War, Women, and the Violent Origins of Gender Equality[*]

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States make war, but can war also reshape a state's citizenry? In this article, I develop a theory of how mass warfare can lead to lasting cultural legacies especially as they relate to gender. I argue that mass warfare reshapes the gendered nature of labor markets by pulling women into the labor force. Complementarities between labor markets and attitudes suggest that increasing the public role of women in the labor force should have social spillovers into egalitarian beliefs around gender roles. These beliefs can persist through processes of vertical and horizontal transmission. To test the theory, I use the United States' involvement in WWI by combining data on mobilization rates with historical census and contemporary public opinion data. Using an instrumental variables identification strategy, I establish that historical war mobilization caused individuals today to become pro-choice, liberal, and identify with the Democratic Party. Results from a series of auxiliary tests provide evidence consistent with the causal mechanisms. At least in the United States, the march toward gender liberalization has bloody origins.

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INTRODUCTION

War has been a fundamental feature of politics throughout the course of much of history. Perhaps somewhat surprisingly, periods of mass violence such as World Wars I and II have been integral to the development of the state (Skocpol 1979; Tilly 1990; Ferejohn and Rosenbluth 2016), progressive taxation (Scheve and Stasavage 2010, 2012), income inequality (Piketty and Saez 2003; Piketty 2013), and social policy (Skocpol 1993) despite the steep cost in terms of human lives. At least in sufficiently developed countries, war seems to have made the (progressive) state.

While much of the focus on the impact of mass warfare focuses on the interaction between violence and the state, mass warfare can also be an important inflection point for social transformation. At least in the context of the United States, World War II created the space for marginalized groups such women and African Americans to break some of the forces that perpetuated gender and racial stratification. Women went on to participate in manufacturing jobs that were traditionally held by men allowing for subsequent generations to move past, at least partially, sexist gender stereotypes (Fernandez, Fogli, and Olivetti 2004). For African Americans, wartime production provided the prospect for better wages and living conditions by moving from the repressive Jim Crow South to Northern industrialized cities (Wilkerson 2011; Boustan 2016).

In this article, I develop a theory of how mass warfare can lead toward cultural liberalism particularly with respect to gender. Particularly, the argument highlights the complementarities between the reduction of gender stratification in both the economic and political spheres. War mobilization, by increasing the demand for women in the workforce, increases local female labor force participation. This initial shock to female labor force participation leads to liberalization of gender attitudes through processes of vertical and horizontal transmission where individuals exposed to females in the workforce update their beliefs about women and transmit them to their children (vertical) and spread them among their social peers in their communities (horizontal). This shift in gender attitudes brought through increased female labor force participation spills over into political life as well with the aforementioned forces leading to persistence in liberal political attitudes especially with regard to gender.

To test the theory, I hone in on the case of the United States' mobilization during WWI. Unlike WWII, mobilization during WWI did not involve subsequent state involvement in the lives of Americans through programs such as the G.I. Bill (Mettler 2002). As a result, WWI provides an ideal context in which to study the ways in which mass warfare shapes cultural norms in economically developed societies. Combining survey data on over 100,000 Americans today with historical census data on WWI veterans, I show that individuals from counties that experienced greater mobilization during WWI are now more likely to identify as Democrats and liberals in addition to indicating pro-choice attitudes with regards to abortion. To establish causality, I leverage

plausibly exogenous variation in the composition of males who were at risk of service in U.S. counties prior to WWI as an instrumental variable for war mobilization. The logic behind this strategy is that the percentage of males "sufficiently close" to being age twenty-one–the point at which the likelihood of service reaches its maximum–during the midpoint of WWI is *as-if random* given the timing of WWI with respect to each birth cohort. Moreover, the existence of more men around this service peak in some counties than others primarily affects politics through the percentage of veterans in a county since the existence of this peak is not related to any other outcomes except the likelihood that a male serves in WWI.

I provide evidence consistent with the gender mechanism by showing that women from counties that experienced higher levels of war mobilization were more likely to participate in the labor force. Moreover, I also show that children of women who work are more likely to hold pro-choice views on abortion and egalitarian views around gender roles providing evidence in support of the hypothesized vertical transmission mechanism. Consistent with the horizontal socialization mechanism, I also that that these effects seem to be concentrated among young women who during the time of WWI were too young to be working, but joined the labor force once they came of age. Though warfare is shaped by existing roles, the evidence accumulated in this article show that it can also fundamentally transform gender relations as well (Goldstein 2003).

This article makes several contributions to literatures in political science and economics. First, the theory and results highlights the understudied ways in which profound periods of mass violence such as the First World War can drive cultural transformation as much as institutional change (Skocpol 1993; Scheve and Stasavage 2010, 2012). Moreover, this article contributes to the political economy literature on the development and persistence of cultural norms. While much of this literature focuses on the impact of political institutions in shaping culture (Nunn and Wantchekon 2011; Acharya, Blackwell, and Sen 2016), this article builds on Alesina, Giuliano, and Nunn (2013) and Jha (2013) in showing how prodigious events in a society can reshape values through their impact on labor markets. Finally, this article highlights an understudied element of American political development: the central role of mass violence in shaping the state and its citizenry. Though this study does not investigate the impacts of direct experience on the war-front, I show how the processes that come with mass mobilization on the home-front can have spillovers into political life over the long-run. By bringing the importance of violence and warfare back into the study of American politics, this opens up future research to take the lenses of the political violence and state-building literatures that have largely taken root in the comparative context and apply them to understand the causes and consequences of violence in the United States.

The rest of this article proceeds as follows. First, I highlight a framework for understanding how warfare via mass mobilization can lead to shifts in gender attitudes over the long-run. Then, I go onto provide some brief background on the case used

in this piece–the United States' involvement in World War I. I then proceed to test the argument by combining a variety of contemporary and historical data sources and using an instrumental variables strategy for causal identification. Finally, I conclude by highlighting the implications of this study for understanding the intersection of war, gender, and social change.

CONCEPTUAL FRAMEWORK

How does war shape the social structures and attitudes of a nation and do these changes persist? In this section, I offer a theory that explains how mass mobilization around warfare can actually create more liberal societies with regards to gender. To summarize the theory in brief, I argue that mobilization disrupts the gendered nature of labor markets by bringing women into economic roles previously held by men. This increase in female labor force participation, then, engenders men and women to update their beliefs about gender roles; particularly, I argue that both men and women become more gender egalitarian. This change in mass attitudes accompanied by the change in social structure persists through processes of vertical and horizontal transmission of attitudes whereby these new gender egalitarian beliefs get passed down intergenerationally or diffuse across local social networks respectively.

War Mobilization Causes Female Labor Force Participation

Before discussing the empirical relationship between mobilization and female labor force participation, it is important to understand why females enter the labor market and the constraints that they face to joining the labor force. There are two broad ways to understand female labor market participation: (1) economic factors (2) social norms and cultural values around gender. While these two perspectives are certainly intertwined in many respects, it is still useful to discuss each separately.

First, the structure of economic production shapes the incentives for females to participate in the labor market. Essentially, variations in female labor market participation follow shifts to the demand for certain skills and human capital such as the degree to which physical strength is required and the supply of able men.[1] With regard to the demand for physical strength, Boserup (1970) developed the thesis that modern differences in gender roles emerged from the type of technology needed to cultivate certain crops. In areas where crops required plough cultivation, these regions developed male

[1]While supply-side shifts also matter such as education and fertility, they are less relevant to this study since the primary variation that I use is a demand shock to female labor. For perspectives on supply-side factors, I refer readers to Goldin (1990), Goldin and Katz (2002), Greenwood, Seshadri, and Yorukoglu (2005), Goldin (2006), and Bailey (2006).

dominated societies because plough cultivation required greater physical strength relative to other types of production, which increased the demand for male labor relative to females. Alesina, Giuliano, and Nunn (2013) test and find evidence consistent with this theory by showing that ethnic groups that relied on the plough historically now tend to have lower female labor force participation rates today relative to non-plough societies. Indeed, evidence for this demand-side perspective exists across modern nations as well. Ross (2008) shows that modern day differences in female labor force participation rates in the Middle East are not a result of Islam; instead, they are driven by oil producing countries where the nature of production privileges men over women. Finally, technologies that reduce

In addition, the availability of males can also shape the demand for female labor. The core logic behind this demographic argument is that when there are relatively fewer males than females, women end up taking on many roles that men traditionally hold. Recent empirical evidence provides support for this explanation. Angrist (2002) uses sex-specific shocks to immigration in the United States to show that areas that had a rise in the number of males relative to females tended to have lower female labor force participation rates.[2] Using a natural experiment generated by the plausibly exogenous settlement of male convicts in Australia, Grosjean and Khattar (2016) show that areas in Australia that initially had male-dominated sex ratios now have lower rates of female labor force participation than areas that had more equal sex-ratios. In the African context, Teso (2016) uses exogenous variation in sex ratios across African ethnic groups resultant of the slave trade to show that these areas exposed greater amounts of slavery historically now have higher female labor force participation rates today. In short, the nature and demographics of economic production in a society shapes the demand for women to join the labor force.

