranges from 7% to 15% of the interquartile range of the dependent variables. All of these effects are highly significant: medals at 8% and the other at less than 1%.

[Table II](#)-Panel B disaggregates effects by New Deal program. We use six main categories of spending – agricultural support to farmers, public assistance through the Social Security, public works spending, the number of emergency workers, support to homeowners in the form of HOLC loans, and RFC loans. Together,

²²These may be “bad controls;” results without them are stronger.

²³Wallis (1998) and Fishback et al. (2003) demonstrate that some states received more funds than others.

²⁴We apply Bellemare and Wichman (2020) formulas to calculate elasticities of i.h.s. transformed variables.

these programs accounted for the vast majority of New Deal support: more than 74% of grants and 84% of loans.

All programs are positively correlated in our data at the county level – areas receiving support from one program often also received support through another. Despite the "curse of dimensionality" in our data, three spending categories are consistently and positively associated with more patriotic actions – agricultural support, public assistance, and support to homeowners. Additionally, public works grants correlate positively and significantly with bonds, medals and PCA. RFC loans are predictive of war bond buying. Of the 24 coefficients in Panel B, 20 are positive, and 15 are positive and significant. While not every single spending category is predictive of every form of patriotism after 1941, [Table II](#) demonstrates a strong association between New Deal spending and patriotic actions during WW II, both for aggregate expenditure and across a wide range of spending categories.

III.B Individual-Level Results

So far, we have analyzed patriotic actions at the county level. However, connecting individual-level actions with county-wide spending patterns is challenging because of heterogeneous responses -- the people receiving support may not be the ones who volunteered. In the case of AAA payments, for example, farmers profited directly and indirectly from incentives to take land out of production. This benefited them but farm hands may have suffered ([Depew et al., 2013](#)). If high volunteering rates in high AAA-areas were driven by farm hands volunteering, perhaps because of a lack of outside options, our county-level regressions would be misleading – with government largesse hurting some people, but leading to more (seemingly) patriotic actions.

We address heterogeneity by analyzing volunteering at the individual level. To this end, we match individual service records with the 1940 US census, using standard record linking techniques ([Abramitzky et al., 2021](#); [Feigenbaum, 2016](#)). Since the census contains information on individuals' occupations, home ownership and farm status in 1940, we can examine whether working for WPA increased volunteering, whether homeowners volunteered more readily in counties receiving more HOLC support or whether farm-owners living in areas with higher agricultural relief spending were more likely to volunteer.

[Table III](#) provides an overview. We use data on the 12 million Americans of military age, controlling for

county and age fixed effects, individual-level characteristics, and characteristics that may affect the likelihood of a match (name proprieties and place of birth fixed effects). Additionally, we narrow the sample size to focus on comparable groups for the three programs: men without high school diploma for WPA, urban dwellers for HOLC and men living on a farm for agricultural support. We find that all forms of government support increased volunteering. Americans who worked for the WPA were one third more likely to volunteer. Homeowners in high-HOLC areas and farmers living in high-agricultural support areas also volunteered more: doubling HOLC support raised volunteering by 0.5 percent points, a 22 percent increase of baseline volunteering rate of home-owners (1.8 percent). Agricultural support was even more effective at mobilizing farmers: a doubling of these grants led to 0.9 percent points more volunteers among farmers, a more than fifty percent increase relative to their baseline volunteering (1.7 percent).

As we control for more factors in col 2, the coefficient on WPA remains remarkably stable (Panel A). Coefficients grow in size for HOLC and agricultural support when we add controls (Panels B and C). Moving from the first to the third quartile of HOLC spending increased the likelihood of volunteering by 0.05 percent points, a 4 percent increase of baseline probability. A similar movement on the agricultural support distribution on Panel C col 2 leads to an increase of 0.1 percent points, a 14 percent increase in baseline volunteering.

To pin down the effect of WPA employment, homeowners and farmer relief, we want to compare "treated" individuals with others who are as similar as possible. For example, Americans working for the WPA were more often white, poorer, less educated, and more likely to be married than those who did not. To avoid these imbalances driving results, we use coarsened exact matching - CEM ([Iacus et al., 2012](#)). CEM divides observations into "coarsened" categories, forming comparison groups (strata) in which individuals share main characteristics. We use six variables to form groups – age, income (ventiles), immigrant status, education (four categories), farm status, and race. Thus, CEM allows us to ensure balance across treatment status in our data. This is particularly important since individuals who *could* receive WPA, HOLC or agricultural support differ significantly from the rest of the population.

To fix ideas, consider the following example of two individuals matched so as to be part of the same CEM stratum: Joseph Hazard and Nathaniel Nernitte both lived in St Louis City, Missouri in 1940. They are identical along most observables: both were 21 years old, white, unmarried, and with no education beyond

elementary school. They both earned \$ 350 in 1939, working as laborers. However, Joseph worked for the WPA, while Nathaniel worked on his own account. After Pearl Harbor, Joseph volunteered immediately, on Dec 10, 1941. Nathaniel, in contrast, never volunteered. CEM allows us to limit comparisons to sets of individuals who are closely matched, as in this case. We divide the population into tens or hundreds of thousands of strata, with 43 or fewer individuals in each.²⁵ Table III, col 3, presents results after CEM-matching. Sample size declines markedly: the initial 12 million draft-age men decline to 2.8, 8.3 and 2 million men in the analysis of WPA, HOLC and agricultural support respectively. Where we compare (broadly) like with like, we find that coefficient size either stays constant (WPA, agricultural support) or increases (HOLC).

Not everyone benefited from agricultural support, and we find evidence that those harmed by AAA volunteered *less*. AAA took land out of production and put many agricultural laborers out of work: to these workers, government spending brought additional pain at the height of the Depression. We identify farmhands in the military records and look at the effect of AAA on their decision to volunteer in Table III–Panel D.²⁶ In this sample, we again find that farmers respond enthusiastically to higher AAA support. However, AAA had the opposite effect on farmhands: more AAA grants made them volunteer markedly *less*.²⁷ The coefficient on the interaction between agricultural support and farm hand status is negative and highly significant in col 1 and 2. When we use CEM (col. 3), we lose half of our sample, and the coefficient declines in size, but remains negative and statistically indistinguishable from those in cols 1 and 2. Government largesse therefore correlates with volunteering because of both negative and positive reciprocity: while those who benefited volunteered more, those hurt by government intervention showed markedly lower levels of patriotism.

III.C Agricultural Support and Patriotism

The OLS evidence suggests that Americans who benefited from more New Deal spending during the Great Depression made greater sacrifices for their country after 1941. However, our estimates may suffer from omitted variable bias – characteristics unrelated to government spending could have attracted New Deal funds in the 1930s, and have also lead to greater patriotism in the 1940s. Also, federal spending was partly allocated

²⁵We create three separate CEM indicators: there are 65,241, 253,530 and 162,972 CEM strata for WPA workers, home-owners and farm-owners, respectively. On average, these strata contain 43, 33 and 12 individuals.

²⁶We cannot perform this analysis on the linked sample because the Census occupational categories are too coarse.

²⁷Importantly, these regressions identify the effects only among soldiers who before the war had an agricultural occupation: the residual category contains other agricultural occupations such as mechanics, farm managers or irrigation experts and accounts for 24 percent of this sample.

for political reasons.²⁸ Counties where the Democratic party was weaker prior to the New Deal received significantly more funds during the 1930s. If voting for the Democratic Party correlates with patriotism, this may bias our results. Some men who volunteered might have been motivated by strategic considerations, trying to influence where they served. Therefore, both strategic spending and omitted variables may be driving our results in [Table II](#).

In order to demonstrate the causal effect of government spending on patriotic actions, we use arguably exogenous variation in New Deal support. We focus on New Deal programs designed to relieve agricultural distress: the Agricultural Adjustment Administration and Farm Credit Administration (FCA). AAA was one of the first New Deal programs. It was also a well-defined, highly-visible program with a clear target population. The Great Depression hit farmers hard, and AAA provided direct support for years, accounting for 12.1 percent of all 1933–39 New Deal spending ([Fishback et al., 2003](#)). FCA provided an additional 1.2 billion dollar of loans, equal to 12 percent of all New Deal loans. Support was distributed all over the US, but to a varying extent ([Fishback et al., 2003](#)). [Table II](#) already showed that agricultural support is positively associated with patriotic actions during WW II. Focusing on volunteers in agricultural professions also allows us to sidestep the strategic volunteering issue, since most farmers were considered exempt from service ([Jellison, 2018](#)). We now demonstrate that plausibly exogenous variation in agricultural support also predicts WW II patriotism.

We use two instruments — the number and severity of droughts hitting a county, and the tenure of a district's representative on the Congressional Agriculture Committee. The former simply reflects the incidence of weather shocks; the latter is largely determined by the history of congressional representation before the start of the New Deal.

1930s Droughts. During the 1930s, severe droughts hit the US. Dry spells led to crop failures and soil erosion ([Hornbeck, 2012](#)). Low agricultural prices after WW I depressed farmers' income, and 1930s droughts sent many of them into bankruptcy ([Kennedy, 1999](#)). The Agricultural Adjustment Acts of 1933 and 1938 were designed to help farmers in distress, buying crops at controlled prices, and paying them to reduce land in cultivation ([Libecap, 1997](#); [Depew et al., 2013](#)). The 1938 bill also promoted soil conservation, to counter negative consequences of past droughts. Thus, some of the AAA funds were allocated implicitly or

²⁸ [Wright \(1974\)](#); [Wallis \(1998\)](#) and [Fishback et al. \(2003\)](#).

explicitly to fight the consequences of New Deal droughts. For instance, when in 1934 drought-induced crop failures caused large quantities of livestock to starve, AAA responded with a livestock purchase program. The link with droughts was even more explicit for drought relief loans or the 1938 AAA soil erosion grants. Extreme weather during the New Deal years is a valid instrument if it has no direct effect on patriotism except through its influence on agricultural support.

[Table 3](#) shows that within states, droughts are uncorrelated with WW I medals, 1930 population and unemployment, urbanization, wages, ethnic minority shares, or WW II war contracts. We find small imbalances only in pre-New Deal Democratic vote share, WW I volunteering and farm share. Panel A in [Figure III](#) demonstrates the extent to which droughts were associated with agricultural support. Panels B–D document the strong and positive unconditional correlation between measures of patriotism (on the y-axis) and droughts (on the x-axis).

Committee Membership. Committee membership mattered for the geography of federal spending in the 1930s – as it does today ([Anderson and Tollison, 1991](#)).²⁹ A seat on the *Agricultural Committee* strongly predicts *agricultural* support. In principle, agricultural funds should have been dispensed according to a set of objective criteria. In practice however, the 26 members sitting on the Agricultural Committee in 1933–35 had considerable influence over the final allocation of funds. This was especially true for those with longer tenures and higher rank within the Committee ([Rasmussen et al., 1976](#)). The exclusion restriction is that the local congressman’s tenure on the Agricultural Committee in 1933–35 has no direct effect on WW II bond purchases, volunteering, and heroic actions other than through government spending.³⁰

In [Table 3](#) representation shows broad balance — it is uncorrelated with the democratic vote share 1896–1928, WW I patriotism, demographic composition and economic conditions. Few significant correlations emerge, and they are small; we control for all these variables in our regressions. Congressional committee membership in general has strong predictive power for local aggregate New Deal grants [Figure III](#)-Panels E-H demonstrate the positive relationship between Committee membership, agricultural support and WW II patriotism.

IV Analysis. As [Figure III](#) shows, both droughts and committee membership are predictive of agricul-

²⁹[Strömborg \(2004\)](#) also shows that New Deal spending responded strongly to political expedience.

³⁰Conceptually, representation on the 1933–35 Committee is superior to representation in 1933–39 because the Committee may change endogenously during the New Deal. In practice, results do not depend on this choice. Similarly, using a dummy for being represented in the Agricultural Committee does not change our conclusions.

tural support, and show positive correlations with patriotic actions.

To go beyond the graphical evidence, we estimate the first-stage:

$$\text{Agricultural support per farmer}_i = \delta_1 \text{drought months}_i + \delta_2 \text{tenure Agri committee}_i + \psi X_i + \omega_s + e_i \quad (2)$$

where we regress agricultural support per farmer on number of months with severe drought, committee tenure, and a set of controls, before using fitted values as explanatory variables for our measures of patriotism.³¹ Col. 1 of [Table IV](#) reports the strength of the first-stage relationship: at the mean of the distribution droughts have an elasticity of 0.26, tenure of 0.07. The F-test of 16 is well above the rule-of-the-thumb value of 10, indicating a strong instrument ([Stock et al., 2002](#)).³²

Columns 2-5 show the reduced form, demonstrating that droughts and agricultural committee presence predict WW II patriotic actions (a result robust to using the IVs separately: [Table 4](#)). The drought coefficients are consistently positive and significant, a result confirmed by the low *p*-values of the Anderson-Rubin test. The last four columns of [Table IV](#) report IV estimates. We find a strong effect of government largesse on patriotism. Col. 6 suggests an elasticity of 0.37 between agricultural support and war bond purchases. Cols. 7 and 8 imply at the mean of the distributions elasticities of 0.3 and 0.36 for volunteers and medals, respectively. The first principal component of our three main indicators is also strongly correlated with agricultural support.

[Table V](#) shows IV results at the individual level. Columns 1 and 2 present the reduced form estimates. We find strong effects on volunteering for droughts for farm owners in areas affected by droughts (col 1), and for farmers in counties with either severe droughts or substantial agricultural committee representation (col 2). As before, we find negative effects in the army sample for farm hands (col. 2). The IV results (col 3+4) confirm that agricultural support had strong and highly significant effects on individual volunteering.

Pre-Trends. Our IV analysis assumes that droughts by themselves did not lead to more patriotic actions, or that areas more prone to droughts are more patriotic in general. [Figure IV](#)-Panel A shows the severity of droughts from 1897 to 1941 in the US. While the "Dust Bowl" period was particularly severe, similar waves

³¹We deal with the positive skew of variables with the inverse hyperbolic sine transformation.

³²Here and in what follows, we cluster standard errors at the level of the climatic division. Results are robust to clustering at the congressional district level.

of drought occurred earlier. We use historical drought data to show that a) World War II patriotism is *not* predicted by pre-1933 droughts and that b) pre-1914 droughts do not predict World War I patriotism. Below, we also show that areas that were hit by droughts, but did not receive agricultural relief ("never-takers"), were not more patriotic.

[Figure IV](#) gives an overview. Panel B shows that federal agricultural spending rose sharply with the New Deal and motivates the analysis of pre-New Deal droughts, when extreme weather did not drive spending. In panel C, we show that only New Deal era droughts predict agricultural support at the county level; droughts over the period 1897-1932 have no predictive power. The same is true for our indicators of patriotic actions – there are no "false positives" for war bond purchases (panel D), volunteering (panel E), or medals (panel F). Nor are pre-WW I droughts predicting WW I patriotic actions (panels G+H). In combination, these results strongly suggest that droughts themselves have no direct effect on patriotic actions – it is only when the US federal government began to support farmers on a large scale that government largesse induced by droughts coincided with more costly actions for the nation as a whole.

Did congressmen on the powerful Agricultural Committee come from more patriotic counties? Membership on congressional committees was largely stable over time; tenure on the Agricultural Committee in the 1920s is almost collinear with tenure during the 73rd Congress. Thus, we cannot replicate the pre-trends exercise with our committee variable. However, we can ask whether representation on the Agricultural Committee of the 62nd Congress (1911–13) correlates with patriotic actions. Cols. 1 and 3 of [Table 5](#) show no relation between Agricultural Committee membership and the WW I volunteering rate or medals per capita. Similarly, cols. 2 and 4 show that WW II patriotic actions are uncorrelated with pre-WW I representation on the agricultural committee. These results lend credence to a causal interpretation of the IV. Committee representation alone is not correlated with patriotism. It is only when Congressmen successfully channelled federal funds to their constituencies that we observe a surge in patriotic sentiment.

Magnitudes and LATE. The IV coefficients are markedly bigger than under OLS. Measurement issues are not implausible but probably minor. The large IV effects arguably reflect two related factors: heterogeneous effects of agricultural support in different sub-populations and the importance of local average treatment effects (LATE). First, consider the impact of AAA support on the population of a county. AAA paid farmers to take land out of production; the farmers benefited but farmhands lost employment.

Individual-level results in [Table III](#)-Panel D and [Table V](#) indicate that AAA had opposite effects on these two separate sub-populations: generous AAA grant led farmers to volunteer more and farmhands to volunteer less. County-level AAA coefficients represent averages of the two effects and are smaller than the effect for farmers. IV estimates reflect the effect of AAA payments made in response to droughts. These were not conditional on acreage reduction, and harm to rural workers was correspondingly less. Hence, larger coefficients make sense.

Second, in this setting LATE estimates from the IV are likely to be larger than OLS estimates. AAA's acreage-reduction provisions may not have left farmers better off on net: their farm income was replaced by government subsidies, but replacement did not necessarily exceed what they would have made otherwise. In contrast, the drought-IV picks up payments to farmers hard-hit by natural disasters. Where the government intervened, they benefited directly, and could appreciate first-hand the new role that the government was taking in securing the livelihood and well-being of its citizens in times of distress. It is plausible that reciprocity was stronger where farmers received help in times of distress: conceptually, this is the effect we are after.

This interpretation is reinforced by looking at the effects on ranchers: AAA grants also helped animal farmers who lost livestock to the droughts ([U.S. Agricultural Adjustment Administration, 1936](#)). Because this support did not necessarily lead to higher unemployment and directly targeted victims of natural disasters, it should be associated with bigger effects on patriotic actions. In [Figure 1](#), we split the sample above and below the median number of cattle per farmer and find that agricultural support was significantly more effective in areas specialized in cattle: the difference is always significant at the 1.2 percent or better. This also suggests that some of the perverse effects of agricultural support may be biasing our aggregate results downward.

Never-Taker Analysis. To further increase trust in our instrumental variable strategy, we conduct a simple falsification exercise, in the spirit of [Bound and Jaeger \(2000\)](#), [Angrist and Krueger \(1994\)](#), and [D'Haultfœuille et al. \(2021\)](#). If our instruments work by increasing agricultural support and in turn, patriotic actions, then they should *not* predict greater patriotism in counties without agricultural support.³³ [Figure 2](#)-Panels A–B show the distributions of droughts and committee memberships in areas with and without agricultural support. Droughts and committee membership were higher in areas with agricultural support, but

³³ Almost no areas received no agricultural relief at all. We therefore use a cut-off of \$ 68 per farmer, corresponding to the bottom 10 percent of agricultural support. This compares with average agricultural support of \$ 643 per farmer.

there is plenty of variation in both subgroups. Panels C–D show beta coefficients of droughts and committees for the four patriotic measures; for areas with and without agricultural support. In line with our identification assumptions, we find that among “never takers,” droughts and committees had no significant effect on patriotism (left coefficient estimates): while noisy, point estimates are consistently close to the zero. In contrast, in the part of the sample that did receive agricultural support, we find strong and significant coefficients.

IV Alternative Explanations and Robustness

The previous section shows a strong and positive relationship between 1930s government spending and patriotism during World War II. Our IV and analysis of pre-New Deal weather shocks suggest that the relationship is likely causal. Here, we consider several plausible alternative explanations, including economic incentives, gratitude towards Roosevelt and pre-existing cultural values. We also investigate the importance of spatial autocorrelation in the data. Appendix B presents additional robustness tests, including panel analysis, the effect of deviations from IV exogeneity (Conley et al., 2012), matching estimators, the role of sharecropping, the “Dust Bowl” and migration, the impact of individual states, and the consequences of excluding the 7th Service Command. Our conclusions are robust and we find limited support for alternative channels.

IV.A Patriotic Sentiment vs Economic Incentives

We argue that government social spending and insurance-like payouts predict patriotic actions because they changed beneficiaries’ values and attitudes. Economic incentives provide an important alternative explanation. If areas hit by the Depression and the Dust Bowl continued to be economically depressed afterwards, reducing the opportunity cost of military service, they may have simultaneously received more government support and seen higher volunteering rates.

The data speak against this interpretation: First, the opportunity-cost mechanism cannot explain the results for both medals and bonds – areas that were poorer are unlikely to have purchased more war bonds, nor should they necessarily be home to more “heroes.”

Second, we can show that the effect of New Deal spending on volunteering rates did not depend on measures of economic activity right before the war. The impact of government spending on patriotism was broadly constant, independent of whether an area had high or low unemployment or whether or not it was

affluent. [Figure 3](#) plots the marginal effect of higher government spending for each decile of 1940 employment rates (Panels A–B) and 1939 wage (Panels C–D). There is no clear pattern. Higher unemployment did not spell more patriotism – and the bottom 10 percent of counties in economic conditions actually saw *lower* effects of New Deal spending and agricultural support on patriotism. New Deal grants had, if anything, a bigger effect in areas with a higher 1939 wage; the pattern for agricultural support is mostly flat, except for the very top decile (panels C+D).

Third, Sobel-Goodman mediation analysis also indicates that 1940 unemployment or 1939 wage are not influencing the impact of New Deal support on patriotism. [Table 6](#) indicates that economic conditions never mediate more than 6% of our effect. Mediation is even lower for volunteering and is often negative.

Finally, individual-level results also speak against the economic channel. [Table 7](#) adds to regressions in [Table III](#)-Panel A an unemployment dummy. If WPA workers volunteered for lack of better economic opportunities, we would expect the unemployed to respond even more strongly. This is not what we find: the unemployment coefficient is a precisely estimated zero. In combination, this evidence suggests that the opportunity cost channel is unlikely to drive our results.

IV.B Gratitude towards Roosevelt

Gratitude towards Roosevelt is another plausible explanation for our results. As Commander in Chief, Roosevelt led the United States into World War II, and campaigned actively for the war ([Kennedy, 1999](#)). The New Deal was Roosevelt's signature policy, and some of the spending was clearly distributed according to the potential for political gain ([Strömberg, 2004](#)). Thus, counties which received more support during the New Deal may have displayed greater support for the war out of loyalty to Roosevelt, rather than to the nation.

To explore this channel, we perform two tests. First, we explore heterogeneous effects. We estimate Equation (1) and add interactions between New Deal support and deciles of 1940 Roosevelt vote share. In [Figure 4](#), we plot the marginal effect of New Deal spending (Panel A) and agricultural spending (Panel B) for each decile of Roosevelt's support. The effect of agricultural spending on patriotism is positive and significant across the distribution, but shows no clear pattern. Greater enthusiasm for Roosevelt after 8 years of New Deal does not predict a stronger relation between agricultural payments and patriotism.

Second, we use Sobel-Goodman mediation analysis and ask whether 1940 Roosevelt's vote share mediates the effect of agricultural support on patriotism. The last row of the rows of [Table 6](#)-Panels A and B show little evidence of mediation: Roosevelt's 1940 electoral support never explains more than 2.2% of the total effect of agricultural support on patriotism. For total New Deal grants, FDR support mediates at most 11% of the effect of volunteers, and much less for the other outcomes. The vote share received by Roosevelt at the end of the New Deal and before the start of the war should reflect the popularity of the President right before we identify our effects. The fact that this measure has no impact on the relationship between government spending and patriotism speaks against gratitude towards Roosevelt being a major driver of our results.

IV.C Women Volunteers

So far, we have focused on male volunteers. As we discussed above, some of them may have had strategic motives. One group for whom this consideration is not relevant are women; the Selective Service Act only required men to serve in the US armed forces. We collect data on female volunteers (overwhelmingly used for medical support services), and examine whether the same geographical patterns emerge. [Table 10](#) shows that both general New Deal spending and agricultural support predict women's volunteering.

IV.D Volunteering, "Frontier Spirit", and the Effect of Disasters

Two objections to our analysis up to now can be made: First, it may be the case that areas that suffered from more droughts were, in general, more patriotic. This could reflect, for example, a greater tendency towards pro-sociality in places where adversity is common, along the lines of [Bauer et al. \(2016\)](#). Second, places that volunteered more may be different in several cultural dimensions – for example, they may be more self-reliant and outdoors-oriented, and individuals from these areas might consider military service less of a burden.

We examine these two possibilities here. [Figure IV](#) already showed that droughts only predict patriotic actions during the New Deal era. [Figure 5](#) shows that the geography of droughts changed drastically after 1932 – whereas the Mid-West was rarely hit before 1932, it suffered above-average droughts during the "Dust Bowl" years. In [Table 8](#) we construct a panel database of patriotic actions in WW I and WW II, and ask whether the effect of New Deal grants on patriotism only emerges after the 1930s. We find that the New

Deal and agricultural support predict patriotism only in WW II, not before. This is true for OLS estimates (col. 1-4), the reduced form results (col. 5+6), and our IV estimates (col. 7+8).

Next, we examine whether including the measures of individualism and “frontier culture” in [Bazzi et al. \(2020\)](#) affects the magnitude of our estimates. [Table 9](#) demonstrates that this is not the case. Finally, we partition our sample into areas with high vs low frontier culture. [Figure 6](#) shows that estimates for war bonds and medals are indistinguishable between the two samples. If anything, where frontier experience lasted longer and the frontier “spirit” should accordingly be higher, the link between welfare and volunteering was weaker.

IV.E Spatial Error Correlation

Our data vary over space. If the level of patriotism and government social spending in adjacent counties is not independent, heteroscedastic-robust standard errors will be downward biased ([Colella et al., 2019](#)). We first examine the potential scale of the problem, calculating Moran’s I. [Table 11](#)—Panel A gives the results for different distance thresholds. War bonds and volunteering display more spatial correlation than medals. For all three measures, the IV residuals show less spatial correlation. Spatial correlation becomes small and insignificant beyond 600 km. Next, we correct standard errors with the formula of [Conley \(1999\)](#) ([Table 11](#)—Panel B), with four cutoffs: 200, 400, 600 and 800 km. Across outcomes, accounting for spatial autocorrelation beyond the threshold identified by Moran’s statistics never reduces significance beyond 8 percent. We conclude that spatial correlation is unlikely to drive the significance of our results.

V Conclusion

Patriotism is widespread today – in 48 out of 52 countries, according to the World Value Survey, more than 80% of citizens are “quite proud” or “very proud” of their country ([Beauchamp, 2014](#)). At the same time, an important literature views nation-states and nationalist sentiment as artificial inventions that are socially constructed based on shared myths and narratives ([Anderson, 2006; Colley, 1992](#)). In the words of Yuval Harari: “We can weave common myths such as .. the nationalist myths of modern states. Such myths give Sapiens unprecedented ability to cooperate flexibly in large numbers... with countless strangers”([Harari, 2014](#)).

Instead of common narratives and myths as sources of patriotism, we focus on the contractual origins of state capacity, and in particular, intrinsic reciprocity towards the nation (Besley, 2020; Sobel, 2005). We demonstrate that where the US federal government provided help and support in times of crisis during the 1930s, patriotic deeds became much more common. Roosevelt's New Deal ushered in an unprecedented expansion of federal spending, fundamentally changing the role of the Federal Government in American society (Schlesinger, 1957). Where the New Deal offered more support, Americans were more likely to help their country in wartime. By observing the same, costly actions – volunteering and medal awards – in both WW I and II, we can examine what factors changed attitudes. Importantly, New Deal spending was not targeted at areas that were already more patriotic during WW I; it created a *new* geography of patriotism. These results hold both at the county level and at the individual level, examining patterns of volunteering among the 12 million American men of military age in 1940.

If reciprocity drove patriotism, then increased taxation should have undermined it.³⁴ The fact that we find positive effects could be rationalized if government spending was efficient overall, which is more likely for social insurance, infrastructure spending, and defence than for, say, AAA. However, since benefits were heavily concentrated both across space and among particular social groups, while taxation was general, even relatively inefficient government spending may have increased patriotism in a large number of countries.

Our findings have implications for two literatures. First, they offer insight into the synergy between civic capital and pro-social behaviors on the one side, and state capacity on the other. An emerging literature in economics analyzes the origins of capable states and the role of armed conflict (Besley and Persson, 2009; Acemoglu, 2005; Gennaioli and Voth, 2015). It often focuses on war shocks, military spending needs, and taxes as a key dimension of state building (Levi, 1989; Scheve and Stasavage, 2010). The case of US patriotism during WW II suggests that the complementarity between government intervention and civic capital goes far beyond taxation and direct, legal obligations – with social spending and government support inducing a form of generalized, intrinsic "reciprocity" towards the country as a whole (Besley, 2020; Sobel, 2005). In this way, the New Deal helped to overcome a fundamental distrust of the federal government (Wallis, 2010). The US pattern after 1940 therefore bears out a general mechanism that led conservative politicians from Bismarck to Churchill to advocate greater social spending to enhance military prowess.

³⁴We thank Robert Barro for encouraging us to consider this aspect.

Second, a large literature has demonstrated that culture — the combination of attitudes, practices, and beliefs governing everyday life — can persist over long periods (Becker et al., 2016; Guiso et al., 2016; Voigtländer and Voth, 2012; Nunn and Wantchekon, 2011). Research on the determinants of *changes* in attitudes is in its infancy (Giuliano and Nunn, 2021). Here, we demonstrate how government spending can fundamentally transform patriotic attitudes in a relatively short space of time, creating a new geography of patriotism.

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A Data Appendix

A.1 Map of the US and Sample

Our units of analysis are 1930 counties in continental US. We start from the list of 3,070 counties in [Fishback et al. \(2003\)](#) and match it to the shapefile of the US in 1930 ([Manson et al., 2019](#)): this is our “base map.” When a variable is not measured in 1930, we observe it on a map that is different from our base map. In these cases, we calculate the value of the variable in 1930 counties with the method of [Hornbeck \(2010\)](#). We intersect the non-1930 map with our base map and create a many-to-many correspondence of counties. For every match we also compute weights equal to the share of non-1930 counties that falls inside a given 1930 county. We use these weights to compute the values of different variables in 1930 counties. The method effectively assumes that economic activity spreads evenly over space (at least in counties that changed borders).

The database of [Fishback et al. \(2003\)](#) contains 3,068 counties with valid New Deal grant entries.³⁵ From this list we drop 27 counties with missing volunteer data for WW I and 1 for WW II, 13 with missing unemployment rate in 1940 and 2 in 1930, 4 with missing 1930 farmers and 1 with missing share of democratic votes. We end up with a sample of 3,022 counties: this is our main sample of analysis. When we drop the 7th Service Command we have 2,329 counties.

A.2 Variable Description

A.2.1 Patriotism during WW II

1944 War Bond Purchases per Capita. The variable is the inverse hyperbolic sine transformation (i.h.s.) of 1944 war bond purchases divided by 1940 population. Both variables come from the *County Data Book* of 1947 ([Haines, 2005](#)). War bond purchases count only private customers (i.e. it excludes corporation). War bond purchases is CC00478 and population is CC00012.

Volunteers per 1940 Population. The variable is the number of volunteers from a county divided by 1940 population, times 100. Volunteers are from [National Archives and Records Administration \(2002\)](#) while population is from the 1940 census ([Ruggles et al., 2021](#)).

³⁵Washington D.C. and Yellowstone National Park in Montana have missing values.

[National Archives and Records Administration \(2002\)](#) provides the universe of WW II US Army soldiers. These data contain individual-level information digitized from the original punch-cards used to register soldiers during the war. From the full series of 9.2 million people, we exclude 625,806 records of officers and National Guardsmen and 133,841 records of women in the Women’s Army Corps. We drop 914,270 records with invalid entries in one of the following fields: serial number, county of residence, county of birth, year of birth and year of enlistment. We exclude 742,943 soldiers who were resident abroad, in Alaska or in the Hawaii before joining the Army. Finally, we drop 162,508 duplicate records. This leaves us with 6,620,862 soldiers.

The Army organized enlistment across 9 “Service Commands,” each comprising several states. Coverage of the 7th Service Command is poor:³⁶ across the US, 5.2 men were drafted and 1 volunteered for every 100 people. In the [National Archives and Records Administration \(2002\)](#) data for Service Command 7 these numbers were 3 and 0.86. In the main specification we always exclude the 459,665 men who joined the Army from these states. In [Table 17](#) we add back the 121,126 men who volunteered from the 7th Service Command.

We identify voluntary enlistment with soldiers’ serial numbers. Volunteers were reserved serial numbers starting with “1,” while the Army assigned serial numbers starting with “3” to draftees (Army Regulation 615-30, 1942; see also [Fouka, 2020](#)).

Medals per 1000 People. We collect individual-level information of every Army soldier who received a military award between 1941 and 1945 from public use sources (Wikipedia) and public domain material in the National Archives, Washington DC. We cross-check all our entries against the combined universe of records in the websites *Home of Heroes* and *Hall of Valor*.³⁷ The websites assemble a comprehensive list of all American soldiers who received one of the most prestigious awards. We focus on recipients of the Medal of Honor, the Distinguished Service Cross, the Navy Cross, the Air Flying Cross and the Silver Star for which either the websites reported the county of residence before the war, or which we could confidently match to a military record with a valid residence. We manually check every award to avoid double counting records listed on both websites. We manage to geolocate 496 Medals of Honor and 2,842 Distinguished

³⁶The 7th includes the states of Colorado, Iowa, Kansas, Minnesota, Wyoming, Missouri, Nebraska, North Dakota and South Dakota.

³⁷<https://homeofheroes.com> (accessed on January 2018) and <https://valor.militarytimes.com/> (accessed on August 2021).

Service Crosses, 3,005 Navy Crosses, 2,558 Air Flying Crosses and 11,874 Silver Stars. We divide the total number of medals in each county by the 1940 population ([Ruggles et al., 2021](#)). We multiply this variable by 1000 and take the inverse hyperbolic sine transformation (i.h.s.). Because we use the [National Archives and Records Administration \(2002\)](#) to geolocate many of these heroes in the baseline results we exclude the 7th Service Command, which has poor coverage. In [Table 17](#) we add back these counties.

Patriotism PCA. We calculate the first principal component of our three main patriotism variables: 1944 war bonds per capita, volunteers per 100 people and medals per 1,000 people. We do not compute this variable for the counties in the 7th Service Command, which has poor enlistment coverage.

Women Volunteers per 1940 Population. The variable is the number of volunteers to the Women's Army Auxiliary Corps divided by 1940 population, times 100. Volunteers are from [National Archives and Records Administration \(2002\)](#) while population is from the 1940 census ([Ruggles et al., 2021](#)). There are 133,841 records of women in the NARA records: we identify them with serial numbers starting with "9" (Army Regulation 615-30, 1942). We exclude the 7th Service Command, which has poor coverage.

A.2.2 New Deal

New Deal Grants per Capita. The variable is the inverse hyperbolic sine transformation of total non-repayable New Deal grants divided by 1930 population. New Deal grants are from [Fishback et al. \(2003\)](#), who collected county-level data on each federal program implemented between March 1933 and June 1939 from the US Office of Government reports. Population in 1930 is from the census ([Ruggles et al., 2021](#)).

Agricultural Support per 1930 Farmer. The variable is the inverse hyperbolic sine transformation (i.h.s.) of Agricultural Adjustment Act (AAA) grants plus Farm Credit Administration (FCA) loans divided by number of farmers in 1930. AAA grants and FCA loans are from [Fishback et al., 2003](#), and are measured between 1933 and 1939. Number of farmers in 1930 is from the 1930 agricultural census ([Manson et al., 2019](#)).

Public Assistance Grant per 1930 Beneficiary. The variable is the inverse hyperbolic sine transformation (i.h.s.) of Old Age (OA) assistance plus aid to dependent children (ADC) divided by number of beneficiaries. Beneficiaries in 1930 are from the census ([Ruggles et al., 2021](#)). OA assistance beneficiaries are 55+ years

old in 1930, employed (`empstat` = 1), working for wage (`classwkrd` = 20, 21 or 22) in any sector except agriculture and fishery (`ind50` = 105, 116 or 126), railways (`ind50` = 506 or 516), government or non-profit (`ind50` > 900). These people are eligible to receive OA assistance when they turn 65 in 1940. ADC beneficiaries are women (`sex` = 2), head of the household (`relate` = 1), single (`marst` = 2,3,4 or 5) with one or more children (`relate` = 3,4). Dagget, UT (1930 population: 411) has no beneficiaries in 1930: we recode this observation to 0. Public Assistance grant usually include Aid to the Blind (AB); however, because we do not observe the number of blind people in 1930 and we exclude aid to the blind grants. AB grants account for 6% of Public Assistance grants and their inclusion has virtually no effect on the results.

Public Works Grants per Worker. The variable is the inverse hyperbolic sine transformation (i.h.s.) of Public Road Administration (PRA), Public Buildings Administration (PBA), and Public Works Administration (PWA, only Federal projects) divided by target workers. Target workers are the sum of workers who are either employed in emergency work or are fully or partially unemployed in the 1937 Census of unemployment ([Haines, 2005](#)).

Share of Emergency Workers. The variable is the number of people employed in emergency work divided by the sum of workers who are either employed in emergency work or are fully or partially unemployed in the 1937 Census of unemployment ([Haines, 2005](#)).

HOLC Loans per Capita. The variable is the inverse hyperbolic sine transformation of Home Owners' Loan Corporation loans divided by the number of 1930 home owners. HOLC loans are from [Fishback et al., 2003](#), and are measured between 1933 and 1939. Home owners in 1930 is from the census ([Ruggles et al., 2021](#)) and have `ownership` = 1. Every household in Kenedy, TX (1930 population: 220) rents his house and the county receives no HOLC loans: we recode this observation to 0.

RFC Loans per Capita. The variable is the inverse hyperbolic sine transformation of Reconstruction Finance Corporation loans divided by 1930 population. RFC loans are from [Fishback et al., 2003](#), and are measured between 1933 and 1939. Population in 1930 is from the census ([Ruggles et al., 2021](#)).

A.2.3 Instruments

Months of Drought: 1933–40. The variable is the inverse hyperbolic sine transformation of the number of summer (June, July and August) months with severe droughts between January 1933 and December 1940. We define “severe drought” as a month with Palmer Drought Severity Index of -3 or lower. Palmer Index is from the NOAA’s National Climatic Data Center ([National Oceanic and Atmospheric Administration, 2014](#)), which maintains monthly records for a panel of 376 climate divisions over the continental US since 1900. We assign each county to a climate division by overlaying the map of climatic divisions to our base map.

Months of Drought: 1897-1900 through 1929-1932. For every four-year interval between 1897-1900 and 1929-32, we construct these variables as the inverse hyperbolic sine transformation of the number of summer months with severe droughts in the respective years. It is constructed as the previous variable.

Tenure in Agricultural Committee: 1933–35. The variable is the inverse hyperbolic sine transformation of the number of years of tenure on the Agricultural Committee during the 73rd Congress: 1933–35. The data is from [McKibbin \(1997\)](#), which maintains the directory of all US Congressmen between 1789 and 1996, and [Canon et al. \(1998\)](#) which provides information on their tenure. We then assign members of Congress to their congressional district in 1933, superimpose the map of congressional districts from [Lewis et al. \(2013\)](#) to our base map, and assign the value of every district to all the counties inside it. When a county splits across more than one congressional district we assign values from each of the districts using the share of area in each of them as weights.

Tenure in Agricultural Committee: 1911–13. The variable is the inverse hyperbolic sine transformation of the number of years of tenure on the Agricultural Committee during the 62nd Congress: 1911–13. It is constructed as the previous two variables, except that we use the map of 1911 congressional districts to take it to our base map.

A.2.4 WW I Patriotism

Volunteers per 1910 Population. The variable is the number of volunteers from a county divided by 1910 population, times 100. Volunteers are from [Crowder \(1918\)](#) while population is from the 1910 census ([Ruggles et al., 2021](#)). Number of volunteers is the “credit” in the tables of ([Crowder, 1918](#)). Greenlee, AZ, sends

to WW I 404 soldiers, of which 60 volunteers. It is established in 1909 taking area from Graham, but does not appear in the 1910 Census. We apportion the 1910 population of Graham to Graham and Greenlee based on their areas.

Volunteer Share. The variable is the number of volunteers divided by total number of soldiers. It comes from the tables at the end of the 1st Report of the Provost ([Crowder, 1918](#)). Number of soldiers is the “total quota”: it represents the total number of soldiers that each county had to provide to the Army. Number of volunteers is the “credit” in the table: the number of people that volunteered between the declaration of war on the 6th of April 1917 and the date of the draft, the 6th of June 1917.

Medals per 1000 People. We collect individual-level information of every Army soldier who received a military award between 1917 and 1918 from the websites *Home of Heroes* and *Hall of Valor*.³⁸ We focus on recipients of the Medal of Honor, the Distinguished Service Cross, the Navy Cross, and the Silver Star for which the websites reported the county of residence before the war. We divide the total number of medals in each county by the 1910 population ([Ruggles et al., 2021](#)). We multiply this variable by 1000 and take the inverse hyperbolic sine transformation (i.h.s.).

A.2.5 Politics

Average Vote Share for the Democrats: 1896–1928. This is 100 times the average vote share of the Democratic presidential candidate between 1896 and 1928. It comes from [Fishback et al. \(2003\)](#).

Roosevelt Vote Share: 1940. This is the vote share of Roosevelt between the 1940 Presidential elections. We multiply this variable times 100. It comes from [Clubb et al. \(2006\)](#).

A.2.6 Demographics

log 1910 and 1930 Population. The variable is the natural logarithm of 1910 and 1930 population. We construct the variable by aggregating the full count of the 1930 US census from [Ruggles et al. \(2021\)](#).

Urban Status: 1910 and 1930. The variable is a dummy that indicates whether at least one person in the county is classified as living in a urban area. We construct the variable by aggregating the full count of the

³⁸<https://homeofheroes.com> (accessed on January 2018) and <https://valor.militarytimes.com/> (accessed on August 2021).

1910 and 1930 US census from [Ruggles et al. \(2021\)](#). Urban residents have `urban = 2`.

Farm Income: 1929. The variable is the inverse hyperbolic sine transformation of 1929 farm income divided by area in farms. Data are from the 1930 agricultural census ([Haines et al., 2018](#)) and ([Manson et al., 2019](#)). Farm income is `VAR2169`: “Total farm products sold, traded, or used by value, 1929”; area in farms is `acaе001`: “All land in farms, acres, 1930.”

1930 Farm Share. The variable is the number of people living on a farm divided by 1930 population. We construct the variable by aggregating the full count of the 1930 US census from [Ruggles et al. \(2021\)](#). People living on a farm have `farm = 2`.

Incidence of Cattle Ranching: 1930. This is the number of cattle per farmer from the 1930 agricultural census ([Manson et al., 2019](#)). We use the median to split the sample in two.

1910 and 1930 Share of Men. The variable is the number of men divided by 1910 or 1930 population. We construct the variable by aggregating the full count of the 1910 and 1930 US census from [Ruggles et al. \(2021\)](#). Men have `sex = 1`.

1910 and 1930 Share of Black. The variable is the number of black people divided by 1910 or 1930 population. We construct the variable by aggregating the full count of the 1910 and 1930 US census from [Ruggles et al. \(2021\)](#). Blacks have `race = 2`.

1910 and 1930 Share of Japanese. The variable is the number of people with Japanese ancestry divided by 1910 or 1930 population. We construct the variable by aggregating the full count of the 1910 and 1930 US census from [Ruggles et al. \(2021\)](#). We define people with Japanese ancestry as those who either are born in Japan (`bpl = 501`) or have at least one parent who was born there (either `fbpl = 501` or `mbpl = 501`).

1910 and 1930 Share of Germans. The variable is the number of people with German ancestry divided by 1910 or 1930 population. We construct the variable by aggregating the full count of the 1910 and 1930 US census from [Ruggles et al. \(2021\)](#). We define people with German ancestry as those who either are born in Germany (`bpl = 453`) or have at least one parent who was born there (either `fbpl = 453` or `mbpl = 453`).

1910 and 1930 Share of Italians. The variable is the number of people with Italian ancestry divided by 1910 or 1930 population. We construct the variable by aggregating the full count of the 1910 and 1930 US

census from [Ruggles et al. \(2021\)](#). We define people with Italian ancestry as those who either are born in Italy ($b_{p1} = 434$) or who have at least one parent who was born there (either $f_{b_{p1}} = 434$ or $m_{b_{p1}} = 434$).

1910 Share of Austro-Hungarian. The variable is the number of people with Austro-Hungarian ancestry divided by 1910 population. We construct the variable by aggregating the full count of the 1910 US census from [Ruggles et al. \(2021\)](#). We define people with Austro-Hungarian ancestry as those who either are born in Austria ($b_{p1} = 450$), Hungary ($b_{p1} = 454$) or have at least one parent who was born there (either $f_{b_{p1}} = 450/454$, or $m_{b_{p1}} = 450/454$).

1930 Share of Veterans. This is the share of veterans among over-30 years old men. We construct the variable by aggregating the full count of the 1930 US census from [Ruggles et al. \(2021\)](#). Veterans have `vet` between 1 and 5. We divide the number of veterans by the number of men who are at least 30 years old in 1930 and have non-missing `vet`.

Frontier Experience. Total frontier experience is from [Bazzi et al. \(2020\)](#) and corresponds to the total number of decades the county was within 100 km of the frontier line and its population density was below 6 people per square mile, between 1790 and 1890.

Inverse of 1930 Population. The variable is one divided by 1930 population and has the top and bottom 1% winsorized. We construct 1930 population by aggregating the full count of the 1930 US census from [Ruggles et al. \(2021\)](#).

A.2.7 Economic Conditions

1910, 1930 and 1940 Unemployment Rate. The variables are the number of unemployed divided by the sum of unemployed and employed. We construct the variable by aggregating the full count of the 1910, 1930 and 1940 US censuses from [Ruggles et al. \(2021\)](#). Employed have `empstat = 1`, and unemployed have `empstat = 2`.

log 1939 Average Wage. The variable is the natural logarithm of the average wage of public and private employees. We exclude the income of self-employed and entrepreneurs, which is unreliable in the Census of 1940. We construct the variable by aggregating the full count of the 1940 US census from [Ruggles et al. \(2021\)](#). Wage is recorded in `incwage`: because the 1940 census top-coded values above \$5,000, we drop all

individuals reporting more than this value. We compute average wage only for public and private employees ($\text{classwkr} = 22$ or 24).