An alternative, though certainly not mutually exclusive, perspective hones in on the ways in which culture and social norms shape the demand for women in the labor force. A growing literature in economics highlights how attitudes toward women in the workforce (and more broadly) form in response to the gendered contours of an economy. In particular, this line of literature argues that major shifts in the gendered patterns of production lead men and women to form beliefs consistent with that state of the world. So in societies where men dominate the economic sphere, men and women tend to form norms and beliefs that privilege men over women (Iversen and Rosenbluth 2006; Alesina, Giuliano, and Nunn 2013). These beliefs might persist in equilibrium despite changes in the underlying structure of production through psychological mechanisms of cognitive dissonance (Festinger 1957; Mullainathan and Washington 2009; Acharya, Blackwell, and Sen, Forthcoming) and/or processes of intergenerational socialization

[2] The reverse seems to hold as well. Qian (2008) and Carranza (2014) show that in areas where women have higher labor force participation rates and earnings tend to have more female biased sex ratios.

of preferences (Bisin and Verdier 2001; Fernandez, Fogli, and Olivetti 2004; Tabellini 2008; Alesina, Giuliano, and Nunn 2013; Fernandez 2013). To support this cultural perspective, Alesina, Giuliano, and Nunn (2013) show that immigrants from societies that historically relied on plough cultivation also tend be more supportive of ensuring jobs for men over women. Relatedly, Fernandez, Fogli, and Olivetti (2004) demonstrates that men who had mothers who worked are more likely to marry women who also work suggesting that mothers inculcate their sons on the basis of their own experiences of being in the labor force.[3] The upshot of this discussion is that gender divisions in the labor market can spillover into the beliefs that individuals might hold regarding the role of women in the workforce.

Either of these perspectives suggests that shifts to the demand for women–whether through the structure of economic production or social norms–will shape female labor force participation. In the above framework, then, we can understand why we should expect war mobilization to increase the demand for female labor in the short-run. First and foremost, the loss of a significant amount of males especially during major wars where the economy must increase production of food, textiles, guns, and bombs increases the demand for females so as to meet these production requirements. Empirical evidence from the American experience during WWII supports this prediction: cohorts who were old enough to be working in states in the United States that experienced greater mobilization saw a significant increase in female labor force participation (Acemoglu, Autor, and Lyle 2004; Fernandez, Fogli, and Olivetti 2004; Goldin 1991; Goldin and Olivetti 2013). Second, the increase to female labor force participation induced by war mobilization can also be reinforced by shifts in attitudes norms and preferences. Given that Fernandez, Fogli, and Olivetti (2004) find that the shock to war female labor force participation induced by WWII caused the sons of these women who went to into the workforce to update their beliefs about the desirability of working women, then we should also expect war mobilization to also shape female labor force participation by reshaping attitudes, beliefs, and norms about women in the workforce. Thus, there are ex ante reasons and substantial empirical evidence to support the hypothesis that war mobilization should lead to increases in female labor force participation.

Increasing Female Labor Force Participation Shapes Beliefs about Gender

Shocks to female labor force participation should also shape broader beliefs about gender roles. Boyd and Richerson (2005) outline a theory for understanding cultural evolution that emphasizes how each successive generations develop their beliefs based on observable heuristics that they can observe in their society. This suggests that individ-

[3] It is not only the case that norms are held unequally by sex. Correll (2001) and Correll (2004) show that women also internalize inegalitarian gender norms/stereotypes and that this leads women to reduce their aspirations.

uals who observe women working should develop beliefs more broadly about women that are consistent with this observation. In turn, these individuals should use the working women heuristic to make inferences about the ability of women to play leadership roles, make choices for themselves, etc. In societies where individuals do not observe working women, then we should expect these individuals to develop cultural beliefs that reflect more patriarchical notions of gender relations. From the observation of whether women in a society engage in formal economic production, individuals develop and transmit beliefs consistent with either state of the world.[4]

Recent empirical evidence provides a substantial amount of support for this prediction. Alesina, Giuliano, and Nunn (2013) show that plough societies, which historically privileged men over women, now have individuals who prefer giving jobs to men over women and having men as political leaders. Perhaps more directly, several studies provide evidence for a direct link between the working behavior of one's parents and children's attitudes. In addition to Fernandez, Fogli, and Olivetti (2004) who find that sons with working mothers tend to marry women who also work, Farre and Vella (2012) use data from the 1979 National Longitudinal Survey of Youth to show that individuals who had working mothers also tend to have much egalitarian views toward gender roles.[5] Thus, theory and evidence suggests a link between female labor force participation and the formation of egalitarian beliefs toward gender.

I further argue that these beliefs will also directly translate into political preferences along namely a gender direction. Following work by Iversen and Rosenbluth (2006) I relate the political preferences of individuals to the nature of gender roles; particularly, I argue that individuals from societies that have relatively egalitarian attitudes toward gender will develop more support for left-wing politics and particularly along a gender dimension.[6] This should be the case for a number of reasons. First, many left-wing political parties tend to advertise themselves as proponents of major womens issues such as the size of the welfare state, sex discrimination, and abortion policy for example. Second, more egalitarian views toward gender roles should also raise support for the

[4] This general intuition underlies most models of cultural transmission in economics (Bisin and Verdier 2001; Tabellini 2008).

[5] Questions from the survey include (1) "A woman's place is in the home, not in the office or shop." (2) "A woman who carries out her full family responsibilities does not have time for outside employment. (3) "The employment of wives leads to more juvenile delinquency." (4) "It is better for everyone concerned if the man is the achiever outside the home and the woman takes care of the home and the family." (5) "Men should share the work around the house with women,such as doing dishes, cleaning and so forth." (6) "Women are much happier if they stay at home and take care of their children."

[6] An alternate explanation for why women have become more left-wing is through the enactment of divorce laws (Edlund and Pande 2002). By divorcing their husbands, women tend to lose income (relative to men) and thus become more left-wing purely out of this income channel. While this explanation may explain the political preferences of women, it is insufficient to encompass *both* women's and men's adoption of left-wing beliefs.

pro-choice position on abortion. Since more egalitarian views toward gender roles emphasize womens' agency to make decisions for themselves, individuals who hold these beliefs should also apply them to major political issues such as abortion policy where one of the major sides highlights the right for women to choose whether they utilize abortion services. Third and finally, individuals who hold relatively more egalitarian beliefs about gender roles should also be more supportive of women taking on leadership roles such as holding political office. The upshot of this discussion is that societies with egalitarian beliefs around gender norms should become more left-wing especially on gender issues.

Persistence of Beliefs

The final step in the argument is that these new beliefs and political attitudes will persist after the initial shock to female labor force participation from war mobilization. I argue that beliefs can persist through complementarity processes of vertical (intergenerational) and horizontal (peer) transmission of beliefs. A long line of research across political science, economics, and sociology highlight the importance of these types of socialization processes.

Scholars have assembled a significant amount of theory and evidence for the basis of vertical transmission of beliefs. Formal models of intergenerational socialization show that when parents value the well-being of their own children, but are myopic in the sense that they evaluate their own children's utility with respect to their own beliefs, then the nature of the external environment (institutions, social structures, norms, etc.) can shape the long-run evolution of beliefs (Bisin and Verdier 2001; Tabellini 2008).[7] Empirically, a number of studies find evidence consistent with parents transmitting their beliefs to their children. The literature on partisanship in American politics shows that an individual's partisan identification is highly correlated with their parent's (Jennings and Niemi 1968; Beck and Jennings 1975; Campbell et al. 1980). Jennings, Stoker, and Bowers (2009) provide further evidence that parental transmission seems to be strongest when parents are highly politicized and they provide consistent cues to their children. Moreover once individuals develop their partisan views, they tend to persist over their life-time (Sears and Funk 1999; Green, Palmquist, and Shickler 2002).