WW II War Contract per Capita. The variable is the inverse hyperbolic sine transformation of the value of all war-related contracts and projects in a county divided by 1940 population. Both variables come from the *County Data Book of 1947* ([Haines, 2005](#)). War related contract are for combat equipment (CC00443) or other supplies (CC00444); war-related projects are either industrial (CC00445) or military (CC00446). Population is CC00012.

A.2.8 Other Variables

Share of Farm-Owners in 1930. The variable is the share of farmers who are either full- or part-owner. Number of farmers by type is from [Manson et al. \(2019\)](#). Number of farmers is acae001; full- and part-owners are acad002 and acad003. In [Table 13](#) we drop 1,033 counties that had fewer than 53% of farms operated by either full- or part-owners.

1940-30 Population Change. The variable is the natural logarithm of 1940 population minus the natural logarithm of 1930 population. We construct both variables by aggregating the full counts of the 1940 and 1930 US censuses from [Ruggles et al. \(2021\)](#). In [Table 15](#) we drop the top and bottom 5% of counties in terms of 1930–40 population change. These were 154 counties that lost 18% or more of their 1930 population and 153 counties that gained 28% or more.

Dust Bowl Counties. Dust Bowl counties are counties in the Great Plains where more than 25 percent of topsoil was lost in at least half of their area during the 1930s. We source soil erosion from [Hornbeck \(2012\)](#).

A.2.9 Individual-Level Variables

Volunteer. The variable is a dummy for volunteering to the Army and comes from [National Archives and Records Administration \(2002\)](#). The data contain individual-level information digitized from the original punch-cards used to register soldiers during the war. From the full series of 9.2 million people, we exclude 625,806 records of officers and National Guardsmen and 133,841 records of women in the Women’s Army Corps. We drop 914,270 records with invalid entries in one of the following fields: serial number, county

of residence, county of birth, year of birth and year of enlistment. We exclude 742,943 soldiers who were resident abroad, in Alaska or in the Hawaii before joining the Army. Finally, we drop 162,508 duplicate records. This leaves us with 6,620,862 soldiers. We identify voluntary enlistment with soldiers' serial numbers. Volunteers were reserved serial numbers starting with "1," while the Army assigned serial numbers starting with "3" to draftees (Army Regulation 615-30, 1942; see also [Fouka, 2020](#)). We match 1,900,187 of the military records (both volunteers and conscripts) to the 1940 US Census following [Abramitzky et al. \(2012\)](#) record linking method with names, year (allowed to fall within a +/- 2 years window) and place of birth.

Works for WPA. The variable is a dummy for being employed in emergency work in the 1940 US Census (answer "Y" to question 22 on the schedule: "was he at work on, or assigned to, public EMERGENCY WORK (WPA, NYA, CCC, etc.) during week of March 24-30? (Y or N)").

Owns a Home. The variable is a dummy for living in a household whose head owns the home (answer "O" to question 4 on the schedule: "Home owned (O) or rented (R)").

Owns a Farm. The variable is a dummy for living in a household whose head lives on a farm and owns the home. This is coded 1 if the head answered "O" to question 4 on the schedule: "Home owned (O) or rented (R)" and "Y" to question 6 on the schedule: "Farm? (Y or N)".

Occupation: Farmer. The variable is dummy for reporting "farmer" as occupation in the military records ([National Archives and Records Administration, 2002](#)). On NARA, pre-enlistment occupation is recorded following the June 1939 Dictionary of Occupational Titles. Farmers have a code between 301-309 (various types of farmers) or 336 (farm couples). The variable is available only for the sample of men who joined the army (either volunteers or conscripts).

Occupation: Farmhand. The variable is dummy for reporting "farmhand" as occupation in the military records ([National Archives and Records Administration, 2002](#)). On NARA, pre-enlistment occupation is recorded following the June 1939 Dictionary of Occupational Titles. farmhands have a code between 311-319. The variable is available only for the sample of men who joined the army (either volunteers or conscripts).

First and Last Name. ([National Archives and Records Administration, 2002](#)) and the 1940 full count

of the Census record full names (first, middle and last name): we use them to match men across the two sources. As it is common, raw data on the two sources are not standardized and contain many errors. We follow [Abramitzky et al. \(2012\)](#) and clean first and last name using the New York State Identification and Intelligence System (NYSIIS) algorithm. We then match the exact standardized names and surnames disregarding middle names (whenever present). We control for characteristics that may affect the likelihood of a match by including in all individual-level regressions with the matched sample the inverse hyperbolic sine transformation of: length and frequency of both name and surname.

Age. [National Archives and Records Administration \(2002\)](#) records year of birth, and the 1940 Census records age. We transform age from the Census into year of birth and use it to match men across the two sources. We follow [Abramitzky et al. \(2012\)](#) and allow matches within a window of +/- 2 years between the two sources but drop every record that has another potential match in either of the two databases. We control for age fixed effects in all individual-level regressions.

Birthplace. [\(National Archives and Records Administration, 2002\)](#) and the 1940 full count of the Census record the birthplace as either one of the US States or a foreign country: we use it this to match men across the two sources. We control for birthplace fixed effects in all individual-level regressions with the matched sample.

Unemployed. The variable is a dummy for not being at work in the Census week (answer “N” to question 21 on the schedule: “Was this person AT WORK for pay or profit in private or non-emergency Govt. work during week of March 24-30?”).

Income. The variable is the inverse hyperbolic sine transformation of the 1939 income. This is the answer to question 32 on the schedule: “Amount of money, wages or salary received (including commissions)” and refers to the 12 months ending on Dec 31, 1939. The variable is top-coded at \$5,000 so we drop all observations reporting above this threshold.

Schooling. [\(National Archives and Records Administration, 2002\)](#) and the 1940 Census record education attainment. In the Census, the variable is the answer to question 14 on the schedule: “Highest grade of school completed”. We code four levels of education: “none,” “elementary,” “high school” and “college.” We control for education fixed effects in all individual-level regressions. The sample of WPA regression

include only men with less than high school education (either none or elementary).

Race. ([National Archives and Records Administration, 2002](#)) and the 1940 Census record education attainment. In the Census, the variable is the answer to question 10 on the schedule: “Color or race.” We control for a dummy equal to one when a man reports a race different from “white” in all individual-level regressions.

Immigrant Status. The variable is a dummy for being born outside of the US. We use the birthplace as reported in [National Archives and Records Administration \(2002\)](#) and the US Census to construct this variable.

Marital Status. ([National Archives and Records Administration, 2002](#)) and the 1940 Census record marital status. In the Census, the variable is the answer to question 12 on the schedule: “Marital Status.” In all individual-level regressions we control for a dummy equal to one when a man reports having married at least once (married, separated, divorced or widowed).

Farm Status. The variable is a dummy for living in a household whose head lives on a farm (answer “Y” to question 6 on the schedule: “Farm? (Y or N)”).

Height, Weight and BMI. [National Archives and Records Administration \(2002\)](#) records height in feet and weight in pound of every soldiers. The data contains aberrations, and we drop observations shorter than 50 and taller than 80 feet as well as lighter than 100 and heavier than 300 pounds. For the remaining observations we construct BMI as weight divided by height square. The variables are available only for the sample of men who joined the army (either volunteers or conscripts).

B Additional Results and Robustness

This Appendix discusses additional robustness checks, including a panel analysis, the effect of deviations from IV exogeneity (Conley et al., 2012), matching estimators, the role of sharecropping, the “Dust Bowl” and migration, the impact of individual states and the consequences of excluding the 7th Service Command.

B.1 Panel Analysis

We strengthen our conclusions with a difference-in-difference specification that exploits panel data for volunteering and medals in World War I and II. We specify:

$$y_{it} = \alpha_s + \alpha_t + \beta \cdot \text{New Deal}_i + \gamma \cdot (\text{New Deal}_i \times \text{Post 1932}_t) + \delta X_{it} + u_{it} \quad (3)$$

The outcome y in (3) is volunteering or medals in either WW I or WW II, standardized by the population of the previous Census. We include time-varying controls from the previous population Censuses X_{it} as well as war (time) and state fixed effects: α_t, α_s . The panel allows us to set up a diff-in-diff analysis where treatment intensity at the county level (New Deal_i) is interacted with a dummy for post-New Deal (Post 1932 $_t$). Table 8 reports the results. Cols 1-2 show that New Deal grants only predict WW II volunteers and medals in WW II. When we repeat the exercise for agricultural support, the same pattern emerges both in OLS (cols.3-4) and IV (cols. 7-8). In the IV we instrument post-1932 agricultural support with New Deal droughts and agricultural committee membership, and include pre-WW I droughts and committee membership for the WW I period. Cols. 5-6 show the coefficients of the reduced form, which confirm that only New Deal droughts and committees have a positive effect on patriotism. If anything, the effect of pre-WW I droughts on 1917-18 volunteering is negative. These results strengthen our conclusions: not only do they confirm that droughts increase patriotism only when they are accompanied by Government support; they also show that Government largesse was not directed towards areas that showed greater patriotism during WW I.

B.2 Plausibly Exogenous Identification

The exclusion restriction — that there is no direct effect of either droughts nor committee membership on WW II patriotism — is plausible because droughts or committee membership did not predict WW I volunteering or medals ([Figure IV](#) and [Table 8](#)). Nonetheless, it is possible to think of ways in which it might be violated.

We use the [Conley et al. \(2012\)](#) procedure to relax the exclusion restriction in our IV-estimation. The Conley procedure asks how big the direct effect of droughts and committee membership on patriotism would have to be for the IV estimates to become insignificant. [Figure 7](#)—Panels A–D (Panels E–H) illustrate the answer when we allow droughts (committee tenure) to have a direct effect on patriotism in the county-level results. [Figure 8](#) repeats the exercises for the individual-level regressions. Each panel plots the union of confidence intervals of our IV estimate (y-axis) against different potential direct effects of the instruments (x-axis). Each panel also displays the value of the reduced form coefficient as a vertical blue line. Across our four outcomes and two instruments, we find that the direct effect of droughts and committee on patriotism must be more than 70 percent of the reduced form effect for the IV estimates to become insignificant. Such large direct effects are implausible, given how weak the link between pre-New Deal IVs and patriotism is.

B.3 State-Border Identification and Imbalance Correction

Where does the variation in aggregate spending that drives results in [Table II](#) come from? One obvious concern is that omitted variables – such as economic conditions – are responsible. Here, we examine the effect of two strategies to deal with potential confounders – state boundary variation in support, and imbalance correction methods (at the county level). We first focus on New Deal spending variation at the county level along state boundaries, examining a narrow strip of territory within 50 miles of state borders. A significant part of New Deal spending varied by federal state, partly for political reasons. The underlying assumption is that most economic and agricultural conditions varied smoothly across state borders. Controlling for the border segment in question, we compare patriotic actions in counties with high vs low federal spending. In all, we have 105 border segments across the 48 states.

[Figure 9](#) presents the results, plotting the New Deal coefficient in the four regressions along with the baseline β from [Table II](#)-Panel A. We find strong and significant coefficients throughout: the coefficients in

the war bond and on medals regressions increase in size, and the latter increases in significance. The only downward change in coefficient size is for volunteering.

Next, for each of the regressions in [Table II](#), we perform three additional exercises: entropy balancing, coarsened exact matching (CEM), nearest neighbor matching. Entropy balancing ([Hainmueller, 2012](#)) re-weights observations to make treated and control counties similar in terms of observables ([Table 12](#) shows that balancing was successful). CEM ([Iacus et al., 2012](#)) estimates coefficients on the subset of treated and control counties that are identical along all a set of observables that have been “coarsened”. Nearest neighbor matching reduce the sample to only treated and control counties that are geographically close and have similar population and WW I patriotism. In these matching exercises we define treated counties as those receiving more than the median level of New Deal grants per capita.

[Figure 9](#) report the coefficients of these exercises for the four patriotism measures. Reducing the sample size increases noise. However, point estimates remain broadly stable across outcomes and methods. Overall [Figure 9](#) confirms the robustness of our results.

B.4 Effect in Areas with Many Farm-Owners

AAA provided generous support to American farm-owners. However it hurt rural workers because it incentivized taking land out of production ([Depew et al., 2013](#)). County-level results may reveal an association between agricultural support and volunteering simply because unemployed rural workers volunteered more.

Individual level results discussed in Section [III.B](#) suggest that heterogeneous individual responses do not drive our results. Here we show that our county-level results also hold within areas where farms were run by their owners (as opposed by tenants and sharecroppers). [Table 13](#) shows results when we only include areas with mostly owner-operated farms: after eliminating all counties with less than one-half of farms managed by the owner, there is no change in coefficients — the link between New Deal spending and patriotism is not driven by the decline of share-cropping and tenant farming.

B.5 The “Dust Bowl” and Migration

The “Dust Bowl” did not only cause ecological damage on a grand scale. It also triggered large migrations out of affected areas ([Cohen et al., 2016; Hornbeck, 2020](#)). Attitudes and behaviors can be affected by

both ecological disaster and migration. Using representation on the Agricultural committee as an IV partly addresses this concern, as it was not determined by the Dust Bowl. Nonetheless, we examine whether the Dust Bowl and its consequences influence our results.

First, in [Table 14](#) we reproduce our main results after excluding the 500 counties in the Great Plains that experienced medium or high levels of soil erosion during the 1930s. In these counties more than 25 percent of topsoil was lost in at least half of their area: [Hornbeck \(2012\)](#) treats these areas as the core of the Dust Bowl. We confirm all our results in the sub-sample that excludes these counties: agricultural support is a strong predictor of each of our patriotic actions in both the OLS (Cols. 1–4) and IV (Cols 5–8). In other words, our results are not driven by the counties experiencing the worst of the Dust Bowl.

Second, in [Table 15](#) we show results after dropping 10% of our sample — the 5% of counties in the top and bottom of population changes between 1930 and 1940. As [Table 15](#) demonstrates, results are largely unaffected. For both OLS (Cols. 1–4) and IV (Cols. 5–8), we find positive coefficients throughout. All of them are highly significant.

The Dust Bowl was one of the defining events of the 1930s, and to the extent that it triggered a response of the US Government through generous agricultural funds it may be an important factor behind our results. The results of this section demonstrate however that the Dust Bowl is not driving our conclusions, which stand even when we drop counties directly affected by it.

B.6 The Impact of Individual States

[Wallis \(1998\)](#) notes that the formula to allocate New Deal money favored sparsely populated states in the West. Nevada received particularly high support per capita. Are our results potentially driven by a handful of states? We perform two separate tests to demonstrate that our estimates are robust. First, we add the inverse of the 1930 population to our main regressions as in [Wallis \(1998\)](#) and [Fishback et al. \(2003\)](#). This term captures one aspect of New Deal politics: namely, that the formula to allocate federal funds assigned each county a fixed amount of money plus a per capita component. [Table 16](#) shows estimates when we control for this term. Results are robust.

Second, to show that our effects are not concentrated in a few areas of the country, we drop each of the 48

continental states, one at a time. We then re-estimate OLS and IV models for the four outcomes.³⁹ Results are in [Figure 10](#): Panel A–D show point estimates and confidence intervals for OLS regressions run after removing individual states, one at a time. Panel E–H repeat the exercise for IV estimates. No individual state drives our estimates, including Nevada.

B.7 Assessing the Impact of Service Command 7 and Alternative Measures of Patriotism

Military records from the 7th Service Command have been lost.⁴⁰ For this reason, in our baseline volunteers and medals results we exclude all counties located in these states. How much does this decision affect our conclusions?

We have good data for war bonds everywhere. In [Table 17](#) we show war bonds regressions that exclude all counties in the 7th Service Command. We can compare these results with our baseline results. In Col. 1 the OLS effect of agricultural support on war bond purchases is 13 percent smaller than our baseline; the difference of the IV on Col. 3 is even larger: 27 percent smaller than our preferred estimate on Col. 5 of [Table IV](#). Both estimates remain highly significant, indicating that agricultural support and war bond purchases are closely related in the counties belonging to other Service Commands. However, the smaller point estimates in Col. 1 and 3 of [Table 17](#) suggest that the relationship between agricultural support and patriotism is stronger inside the 7th Service Command.

The other columns of [Table 17](#) show that our volunteering and medal results are largely robust to including counties in the 7th Service Command. OLS (cols. 4 and 7) and IV (cols 6 and 9) are highly significant. In the reduced form for volunteers (Col. 5) the *p*-value of droughts becomes 15.3%, and the two instruments are jointly significant at 3.4%. The size of OLS and IV coefficients remain stable in the medal regressions but falls by one-fourth for volunteers. This is probably caused by the lower volunteering rate in these states. Since data quality deteriorates and noise increases when we include the 7th Service Command, our results remain remarkably robust.

³⁹When a state accounts for more than 5% of the total sample we drop a random set of counties from that state up to 5% of the sample.

⁴⁰Both volunteers and drafted men are missing from these 9 states, but the problem is particularly severe for drafted men.

C Appendix Figures and Tables

C.1 Appendix Tables

Table 1
Panel A. New Deal Spending and Patriotism: Full Estimates.

	War bonds	Volunteers	Medals	PCA
	(1)	(2)	(3)	(4)
New Deal grants	0.191*** [0.024]	0.047*** [0.016]	0.022* [0.013]	0.291*** [0.073]
WWI volunteering rate	-0.004 [0.036]	0.111*** [0.026]	0.057*** [0.021]	0.456*** [0.114]
WWI awards per capita	0.240*** [0.084]	0.130 [0.099]	0.036 [0.034]	0.594** [0.267]
log 1930 population	-0.030 [0.026]	-0.015 [0.010]	-0.018 [0.012]	-0.165*** [0.062]
1930 unemployment rate	-0.716*** [0.273]	0.531*** [0.198]	0.119 [0.145]	1.118 [0.824]
Urban status: 1930	0.075*** [0.025]	0.017 [0.013]	0.010 [0.006]	0.177*** [0.043]
1930 farm share	-0.419*** [0.125]	-0.067 [0.054]	0.036 [0.026]	-0.314* [0.181]
1929 farm income	0.088*** [0.019]	-0.020* [0.011]	0.015* [0.009]	0.115** [0.051]
Mean Democratic vote share: 1898-1928	0.003*** [0.001]	0.000 [0.001]	0.000 [0.000]	0.005** [0.002]
1930 share of men	-1.707** [0.753]	-1.374*** [0.515]	-0.598** [0.261]	-7.137*** [1.549]
1930 share of blacks	-0.284*** [0.086]	-0.437*** [0.038]	-0.050** [0.022]	-1.199*** [0.149]
1930 share of Japanesees	6.097*** [2.219]	0.844 [1.227]	0.939 [1.286]	11.751* [6.775]
1930 share of Germans	0.937*** [0.190]	-0.618*** [0.159]	0.096 [0.133]	0.511 [0.732]
1930 share of Italians	-0.371 [0.564]	-0.258 [0.239]	-0.016 [0.164]	-0.647 [1.049]
1930 share of veterans	-0.073 [1.022]	1.064*** [0.328]	0.241** [0.120]	3.579*** [0.871]
log 1939 average wage	0.519*** [0.058]	0.223*** [0.033]	0.062*** [0.020]	1.121*** [0.130]
WII war contract per capita	0.259*** [0.022]	-0.039*** [0.008]	0.003 [0.005]	0.203*** [0.032]
State FE (48)	Yes	Yes	Yes	Yes
<i>R</i> ²	0.650	0.620	0.186	0.642
Mean dependent variable	4.658	0.634	0.140	-0.012
Observations	3022	2329	2329	2329

Notes: Full estimates of Table II-Panel A: see notes to that table for details. *** p<0.01, ** p<0.05, * p<0.1.

Table 1
Panel B. New Deal Spending and Patriotism: Full Estimates.

	War bonds	Volunteers	Medals	PCA
	(1)	(2)	(3)	(4)
Agricultural support	0.126*** [0.014]	0.030*** [0.007]	0.011*** [0.004]	0.188*** [0.026]
Public Assistance	0.105** [0.051]	0.029* [0.015]	0.009 [0.007]	0.138*** [0.047]
Public works grants	0.058*** [0.013]	-0.007 [0.004]	0.006* [0.003]	0.050** [0.020]
Emergency workers	-0.036 [0.120]	0.030 [0.077]	0.006 [0.049]	0.035 [0.300]
HOLC loans	0.091*** [0.012]	0.035*** [0.007]	0.010** [0.004]	0.167*** [0.026]
RFC loans	0.020*** [0.007]	-0.001 [0.004]	-0.002 [0.003]	0.009 [0.016]
WWI volunteering rate	-0.020 [0.034]	0.105*** [0.027]	0.054*** [0.021]	0.420*** [0.116]
WWI awards per capita	0.171** [0.077]	0.112 [0.096]	0.031 [0.034]	0.499* [0.255]
log 1930 population	-0.038 [0.023]	-0.022** [0.011]	-0.017 [0.012]	-0.178*** [0.063]
1930 unemployment rate	-0.365 [0.253]	0.565*** [0.200]	0.151 [0.158]	1.515* [0.888]
Urban status: 1930	0.022 [0.021]	-0.001 [0.013]	0.003 [0.006]	0.070 [0.043]
1930 farm share	-0.437*** [0.144]	-0.058 [0.054]	0.032 [0.026]	-0.272 [0.179]
1929 farm income	0.028 [0.020]	-0.037*** [0.012]	0.010 [0.010]	0.013 [0.055]
Mean Democratic vote share: 1898-1928	0.001 [0.001]	-0.001 [0.001]	-0.000 [0.000]	0.000 [0.002]
1930 share of men	-1.076 [0.690]	-0.871* [0.517]	-0.512* [0.273]	-5.404*** [1.568]
1930 share of blacks	-0.267*** [0.096]	-0.413*** [0.041]	-0.049** [0.022]	-1.150*** [0.150]
1930 share of Japanese	4.726** [1.955]	0.423 [1.272]	0.810 [1.318]	9.781 [7.035]
1930 share of Germans	0.732*** [0.204]	-0.617*** [0.153]	0.070 [0.120]	0.177 [0.664]
1930 share of Italians	0.265 [0.475]	-0.224 [0.235]	0.029 [0.161]	-0.042 [1.025]
1930 share of veterans	-0.112 [0.789]	1.013*** [0.311]	0.240** [0.108]	3.381*** [0.784]
log 1939 average wage	0.390*** [0.056]	0.206*** [0.035]	0.048*** [0.018]	0.942*** [0.125]
WII war contract per capita	0.281*** [0.022]	-0.034*** [0.008]	0.005 [0.005]	0.233*** [0.031]
State FE (48)	Yes	Yes	Yes	Yes
<i>R</i> ²	0.691	0.630	0.194	0.666
Mean dependent variable	4.658	0.634	0.140	-0.012
Observations	3022	2329	2329	2329

Notes: Full estimates of [Table II](#)-Panel B: see notes to that table for details. *** p<0.01, ** p<0.05, * p<0.1.

Table 2
Panel A. Identification: First Stage and Reduced Form Results: Full Estimates.

	Agri support	War bonds	Volunteers	Medals	PCA
	(1) FS	(2) RF	(3) RF	(4) RF	(5) RF
Months of drought: 1933-40	0.286*** [0.060]	0.104*** [0.024]	0.033* [0.018]	0.013*** [0.004]	0.211*** [0.050]
Tenure agri committee: 1933-35	0.300*** [0.080]	0.108*** [0.030]	0.086*** [0.030]	0.015** [0.007]	0.251*** [0.086]
WWI volunteering rate	0.001 [0.080]	0.002 [0.036]	0.113*** [0.031]	0.058*** [0.020]	0.474*** [0.118]
WWI awards per capita	0.066 [0.151]	0.216** [0.097]	0.106 [0.094]	0.031 [0.038]	0.511* [0.262]
log 1930 population	-0.168*** [0.042]	-0.042 [0.029]	-0.015 [0.012]	-0.019 [0.014]	-0.177** [0.069]
1930 unemployment rate	-1.473** [0.619]	-0.659** [0.281]	0.522*** [0.194]	0.128 [0.156]	1.189 [0.881]
Urban status: 1930	0.149*** [0.043]	0.056** [0.026]	0.010 [0.012]	0.007 [0.006]	0.143*** [0.047]
1930 farm share	0.330 [0.302]	-0.531*** [0.141]	-0.126** [0.051]	0.019 [0.025]	-0.573*** [0.198]
1929 farm income	0.284*** [0.072]	0.103*** [0.029]	-0.016 [0.016]	0.018* [0.010]	0.145** [0.067]
Mean Democratic vote share: 1898-1928	0.009*** [0.003]	0.003** [0.001]	-0.000 [0.001]	-0.000 [0.000]	0.003 [0.002]
1930 share of men	-1.237 [1.645]	-1.473* [0.833]	-1.374*** [0.528]	-0.568** [0.224]	-6.829*** [1.470]
1930 share of blacks	-0.193 [0.290]	-0.298*** [0.108]	-0.426*** [0.059]	-0.051** [0.022]	-1.194*** [0.188]
1930 share of Japanesees	0.225 [4.426]	4.450** [2.194]	-0.003 [1.726]	0.693 [1.285]	7.899 [6.744]
1930 share of Germans	0.624 [0.604]	0.748*** [0.241]	-0.704*** [0.227]	0.058 [0.136]	-0.010 [0.895]
1930 share of Italians	-1.333 [1.009]	-0.510 [0.612]	-0.322 [0.267]	-0.046 [0.191]	-1.096 [1.215]
1930 share of veterans	1.576** [0.698]	0.135 [1.029]	1.085*** [0.288]	0.265** [0.111]	3.818*** [0.819]
log 1939 average wage	0.080 [0.146]	0.452*** [0.062]	0.189*** [0.036]	0.052** [0.020]	0.975*** [0.129]
WII war contract per capita	-0.012 [0.029]	0.275*** [0.024]	-0.035*** [0.008]	0.005 [0.004]	0.230*** [0.034]
State FE (48)	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.579	0.651	0.633	0.188	0.653
Mean dependent variable	6.640	4.658	0.634	0.140	-0.012
F-test of excluded instrument	16.4				
Observations	3022	3022	2329	2329	2329

Notes: Full estimates of Table IV–Cols 1–5: see notes to that table for details. *** p<0.01, ** p<0.05, * p<0.1.

Table 2
Panel B. Identification: IV Results: Full Estimates

	War bonds	Volunteers	Medals	PCA
	(1)	(2)	(3)	(4)
	2SLS	2SLS	2SLS	2SLS
Agricultural support	0.363*** [0.057]	0.187*** [0.053]	0.050*** [0.012]	0.825*** [0.138]
WWI volunteering rate	0.002 [0.044]	0.106*** [0.036]	0.055*** [0.020]	0.433*** [0.142]
WWI awards per capita	0.192** [0.087]	0.100 [0.092]	0.029 [0.040]	0.468* [0.279]
log 1930 population	0.019 [0.032]	0.021 [0.020]	-0.009 [0.014]	-0.016 [0.082]
1930 unemployment rate	-0.125 [0.326]	0.741*** [0.286]	0.185 [0.161]	2.124* [1.125]
Urban status: 1930	0.002 [0.030]	-0.021 [0.017]	-0.001 [0.007]	0.007 [0.061]
1930 farm share	-0.651*** [0.163]	-0.139* [0.079]	0.015 [0.029]	-0.643** [0.308]
1929 farm income	0.000 [0.031]	-0.077*** [0.027]	0.001 [0.011]	-0.132 [0.091]
Mean Democratic vote share: 1898-1928	-0.000 [0.001]	-0.002** [0.001]	-0.001 [0.000]	-0.006* [0.003]
1930 share of men	-1.026 [0.980]	-1.263** [0.612]	-0.546** [0.218]	-6.459*** [1.821]
1930 share of blacks	-0.228* [0.119]	-0.387*** [0.067]	-0.039* [0.023]	-0.993*** [0.236]
1930 share of Japanesees	4.368 [2.703]	0.851 [1.551]	0.913 [1.240]	11.546* [6.571]
1930 share of Germans	0.522** [0.244]	-0.845*** [0.188]	0.023 [0.128]	-0.592 [0.774]
1930 share of Italians	-0.026 [0.661]	-0.069 [0.303]	0.031 [0.195]	0.156 [1.391]
1930 share of veterans	-0.436 [1.079]	0.946*** [0.285]	0.229** [0.114]	3.221*** [0.911]
log 1939 average wage	0.423*** [0.069]	0.178*** [0.045]	0.048** [0.022]	0.910*** [0.171]
WII war contract per capita	0.280*** [0.026]	-0.035*** [0.011]	0.005 [0.005]	0.227*** [0.046]
State FE (48)	Yes	Yes	Yes	Yes
<i>R</i> ²	0.624	0.520	0.143	0.534
Mean dependent variable	4.658	0.634	0.140	-0.012
Rubin-Anderson test (p-value)	0.000	0.011	0.000	0.000
Observations	3022	2329	2329	2329

Notes: Full estimates of Table IV-Cols 6–9: see notes to that table for details. *** p<0.01, ** p<0.05, * p<0.1.

Table 3
Balance Table.

	Average	Droughts	Coefficient of: Agri Committee	Observation
	(1)	(2)	(3)	(4)
Democratic share 1896–1928	49.450	2.232** [0.868]	0.461 [0.868]	3022
WWI volunteering rate	0.354	-0.030*** [0.012]	-0.010 [0.012]	3022
WWI awards per capita	0.057	0.004 [0.011]	0.003 [0.011]	3022
log 1930 population	9.828	-0.092 [0.188]	-0.195*** [0.188]	3022
1930 unemployment rate	0.059	-0.002 [0.007]	-0.003 [0.007]	3022
1930 urban status	0.547	-0.023 [0.000]	-0.039* [0.000]	3022
1930 share of men	0.517	0.001 [0.003]	0.003** [0.003]	3022
1930 share of blacks	0.112	0.008 [0.023]	-0.017 [0.023]	3022
1929 farm income (i.h.s.)	3.096	-0.078 [0.191]	-0.033 [0.191]	3022
1930 farm share	0.493	0.025** [0.032]	0.021 [0.032]	3022
1930 share of Japanese	0.001	0.000 [0.000]	0.000 [0.000]	3022
1930 share of Germans	0.044	0.000 [0.014]	-0.000 [0.014]	3022
1930 share of Italians	0.009	0.001 [0.007]	-0.002*** [0.007]	3022
1930 share of veterans	0.115	0.001 [0.007]	0.001 [0.007]	3022
log 1939 average wage	6.415	-0.004 [0.066]	0.004 [0.066]	3022
War contracts per capita (i.h.s.)	0.318	-0.014 [0.183]	-0.036 [0.183]	3022

Notes: Balance table for the two instruments. Col 1: average of the variable listed on the left. Cols 2–3: each row reports the coefficients of separate regressions of the variable listed on the left on summer months of drought in 1933–40 and tenure in the Agricultural committee during the 73rd Congress (both i.h.s.) and a full set of 48 state fixed effects. Standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 4
Reduced Form.

	War bonds	Volunteers	Medals	PCA	War bonds	Volunteers	Medals	PCA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Months of drought: 1933-40	0.124*** [0.027]	0.048* [0.025]	0.016*** [0.004]	0.256*** [0.070]				
Tenure agri committee: 1933-35					0.135*** [0.028]	0.097*** [0.036]	0.019*** [0.007]	0.319*** [0.095]
WWI volunteering rate	0.002 [0.037]	0.115*** [0.030]	0.058*** [0.020]	0.480*** [0.116]	-0.006 [0.037]	0.110*** [0.027]	0.057** [0.023]	0.454*** [0.128]
WWI awards per capita	0.228** [0.102]	0.122 [0.101]	0.034 [0.038]	0.556* [0.288]	0.237** [0.093]	0.111 [0.100]	0.033 [0.029]	0.543** [0.250]
log 1930 population	-0.048 [0.029]	-0.019 [0.012]	-0.020 [0.014]	-0.189*** [0.068]	-0.043 [0.033]	-0.015 [0.013]	-0.019 [0.013]	-0.183*** [0.068]
1930 unemployment rate	-0.657** [0.283]	0.555*** [0.202]	0.134 [0.154]	1.286 [0.877]	-0.630** [0.320]	0.532** [0.224]	0.132 [0.160]	1.253 [0.975]
Urban status: 1930	0.058** [0.027]	0.011 [0.012]	0.007 [0.006]	0.145*** [0.047]	0.058* [0.029]	0.012 [0.012]	0.008 [0.005]	0.153*** [0.042]
1930 farm share	-0.511*** [0.140]	-0.102* [0.058]	0.023 [0.025]	-0.503** [0.199]	-0.483*** [0.132]	-0.110* [0.067]	0.025 [0.027]	-0.474** [0.212]
1929 farm income	0.107*** [0.030]	-0.013 [0.019]	0.018* [0.010]	0.156** [0.075]	0.096*** [0.036]	-0.019 [0.015]	0.017 [0.010]	0.128* [0.069]
Mean Democratic vote share: 1898-1928	0.003** [0.001]	-0.000 [0.001]	-0.000 [0.000]	0.004 [0.002]	0.003** [0.002]	-0.000 [0.001]	0.000 [0.000]	0.004* [0.002]
1930 share of men	-1.346 [0.831]	-1.283** [0.560]	-0.552** [0.226]	-6.563*** [1.539]	-1.515 [0.964]	-1.374** [0.566]	-0.567** [0.259]	-6.825*** [1.715]
1930 share of blacks	-0.320*** [0.114]	-0.446*** [0.070]	-0.054** [0.022]	-1.252*** [0.215]	-0.293*** [0.107]	-0.423*** [0.049]	-0.050** [0.020]	-1.176*** [0.174]
1930 share of Japanesees	4.906** [2.237]	0.313 [1.776]	0.746 [1.289]	8.823 [6.812]	5.050** [2.197]	0.210 [1.171]	0.777 [0.753]	9.266** [3.575]
1930 share of Germans	0.753*** [0.248]	-0.712*** [0.250]	0.057 [0.137]	-0.034 [0.941]	0.776*** [0.243]	-0.681*** [0.205]	0.067 [0.125]	0.133 [0.791]
1930 share of Italians	-0.579 [0.617]	-0.362 [0.271]	-0.052 [0.190]	-1.214 [1.218]	-0.348 [0.592]	-0.261 [0.281]	-0.021 [0.173]	-0.706 [1.161]
1930 share of veterans	0.151 [1.039]	1.105*** [0.292]	0.268** [0.112]	3.876*** [0.853]	0.225 [1.061]	1.117*** [0.391]	0.278*** [0.104]	4.024*** [0.885]
log 1939 average wage	0.470*** [0.059]	0.206*** [0.038]	0.055*** [0.020]	1.023*** [0.119]	0.471*** [0.066]	0.195*** [0.034]	0.055*** [0.017]	1.013*** [0.113]
WII war contract per capita	0.275*** [0.024]	-0.034*** [0.008]	0.005 [0.004]	0.232*** [0.033]	0.276*** [0.024]	-0.034*** [0.008]	0.005 [0.005]	0.232*** [0.037]
State FE (48)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.647	0.623	0.186	0.647	0.646	0.630	0.185	0.645
Mean dependent variable	4.658	0.634	0.140	-0.012	4.658	0.634	0.140	-0.012
Observations	3022	2329	2329	2329	3022	2329	2329	2329

Notes: Reduced form estimates for the two instruments separately. Columns 1–4: instrument is summer months of drought: 1933-40 (i.h.s.). Columns 5–8: instrument is tenure in the Agricultural Committee during the 73rd Congress (i.h.s.). Cols 1 and 5: dependent variable is war bond purchases per capita (i.h.s.). Cols 2 and 6: dependent variable is WW II volunteers per 100 people. Cols 3 and 7: dependent variable is WW II medals per 1000 people (i.h.s.). Columns 4 and 8: dependent variable is the first principal component of patriotism. See section II and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command in cols 2–4 and 6–8. Cluster-robust standard errors in brackets. Columns 1–4: cluster is at the level of climatic division. Column 5–8: cluster is at the level of the congressional district. *** p<0.01, ** p<0.05, * p<0.1.

Table 5
Pre-WWI Committee Membership.

	Volunteers		Medals	
	(1)	(2)	(3)	(4)
	WWI	WWII	WWI	WWII
Tenure agri committee: 1911-13	-0.013 [0.017]	0.005 [0.014]	-0.001 [0.003]	0.001 [0.004]
WWI controls	Yes	No	Yes	No
WWII controls	No	Yes	No	Yes
State FE (48)	Yes	Yes	Yes	Yes
R^2	0.188	0.617	0.112	0.182
Mean dependent variable	0.409	0.634	0.058	0.140
Observations	2329	2329	2329	2329

Notes: OLS estimates of patriotism on pre-WW I values of agricultural committee membership. Dependent variables are: Cols 1–2: volunteers per 100 people; Cols 3–4: medals per 1000 people (i.h.s.). Cols 1 and 3: patriotism measured during WW I; Cols 2 and 4: patriotism measured during WW II. Standard errors clustered at Congressional district level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 6
Mediation Analysis

Proportion of effect of New Deal grant mediated.				
Mediation variable	War bonds	Volunteers	Medals	PCA
1940 employment	-6.2%	2.8%	-4.6%	-4.7%
1939 wage	6.0%	3.1%	0.9%	3.4%
1940 FDR vote share	2.2%	11.4%	-10.7%	-0.3%

Proportion of effect of agricultural support mediated.				
Mediation variable	War bonds	Volunteers	Medals	PCA
1940 employment	6.0%	-8.7%	1.3%	2.9%
1939 wage	2.1%	-0.3%	-0.2%	-0.4%
1940 FDR vote share	0.5%	2.0%	-2.2%	0.1%

Notes: Sobel-Goodman mediation test: proportion of total effect that is mediated by economic conditions (1940 employment and 1939 income) and 1940 FDR support. Panel A: main explanatory variable is total New Deal grants (i.h.s.). Panel B: main explanatory variable is AAA grants plus FCA loans per farmer (i.h.s.). Dependent variables are: Col 1: war bond purchases per capita (i.h.s.); Col 2: volunteers per 100 people; Col 3: medals per 1000 people (i.h.s.); Col 4: principal component of patriotism.

Table 7
Impact of WPA Employment and Unemployment on Volunteering

	Volunteer	
	(1)	(2)
Works for WPA	0.003*** [0.000]	0.003*** [0.000]
Unemployed	0.000 [0.000]	0.000 [0.000]
County FEs	Yes	Yes
Age FEs	Yes	Yes
Individual controls	No	Yes
R^2	0.007	0.009
Fixed effects	County	County
Sample:	$< \text{high sch.}$	$< \text{high sch.}$
Mean dependent variable	0.008	0.008
Works for WPA = Unemployed (p-value)	0.000	0.000
Observations	3,742,522	3,742,522

Notes: Linear probability models. Dependent variable is equal to 1 if man volunteered for the Army during WW II. Col 1 controls for age and county fixed effects. Cols 2–3 include individual controls. See [section II](#) and [Appendix A](#) for data sources and variable construction. Sample excludes the 7th Service Command. Standard errors clustered at county level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 8
New Deal Support and Patriotism: Panel Regressions.

	Volunteers	Medals	Volunteers	Medals	Volunteers	Medals	Volunteers	Medals
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) RF	(6) RF	(7) 2SLS	(8) 2SLS
New Deal grants × Post New Deal	0.051* [0.026]	0.026** [0.011]						
New Deal grants	0.010 [0.025]	0.001 [0.006]						
Agricultural support × Post New Deal			0.058*** [0.013]	0.017*** [0.004]			0.110*** [0.023]	0.033*** [0.007]
Agricultural support			-0.002 [0.010]	-0.000 [0.003]				
Months of drought: pre WW II					0.015* [0.008]	0.009*** [0.003]		
Tenure Agri committee: pre WW II					0.120*** [0.021]	0.019** [0.008]		
Months of drought: pre WW I					-0.097*** [0.011]	0.001 [0.003]	-0.089*** [0.011]	0.003 [0.003]
Tenure Agri committee: pre WW I					0.023 [0.015]	-0.004 [0.003]	0.019 [0.015]	-0.004 [0.003]
County controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
War FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.288	0.235	0.293	0.238	0.314	0.235	0.302	0.232
Mean dependent variable	0.409	0.058	0.409	0.058	0.409	0.058	0.409	0.058
Observations	4688	4713	4688	4713	4688	4713	4688	4713

Notes: Panel estimates of (3). Dep. var. odd columns: volunteers per 100 people; even columns: medals per 1000 people (i.h.s.). Cols 1–4: OLS. Cols 5–6: reduced forms. Cols 7–8: IV. Agricultural support IVs are summer months of drought, 1933–40 and Agri Committee tenure, 73rd Congress (both i.h.s.). See subsection B.1 for details and section I and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command. S.e. clustered at county level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 9
Robust: Regressions Controlling for Frontier Experience.

	OLS				2SLS			
	(1) War bonds	(2) Volunteers	(3) Medals	(4) PCA	(5) War bonds	(6) Volunteers	(7) Medals	(8) PCA
Agricultural support	0.159*** [0.014]	0.037*** [0.007]	0.014*** [0.004]	0.234*** [0.026]	0.353*** [0.055]	0.188*** [0.058]	0.052*** [0.013]	0.841*** [0.149]
Frontier experience	-0.015* [0.007]	0.002 [0.004]	0.002 [0.002]	0.003 [0.014]	0.010 [0.012]	0.020** [0.009]	0.007*** [0.002]	0.076*** [0.026]
WWI volunteering rate	-0.005 [0.035]	0.110*** [0.026]	0.056*** [0.021]	0.450*** [0.117]	-0.007 [0.043]	0.102*** [0.035]	0.054*** [0.020]	0.420*** [0.139]
WWI awards per capita	0.191** [0.078]	0.128 [0.100]	0.037 [0.034]	0.574*** [0.268]	0.171** [0.085]	0.115 [0.092]	0.033 [0.040]	0.521* [0.280]
log 1930 population	-0.042*** [0.016]	-0.013 [0.011]	-0.017 [0.013]	-0.149** [0.070]	-0.007 [0.022]	0.019 [0.020]	-0.010 [0.014]	-0.021 [0.081]
1930 unemployment rate	-0.384 [0.262]	0.610*** [0.205]	0.153 [0.155]	1.607* [0.888]	-0.119 [0.310]	0.743*** [0.285]	0.187 [0.161]	2.145* [1.121]
Urban status: 1930	0.053*** [0.019]	0.007 [0.013]	0.006 [0.006]	0.117*** [0.042]	0.021 [0.024]	-0.021 [0.018]	-0.001 [0.007]	0.005 [0.062]
1930 farm share	-0.424*** [0.079]	-0.087 [0.055]	0.027 [0.026]	-0.436** [0.181]	-0.542*** [0.123]	-0.148* [0.076]	0.011 [0.029]	-0.682** [0.300]
1929 farm income	0.055*** [0.020]	-0.028** [0.012]	0.013 [0.010]	0.062 [0.056]	0.008 [0.030]	-0.072*** [0.027]	0.002 [0.011]	-0.115 [0.091]
Mean Democratic vote share: 1898-1928	0.002** [0.001]	-0.000 [0.001]	-0.000 [0.000]	0.002 [0.002]	-0.000 [0.001]	-0.002** [0.001]	-0.001 [0.000]	-0.006* [0.003]
1930 share of men	-1.657*** [0.641]	-1.260** [0.514]	-0.542** [0.248]	-6.457*** [1.480]	-1.466* [0.854]	-1.230** [0.605]	-0.535** [0.219]	-6.335*** [1.827]
1930 share of blacks	-0.290*** [0.086]	-0.430*** [0.039]	-0.046** [0.022]	-1.171*** [0.147]	-0.197* [0.117]	-0.354*** [0.066]	-0.027 [0.025]	-0.862*** [0.240]
1930 share of Japanesees	5.506*** [1.951]	0.745 [1.237]	0.894 [1.323]	11.102 [6.971]	4.859* [2.542]	0.932 [1.584]	0.941 [1.222]	11.860* [6.319]
1930 share of Germans	0.614*** [0.172]	-0.712*** [0.152]	0.054 [0.123]	-0.067 [0.076]	0.461* [0.238]	-0.850*** [0.187]	0.020 [0.128]	-0.625 [0.779]
1930 share of Italians	0.113 [0.478]	-0.230 [0.236]	-0.005 [0.170]	-0.489 [1.111]	0.347 [0.583]	-0.036 [0.309]	0.044 [0.195]	0.294 [1.415]
1930 share of veterans	1.038*** [0.306]	1.115*** [0.319]	0.268** [0.109]	3.891*** [0.792]	0.657* [0.388]	0.931*** [0.280]	0.222** [0.113]	3.148*** [0.892]
log 1939 average wage	0.458*** [0.055]	0.211*** [0.033]	0.058*** [0.020]	1.040*** [0.128]	0.435*** [0.069]	0.189*** [0.045]	0.052** [0.022]	0.951*** [0.170]
WII war contract per capita	0.279*** [0.023]	-0.034*** [0.008]	0.005 [0.005]	0.233*** [0.032]	0.282*** [0.026]	-0.034*** [0.010]	0.005 [0.005]	0.231*** [0.046]
State FE (48)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.684	0.623	0.188	0.653	0.642	0.524	0.142	0.533
Mean dependent variable	4.659	0.634	0.140	-0.012	4.659	0.634	0.140	-0.012
Rubin-Anderson test (p-value)					0.000	0.009	0.000	0.000
Observations	3020	2329	2329	2329	3020	2329	2329	2329

Notes: Robustness to controlling for frontier experience as calculated by [Bazzi et al. \(2020\)](#). Cols 1—4: OLS estimates of (1). Cols 5–8: IV estimates of (1); agricultural support is AAA grants plus FCA loans per farmer (i.h.s.) and it is instrumented with summer months of drought and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Dependent variables are: Cols 1 and 5: war bond purchases per capita (i.h.s.); Cols 2 and 6: WW II volunteers per 100 people; Cols 3 and 7: WW II medals per 1000 people (i.h.s.); Cols 4 and 8: first principal component of patriotism. See [section I](#) and [section A](#) for data sources and variable construction. Sample excludes the 7th Service Command in columns 2—4 and 6—8. Columns 1—4: robust standard errors in brackets; columns 5–8: standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 10
Effect of New Deal and Agricultural Support on Women Volunteer per Capita.