More broadly, a growing area of research documents the importance of cultural persistence in the study of social behavior. Nunn and Wantchekon (2011) demonstrate that individuals from ethnic groups exposed to the slave trade centuries ago now tend to have lower levels of trust and ethnic identity today. Voigtlander and Voth (2012)

[7] Intergenerational socialization can also run the other direction. Achen (2002) develops a model in which children rationally choose their parent's partisan identification rather than the other way around. Several papers also show, for example, that daughters can make fathers more left-wing especially on gender issues (Washington 2008; Oswald and Powdthavee 2010; Glynn and Sen 2014).

show that areas in Germany that experienced greater anti-semitic pogroms during Medieval times as a result of the Black Death had more violence against Jews and higher voting rates for the Nazis in the early 20th century. In the American context, Acharya, Blackwell, and Sen (2016) show that areas in the U.S. South that had a high prevalence of slavery today are more conservative especially with respect to racial issues. Finally, Nisbett and Cohen (1996) and Grosjean (2014) show the persistence of an honor culture in the U.S. South where individuals are much more likely to accept the use of violence as an acceptable means of dispute resolution. In sum, myriad studies provide convincing support for the persistence of attitudes, norms, and beliefs across generations.

Beliefs can also diffuse through one's broader social network (horizontal transmission) (Huckfeldt and Sprague 1987; Sinclair 2012; Klar and Shmargad 2017; Larson and Lewis 2017). Essentially, an individual's peers (and peers of peers) can influence that person either through direct persuasion, information transmission, or by exerting social pressure. For example, Huckfeldt and Sprague (1987) in their seminal study of South Bend, Indiana show that the composition of an individual's social network shapes what kinds of information they receive about politics. Pietryka and DeBats (2017) use historical, individual-level data on public voting records merged with social network data to show that proximity to elites is positively associated with voter turnout. Though these studies rely on observational data, experimental evidence is also consistent with the idea that social networks influence political attitudes and behavior. Using randomized housing assignment, Sacerdote (2001) provides causal evidence consistent with the existence of peer effects in education. Nickerson (2008) uses a field a experiment to show that spouses influence each other's propensity to vote. Gerber, Green, and Larimer (2008) and McClendon (2014) provide experimental evidence showing that social pressure form one's peers can induce individuals to vote and engage in collective action respectively. With respect to political beliefs, Kertzer and Zeitzoff (2017) and Alt et al. use survey experiments and natural experiments to show how individuals formulate their own political beliefs based on their peers' own beliefs on foreign policy and redistribution matters respectively. Outside the western context, Banerjee et al. (2013) show that knowledge about a micro-finance program in India follows a diffusion process that flows through village social networks. Finally, Larson and Lewis (2017) use an experiment to show how the structure of ethnic networks shapes the dissemination of information.

In addition to the influence of one's peers, the broader communities and social networks in which an individual is ensconced in can exert a powerful effect on attitudes (Klar and Shmargad 2017). Work by Putnam (2001) shows how social capital shapes the vitality of civic life in communities. Relatedly, the character and content of local education can also shape attitudes and behaviors within a community (Gimpel, Lay, and Schuknecht 2003; Campbell 2006). Using difference-in-difference identification strategies based on differential exposure to educational curriculum by cohort, Voigt-

lander and Voth (2015) and Cantoni et al. (2017) show that students exposed to sharp changes in the content of their school's curriculum were more likely to hold views consistent with these curricula later in life. Moreover, the racial or class context in which people live also shapes how individuals behave and what they believe (Oliver 2001; Cho, Gimpel, and Dyck 2006; Nall 2015; Hersh and Nall 2016; Enos 2016; Enos and Gidron 2016). This all suggests that shifting local context whether it is the vitality of civic life, the character of local education, or the racial and ethnic context in which individuals live can have can have an independent impact on political attitudes and behavior. Essentially, the horizontal transmission of attitudes and beliefs reinforces beliefs as they are passed down from generation to generation.

To put all of the components of the argument back together, the main implication of the argument is that war mobilization should lead to *more liberal* attitudes as they relate to gender. Since war mobilization tends to bring women into the workforce, an initial shift in female labor force engendered by mass warfare should also shift attitudes toward gender roles in the communities differentially affected by war mobilization. Moreover, updated beliefs about gender roles should also influence political preferences especially as they relate to gender. As the vertical and horizontal transmission mechanisms suggest, these new beliefs about gender roles and political attitudes should also persist long after the war ends. This theory, then, makes several empirical predictions:

> ***Hypothesis 1:*** *Individuals from areas that experienced higher rates of war mobilization during WWI should be more liberal today especially on gender-related issues.*

If it is the case that war mobilization shapes political attitudes through changes to the gendered nature of labor markets, then we should also observe increases in female labor participation to be positively related to increases in war mobilization. Thus, the theory predicts the following observable implication:

> ***Hypothesis 2:*** *Females from counties that experienced higher rates of war mobilization during WWI should have higher rates of female labor force participation directly after the war.*

For beliefs to persist, parents must be transmitting their updated values to their children. If the core variable that shapes these new beliefs about gender roles is a mother's labor force status, then the theory suggests the following prediction:

> ***Hypothesis 3 (Vertical Transmission)****: Children of women who work should have more liberal attitudes especially on gender-related issues.*

If it is the case that war mobilization shifts the beliefs of local communities through processes of horizontal socialization, then we should expect individuals not directly affected by war mobilization but residing in these areas to shift their behavior. This suggests the following implication:

> ***Hypothesis 4 (Horizontal Transmission)**: Women who reside in areas with higher levels of war mobilization, but did not directly work during wartime should be more likely to work following the war.*

CONTEXT: THE U.S EXPERIENCE DURING WORLD WAR I

To test the theory, I focus on the context of the United States' involvement in WWI. Though WWI was smaller in scale than WWII, the First Great War provides a cleaner test to study the political and cultural legacies of war mobilization than the Second Great War because there were no mass veterans benefits programs like the G.I. Bill that followed WWII. Given the extensive literature on policy feedback effects, WWI allows us to isolate the labor market/attitudinal channels by shutting down the policy feedback channel (Mettler 2002).

Since the U.S. Civil War, WWI was one of the largest periods of mass military mobilization in U.S. history. During the course of America's two year involvement in the war (1917-1918), the U.S. state mobilized over four million men into the armed forces. This represented an unprecedented scale of military mobilization in U.S. history. Through the institution of the Selective Service Act of 1917, which instituted compulsory military service for males above the age of 21, the United States transformed its previously small, voluntary force (around 100,000 men) into a truly national army.

Importantly for the identification strategy, features of this draft system provide plausibly exogenous variation in the likelihood that a male served in WWI. Ideally, one would use the full service records for the universe of all males who served in WWI to calculate the spatial distribution of war mobilization across the United States. Unfortunately because of a fire that destroyed approximately 80% of the service records from WWI, this is not possible. Instead, I rely on the 1930 Census (5% Sample), which was the first census following the war to ask about veteran status (Ruggles et al. 2015). Given that the casualty rate was quite low and assuming that the distribution of casualties is as-good-as random, then estimates of veteran status from the 1930 census should be unbiased for the true mobilization rate across localities in the United States. Following Campante and Yanagizawa-Drott (2015), I estimate the likelihood of war service at the individual-level across birth cohorts and plot the results in Figure 1. As one would expect from the features of the draft system, the likelihood of war service reaches its maximum for men born in 1896 who were age twenty-one during the midpoint of the United States' involvement in WWI. Furthermore, Figure 1 shows that the likelihood

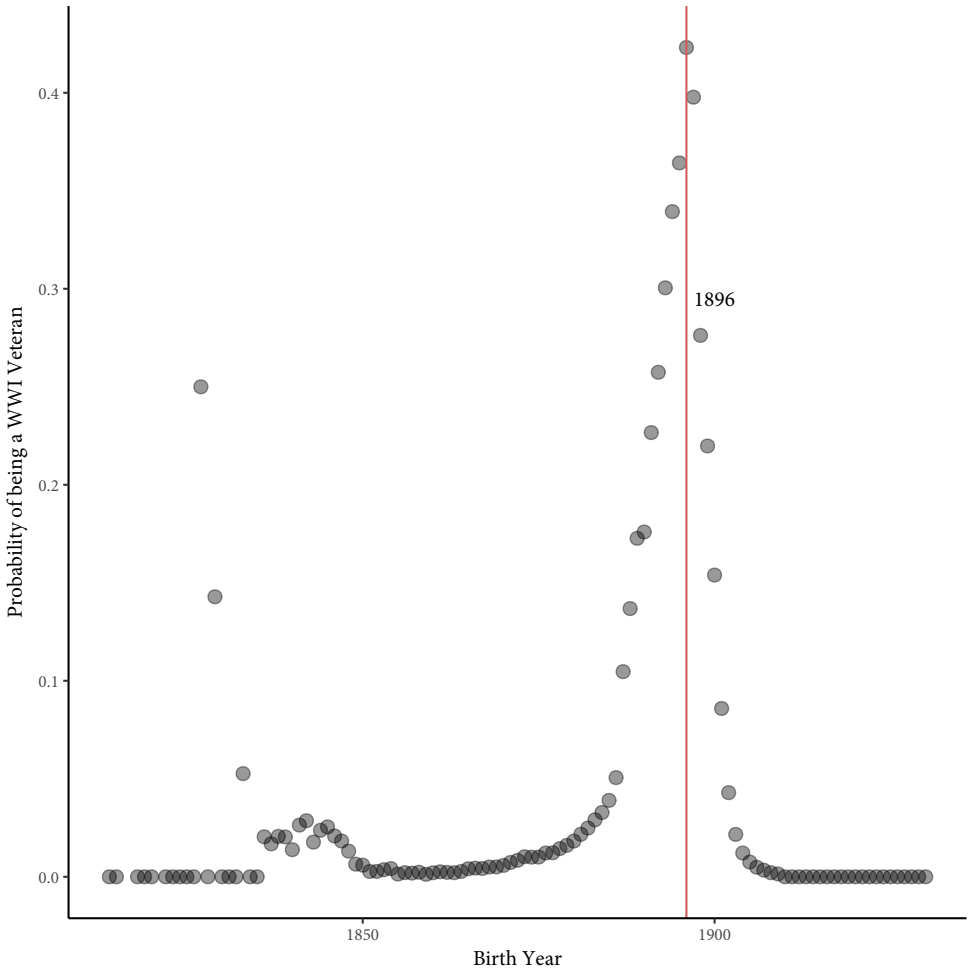

Figure 1: Likelihood of WWI service among males by birth cohort. **Source:** 1930 Census, 5% Sample. Accessed through IPUMS.

Figure 2: Women working in an ordinance factory in Cambridge, MA. **Source:** *Women working in ordnance plants in World War I: spanner slotting fuse on head end of fuse bodies at Gray & Davis Co., Cambridge, Mass.*. Library of Congress.

of war service decreases *symmetrically* around those born in 1896. Since the timing of the war is exogenous with respect to an individual's birth year, we can then view the distance from this "peak" as a plausibly exogenous encouragement to serve as a veteran (Campante and Yanagizawa-Drott 2015). These estimates indicate that the institution of this draft system did seem play a strong role in shaping whether males served in the war.

The war effort also led to profound societal changes on the home-front. With the increased demand for equipment and food and loss of white men from many communities, white women took on new roles in society.[8] While ideas such as "Rosie the Riveter" from WWII capture popular and scholarly imagination, WWI featured many of these

[8]WWI also transformed society by pulling many African Americans out of the South in search of manufacturing jobs in the North. For recent work on the Great Migration, see (Boustan 2016).

same core transformations. As Figure 2 shows, many women went onto work in manufacturing industries, which were traditionally dominated by men. Of course, women working in a ordinance factory in Cambridge, Massachusetts may not be indicative of any *systematic* relationship between war mobilization and female labor force participation; moreover, these ostensible changes might be driven by other unobservable factors or by reverse causality. To assuage these concerns, I provide evidence in the following section that war mobilization did seem to have a substantial impact on female labor force participation following the war and that these shifts to the gendered nature of labor markets left an indelible political legacy long-after the end of the war.

RESEARCH DESIGN

To briefly reiterate, I argue that war mobilization should lead to long-run liberalization in cultural attitudes especially as they relate to gender. For the theory to be plausible, it must also be the case that war mobilization increases female labor force participation and that children with mothers that worked should also be more liberal than children with mothers who did not work. In this section, I test these predictions by utilizing a rich set of data from the Cooperative Congressional Election Study (CCES), the General Social Survey (GSS), and historical U.S. Census data combined with an instrumental variables identification strategy.

Data

Dependent Variables: There are several core outcomes that I use to measure the public's liberalism today. First, I create an indicator for whether a respondent supports the pro-choice position on the abortion debate. While abortion is obviously not an issue that clearly divides the public along gender lines, it does tap into the ways in which ideas about gender roles can become politicized. Next, I use more standard measures of political liberalism that are not explicitly tied to specific policy debates or gender-related issues. These measures include whether the respondent marked him or herself as liberal on a five-point ideology scale and whether the respondent identifies as a Democrat. Further details on data construction can be found in the Online Appendix. While neither one of these outcomes by itself measures liberalism perfectly, the idea is that the amalgamation of these pieces of evidence demonstrates a consistent story.

Independent Variable: To measure war mobilization, I take data from the 1930 U.S. Census 5% Sample provided by IPUMS and estimate the fraction of men (over the age of sixteen) in each county who served in WWI. The mobilization of a locality in terms of troops is obviously not the only component of a larger war effort: wars also require financing, construction, and production of goods. Given the theory, which emphasizes the consequences of a large out-flux of men, this measure most closely follows the larger

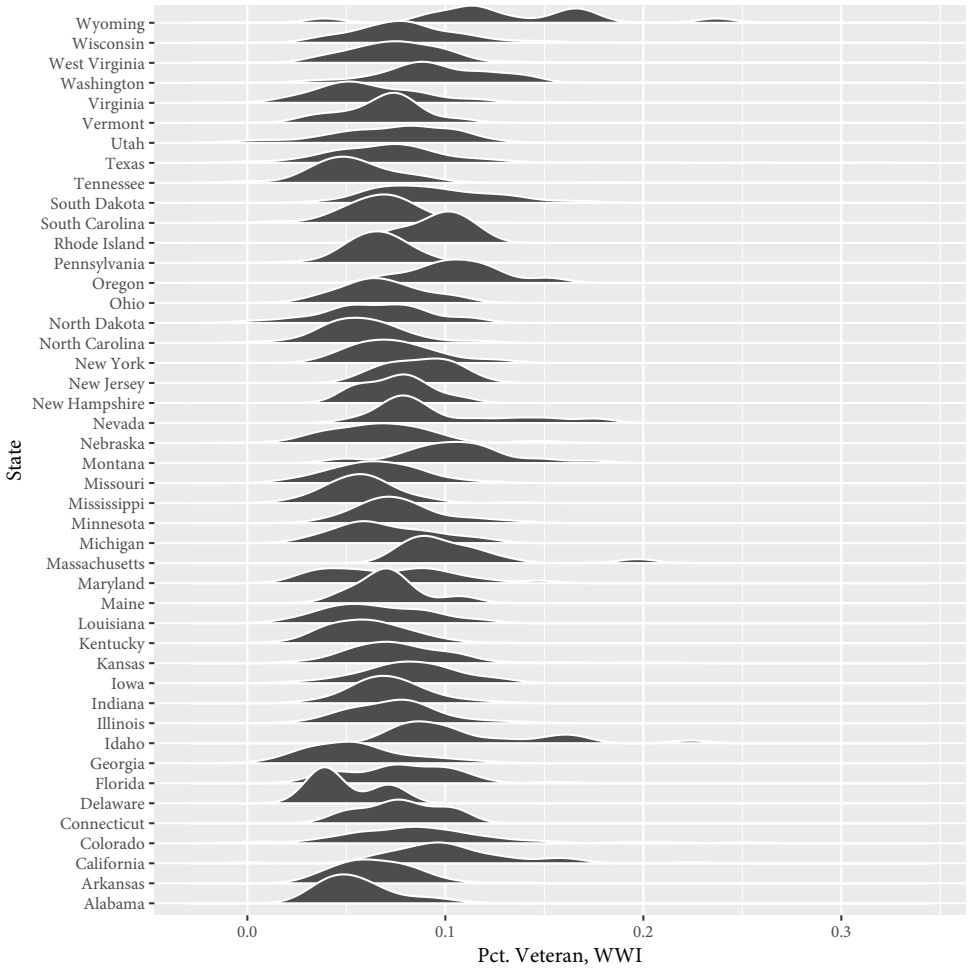

Figure 3: World War I Mobilization by State. **Source:** *1930 U.S. Census from IPUMS*

theoretical framework. As noted before, the measurement of this variable after the war could potentially be problematic. With the casualty rate quite low and likely distributed randomly, this issue is unlikely to invalidate any inferences. On average, about seven percent of men over the age of sixteen served in WWI with a standard deviation of about two percent. Figure 3 plots the mobilization rate by state. As Figure 3 shows, the mean level of WWI mobilization is about the same in every state with substantial within-state variation.