	Women volunteers			
	(1)	(2)	(3)	(4)
	OLS	OLS	RF	2SLS
New Deal grants	0.004 [0.002]			
Agricultural support		0.001 [0.001]		0.009*** [0.003]
Months of drought: 1933-40			0.003** [0.001]	
Tenure agri committee: 1933-35			0.002 [0.001]	
County-level controls	Yes	Yes	Yes	Yes
State FEs	Yes	Yes	Yes	Yes
R^2	0.529	0.528	0.529	0.507
Mean dependent variable	0.056	0.056	0.056	0.056
Observations	2329	2329	2329	2329

Notes: Coefficients of the effect of New Deal and agricultural support on volunteering to the Women's Army Auxiliary forces. Dependent variable is number of women volunteers per 100 people. New Deal support is total New Deal grants per capita (i.h.s.). Agricultural support is AAA grants plus FCA loans per farmer (i.h.s.). Cols 1—2: OLS estimates of(1). Col 3: reduced form. Col 4: IV; agricultural support is instrumented with months of summer drought and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Sample excludes the 7th Service Command. Cols 1–2: robust standard errors in brackets; Cols 3–4: standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 11
Spatial Autocorrelation

Panel A. Moran's I (p-values)								
Bandwidth	OLS				IV			
	Warbonds	Volunteers	Medals	PCA	Warbonds	Volunteers	Medals	PCA
200 km	0.0000	0.0000	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000
400 km	0.1474	0.0000	0.9822	0.0000	0.9674	0.0000	0.9844	0.0019
600 km	0.9286	0.9592	0.9987	0.0465	0.9986	1.0000	0.9997	0.9997
800 km	0.9146	0.9998	0.9582	0.7056	0.9975	0.9998	0.9934	0.9969
1000 km	0.9358	0.4708	0.9994	0.9649	0.9722	0.8718	1.0000	0.9975

Panel B: Agricultural support and patriotism: robustness to spatial correlation.								
	OLS				IV			
	Warbonds	Volunteers	Medals	PCA	Warbonds	Volunteers	Medals	PCA
Agricultural support	0.163	0.037	0.013	0.233	0.363	0.187	0.050	0.825
Baseline s.e.	[0.014]***	[0.007]***	[0.004]***	[0.026]***	[0.057]***	[0.053]***	[0.012]***	[0.138]***
Conley (1999) s.e.: cutoff = 200 km	[0.018]***	[0.014]***	[0.004]***	[0.036]***	[0.050]***	[0.059]***	[0.011]***	[0.133]***
Conley (1999) s.e.: cutoff = 400 km	[0.022]***	[0.017]**	[0.004]***	[0.046]***	[0.052]***	[0.065]***	[0.011]***	[0.137]***
Conley (1999) s.e.: cutoff = 600 km	[0.026]***	[0.019]**	[0.004]***	[0.052]***	[0.052]***	[0.062]***	[0.010]***	[0.126]***
Conley (1999) s.e.: cutoff = 800 km	[0.030]***	[0.019]**	[0.004]***	[0.055]***	[0.052]***	[0.063]***	[0.009]***	[0.124]***
Controls	Yes							
State FE(48)	Yes							
Observations	3020	2328	2328	2328	3020	2328	2328	2328

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Note: Panel A: *p-value* of Moran's I statistics at different bandwidths. Null hypothesis is no spatial correlation in the residuals of a regression of patriotism on agricultural support. Agricultural support is AAA grants plus FCA loans per 1930 farmers (i.h.s.). Cols 1–4: OLS regressions. Cols 5–8: IV regressions. Panel B: correction for spatial correlation with the formula of Conley (1999). Point estimates from Table II (Cols 1–4) and Table IV (Cols 5–8). Standard errors underneath estimates. Row 2: heteroschedastic-robust standard errors (Cols 1–4) or clustered at the climatic division level (Cols 5–8). Rows 3–6: standard error corrected with the formula of Conley (1999). Cutoff is 200 (row 3), 400 (row 4), 600 Km (row 5) and 800 (row 6). Cols 1–4: OLS estimates. Cols 5–8: IV estimates. Dependent variable are: Cols 1 and 5: war bond per capita (i.h.s.); Cols 2 and 6: volunteers per 100 people; Cols 3 and 7: medals per 1,000 people (i.h.s.); Cols 4 and 8: first principal component of patriotism.

Table 12
Entropy Balancing.

	Before balancing		After balancing	
	Treated	Control	Treated	Control
WW1 awards per capita (i.h.s.)	0.064 (0.104)	0.050 (0.077)	0.064 (0.104)	0.064 (0.119)
log 1930 population	9.643 (1.134)	10.009 (0.877)	9.643 (1.134)	9.643 (1.095)
1930 unemployment rate	0.064 (0.042)	0.054 (0.038)	0.064 (0.042)	0.064 (0.044)
1930 urban status dummy	0.515 (0.500)	0.578 (0.494)	0.515 (0.500)	0.515 (0.500)
1930 farm share	0.463 (0.214)	0.522 (0.233)	0.463 (0.214)	0.463 (0.224)
1929 farm income (i.h.s.)	2.991 (0.803)	3.200 (0.609)	2.991 (0.803)	2.991 (0.761)
Mean Democratic vote share: 1898–1928	43.033 (14.583)	55.773 (19.807)	43.033 (14.583)	43.035 (15.212)
1930 share of men	0.525 (0.024)	0.509 (0.016)	0.525 (0.024)	0.525 (0.028)
1930 share of blacks	0.036 (0.093)	0.186 (0.218)	0.036 (0.093)	0.036 (0.080)
1930 share of Japanese	0.001 (0.004)	0.000 (0.004)	0.001 (0.004)	0.001 (0.006)
1930 share of Germans	0.060 (0.058)	0.029 (0.054)	0.060 (0.058)	0.060 (0.079)
1930 share of Italians	0.009 (0.023)	0.008 (0.024)	0.009 (0.023)	0.009 (0.024)
1930 share of veterans	0.124 (0.038)	0.105 (0.031)	0.124 (0.038)	0.124 (0.045)
log 1939 average wage	6.488 (0.290)	6.343 (0.356)	6.488 (0.290)	6.488 (0.343)
War contracts per capita (i.h.s.)	0.316 (0.633)	0.320 (0.574)	0.316 (0.633)	0.316 (0.601)

Notes: Difference in covariates in counties above and below median New Deal grants per capita (i.h.s.). Columns 1–2: averages before re-weighting. Columns 3–4: average after re-weighting with the formula of [Hainmueller \(2012\)](#)

Table 13
Robust: Regressions Without Bottom 33% Counties in Share of Farms Operated by Owner.

	OLS				2SLS			
	(1) War bonds	(2) Volunteers	(3) Medals	(4) PCA	(5) War bonds	(6) Volunteers	(7) Medals	(8) PCA
Agricultural support	0.146*** [0.017]	0.029*** [0.008]	0.015*** [0.005]	0.213*** [0.030]	0.359*** [0.055]	0.131*** [0.033]	0.047*** [0.014]	0.708*** [0.108]
WWI volunteering rate	-0.029 [0.045]	0.129*** [0.030]	0.064** [0.028]	0.491*** [0.155]	-0.017 [0.053]	0.130*** [0.032]	0.064** [0.027]	0.498*** [0.166]
WWI awards per capita	0.194** [0.094]	0.044 [0.086]	0.048 [0.039]	0.463* [0.272]	0.170* [0.094]	0.034 [0.076]	0.045 [0.046]	0.411 [0.270]
log 1930 population	0.013 [0.029]	-0.015 [0.013]	-0.022 [0.018]	-0.153* [0.091]	0.039 [0.034]	-0.001 [0.015]	-0.018 [0.018]	-0.082 [0.092]
1930 unemployment rate	-0.728** [0.371]	0.583** [0.230]	0.255 [0.238]	1.658 [1.277]	-0.114 [0.421]	0.852*** [0.247]	0.340 [0.245]	2.964** [1.393]
Urban status: 1930	0.040 [0.032]	-0.008 [0.016]	0.003 [0.010]	0.087 [0.061]	-0.006 [0.038]	-0.033 [0.020]	-0.005 [0.010]	-0.034 [0.072]
1930 farm share	-0.402*** [0.150]	-0.171*** [0.064]	0.042 [0.034]	-0.381* [0.224]	-0.565*** [0.197]	-0.218*** [0.069]	0.027 [0.030]	-0.612** [0.289]
1929 farm income	0.054** [0.024]	-0.037*** [0.013]	0.012 [0.012]	0.036 [0.066]	0.011 [0.033]	-0.063*** [0.019]	0.003 [0.011]	-0.088 [0.078]
Mean Democratic vote share: 1898-1928	0.002** [0.001]	-0.002*** [0.001]	-0.000 [0.001]	-0.001 [0.003]	0.000 [0.002]	-0.003*** [0.001]	-0.001 [0.001]	-0.008** [0.004]
1930 share of men	-0.227 [0.883]	-0.683 [0.489]	-0.593* [0.333]	-5.000*** [1.867]	0.261 [1.094]	-0.519 [0.609]	-0.542* [0.300]	-4.206* [2.225]
1930 share of blacks	-0.007 [0.204]	-0.475*** [0.064]	0.004 [0.039]	-0.776*** [0.273]	-0.030 [0.257]	-0.470*** [0.095]	0.006 [0.037]	-0.752** [0.379]
1930 share of Japanesees	5.259** [2.126]	1.922* [1.162]	1.193 [1.250]	14.499** [6.614]	5.232* [2.908]	2.243* [1.293]	1.294 [1.123]	16.055*** [5.857]
1930 share of Germans	0.391* [0.218]	-0.309* [0.166]	0.090 [0.161]	0.613 [0.853]	0.211 [0.292]	-0.401** [0.159]	0.061 [0.163]	0.169 [0.912]
1930 share of Italians	-0.448 [0.601]	-0.211 [0.246]	-0.060 [0.182]	-0.831 [1.167]	-0.347 [0.686]	-0.132 [0.306]	-0.035 [0.200]	-0.448 [1.414]
1930 share of veterans	-0.801 [1.287]	1.036*** [0.328]	0.346** [0.156]	3.671*** [1.004]	-1.130 [1.342]	0.994*** [0.297]	0.333** [0.145]	3.470*** [1.023]
log 1939 average wage	0.516*** [0.077]	0.145*** [0.037]	0.066** [0.029]	1.019*** [0.175]	0.469*** [0.093]	0.123*** [0.043]	0.060** [0.030]	0.915*** [0.196]
WII war contract per capita	0.268*** [0.025]	-0.033*** [0.008]	0.005 [0.005]	0.226*** [0.036]	0.270*** [0.028]	-0.034*** [0.010]	0.004 [0.005]	0.222*** [0.046]
State FE (48)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.630	0.566	0.179	0.586	0.569	0.493	0.146	0.484
Mean dependent variable	4.743	0.633	0.153	0.152	4.743	0.633	0.153	0.152
Rubin-Anderson test (p-value)					0.000	0.002	0.007	0.000
Observations	2019	1512	1512	1512	2019	1512	1512	1512

Notes: Robustness to dropping 33% of counties with the highest share of sharecroppers and tenant farmers. Cols 1–4: OLS estimates of (1). Cols 5–8: IV estimates of (1); agricultural support is AAA grants plus FCA loans per farmer (i.h.s.) and it is instrumented with summer months of drought and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Dependent variables are: Cols 1 and 5: war bond purchases per capita (i.h.s.); Cols 2 and 6: WW II volunteers per 100 people; Cols 3 and 7: WW II medals per 1000 people (i.h.s.); Cols 4 and 8: first principal component of patriotism. See [section I](#) and [section A](#) for data sources and variable construction. Sample excludes the 7th Service Command in columns 2–4 and 6–8. Columns 1–4: robust standard errors in brackets; columns 5–8: standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 14
Robust: Regressions Without Dust Bowl Counties.

	OLS				2SLS			
	(1) War bonds	(2) Volunteers	(3) Medals	(4) PCA	(5) War bonds	(6) Volunteers	(7) Medals	(8) PCA
Agricultural support	0.131*** [0.015]	0.029*** [0.008]	0.013*** [0.004]	0.207*** [0.027]	0.340*** [0.063]	0.146** [0.068]	0.053*** [0.014]	0.759*** [0.152]
WWI volunteering rate	0.018 [0.041]	0.138*** [0.027]	0.056** [0.023]	0.491*** [0.125]	0.011 [0.049]	0.133*** [0.033]	0.055** [0.022]	0.469*** [0.145]
WWI awards per capita	0.208** [0.088]	0.061 [0.092]	0.023 [0.035]	0.361 [0.251]	0.190** [0.093]	0.058 [0.089]	0.022 [0.047]	0.347 [0.286]
log 1930 population	-0.016 [0.028]	-0.011 [0.011]	-0.018 [0.014]	-0.138* [0.074]	0.015 [0.033]	0.009 [0.018]	-0.011 [0.014]	-0.042 [0.081]
1930 unemployment rate	-0.466 [0.287]	0.454** [0.201]	0.147 [0.167]	1.170 [0.938]	-0.286 [0.312]	0.544** [0.252]	0.178 [0.173]	1.591 [1.085]
Urban status: 1930	0.050* [0.027]	-0.002 [0.013]	0.001 [0.006]	0.084* [0.043]	0.012 [0.035]	-0.025 [0.018]	-0.007 [0.008]	-0.023 [0.065]
1930 farm share	-0.577*** [0.134]	-0.131** [0.055]	0.023 [0.028]	-0.560*** [0.186]	-0.703*** [0.172]	-0.178*** [0.068]	0.007 [0.029]	-0.782*** [0.280]
1929 farm income	0.075*** [0.021]	-0.019* [0.012]	0.010 [0.010]	0.063 [0.057]	0.008 [0.036]	-0.059** [0.028]	-0.004 [0.011]	-0.122 [0.093]
Mean Democratic vote share: 1898–1928	0.003** [0.001]	-0.001** [0.001]	-0.000 [0.000]	-0.000 [0.002]	-0.000 [0.001]	-0.003** [0.001]	-0.001* [0.000]	-0.007** [0.003]
1930 share of men	-1.087 [0.820]	-1.187** [0.491]	-0.610** [0.257]	-6.134*** [1.523]	-0.754 [0.974]	-1.078* [0.618]	-0.573** [0.233]	-5.620*** [1.928]
1930 share of blacks	-0.247*** [0.093]	-0.392*** [0.039]	-0.038* [0.023]	-1.004*** [0.152]	-0.204* [0.121]	-0.367*** [0.060]	-0.030 [0.025]	-0.886*** [0.220]
1930 share of Japanesees	4.921** [2.039]	0.717 [1.196]	1.081 [1.304]	11.681* [6.871]	4.537 [2.778]	0.989 [1.471]	1.174 [1.186]	12.960** [6.305]
1930 share of Germans	0.793*** [0.233]	-0.471*** [0.164]	0.129 [0.148]	0.483 [0.787]	0.467 [0.313]	-0.635*** [0.196]	0.073 [0.152]	-0.291 [0.902]
1930 share of Italians	-0.389 [0.603]	-0.227 [0.233]	-0.018 [0.171]	-0.638 [1.122]	-0.236 [0.668]	-0.095 [0.287]	0.028 [0.194]	-0.018 [1.357]
1930 share of veterans	-0.411 [1.161]	0.794** [0.312]	0.312*** [0.116]	3.376*** [0.808]	-0.749 [1.211]	0.674** [0.283]	0.271** [0.115]	2.811*** [0.855]
log 1939 average wage	0.472*** [0.063]	0.185*** [0.034]	0.061*** [0.021]	1.015*** [0.136]	0.455*** [0.073]	0.175*** [0.045]	0.058*** [0.022]	0.967*** [0.164]
WII war contract per capita	0.296*** [0.022]	-0.036*** [0.008]	0.004 [0.005]	0.226*** [0.032]	0.301*** [0.026]	-0.036*** [0.010]	0.004 [0.004]	0.230*** [0.043]
State FE (48)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.673	0.583	0.196	0.647	0.626	0.504	0.144	0.540
Mean dependent variable	4.596	0.591	0.138	-0.106	4.596	0.591	0.138	-0.106
Rubin-Anderson test (p-value)					0.000	0.155	0.002	0.001
Observations	2533	2112	2112	2112	2533	2112	2112	2112

Notes: Robustness to excluding “Dust Bowl” counties: counties on the Great Plains with more than half of their area experiencing in the 1930s at least 25 percent topsoil erosion. Cols 1—4: OLS estimates of (1). Cols 5–8: IV estimates of (1); agricultural support is AAA grants plus FCA loans per farmer (i.h.s.) and it is instrumented with summer months of drought and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Dependent variables are: Cols 1 and 5: war bond purchases per capita (i.h.s.); Cols 2 and 6: WW II volunteers per 100 people; Cols 3 and 7: WW II medals per 1000 people (i.h.s.); Cols 4 and 8: first principal component of patriotism. See section I and section A for data sources and variable construction. Sample excludes the 7th Service Command in columns 2—4 and 6—8. Columns 1—4: robust standard errors in brackets; columns 5–8: standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 15
Robust: Regressions Without Top and Bottom 5% Counties in 1930-40 Population Change.

	OLS				2SLS			
	(1) War bonds	(2) Volunteers	(3) Medals	(4) PCA	(5) War bonds	(6) Volunteers	(7) Medals	(8) PCA
Agricultural support	0.140*** [0.015]	0.039*** [0.008]	0.012*** [0.004]	0.218*** [0.025]	0.331*** [0.068]	0.189*** [0.053]	0.047*** [0.014]	0.807*** [0.133]
WWI volunteering rate	0.002 [0.035]	0.074*** [0.023]	0.031*** [0.011]	0.275*** [0.075]	-0.000 [0.043]	0.064* [0.033]	0.029** [0.012]	0.237** [0.117]
WWI awards per capita	0.254*** [0.083]	0.143 [0.113]	0.037 [0.033]	0.046** [0.294]	0.193** [0.088]	0.097 [0.102]	0.027 [0.032]	0.465* [0.277]
log 1930 population	-0.072*** [0.016]	-0.006 [0.008]	-0.007 [0.005]	-0.115*** [0.028]	-0.035* [0.021]	0.024 [0.017]	0.000 [0.005]	0.001 [0.047]
1930 unemployment rate	-0.230 [0.253]	0.445** [0.177]	0.042 [0.065]	0.866* [0.520]	-0.051 [0.265]	0.545** [0.263]	0.066 [0.074]	1.260 [0.795]
Urban status: 1930	0.050** [0.020]	0.015 [0.013]	0.004 [0.006]	0.125*** [0.042]	0.021 [0.024]	-0.014 [0.016]	-0.002 [0.007]	0.012 [0.058]
1930 farm share	-0.437*** [0.083]	-0.091* [0.051]	0.015 [0.025]	-0.495*** [0.180]	-0.541*** [0.133]	-0.161* [0.085]	-0.001 [0.030]	-0.771** [0.328]
1929 farm income	0.081*** [0.019]	-0.032*** [0.011]	0.007 [0.006]	0.040 [0.039]	0.026 [0.033]	-0.083*** [0.027]	-0.005 [0.009]	-0.158* [0.086]
Mean Democratic vote share: 1898-1928	0.002*** [0.001]	-0.000 [0.000]	0.000 [0.000]	0.003** [0.002]	0.000 [0.001]	-0.002** [0.001]	-0.000 [0.000]	-0.004 [0.003]
1930 share of men	-1.543** [0.648]	-0.933** [0.410]	-0.262 [0.254]	-4.819*** [1.485]	-1.280 [0.840]	-0.799 [0.562]	-0.231 [0.237]	-4.292** [1.912]
1930 share of blacks	-0.258*** [0.086]	-0.425*** [0.036]	-0.065*** [0.016]	-1.217*** [0.124]	-0.227** [0.115]	-0.392*** [0.064]	-0.057*** [0.018]	-1.088*** [0.218]
1930 share of Japanesees	2.086 [1.767]	0.436 [1.159]	2.164*** [0.656]	12.676*** [4.166]	2.130 [1.859]	1.079 [1.584]	2.314*** [0.579]	15.206*** [4.969]
1930 share of Germans	0.662*** [0.172]	-0.738*** [0.141]	-0.070 [0.066]	-0.643 [0.433]	0.514** [0.236]	-0.837*** [0.165]	-0.093 [0.073]	-1.036* [0.558]
1930 share of Italians	0.288 [0.453]	-0.085 [0.233]	0.106 [0.134]	0.387 [0.913]	0.549 [0.555]	0.090 [0.313]	0.147 [0.171]	1.076 [1.333]
1930 share of veterans	0.762** [0.346]	1.740*** [0.238]	0.230** [0.116]	4.458*** [0.837]	0.512 [0.388]	1.530*** [0.312]	0.181 [0.131]	3.633*** [1.164]
log 1939 average wage	0.566*** [0.059]	0.185*** [0.032]	0.057*** [0.016]	1.091*** [0.113]	0.512*** [0.065]	0.156*** [0.046]	0.050*** [0.017]	0.976*** [0.149]
WII war contract per capita	0.269*** [0.023]	-0.038*** [0.008]	0.003 [0.004]	0.212*** [0.032]	0.271*** [0.025]	-0.038*** [0.011]	0.004 [0.004]	0.214*** [0.041]
State FE (48)	Yes							
R^2	0.704	0.632	0.194	0.691	0.666	0.528	0.144	0.567
Mean dependent variable	4.632	0.616	0.135	-0.083	4.632	0.616	0.135	-0.083
Rubin-Anderson test (p-value)					0.000	0.017	0.002	0.000
Observations	2730	2143	2143	2143	2730	2143	2143	2143

Notes: Robustness to dropping 10% of counties with highest changes in population. Cols 1—4: OLS estimates of (1). Cols 5–8: IV estimates of (1); agricultural support is AAA grants plus FCA loans per farmer (i.h.s.) and it is instrumented with summer months of drought and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Dependent variables are: Cols 1 and 5: war bond purchases per capita (i.h.s.); Cols 2 and 6: WW II volunteers per 100 people; Cols 3 and 7: WW II medals per 1000 people (i.h.s.); Cols 4 and 8: first principal component of patriotism. See section I and section A for data sources and variable construction. Sample excludes the 7th Service Command in columns 2—4 and 6—8. Columns 1—4: robust standard errors in brackets; columns 5–8: standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table 16
Robust: Regressions Controlling for Inverse of 1930 Population.