Control Variables: Throughout the analyses, I also include a number of controls that could serve as confounding explanations. These variables include total population, percent female, female labor force participation prior, and manufacturing prior to the war. Though this is certainly not an exhaustive set of controls, these variables should account for pre-existing observable factors that might jointly explain war mobilization and contemporary liberalism. Table 5 in the Online Appendix contains detailed summary statistics for all county-level variables.

Identification Strategy and Estimation

Simply conditioning on observable variables is likely insufficient if unobservables such as culture, values, and history also shape war mobilization and long-run attitudes. As described before, I exploit a unique feature of war mobilization–the symmetry around the peak service likelihood at the age of twenty-one–as a plausibly exogenous encouragement into war service (Campante and Yanagizawa-Drott 2015). Concretely, this intuition can be captured by taking the absolute value of an individual's birth year from 1896–the cohort who would have been twenty-one during the war. The use of the absolute value from 1896 ensures that I am not simply capturing the fact that older men might be more or less likely to serve; rather, nineteen and twenty-three year olds during the war are "encouraged" exactly the same. To translate this intuition to the county-level, I take the share of men who are "close" to this birth cohort peak. The main specifications in this paper define men with birth distances within four years (inclusive) of 1896 as "close" to the service peak.[9] This variable, the share of men close to being born in 1896, serves as the instrumental variable.

For this variable to be a suitable instrument, it must satisfy several assumptions. First, it must be independent of the potential outcomes of the endogenous variable and the outcomes of interest. As discussed before, the timing of the war suggests that this is a reasonable assumption. Second, the instrument must satisfy the exclusion restriction–that the instrument should only affect the outcomes through the endogenous variable. While the other major event that occurs when males turned twenty-one at the time was the ability to vote, this would only invalidate if for some reason the ability to vote *during*

[9]The main results are robust to reasonable perturbations of this cutoff.

WWI affected political attitudes in the long-run. Since the possibility of war service is likely the only major shift in a male's life specific to that time, it is reasonable to assume that the exclusion restriction holds. To assuage concerns over potential violations, I also run placebo tests using distance to being born in 1886 instead of 1896 and find little evidence supporting this exclusion restriction violation. Next, the instrument must also satisfy a monotonicity assumption where being close to being born in 1896 only *positively* encourages into war service. One potential violation of this assumption would be if there were significant rates of draft avoidance. Historical accounts suggest that rates of draft-dodging were quite low making this assumption fairly reasonable. Finally, this design also requires the Stable Unit Treatment Violation Assumption (SUTVA). Essentially, SUTVA requires that the instrument does not exhibit network effects whereby the distance of one individual's age to 1896 shapes the propensity of other individual's to serve in WWI. If these assumptions are valid, then the instrumental variables can identify the Local Average Treatment Effect (LATE) of war mobilization on political attitudes.

Keeping these assumptions in mind, I aim to estimate the LATE of war mobilization on political attitudes using two-stage least squares (2SLS). In particular, I estimate equations of the following form for each respondent r in county i:

$$WarMobilization_i = \theta PctCloseTo21_i + \gamma X_i + \lambda S_i + \eta_i \tag{1}$$

$$Y_{r,i} = \beta \widehat{WarMobilization_i} + \gamma X_i + \lambda S_i + \epsilon_{r,i} \tag{2}$$

For these analyses, the parameter β represents the LATE of war mobilization on the outcome of interest. The term γX_i captures the effect of the aforementioned control variables. Next, the term λS_i represents a vector of state fixed-effects. The inclusion of state fixed-effects forces comparisons to be made between respondents within the same state. The terms η_i and $\epsilon_{r,i}$ are assumed to be uncorrelated disturbances. I estimate these equations using 2SLS weighted by the survey weights. Finally, I cluster the standard errors by county to allow for arbitrary within-county correlations in the error term.

Main Results

To begin, I show the initial Ordinary Least Squares (OLS) results in Table 1 to probe the initial plausibility of the argument. Across all outcomes, war mobilization is positively associated with liberalism today. Column 1 of Table 1 shows that a one percent increase in the proportion of WWI veterans in a county historically is associated with about a 0.7 percent increase in the probability that an individual identifies as pro-choice on the abortion debate. While this issue taps into the gendered dimension of left-right

Table 1: Effect of WWI War Mobilization on Political Attitudes: Ordinary Least Squares

	Pro-Choice	Liberal	Democrat
	(1)	(2)	(3)
Pct. Veteran, WWI	0.706^{**}	0.269^{*}	0.594^{**}
	(0.158)	(0.137)	(0.169)
Log (Total Population)	-0.001	0.019^{**}	0.056^{**}
	(0.008)	(0.007)	(0.010)
Pct. Female	-0.103	0.173	-0.065
	(0.164)	(0.142)	(0.175)
Female LFP	0.225^{**}	0.248^{**}	0.331^{**}
	(0.075)	(0.065)	(0.086)
Log (Mfg. Establishments)	0.024^{**}	0.003	-0.014
	(0.008)	(0.006)	(0.009)
Constant	0.213^{*}	-0.200^{**}	$-0.173^{\dagger}$
	(0.091)	(0.072)	(0.103)
State FE	Yes	Yes	Yes
N	126,752	122,509	126,871

$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$

Weighted least squares using sample weights.

Robust standard errors that allow for arbitrary correlation at the county level in parentheses

politics, I also investigate whether war mobilization seems to have broader ideological implications for the electorate. Columns 2 and 3 of Table 1 shows that individuals from war mobilized areas are more likely to identify as liberals and Democrats. In short, there seems to be suggestive evidence in support of the notion that war mobilization seems to have lasting political legacies.

Though these OLS regressions show a clear association between historical war mobilization and contemporary public opinion, they do not necessarily establish that this association can be interpreted as *causal*. To isolate the plausibly exogenous variation in war mobilization, I present instrumental variables results in Table 2 using variation in the percent of men at-risk of serving in WWI as an instrument. The first-stage F statistic is well over the suggested value of 10 assuaging any concerns over weak instruments bias. Across all outcomes, the coefficient on war mobilization remains positive, though it becomes statistically insignificant. Concretely, these results suggest that in a counterfactual world where the United States never mobilized for WWI then the American public would be about six and seven percent less likely to identify as pro-choice and

Table 2: Effect of WWI War Mobilization on Political Attitudes: Two-Stage Least Squares

	Pro-Choice	Liberal	Democrat
	(1)	(2)	(3)
Pct. Veteran, WWI	0.932**	0.166	1.120**
	(0.274)	(0.233)	(0.286)
Log(Total Population)	−0.003	0.020**	0.051**
	(0.008)	(0.007)	(0.010)
Pct. Female	−0.113	0.178	−0.088
	(0.168)	(0.143)	(0.184)
Female LFP	0.203**	0.258**	0.279**
	(0.078)	(0.065)	(0.090)
Log (Mfg. Establishments)	0.025**	0.003	−0.012
	(0.008)	(0.006)	(0.009)
Constant	0.226*	−0.206**	−0.144
	(0.093)	(0.073)	(0.104)
State FE	Yes	Yes	Yes
N	126,617	122,379	126,735

$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$
Weighted least squares using sample weights.
Robust standard errors that allow for arbitrary correlation at the county level in parentheses

Democrats respectively. In the Appendix, I examine the heterogeneous effects of historical war mobilization among men and women and find that these effects are largely driven by women holding more liberal beliefs around gender. This suggests that the social effects of war mobilization (at least with respect to gender) seem to take hold amongst the subpopulation of individuals most affected by these changes.[10]

One concern might be that these estimates are only informative of the sub-population of compliers where these areas would have only mobilized if they had more men close to twenty-one during the war. Given that other factors such as patriotism and national identity also influence war mobilization are likely quite biased in terms of the sub-populations that they characterize, these instrumental variables results which exploit variation in demographic compositions are likely to reflect features of the overall population as well. Results from this exercise suggest that war mobilization during WWI

[10] Obviously, war mobilization intimately affected men who went to fight in the war. For more on the political legacies of direct combat exposure, see Jha and Wilkinson (2012) and Grossman, Manekin, and Miodownik (2015).

did seem to have a long-run, causal effect on contemporary political attitudes.