	OLS				2SLS			
	(1) War bonds	(2) Volunteers	(3) Medals	(4) PCA	(5) War bonds	(6) Volunteers	(7) Medals	(8) PCA
Agricultural support	0.163*** [0.014]	0.035*** [0.007]	0.013*** [0.004]	0.230*** [0.026]	0.366*** [0.057]	0.185*** [0.054]	0.048*** [0.012]	0.823*** [0.141]
Inverse of 1930 population	-184.556 [183.613]	244.341* [126.570]	120.991 [133.713]	631.454 [684.666]	-262.770 [220.491]	93.159 [148.960]	84.708 [157.768]	30.868 [768.685]
WWI volunteering rate	-0.005 [0.036]	0.112*** [0.026]	0.057*** [0.021]	0.455*** [0.118]	0.000 [0.044]	0.106*** [0.036]	0.056*** [0.021]	0.433*** [0.144]
WWI awards per capita	0.222*** [0.083]	0.134 [0.102]	0.039 [0.033]	0.592** [0.270]	0.183** [0.086]	0.103 [0.094]	0.031 [0.038]	0.469* [0.276]
log 1930 population	-0.035 [0.025]	0.005 [0.011]	-0.009 [0.009]	-0.103** [0.049]	-0.002 [0.032]	0.027 [0.018]	-0.003 [0.009]	-0.014 [0.063]
1930 unemployment rate	-0.391 [0.260]	0.616*** [0.203]	0.156 [0.155]	1.622* [0.888]	-0.114 [0.323]	0.742*** [0.285]	0.186 [0.161]	2.124* [1.129]
Urban status: 1930	0.030 [0.026]	0.013 [0.013]	0.009 [0.007]	0.133*** [0.046]	-0.004 [0.030]	-0.018 [0.018]	0.001 [0.009]	0.008 [0.068]
1930 farm share	-0.548*** [0.127]	-0.070 [0.053]	0.036 [0.029]	-0.392** [0.191]	-0.667*** [0.164]	-0.132* [0.076]	0.021 [0.034]	-0.640** [0.318]
1929 farm income	0.054*** [0.020]	-0.028** [0.012]	0.013 [0.010]	0.062 [0.056]	-0.001 [0.031]	-0.077*** [0.027]	0.001 [0.011]	-0.131 [0.092]
Mean Democratic vote share: 1898-1928	0.002** [0.001]	-0.000 [0.001]	-0.000 [0.000]	0.002 [0.002]	-0.000 [0.001]	-0.002** [0.001]	-0.001 [0.000]	-0.006* [0.003]
1930 share of men	-1.155 [0.769]	-1.333*** [0.503]	-0.580** [0.266]	-6.639*** [1.537]	-0.948 [0.973]	-1.289** [0.607]	-0.569** [0.238]	-6.468*** [1.851]
1930 share of blacks	-0.277*** [0.087]	-0.434*** [0.037]	-0.050** [0.021]	-1.176*** [0.142]	-0.224* [0.119]	-0.388*** [0.066]	-0.039* [0.023]	-0.994*** [0.235]
1930 share of Japanesees	5.041** [1.996]	0.850 [1.196]	0.941 [1.282]	11.385* [6.766]	4.195 [2.671]	0.894 [1.518]	0.952 [1.183]	11.559* [6.440]
1930 share of Germans	0.665*** [0.179]	-0.731*** [0.148]	0.046 [0.116]	-0.117 [0.645]	0.515** [0.245]	-0.851*** [0.184]	0.017 [0.122]	-0.593 [0.746]
1930 share of Italians	-0.166 [0.572]	-0.309 [0.245]	-0.047 [0.189]	-0.690 [1.189]	0.070 [0.651]	-0.099 [0.315]	0.004 [0.210]	0.145 [1.446]
1930 share of veterans	-0.024 [0.120]	1.107*** [0.311]	0.266** [0.110]	3.868*** [0.785]	-0.405 [1.070]	0.944*** [0.284]	0.227** [0.115]	3.221*** [0.914]
log 1939 average wage	0.470*** [0.055]	0.203*** [0.033]	0.053*** [0.018]	1.021*** [0.124]	0.430*** [0.067]	0.175*** [0.045]	0.046** [0.020]	0.910*** [0.165]
WII war contract per capita	0.280*** [0.023]	-0.036*** [0.008]	0.004 [0.005]	0.227*** [0.032]	0.282*** [0.026]	-0.036*** [0.011]	0.004 [0.004]	0.227*** [0.045]
State FE (48)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.669	0.625	0.190	0.654	0.623	0.523	0.148	0.535
Mean dependent variable	4.658	0.634	0.140	-0.012	4.658	0.634	0.140	-0.012
Rubin-Anderson test (p-value)					0.000	0.013	0.000	0.000
Observations	3022	2329	2329	2329	3022	2329	2329	2329

Notes: Robustness to controlling for the inverse of 1930 population as in Wallis (1998). Cols 1—4: OLS estimates of (1). Cols 5–8: IV estimates of (1); agricultural support is AAA grants plus FCA loans per farmer (i.h.s.) and it is instrumented with summer months of drought and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Dependent variables are: Cols 1 and 5: war bond purchases per capita (i.h.s.); Cols 2 and 6: WW II volunteers per 100 people; Cols 3 and 7: WW II medals per 1000 people (i.h.s.); Cols 4 and 8: first principal component of patriotism. See section I and section A for data sources and variable construction. Sample excludes the 7th Service Command in columns 2—4 and 6—8. Columns 1—4: robust standard errors in brackets; columns 5–8: standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

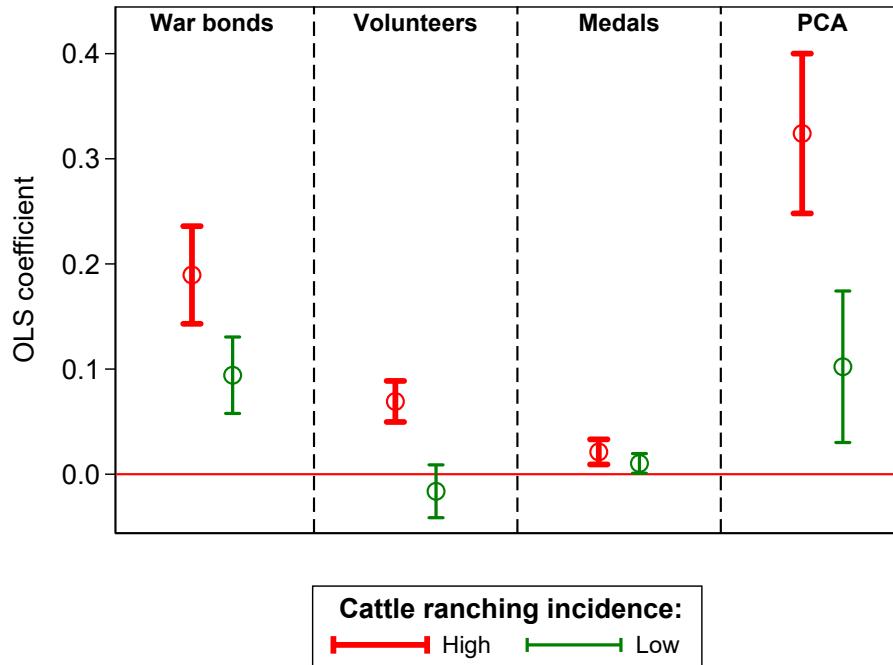
Table 17
Robust: The Impact of Service Command 7.

	log war bonds p.c.			Volunteers p.c.			Medals p.c.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	OLS	RF	2SLS	OLS	RF	2SLS	OLS	RF	2SLS
Agricultural support	0.131*** [0.016]		0.339*** [0.061]	0.028*** [0.007]		0.160*** [0.053]	0.013*** [0.003]		0.048*** [0.011]
Months of drought: 1933-40		0.114*** [0.024]			0.031* [0.018]			0.013*** [0.004]	
Tenure agri committee: 1933-35		0.051* [0.030]			0.067** [0.026]			0.016*** [0.006]	
County-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE (48)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.679	0.670	0.629	0.613	0.621	0.526	0.147	0.148	0.109
Sample includes S.C. #7?	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Mean dependent variable	4.549	4.549	4.549	0.601	0.601	0.601	0.143	0.143	0.143
Rubin-Anderson test (p-value)			0.000			0.030			0.000
Observations	2329	2329	2329	3022	3022	3022	3022	3022	3022

Notes: Robustness of results to inclusion or exclusion of the 7th Service Command. Dependent variable are: Cols 1–3: war bond purchases per capita (i.h.s.); Cols 4–6: volunteers per 100 people; Cols 7–9: medals per 1,000 people (i.h.s.). Agricultural support is AAA grants plus FCA loans per farmer (i.h.s.). Cols 1, 4 and 7: OLS estimates of (1). Cols 2, 5 and 8: reduced form. Cols 3, 6 and 9: IV; agricultural support is instrumented with months of summer drought and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Cols 1–3: sample excludes the 7th Service Command; Cols 4–9: sample includes the 7th Service Command. Cols 1, 4 and 7: robust standard errors in brackets; other cols: standard errors clustered at climatic division level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

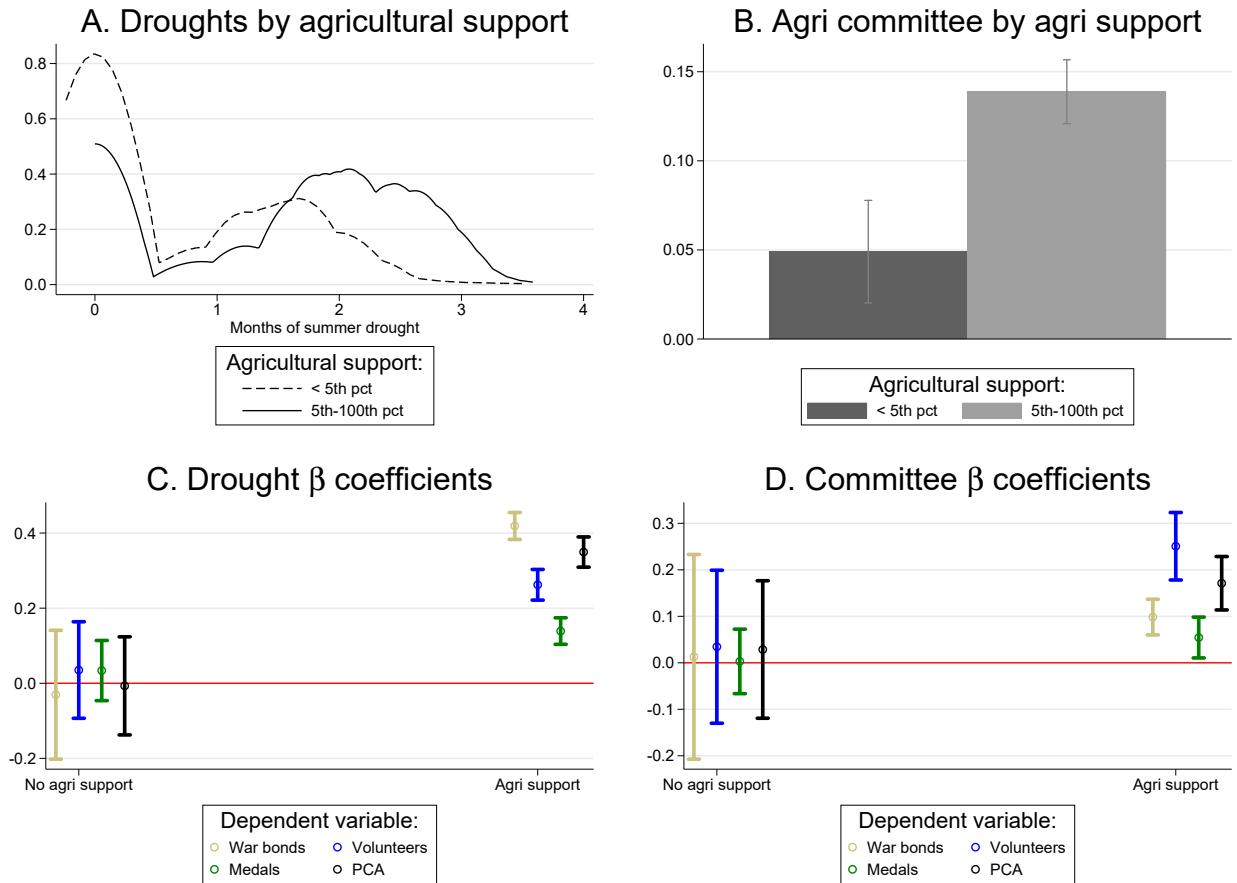
C.2 Appendix Figures

Figure 1
Agricultural Support and Patriotism: Results by Cattle Ranching Incidence



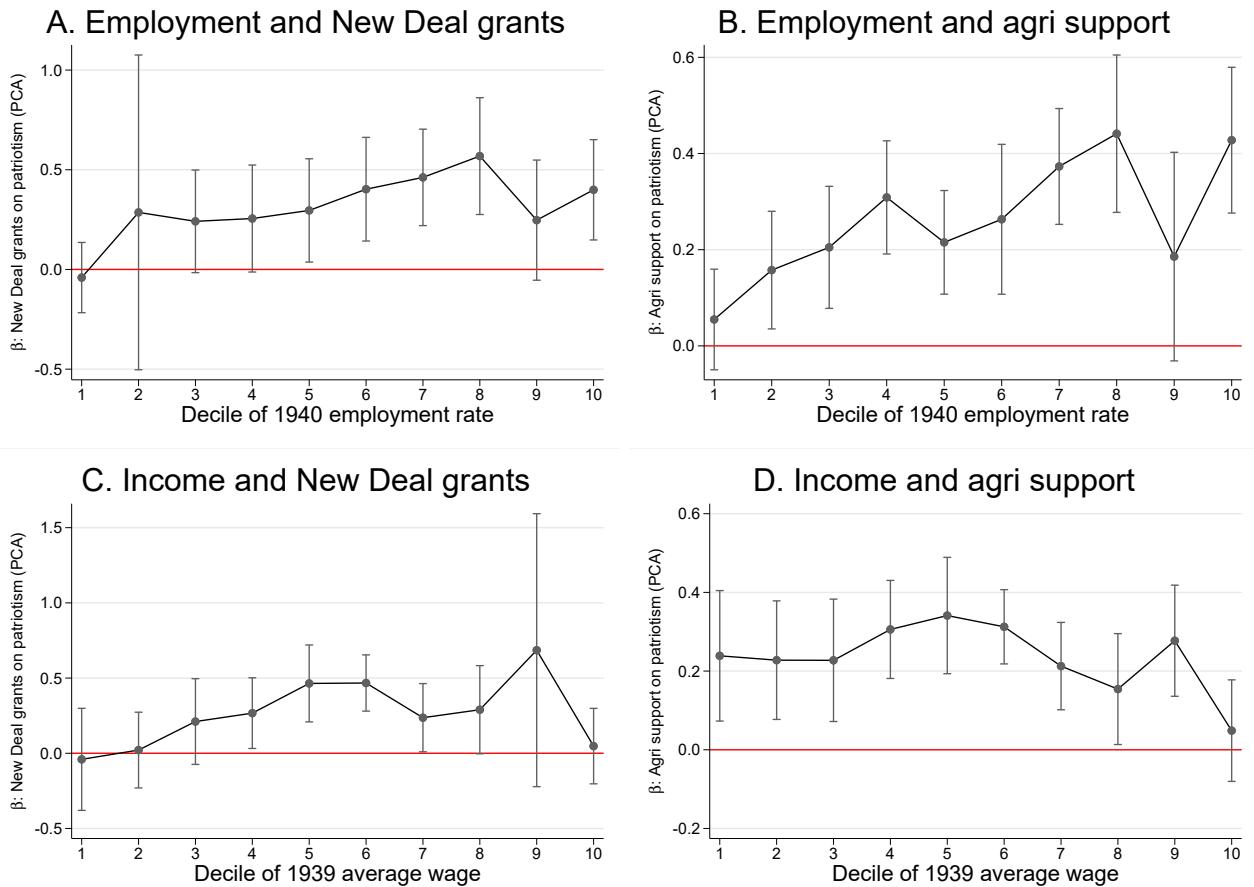
Notes: OLS coefficients and 95% confidence intervals of the effect of agricultural support on patriotism estimated in areas with different incidence of cattle ranching. Counties have high (low) cattle ranching incidence if they above (below) the median number of cattle per farmers in 1930. The median county has 2.9 cattle per farmer (2.6 without 7th Service Command). Agricultural support is AAA grants plus FCA loans per farmer (i.h.s.). From left to right, dependent variables are: war bonds purchases per capita (i.h.s.), volunteers per 100 people, medals per 1000 people (i.h.s.) and the principal component of the three measures. All regressions control for the standard set of controls plus state fixed effects. See [section I](#) and [section A](#) for data sources and variable construction. Sample excludes the 7th Service Command in regressions with volunteers, medals and PCA.

Figure 2
Never Takers Analysis: Effect of Droughts in Areas with No Agricultural Support



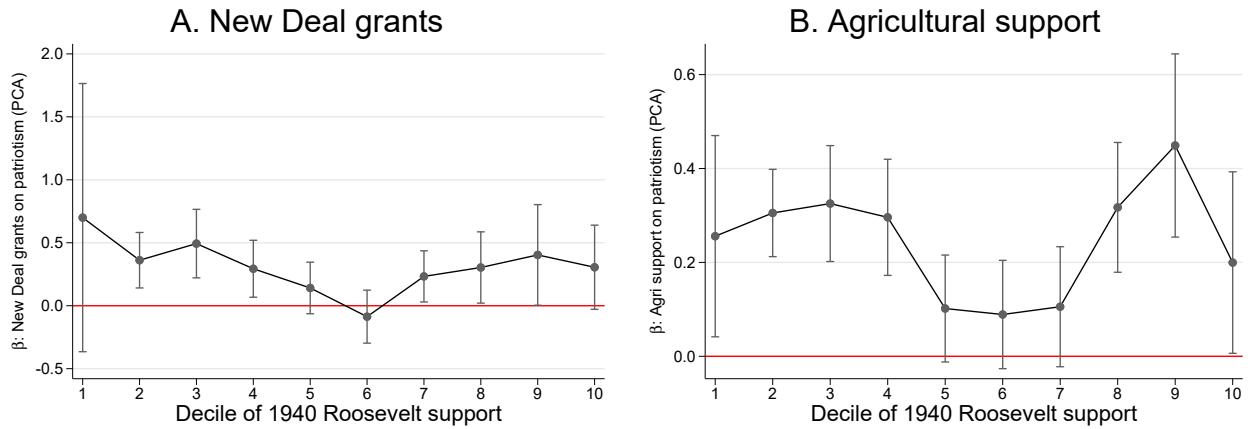
Notes: Panel A: kernel density of the distribution of number of summer months with severe drought 1933–40 (i.h.s.) by level of agricultural support. Panel B: tenure on the Agricultural committee during the 73rd Congress (i.h.s.) by level of agricultural support. Panel C–D: Beta coefficients and 95% confidence intervals of the effect of droughts and committee on patriotism estimated in areas with no agricultural support (left) or some agricultural support. Counties have no (some) agricultural support if they are below (above) the first decile of the agricultural support distribution. No agricultural support county receive on average \$68 per farmer: ten times less than the average (\$643). Agricultural support is AAA grants plus FCA loans per farmer. Dependent variables are: war bonds purchases per capita (i.h.s.), volunteers per 100 people, medals per 1000 people (i.h.s.) and the principal component of the three measures. See [section I](#) and [section A](#) for data sources and variable construction. Sample excludes the 7th Service Command in regressions with volunteers, medals and PCA.

Figure 3
Heterogeneity: 1940 Economic Conditions.



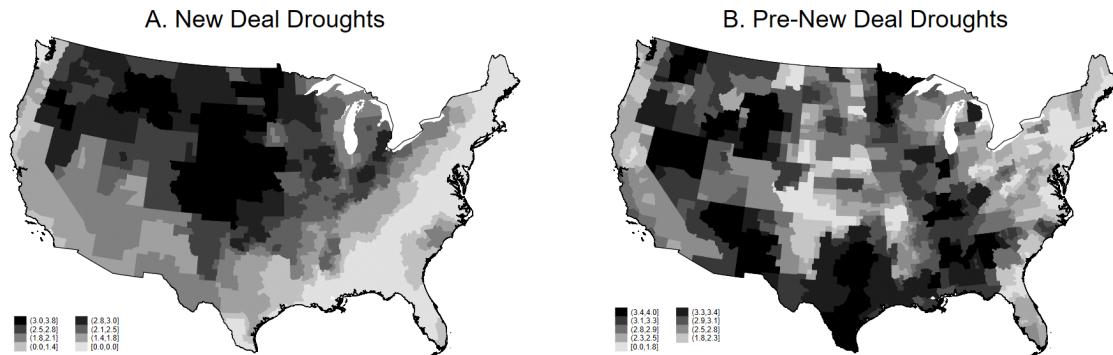
Notes: Graphs plot marginal effect of New Deal support on the first principal component of patriotism by deciles of pre-WW II economic conditions. Regressions includes the full set of controls, 48 state fixed effects and deciles of two measures of economic conditions before the start of the war alone and interacted with New Deal support. Panels A–B: economic conditions is 1940 employment. Panels C–D: economic condition is 1939 average wage. Panels A and C: New Deal support is all New Deal grants per capita (i.h.s.). Panels B and D: New Deal spending is agricultural support (AAA grants plus FCA loans) per farmer (i.h.s.). See section II and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command.

Figure 4
Heterogeneity: 1940 Roosevelt Support.



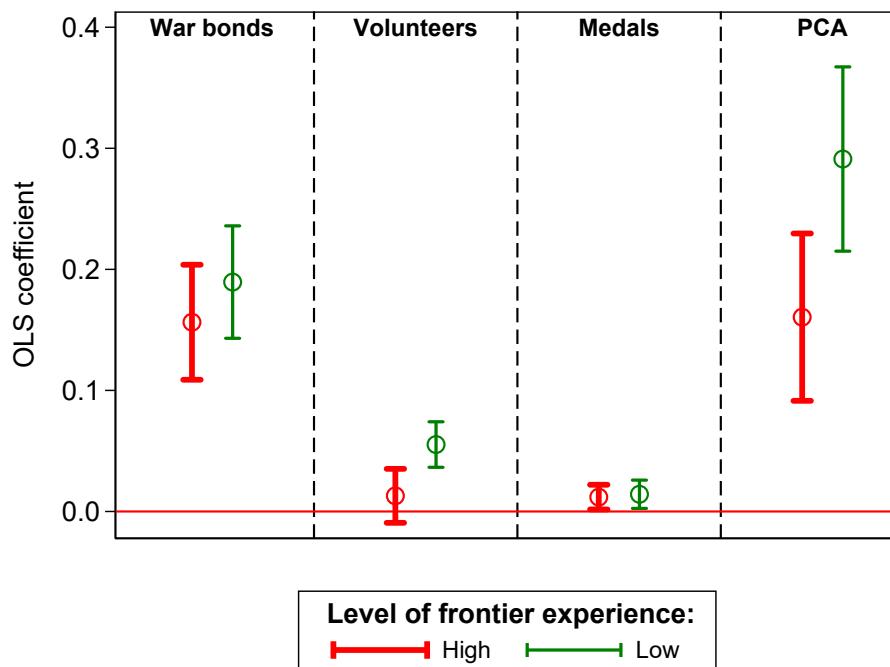
Notes: Graphs plot marginal effect of New Deal support on the first principal component of patriotism by deciles of 1940 Roosevelt's vote share. Regressions include the full set of controls, 48 state fixed effects and deciles of Roosevelt's 1940 vote share alone and interacted with New Deal spending. Panel A: New Deal support is all New Deal grants per capita (i.h.s.). Panel B: New Deal support is agricultural support (AAA grants plus FCA loans) per farmer (i.h.s.). See [section II](#) and [Appendix A](#) for data sources and variable construction. Sample excludes the 7th Service Command.