Causal Mechanisms

Thus far, I have established a robust link between historical war mobilization during WWI across U.S. counties and contemporary liberalism; yet, these results do not necessarily have to follow from the theory presented herein. To validate the theory, I also test hypotheses two, three, and four presented in the conceptual framework. That is, war mobilization should have caused an increase in female labor force participation, the children of women who work should have more egalitarian attitudes toward gender roles, and that women who live in areas affected by war. Using historical census and individual-level survey data, I find evidence consistent with both of these chains of the theory.

First, I test the hypothesis war mobilization should cause an increase in female labor force participation. To do so, I estimate female labor force participation rates at the county-level using data from the 5% sample of the 1930 U.S. Census provided by IPUMS.[11] I then estimate regressions–both OLS and 2SLS–with female labor force participation as the dependent variable. Table 3 displays the results of this exercise.

Across all models–OLS and 2SLS–I find consistent support for the prediction that war mobilization should increase female labor force participation. The simple bivariate correlation, presented in Column 1 of Table 3, shows a strong positive relationship between war mobilization and female labor force participation. After adding in state fixed-effects and county-level controls in Column 4, this coefficient reduces by a half and remains statistically significant. Column 5, which shows the instrumental variables estimates, estimates a coefficient that is essentially identical to the OLS specification in Column 4. These results provide robust evidence consistent with the theory presented in this paper.

It is not simply enough for war mobilization to induce female labor force participation: there must also be some sort of socialization mechanism for attitudes to persist. To test whether vertical transmission from mother to child seems to be in operation, I use data from the GSS Cumulative File from 1972-2016. The GSS provides an ideal platform to directly test vertical transmission since it asks a battery of questions about gender roles in the home and politics in addition to asking about a respondent's family's work history. In this exercise, then, I analyze whether having a mother who worked influences the respondent's conceptions of gender roles on a variety of questions including pro-choice attitudes, womens' house work, women running for office, and whether women should also be working. I estimate a series of OLS regressions with an indicator for the respondent's mother's work history as the core explanatory variables and include

[11] I use the labor force participation rate among white females given some of the issues with considering labor force participation rates among black females.

Table 3: Effect of WWI Mobilization on Female Labor Force Participation in 1930: County-Level Analysis

	Female LFP, 1930				
	OLS				instrumental variable
	(1)	(2)	(3)	(4)	(5)
Pct. Veterans (of males)	1.267***	1.592***	0.746***	0.628***	0.627***
	(0.099)	(0.151)	(0.151)	(0.127)	(0.135)
Log(Population), 1910			0.032***	0.022***	0.022***
			(0.005)	(0.004)	(0.003)
Pct. Female			0.505***	0.364***	0.364***
			(0.188)	(0.134)	(0.095)
FLP, 1910				0.447***	0.447***
				(0.081)	(0.077)
Constant	0.141***	0.173***	−0.368***	−0.236***	−0.236***
	(0.010)	(0.018)	(0.097)	(0.071)	(0.051)
State FE	No	Yes	Yes	Yes	Yes
N	2,733	2,733	2,732	2,732	2,732

*p < .1; **p < .05; ***p < .01
Weighted least squares with sample size within counties as weights.
Robust standard errors in parentheses.

Table 4: Effect of Mother's LFP on Political Attitudes: Ordinary Least Squares

	Pro-Choice	Women Take Care Home	Women Unsuited Politics	Women Should Work
	(1)	(2)	(3)	(4)
Mother Worked	0.063**	−0.075**	−0.065**	0.058**
	(0.009)	(0.008)	(0.009)	(0.008)
Survey FE	Yes	Yes	Yes	Yes
N	14,903	14,802	13,225	14,958

†p < .1; *p < .05; **p < .01
Robust standard errors in parentheses
All models also include basic demographic controls for sex, race, age, and age squared.

controls for survey year fixed effects to net out overall time trends, sex, race, age, and age squared. Table 4 presents the results of this exercise.

Across all outcomes, I find that respondents with mothers who worked tend to have more egalitarian attitudes toward gender roles. They are more likely to be pro-choice, less likely to agree that women should only take care of the home, less likely to agree that women are unsuited for politics, and more likely to agree that women should also work outside of the home. The magnitude of these effects are also all fairly consistent across outcomes at around six percent. Though these regressions rely on a selection-on-observables assumption for identification, they at least provide suggestive evidence consistent with the prediction that women who work should be transmitting more egalitarian gender roles to their children.[12]

Finally, I go onto test Hypothesis 4–that war mobilization should increase female labor force participation among women who were not directly exposed to the war, but reside in areas with a legacy of war mobilization. To do so, I use the 1930 5% sample of women from the U.S. Census and use a difference-in-differences design to estimate the effect of war mobilization on female labor force participation. The intuition behind this design is that if war mobilization leads local communities to change their beliefs about women in the work force via processes of horizontal transmission, then we should expect the cohort of women who were too young to be able to work during the war to still have higher levels of labor force participation in high mobilization counties relative to low mobilization counties. If they were too young to have worked themselves during WWI, then this removes the possibility that war mobilization shapes their labor force participation by directly inducing them to go into the workforce; instead, changes within their communities must drive their behavior.

I estimate the effect of being too young to work during WWI (but were old enough to work in 1930) and its interaction with the percent of veterans in that female's county of residence using OLS. I define being too young to work during WWI if a female in 1930 was younger than 16 years old during 1918.[13] The key identifying assumption is that all other cohorts would have trended in similar ways if not for the war. I also include state fixed effects and flexible functions of birth year to net out the effect of state-level variables and trends by birth cohort. For inference, I cluster standard errors by birth cohort.[14] Figure 4 plots the estimated marginal effect of being too young to work WWI over the empirical support of the percent of veterans in a county.

Figure 4 provides evidence consistent with the horizontal transmission mechanism. For women of this cohort, their average labor force participation rate increases as the percent of WWI veterans in their county increases relative to women of other cohorts.

[12] Results in the Appendix show that they hold within males and females.

[13] The results are robust to reasonable deviations from this definition.

[14] The results are robust to clustering at the county-level.

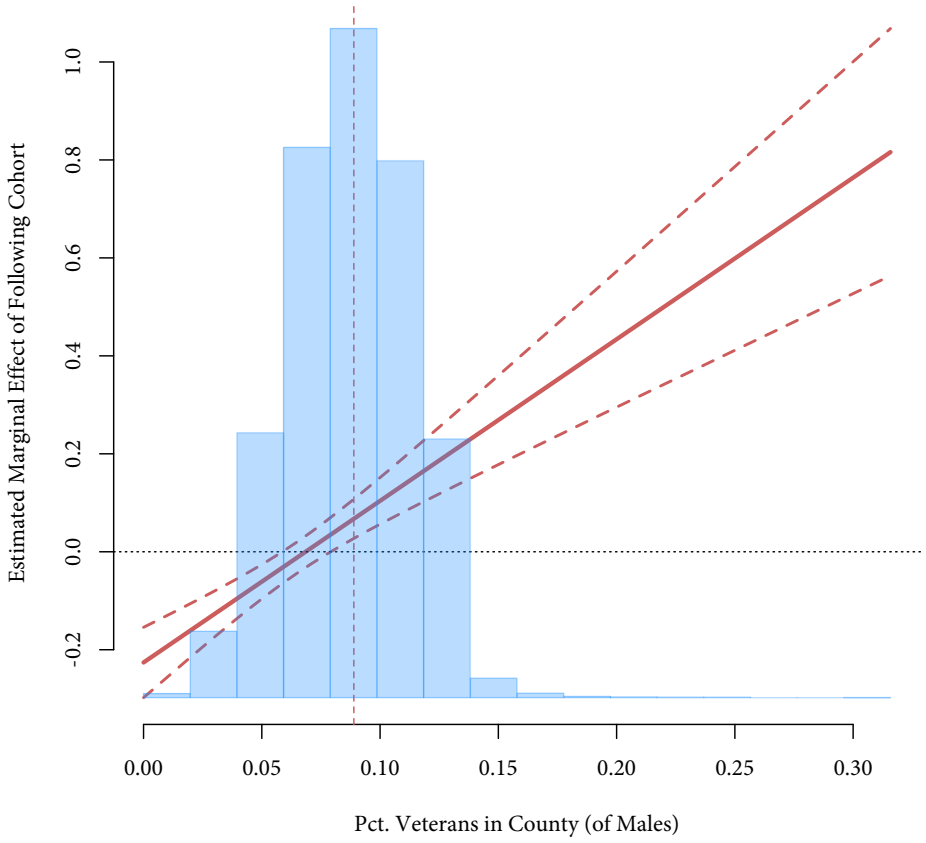

Figure 4: Effect of Following Cohort by County-Level War Mobilization, 1930

Substantively, moving from being too young to work during WWI in a place with no mobilization to a place with about the average amount of war mobilization increases that woman's probability of being in the labor force by nearly twenty percentage points. These results suggest that among the cohort of women who could not have been in the labor force themselves during WWI, local war mobilization still increased their likelihood of being in the labor force. While these results do not directly capture the diffusion of new beliefs within a community, they are at least consistent with a story in which war mobilization led to horizontal transmission of new beliefs within local areas.

To summarize the results, I find that historical war mobilization leads to a more liberal public in the long-run especially with respect to gender attitudes as measured by support for the pro-choice position on the abortion debate. Moreover, I find that these results are likely to be driven by the specific gendered way in which war mobilization shapes labor markets and the subsequent complementarities between labor markets and political attitudes. The data show that both processes of vertical and horizontal transmission of beliefs are likely to explain these results. Thus, the results provide evidence consistent with the argument that wars can lead to lasting political legacies in a country and these legacies are shaped by the interplay between labor markets and cultural values.

CONCLUSION

Can war be a liberalizing force for politics? In this paper, I develop a theory of how war mobilization can lead to deep shifts in the ideology of the mass public and how these beliefs might persist until today. To test the theory, I honed in on the case of WWI, which provides similar variation to WWII, but holds pension programs and benefits such as the G.I. Bill constant. By combining historical census data with contemporary public opinion data, I show that there is a robust correlation between historical war mobilization at the county-level and the probability that an individual is pro-choice, liberal, and a Democrat today. To establish causality, I exploit exogenous variation in the proportion of men at risk of being mobilized to fight in WWI in an instrumental variables framework to show that the correlations can be interpreted as causal. Consistent with the theory, I show that these same areas also had higher rates of female labor force participation directly after WWI. Furthermore, I also show evidence consistent with the vertical transmission mechanism: children of women who worked tend to be more likely to be pro-choice, less likely to agree that women should be home-makers, less likely to agree that women are unsuited to run for office, and more likely to agree that women should be in the work-force. In sum, the theory and evidence assembled in this paper provide a systematic answer to the question posed above. Wars can cause lasting political legacies that can actually make for more liberal societies.

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ONLINE APPENDIX

Summary Statistics

Table 5: Summary Statistics: County-Level Data

Statistic	N	Mean	St. Dev.	Min	Max
Pct. Veteran, WWI	2,733	0.072	0.029	0.000	0.316
Pct. Close to 21 (4 yr bandwidth)	2,733	0.181	0.034	0.000	0.421
Log (Total Population)	2,732	9.798	0.933	5.733	14.832
Pct. Female	2,733	0.481	0.034	0.205	0.589
Female LFP, 1930	2,733	0.187	0.084	0.000	0.706
Female LFP, 1900	2,733	0.126	0.065	0.000	0.996
Log (Mfg. Establishments)	2,718	4.194	1.320	0.000	10.210

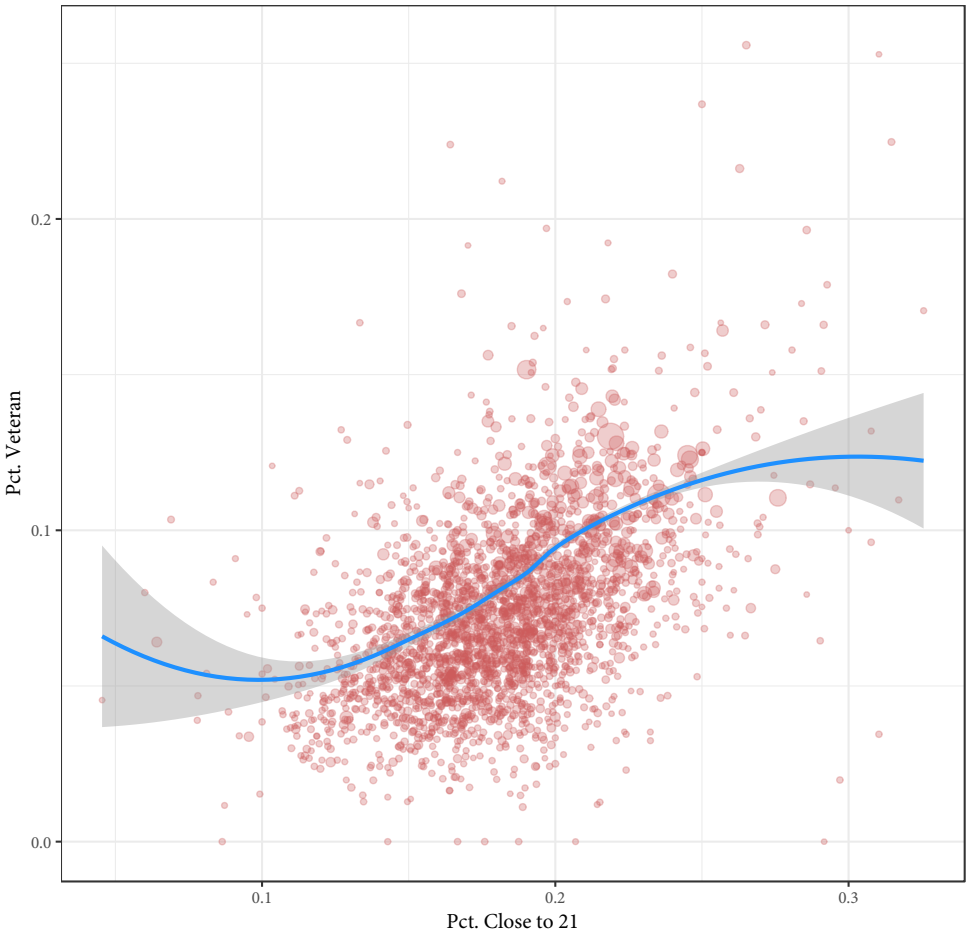
First-Stage Relationship

Table 6: First Stage Relationship between War Mobilization and Pct. Males Close to 21: Ordinary Least Squares

	Pct. Veteran		
	(1)	(2)	(3)
Pct. Close to 21	0.523**	0.539**	0.472**
	(0.035)	(0.028)	(0.032)
Log (Total Population)			0.001
			(0.003)
Pct. Female			0.034
			(0.047)
Female LFP			0.053**
			(0.020)
Pct. Black			0.008
			(0.007)
Log (Mfg. Establishments)			0.001
			(0.003)
Constant	−0.012†	−0.029**	−0.055†
	(0.006)	(0.006)	(0.030)
State FE	No	Yes	Yes
N	2,611	2,611	2,599

†p < .1; *p < .05; **p < .01
Weighted least squares using sample weights.
Robust standard errors corrected for heteroskedasticity in parentheses

Raw First-Stage Relationship between Pct. Veteran and Instrument



Placebo Test

Table 7: Placebo Test of Percent Close to

	War Mobilization		Pro-Choice	Liberal	Democrat
	(1)	(2)	(3)	(4)	(5)
Pct. Close to 21	0.413**	0.379**	0.440**	0.072	0.495**
	(0.022)	(0.023)	(0.132)	(0.113)	(0.135)
Placebo Pct. Close to 21	−0.105**	−0.015	0.016	0.063	0.343**
	(0.014)	(0.017)	(0.118)	(0.099)	(0.126)
Log(Total Population)		0.001	−0.003	0.019**	0.045**
		(0.002)	(0.008)	(0.007)	(0.010)
Pct. Female		−0.039	−0.016	0.219	0.157
		(0.030)	(0.177)	(0.148)	(0.183)
Female LFP		0.014	0.251**	0.264**	0.316**
		(0.011)	(0.075)	(0.062)	(0.080)
Log (Mfg. Establishments)		0.002	0.026**	0.004	−0.008
		(0.001)	(0.007)	(0.006)	(0.009)
Constant	0.021**	0.002	0.150	−0.237**	−0.328**
	(0.005)	(0.017)	(0.102)	(0.078)	(0.111)
State FE	No	No	No	No	No
N	2,733	2,718	126,752	122,509	126,871

$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$

Weighted least squares using sample weights.