Figure 5
Geographic Distribution of Droughts



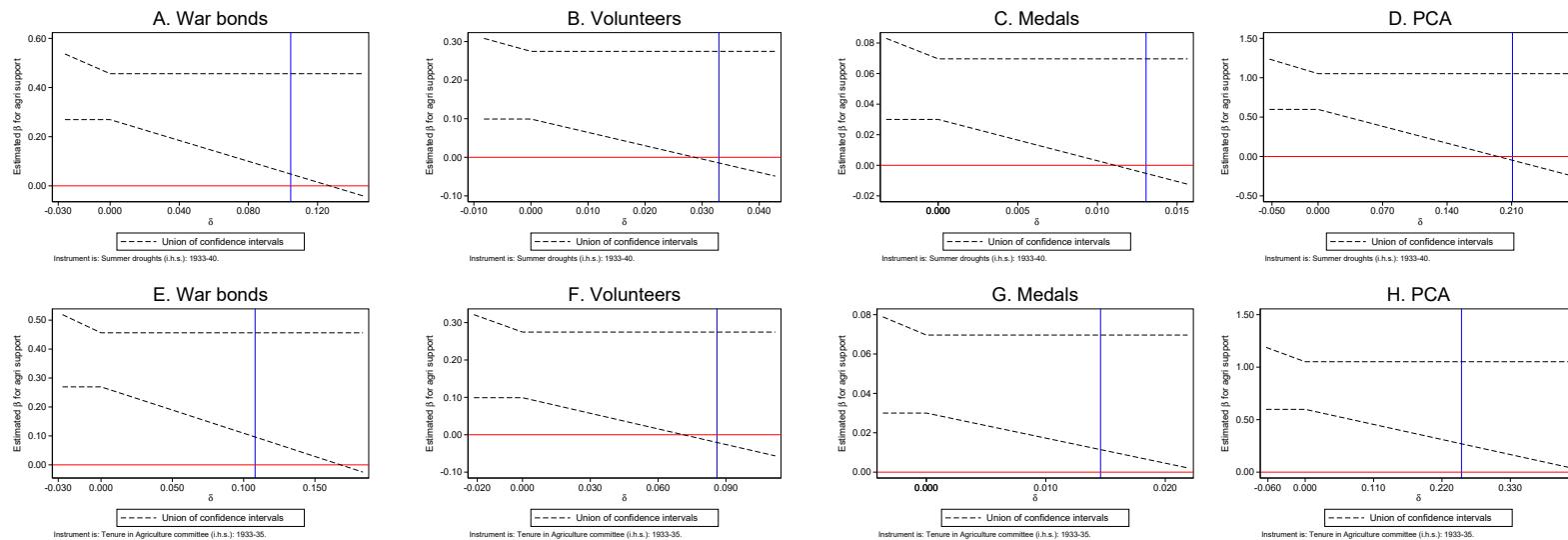
Notes: Panel A: number of summer months with severe drought 1933–40 (i.h.s.). Panel B: number of summer months with severe drought 1897–1932 (i.h.s.). See [section II](#) and Appendix A for data sources and variable construction.

Figure 6
Agricultural Support and Patriotism: Results by Frontier Experience



Notes: OLS coefficients and 95% confidence intervals of the effect of agricultural support on patriotism estimated in areas with different levels of frontier experience. Counties have high (low) level of frontier experience if they above (below) the median number of years on the frontier, as calculated by Bazzi et al. (2020). The median county has 1.35 decades of frontier experience. Agricultural support is AAA grants plus FCA loans per farmer (i.h.s.). From left to right, dependent variables are: war bonds purchases per capita (i.h.s.), volunteers per 100 people, medals per 1000 people (i.h.s.) and the principal component of the three measures. All regressions control for the standard set of controls plus state fixed effects. See section I and section A for data sources and variable construction. Sample excludes the 7th Service Command in regressions with volunteers, medals and PCA.

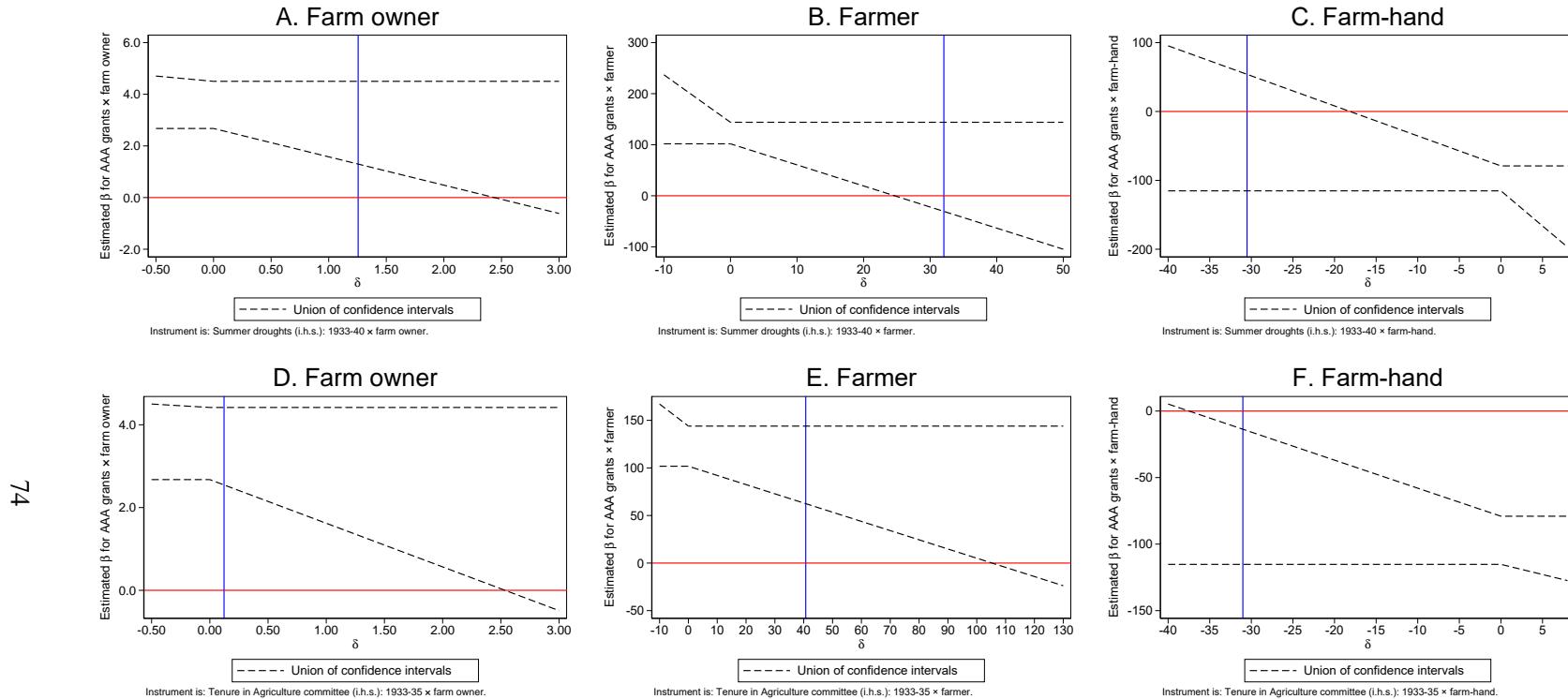
Figure 7
Plausibly Exogenous (Conley et al., 2012)



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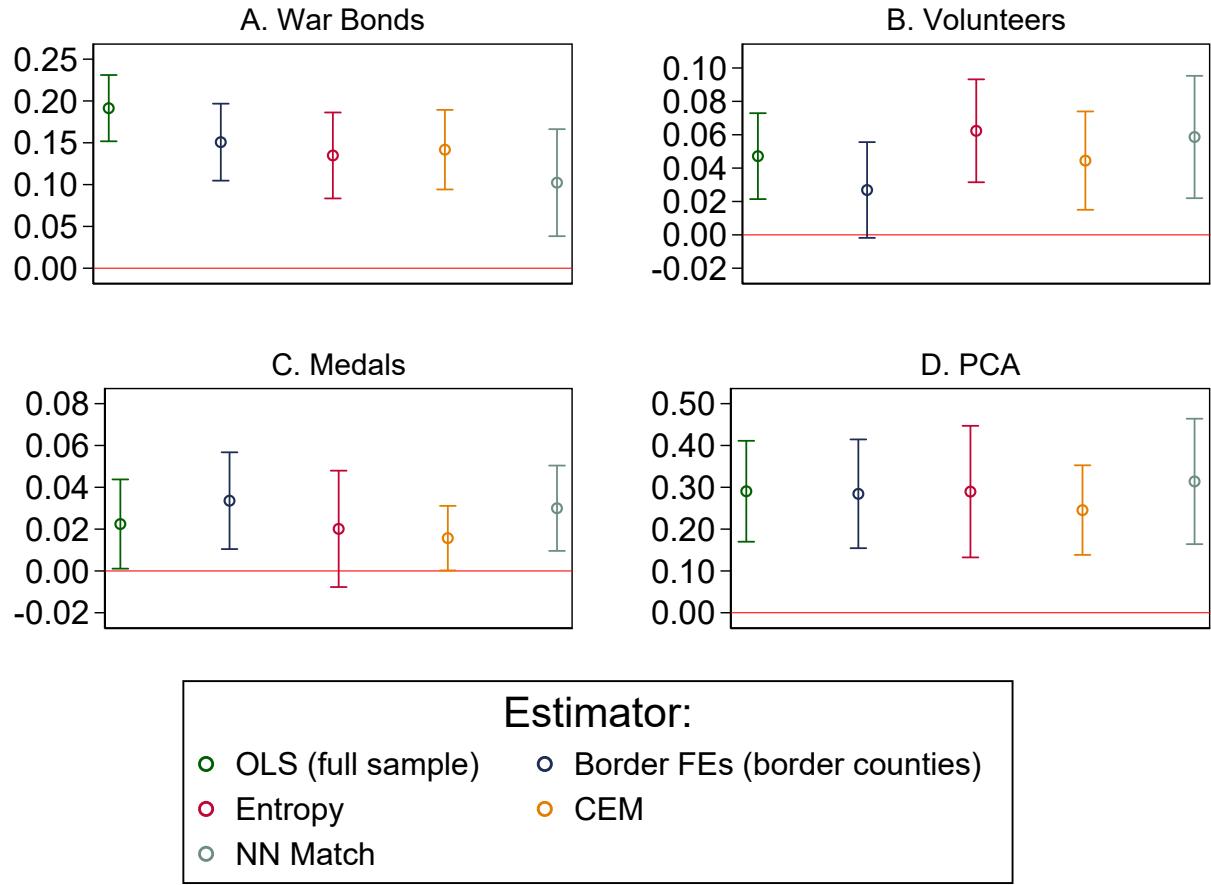
Notes: Effect of violation of exclusion restriction (Conley et al., 2012). Union of 90% confidence intervals of the IV estimates (y-axis) when the exclusion restriction is violated (x-axis). We estimate IV using two instruments, and allow one of the two instruments to have a direct effect on the outcomes while maintaining the assumption of strict exogeneity for the other instrument. Panels A–D: droughts is allowed to have a direct effect on outcomes. Panels E–H: committee is allowed to have a direct effect on outcomes. Panel A and E: patriotism is war bonds purchases per capita (i.h.s.). Panels B and F: patriotism is volunteers per 100 people. Panels C and G: patriotism is number of medals per 1000 people (i.h.s.). Panels D and H: patriotism is the first principal component of patriotism. All regressions include the full set of controls and 48 state fixed effects. See section II and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command in Panel B–D and F–H.

Figure 8
Plausibly Exogenous (Conley et al., 2012)



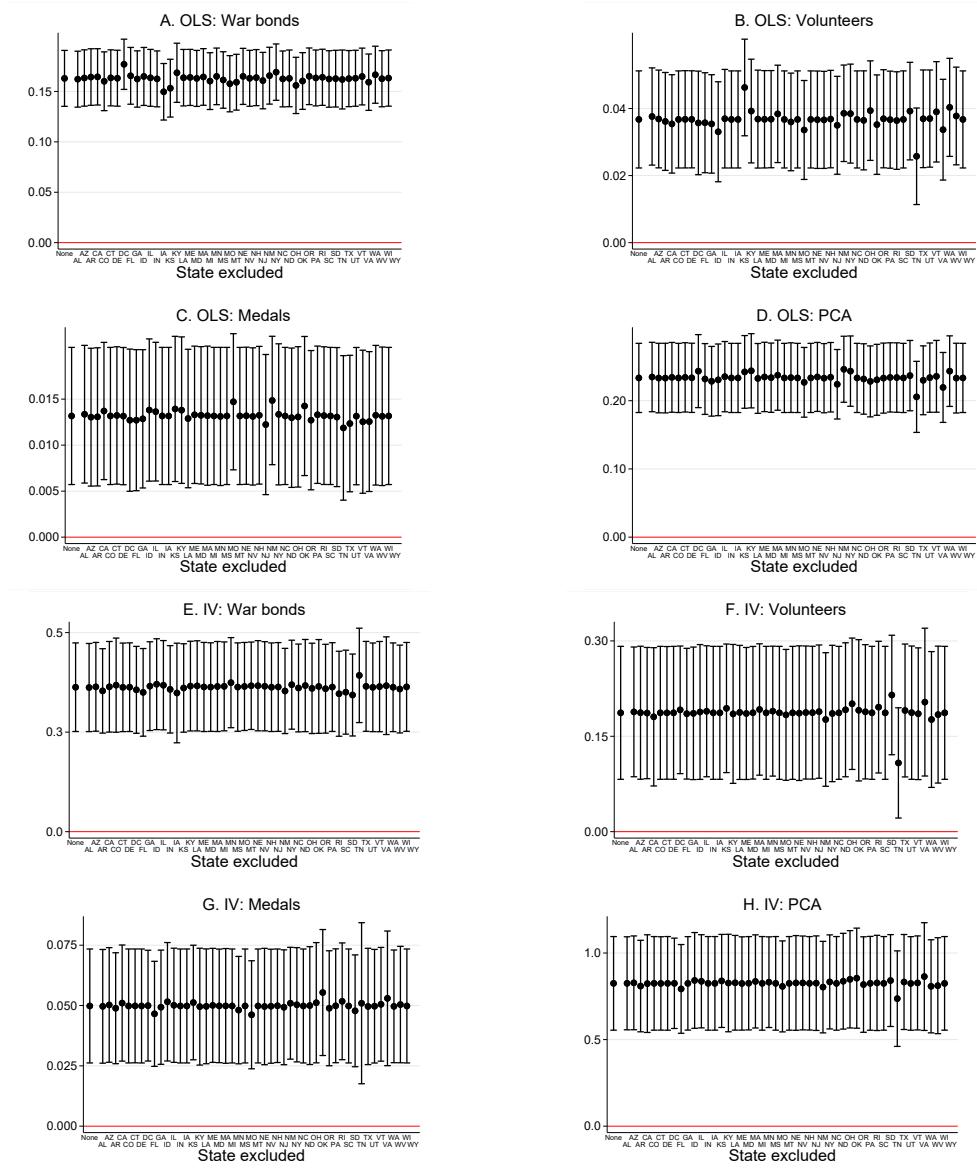
Notes: Effect of violation of exclusion restriction (Conley et al., 2012). Union of 90% confidence intervals of the IV estimates (y-axis) when the exclusion restriction is violated (x-axis). We estimate IV using two instruments, and allow one of the two instruments to have a direct effect on the outcomes while maintaining the assumption of strict exogeneity for the other instrument. Panels A–C: droughts is allowed to have a direct effect on outcomes. Panels D–F: committee is allowed to have a direct effect on outcomes. Dependent variable is individual-level volunteering. Coefficients of interest are: Panel A and C: interaction between agricultural support (county-level) and farm-owner indicator (individual-level). Panel B and D: interaction between AAA grants (county-level) and farmer indicator (individual-level). Panel C and F: interaction between AAA grants (county-level) and farm-hand indicator (individual-level). All regressions include the full set of individual controls and county fixed effects. See section II and Appendix A for data sources and variable construction. Samples are: Panels A and C: matched census-army; Panels B–C and E–F: army. All samples exclude the 7th Service Command.

Figure 9
Matching Exercises



Notes: Coefficients and 95% confidence intervals of the effect of the log of New Deal grants p.c. on patriotism with different estimation methods. In each panel, from left to right, estimation method is: OLS on full sample (baseline); OLS on border sample, including border fixed effects; weighted OLS with entropy weights (Hainmueller, 2012); Coarsened Exact Matching (Iacus et al., 2012) and nearest neighbor matching. Dependent variables are: Panel A: war bonds purchases per capita (i.h.s.); Panel B: volunteers per 100 people; Panel C: medals per 1000 people (i.h.s.); Panel D: principal component of the three measures. See subsection B.3 for details on specification and section I and section A for data sources and variable construction. Sample excludes the 7th Service Command in Panels B–D.

Figure 10
Robustness to Dropping One State at a Time.



Notes: Robustness to dropping each of the 48 continental states up to 5% of the sample. Point estimates and 95% confidence intervals of agricultural support per farmer (i.h.s.) in (1). Agricultural support is AAA grants plus FCA loans. Panels A–D: OLS estimates. Panels E–H: IV estimates, where agricultural support per farmer is instrumented with summer months of drought in 1933–40 (i.h.s.) and tenure in the 73rd Agricultural Committee (i.h.s.). Panels A and E: dependent variable is war bond purchases per capita (i.h.s.). Panels B and F: dependent variable is WW II volunteers per 100 people. Panels C and G: dependent variable is WW II military awards per 1000 people (i.h.s.). Panels D and H: dependent variable is the first principal component of patriotism. See section II and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command in Panels B–D and F–H. Confidence intervals based on robust standard errors (Panels A–D) and clustered at the level of climatic division(Panels E–H).

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Tables

Table I
Summary Statistics

	Mean	St. dev.	Obs.
Patriotism (WW II)			
1944 war bond purchases p.c. (i.h.s.)	4.658	0.676	3022
WWII volunteers per 1940 population ($\times 100$)	0.634	0.342	2329
WWII medals per 1940 population ($\times 1000$, i.h.s.)	0.140	0.128	2329
New Deal support			
New Deal grants per 1930 population (i.h.s.)	5.507	0.578	3022
AAA grants and FCA loans per 1930 farmers (i.h.s.)	6.635	1.058	3022
Public assistance grants per beneficiary (i.h.s.)	5.885	1.039	3022
Emergency workers per worker (1938)	0.197	0.092	3022
Public works grants per worker (i.h.s.)	6.220	1.194	3022
HOLC loans per 1930 home owners (i.h.s.)	3.089	1.204	3022
RFC loans per 1930 population (i.h.s.)	2.639	1.390	3022
Instruments			
Number of drought months: 1933-40 (i.h.s.)	1.683	1.198	3022
Tenure in agricultural committee: 1933-35 (i.h.s.)	0.130	0.460	3022
Patriotism (WW I)			
WWI volunteers per 1910 population ($\times 100$)	0.432	0.453	3022
WWI volunteer share	0.354	0.253	3022
WWI medals per 1910 population ($\times 1000$, i.h.s.)	0.057	0.092	3022
Politics and demographics			
Average vote share for the Democrats: 1898-1928	49.450	18.537	3022
log 1930 population	9.828	1.029	3022
Urban status: 1930	0.547	0.498	3022
1929 farm income	3.096	0.720	3022
1930 farm share	0.493	0.226	3022
1930 share of farm-owners	0.613	0.204	3022
1930 share of men	0.517	0.022	3022
1930 share of blacks	0.112	0.184	3022
1930 share of Japanesees	0.001	0.004	3022
1930 share of Germans	0.044	0.058	3022
1930 share of Italians	0.009	0.023	3022
1930 share of veterans	0.115	0.036	3022
Economic conditions			
1930 unemployment rate	0.059	0.040	3022
1940 unemployment rate	0.069	0.037	3022
log 1939 average wage	6.415	0.333	3022
WWII war contract per capita (i.h.s.)	0.318	0.604	3022

Notes: Summary statistics. Sample excludes the 7th Service Command in rows 2–3. i.h.s. indicates that the inverse hyperbolic sine transformation was used.

Table II
New Deal and Patriotism: Basic Patterns

	War bonds	Volunteers	Medals	PCA
	(1)	(2)	(3)	(4)
Panel A: Baseline				
New Deal grants	0.191*** [0.024]	0.047*** [0.016]	0.022* [0.013]	0.291*** [0.073]
County-level controls	Yes	Yes	Yes	Yes
State FE (48)	Yes	Yes	Yes	Yes
R^2	0.650	0.620	0.186	0.642
Mean dependent variable	4.658	0.634	0.140	-0.012
New Deal grant IQR $\times \beta$	0.136	0.030	0.014	0.185
New Deal grant IQR $\times \beta$ / IQR dep. var	14.8%	7.5%	11.0%	11.2%
Beta-coefficient	0.164	0.076	0.097	0.127
Observations	3022	2329	2329	2329
Panel B: By New Deal program				
Agricultural support	0.126*** [0.014]	0.030*** [0.007]	0.011*** [0.004]	0.188*** [0.026]
Public Assistance	0.105** [0.051]	0.029* [0.015]	0.009 [0.007]	0.138*** [0.047]
Public works grants	0.058*** [0.013]	-0.007 [0.004]	0.006* [0.003]	0.050** [0.020]
Emergency workers	-0.036 [0.120]	0.030 [0.077]	0.006 [0.049]	0.035 [0.300]
HOLC loans	0.091*** [0.012]	0.035*** [0.007]	0.010** [0.004]	0.167*** [0.026]
RFC loans	0.020*** [0.007]	-0.001 [0.004]	-0.002 [0.003]	0.009 [0.016]
County controls	Yes	Yes	Yes	Yes
State FE (48)	Yes	Yes	Yes	Yes
R^2	0.691	0.630	0.194	0.666
Mean dependent variable	4.658	0.634	0.140	-0.012
Observations	3022	2329	2329	2329

Notes: OLS estimates of (1). Dependent variables are: Col 1: war bond purchases per capita (i.h.s.); Col 2: WW II volunteers per 100 people; Col 3: WW II medals per 1000 people (i.h.s.); Col 4: principal component of the three patriotic measures. Panels A and B report coefficients from separate regressions, where the main explanatory variable is total New Deal grants (Panel A) and measures of local incidence of major New Deal programs (Panel B). See section III for details and section II and Appendix A for data sources and variable construction and Table 1 for full estimates. Sample excludes the 7th Service Command in cols 2–4. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table III
New Deal Support and Patriotism: Individual-Level Results

	Volunteer		
	(1)	(2)	(3)
Panel A: WPA employment			
Works for WPA	0.003*** [0.000]	0.003*** [0.000]	0.003*** [0.000]
R^2	0.007	0.009	0.010
Sample:	$<$ high sch.	$<$ high sch.	$<$ high sch., CEM
Mean dependent variable	0.008	0.008	0.009
Observations	3,791,971	3,791,971	2,782,676
Panel B: HOLC loans			
HOLC loans \times home owner	0.490** [0.204]	0.477** [0.204]	0.491** [0.210]
Home owner	0.001* [0.001]	-0.002** [0.001]	-0.002** [0.001]
R^2	0.010	0.013	0.013
Sample:	Urban	Urban	Urban, CEM
Mean dependent variable	0.015	0.015	0.015
Observations	8,638,874	8,638,874	8,259,364
Panel C: Agricultural support - matched sample			
AAA grants \times farm owner	1.759*** [0.217]	1.346*** [0.215]	1.043*** [0.229]
Farm owner	-0.005*** [0.001]	-0.007*** [0.001]	-0.005*** [0.001]
R^2	0.013	0.016	0.017
Sample:	Farm	Farm	Farm, CEM
Mean dependent variable	0.013	0.013	0.013
Observations	2,443,042	2,443,042	1,991,084
Panel D: Agricultural support - army sample			
AAA grants \times farmer	20.782*** [4.674]	20.597*** [4.498]	18.148** [7.119]
AAA grants \times farm-hand	-11.091*** [3.569]	-9.711*** [3.524]	-4.126 [5.143]
Farmer	-0.226*** [0.028]	-0.183*** [0.027]	-0.175*** [0.042]
Farm-hand	-0.011 [0.022]	0.026 [0.022]	-0.009 [0.031]
R^2	0.103	0.143	0.168
Sample:	Army	Army	Army, CEM
Mean dependent variable	0.147	0.147	0.179
Observations	463,248	463,248	191,910
County FEs	Yes	Yes	Yes
Age FEs	Yes	Yes	Yes
Individual controls	No	Yes	Yes

Notes: Linear probability models. Dependent variable is equal to 1 if man volunteered for the Army during WW II. Panels report coefficients of separate regressions. Main explanatory variables are: Panel A: WPA employment in 1940 (individual level). Panel B: HOLC support (county-level) \times home-owner in 1940 (individual level). Panel C: agricultural support (county-level) \times farm-owner in 1940 (individual level). Panel D: agricultural support (county-level) \times farmer or farmhand in the military records (individual level). Col 1 controls for age and county fixed effects. Cols 2–3 include individual controls. Col 3 are CEM samples. See section III for details and section II and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command. Standard errors clustered at county level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table IV
Identification: instruments are 1933-40 droughts and tenure in the agri committee.