Robust standard errors that allow for arbitrary correlation at the county level in parentheses

CCES Results by Men and Women

Table 8: Effect of WWI War Mobilization on Political Attitudes among Men: Ordinary Least Squares

	Pro-Choice	Liberal	Democrat
	(1)	(2)	(3)
Pct. Veteran, WWI	0.517*	0.113	0.374†
	(0.214)	(0.175)	(0.199)
Log (Total Population)	−0.004	0.026**	0.061**
	(0.012)	(0.009)	(0.011)
Pct. Female	0.037	0.245	−0.076
	(0.240)	(0.178)	(0.243)
Female LFP	0.325**	0.323**	0.411**
	(0.108)	(0.087)	(0.111)
Pct. Black	0.025	0.005	0.151**
	(0.042)	(0.035)	(0.050)
Log (Mfg. Establishments)	0.023*	−0.001	−0.020*
	(0.011)	(0.009)	(0.010)
Constant	0.179	−0.320**	−0.274*
	(0.146)	(0.105)	(0.134)
State FE	Yes	Yes	Yes
N	60,130	59,611	60,779

$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$

Weighted least squares using sample weights.

Robust standard errors that allow for arbitrary correlation at the county level in parentheses

Table 9: Effect of WWI War Mobilization on Political Attitudes among Women: Ordinary Least Squares

	Pro-Choice	Liberal	Democrat
	(1)	(2)	(3)
Pct. Veteran, WWI	0.865**	0.466**	0.751**
	(0.178)	(0.161)	(0.194)
Log (Total Population)	0.003	0.014	0.052**
	(0.010)	(0.009)	(0.012)
Pct. Female	−0.069	0.152	−0.335
	(0.231)	(0.207)	(0.277)
Female LFP	0.109	0.187*	0.191*
	(0.087)	(0.076)	(0.093)
Pct. Black	0.082*	0.005	0.105**
	(0.039)	(0.033)	(0.039)
Log (Mfg. Establishments)	0.023**	0.007	−0.006
	(0.009)	(0.007)	(0.011)
Constant	0.129	−0.134	−0.035
	(0.138)	(0.117)	(0.170)
State FE	Yes	Yes	Yes
N	66,622	62,898	66,092

$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$

Weighted least squares using sample weights.

Robust standard errors that allow for arbitrary correlation at the county level in parentheses

Table 10: Effect of WWI War Mobilization on Political Attitudes among Men: Two-Stage Least Squares

	Pro-Choice	Liberal	Democrat
	(1)	(2)	(3)
Pct. Veteran, WWI	0.463	−0.308	0.543
	(0.358)	(0.289)	(0.353)
Log (Total Population)	−0.003	0.030**	0.059**
	(0.012)	(0.009)	(0.011)
Pct. Female	0.032	0.204	−0.059
	(0.237)	(0.179)	(0.241)
Female LFP	0.330**	0.364**	0.395**
	(0.113)	(0.088)	(0.114)
Pct. Black	0.025	0.009	0.150**
	(0.042)	(0.035)	(0.051)
Log (Mfg. Establishments)	0.023*	−0.002	−0.020†
	(0.011)	(0.008)	(0.010)
Constant	0.180	−0.317**	−0.276*
	(0.145)	(0.101)	(0.134)
State FE	Yes	Yes	Yes
N	60,047	59,531	60,696

†p < .1; *p < .05; **p < .01

Weighted least squares using sample weights.

Robust standard errors that allow for arbitrary correlation at the county level in parentheses

Table 11: Effect of WWI War Mobilization on Political Attitudes among Women: Two-Stage Least Squares

	Pro-Choice	Liberal	Democrat
	(1)	(2)	(3)
Pct. Veteran, WWI	1.389**	0.674*	1.613**
	(0.323)	(0.319)	(0.327)
Log (Total Population)	−0.002	0.012	0.044**
	(0.010)	(0.008)	(0.011)
Pct. Female	−0.009	0.176	−0.235
	(0.236)	(0.207)	(0.287)
Female LFP	0.058	0.167*	0.107
	(0.089)	(0.078)	(0.097)
Pct. Black	0.077†	0.003	0.096*
	(0.040)	(0.033)	(0.039)
Log (Mfg. Establishments)	0.024**	0.007	−0.005
	(0.009)	(0.007)	(0.010)
Constant	0.120	−0.138	−0.052
	(0.139)	(0.118)	(0.171)
State FE	Yes	Yes	Yes
N	66,570	62,848	66,039

†p < .1; *p < .05; **p < .01

Weighted least squares using sample weights.

Robust standard errors that allow for arbitrary correlation at the county level in parentheses

GSS Results by Men and Women

Table 12: Effect of Mother's LFP on Political Attitudes among Men: Ordinary Least Squares

	Pro-Choice	Women Take Care Home	Women Unsuited Politics	Women Should Work
	(1)	(2)	(3)	(4)
Mother Worked	0.071^{**}	-0.069^{**}	-0.066^{**}	0.068^{**}
	(0.014)	(0.012)	(0.014)	(0.012)
Survey FE	Yes	Yes	Yes	Yes
N	6,413	6,442	5,777	6,526

$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$
Robust standard errors in parentheses
All models also include basic demographic controls for sex, race, age, and age squared.

Table 13: Effect of Mother's LFP on Political Attitudes among Women: Ordinary Least Squares

	Pro-Choice	Women Take Care Home	Women Unsuited Politics	Women Should Work
	(1)	(2)	(3)	(4)
Mother Worked	0.058^{**}	-0.080^{**}	-0.067^{**}	0.050^{**}
	(0.012)	(0.010)	(0.012)	(0.010)
Survey FE	Yes	Yes	Yes	Yes
N	8,490	8,360	7,448	8,432

$^{\dagger}p < .1$; $^{*}p < .05$; $^{**}p < .01$
Robust standard errors in parentheses
All models also include basic demographic controls for sex, race, age, and age squared.

Individual-Level Results for Cohort

Table 14: Effect of WWI Mobilization on Female Labor Force Participation in 1930: Cohort Analysis

	Female Labor Force Participation		
	OLS		instrumental variable
	(1)	(2)	(3)
Working Age during WWI	-0.087^{***}	-0.088^{***}	-0.100^{***}
	(0.014)	(0.014)	(0.024)
Following Generation	-0.080^{***}	-0.076^{***}	-0.226^{***}
	(0.016)	(0.015)	(0.037)
Pct. Veteran (of males)	0.874^{***}	0.679^{***}	0.553^{***}
	(0.092)	(0.091)	(0.159)
Working Age during WWI * Pct. Veteran	0.520^{***}	0.535^{***}	0.656^{**}
	(0.165)	(0.162)	(0.335)
Following Generation * Pct. Veteran	1.652^{***}	1.631^{***}	3.300^{***}
	(0.217)	(0.206)	(0.508)
Constant	-8.683^{***}	-8.833^{***}	-8.914^{***}
	(0.982)	(0.994)	(0.987)
State FE	No	Yes	Yes
Birth Year	Yes	Yes	Yes
N	1,705,195	1,705,195	1,705,195

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Robust standard errors clustered by birth cohort in parentheses.