	Agri support	War bonds	Volunteers	Medals	PCA	War bonds	Volunteers	Medals	PCA
	(1) FS	(2) RF	(3) RF	(4) RF	(5) RF	(6) 2SLS	(7) 2SLS	(8) 2SLS	(9) 2SLS
Agricultural support						0.363*** [0.057]	0.187*** [0.053]	0.050*** [0.012]	0.825*** [0.138]
Months of drought: 1933-40	0.286*** [0.060]	0.104*** [0.024]	0.033* [0.018]	0.013*** [0.004]	0.211*** [0.050]				
Tenure agri committee: 1933-35	0.300*** [0.080]	0.108*** [0.030]	0.086*** [0.030]	0.015** [0.007]	0.251*** [0.086]				
County controls	No								
State FE (48)	Yes								
<i>R</i> ²	0.579	0.651	0.633	0.188	0.653	0.624	0.520	0.143	0.534
F-test of excluded instrument	16.4								
Mean dependent variable	6.635	4.658	0.634	0.140	-0.012	4.658	0.634	0.140	-0.012
Agri support IQR × β						0.493	0.207	0.055	0.915
Agri support IQR × β / IQR dep. var.						53.5%	51.6%	42.4%	55.2%
Rubin-Anderson test (p-value)						0.000	0.011	0.000	0.000
Observations	3022	3022	2329	2329	2329	3022	2329	2329	2329

Notes: Identification Table: Instruments are New Deal droughts and representation on the Agricultural Committee during the 73rd Congress. Col 1: first stage; dep. var. is agricultural support per farmer (i.h.s.). Agricultural support is AAA grants plus FCA loans. The F-stat tests the null that both instruments are insignificant. Cols 2–5: reduced forms. Cols 6–9: IV; agricultural support is instrumented with summer months of drought in 1933-40 and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Dependent variables are: Cols 2 and 6: war bond purchases per capita (i.h.s.). Cols 3 and 7: WW II volunteers per 100 people. Cols 4 and 8: WW II medals per 1000 soldiers (i.h.s.). Cols 5 and 9: first principal component of patriotism. See [section II](#) and [Appendix A](#) for data sources and variable construction and [Table 2](#) for full estimates. Sample excludes the 7th Service Command in Cols 3–5 and 7–9. Standard errors clustered at the level of climatic division in brackets. *** p<0.01, ** p<0.05, * p<0.1.

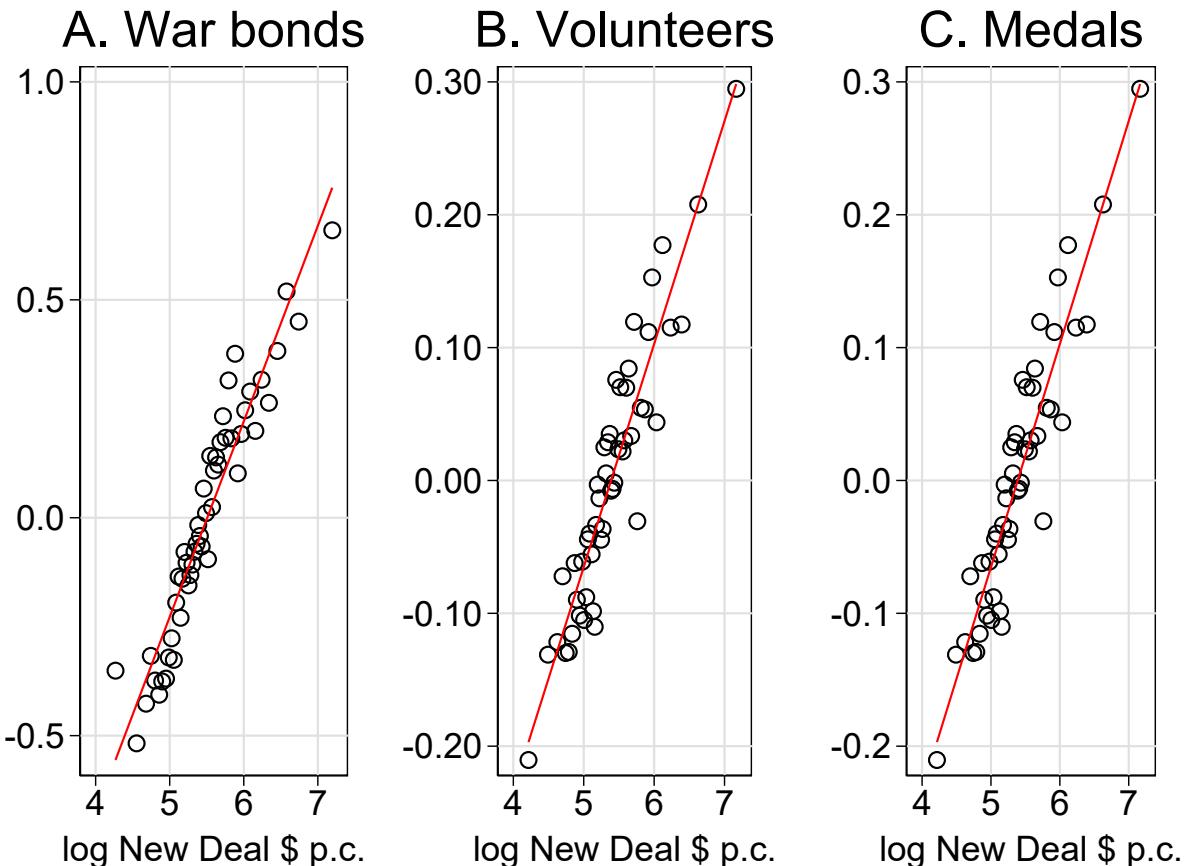
Table V
Identification Table: Individual-Level.

	Volunteer		Volunteer	
	(1) RF	(2) RF	(3) IV	(4) IV
Summer droughts: 1933-40 × farm owner	1.256*** [0.182]		AAA grants × farm owner	3.589*** [0.555]
Tenure in Agri committee: 1933-35 × farm owner	0.122 [0.486]		AAA grants × farmer	77.000*** [13.084]
Summer droughts: 1933-40 × farmer		14.453*** [4.557]	AAA grants × farm-hand	-57.710*** [10.086]
Tenure in Agri committee: 1933-35 × farmer		32.479*** [10.549]		
Summer droughts: 1933-40 × farm-hand		-21.079*** [4.127]		
Tenure in Agri committee: 1933-35 × farm-hand		-8.261 [8.792]		
Farm owner	-0.001** [0.000]		Farm owner	-0.020*** [0.003]
Farmer		-0.085*** [0.009]	Farmer	-0.519*** [0.075]
Farm-hand		-0.002 [0.008]	Farm-hand	0.295*** [0.057]
Age FEs	Yes	Yes	Age FEs	Yes
Birthplace FEs	Yes	No	Birthplace FEs	Yes
Individual controls (Census 1940)	Yes	Yes	Individual controls (Census 1940)	Yes
Individual controls (military)	No	Yes	Individual controls (military)	No
County FEs	Yes	Yes	County FEs	Yes
<i>R</i> ²	0.016	0.144	<i>R</i> ²	0.007
Mean dependent variable	0.013	0.147	Mean dependent variable	0.013
Sample:	Farm	Army	Sample:	Farm
Observations	2,443,042	463,248	Observations	2,443,042
				463,248

Notes: Identification Table: Instruments are New Deal droughts and representation on the Agricultural Committee during the 73rd Congress. Cols 1–2: reduced forms. Cols 3–4: IV; agricultural support is instrumented with summer months of drought in 1933-40 and tenure in the Agricultural Committee during the 73rd Congress (both i.h.s.). Dependent variables is equal to 1 if man volunteered for the Army during WW II. See [section II](#) and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command in Cols 3–5 and 7–9. Standard errors clustered at county level in brackets. *** p<0.01, ** p<0.05, * p<0.1.

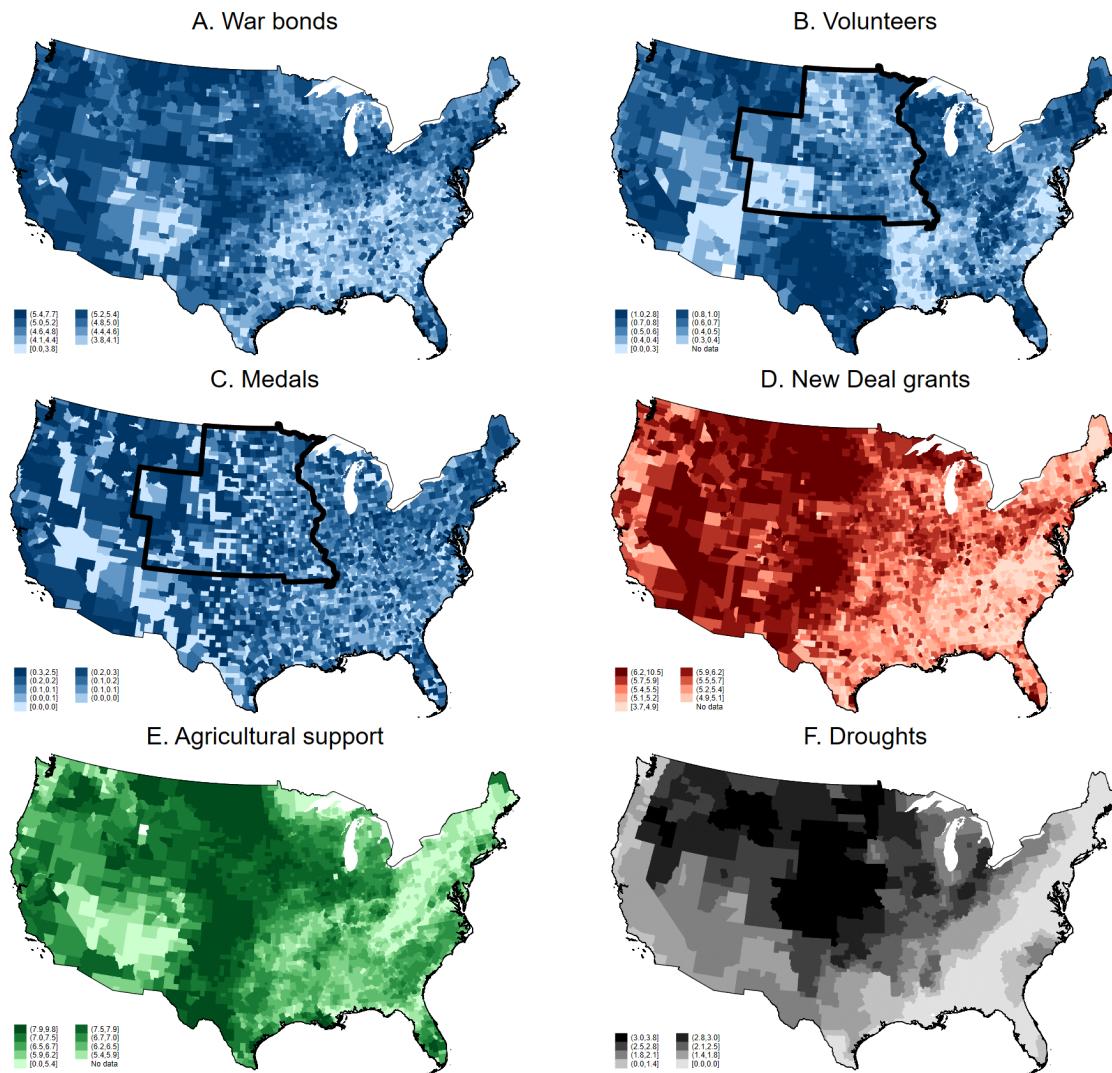
Figures

Figure I
New Deal Spending and WW II Patriotism



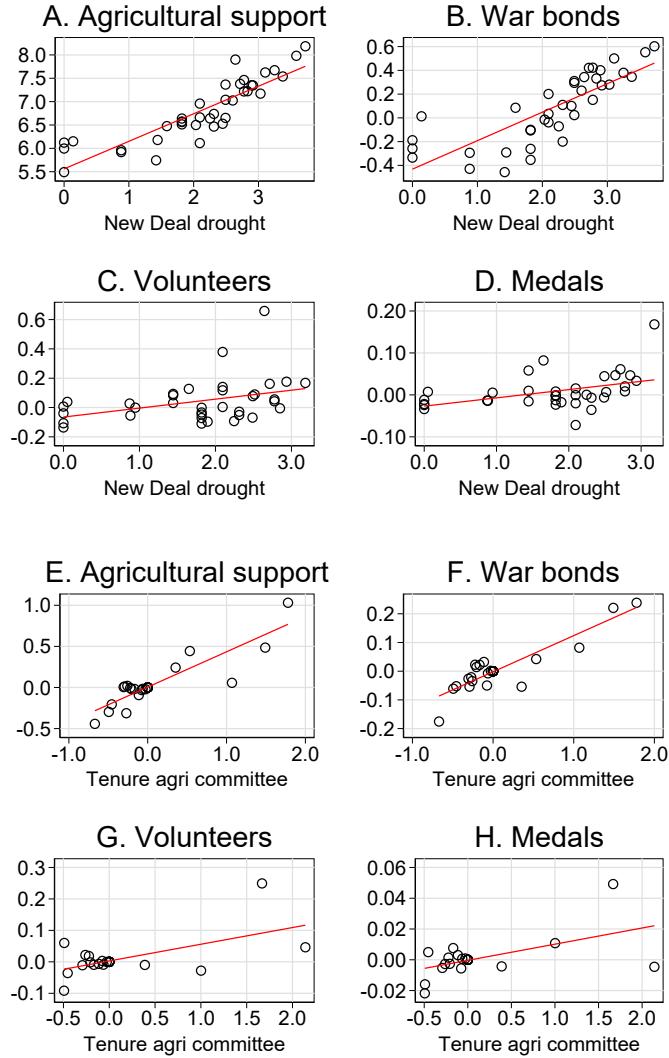
Notes: Graphs are bin-scatters of New Deal grants per capita (i.h.s., x-axes) and WW II patriotism (y-axes); red lines are linear fits. Panel A: patriotism measure is war bonds purchases per capita (i.h.s., y-axis). Panel B: patriotism is WW II volunteers per 100 people (y-axis). Panel C: patriotism is WW II medals per 1000 people (i.h.s., y-axis). Each of the three WW II patriotism measures are residualized with respect to WW I volunteering and WW I medals. See [section II](#) and Appendix A for data sources and variable construction. Sample excludes the 7th Service Command in Panel B and C.

Figure II
Geographic Distribution of Main Variables



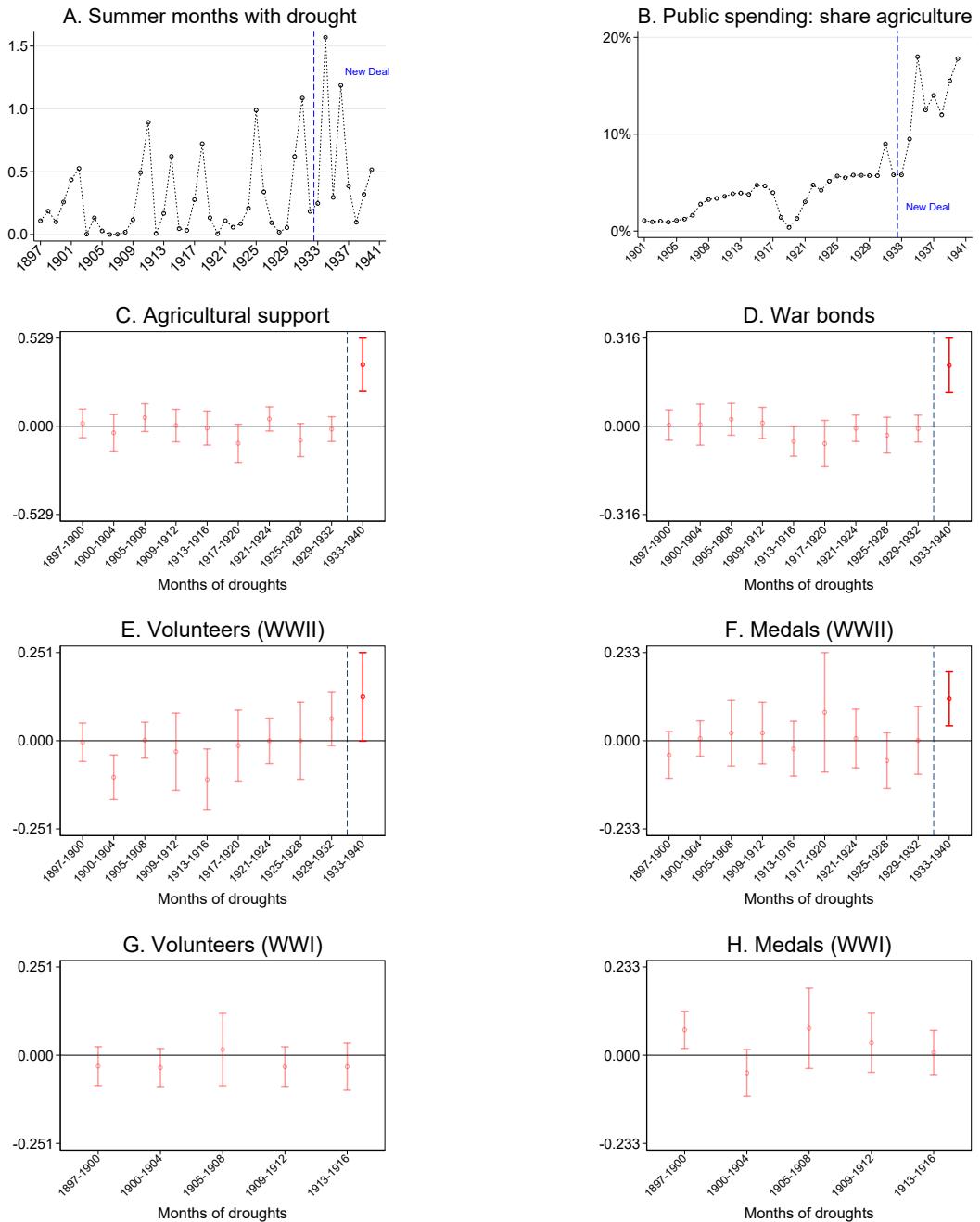
Notes: Panel A: war bond purchases in 1944 per 1940 population (i.h.s.). Panel B: WW II volunteers per 100 people. Panel C: WW II medals per 1000 people (i.h.s.). Panel D: New Deal grants per capita (i.h.s.). Panel E: Agricultural support per farmer (i.h.s.). Agricultural support is AAA grants plus FCA loans. Panel F: number of summer months with severe drought 1933–39 (i.h.s.). See section II and Appendix A for data sources and variable construction. Panel B and C show the border of 7th Service Command in black. Because we are not confident about quality of military data for these states, we exclude them in baseline volunteers and medals regressions.

Figure III
Identification



Notes: Graphs are bin-scatters of the instruments (x-axes) against agricultural support and patriotism (y-axes); red lines are linear fits. Panels A–D: instrument is number of summer months of severe drought 1933–1940 (i.h.s., x-axes). Panels E–H: instrument is tenure in the Agricultural Committee during the 73rd Congress (i.h.s., x-axes). Panels A and E: first stage; agricultural support per farmer (i.h.s.) on the y-axes. Agricultural support is AAA grants plus FCA loans per farmer. Panels B–D and F–H: reduced forms; measures of WW II patriotism on the y-axes. Panel B and F: patriotism is war bonds purchases per capita (i.h.s.). Panels C and G: patriotism is volunteers per 100 people. Panels D and H: patriotism is medals per 1000 people (i.h.s.). Each of the three WW II patriotism measures are residualized with respect to WW I volunteering and WW I medals. Panels E–H also control for state fixed effects and plot residuals. See [section II](#) and [Appendix A](#) for data sources and variable construction. Sample excludes the 7th Service Command in Panel C–D and G–H.

Figure IV
Pre-New Deal Droughts



Notes: Panel A: summer months with drought: 1897-1940. Source: NOAA. Panel B: agricultural spending over total government spending. Sources: Department of the Treasury (1920) (1901-1920) and Libecap (1997) (1921-1940). Panels B-H: Coefficients and 95% confidence intervals of the effect of droughts on patriotism. Dependent variables are: Panel C: New Deal agricultural support per farmer (i.h.s.). Panel D: WW II war bonds purchases per capita (i.h.s.). Panel E: WW II volunteers per 100 people. Panel F: WW II medals per 1000 people (i.h.s.). Panel G: WW I volunteers per 100 people. Panel H: WW I medals per 1000 people (i.h.s.). Regressions include state fixed effects and controls from 1930 (Panels C-F) or 1910 (Panels G-H). Standard errors clustered at climatic division level. Panels A-F, dashed line marks Roosevelt's inauguration (4th March 1933).