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## LEADERSHIP IN SOCIAL NETWORKS: EVIDENCE FROM THE FORTY-EIGHTERS IN THE CIVIL WAR

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## ABSTRACT

A growing theoretical literature emphasizes that prominent individuals ('leaders') can be instrumental in changing behaviors and beliefs inside social networks, and consequently play an important role in shaping the path of history. We test this assertion in the context of the U.S. Civil War. Our analysis is organized around a natural experiment: leaders of the failed German revolution of 1848-49 were expelled to the U.S., and became important anti-slavery campaigners who helped mobilize Union Army volunteers. We find that towns where Forty-Eighters settled in the 1850s increased their enlistments by ten men per hundred adult males over the course of the war, or roughly eighty percent. The Forty-Eighters' influence worked at least in part through the local press and local social clubs. In the army, Forty-Eighter officers reduced their companies' desertion rate. In the long run, towns where Forty-Eighters settled were more likely to form a local branch of the National Association for the Advancement of Colored People.

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## 1 Introduction

Between 1861 and 1865, the United States' North and South fought each other over the issue of slavery in the American Civil War. One in five adult males—2.2 million Northern men in total—took up arms to fight in the Union Army. Fighting was costly for men on both sides: In total, 620,000 men lost their lives, as many as in all other American wars combined (Hacker, 2011). At the same time, the financial incentives to fight in the war were low. Union Army privates earned about \$13 per month—less than a farmhand (Edmunds, 1866, 512)—and payment was irregular.<sup>1</sup> Yet, almost 95 percent of Northern soldiers were volunteers. What, then, drove men to risk their lives in the fight against slavery and Southern secession, despite high personal costs and low economic rewards? We study the role that individual 'leaders' played in determining the enlistment decisions of men during this critical juncture in the nineteenth century.

A growing body of economic theory suggests that individual leaders can play an important role in shaping history, by coordinating behaviors and beliefs in their social networks.<sup>2</sup> The literature suggests different mechanisms by which this can occur. Leaders might convince others in their social networks of their beliefs (Murphy and Shleifer, 2004); norms of conformity could make other agents coordinate on their actions (Loeper, Steiner and Stewart, 2014); or the visibility of their action could change the set of self-supporting beliefs and behaviors, i.e. the social norms, in society (Acemoglu and Jackson, 2015). Key characteristics of leaders include persuasiveness, communication skills, resoluteness and a willingness to lead by example (Hermalin, 1998; Dewan and Myatt, 2008; Lazear, 2012; Bolton, Brunnermeier and Veldkamp, 2012; Akerlof and Holden, 2016). While the literature makes compelling arguments for leaders' importance, there is a lack of well-identified empirical support for this broad hypothesis, primarily because it is difficult to objectively identify potential leaders and measure their impact in their social networks.<sup>3</sup>

This paper presents a unique empirical setting that allows us to get around these difficulties. We define leaders as individuals who participated in the German revolutions of 1848–49

<sup>&</sup>lt;sup>1</sup>In the South, there were stronger economic motives at least for some, since the war was about the survival of Southern institutions and property. Hall, Huff and Kuriwaki (2017) provide evidence showing that slave-ownership was a significant determinant of joining the Confederate army.

<sup>&</sup>lt;sup>2</sup> The idea that individuals matter in history is of course not new, and has been around outside of economics since antiquity. However, 'great man' approaches to history lack the micro-foundations that can explain leadership as anything other than formal control over institutions, the government or the army.

<sup>&</sup>lt;sup>3</sup> This is in contrast to well-established empirical evidence that leaders matter in the context of organizations or institutions (Bertrand and Schoar, 2003; Jones and Olken, 2005).

and got expelled for their activities during this time. Defining leaders prior to their arrival in the U.S. overcomes the 'reflection problem' inherent in studying the effect of leaders on their social networks.<sup>4</sup> By historical serendipity, the egalitarian and pro-republican convictions that got these *Forty-Eighters* expelled from Europe in 1849 mapped closely into the sectional political conflict that would come to a head in the U.S. a decade later.<sup>5</sup> During the first few years after their arrival in the U.S., the *Forty-Eighters*' political convictions lay dormant as their lives were dominated by practical considerations. This changed when the Kansas-Nebraska Act ended the second American party system, blew the lid of the sectional political conflict around slavery, and led the *Forty-Eighters* to "revive the spirit of the failed struggle for liberty in the fight against slavery".<sup>6</sup>

We will estimate the effect of whether *Forty-Eighters* lived in a town in the period 1856–1860 on that town's volunteering rate for the Union Army during the Civil War from 1861–1865.<sup>7</sup> Historical analyses of U.S. regions are usually conducted at the county level. By contrast, as a better approximation of local communities, we perform our analysis at the level of towns. This entailed geo-locating the universe of Northern towns reported in the 1850 and 1860 Census, creating a consistent crosswalk between them, and creating a town-level panel of the *Forty-Eighters* based on their biographies in Zucker (1950); Wittke (1970); Raab (1998); Baron (2012). To the best of our knowledge, ours is the first paper to undertake an empirical analysis at the level of what is approximately the universe of (Northern) U.S. towns in the 19th century.

Our main empirical concern is spatial sorting, i.e. that the *Forty-Eighters* might have settled in areas where anti-slavery and pro-republican convictions were independently becoming stronger. Their biographies suggest that the *Forty-Eighters'* initial settlement choices in the U.S. were dominated by economic necessities, and that work opportunities arose idiosyncratically, making the towns where *Forty-Eighters* settled an approximately random draw from the set of towns whose characteristics would have attracted *all* German immigrants in the 1850s (Wittke, 1970, 66). This

<sup>&</sup>lt;sup>4</sup> The main concern if leaders emerge from within the social network where their impact is studied is that certain individuals may be labeled as leaders, but could have been just prominent flag-bearers rather than causes of the changes occurring around them. This is a version of the well-known 'reflection problem' (Manski, 1993).

<sup>&</sup>lt;sup>5</sup> In the words of A.E. Zucker, their foremost historian, "three aspects dominated the scene from which [the *Forty-Eighters*] fled into the freedom of the United States: liberty, democracy, and national unity" (Zucker, 1950, p.9).

<sup>&</sup>lt;sup>6</sup> Quoted from Baron (2012, 3). The second American party system started in 1828 when the Democratic-Republican Party split into the Democratic and the Whig Party. By the 1856 presidential election, the Whigs had disappeared and the election was decided between the Democrats and two parties that had not yet existed in 1852, one of them the anti-slavery Republican Party.

<sup>&</sup>lt;sup>7</sup> The 1856–1860 period reflects the time when the *Forty-Eighters* re-entered political life and the culmination of the political conflict around slavery.

interpretation of their biographies is well-supported by the historical narrative: German societies in port cities had by 1847 begun forming 'labor bureaus' that actively connected new immigrants with individual employment offers in the Mid West, and the *Forty-Eighters* were particularly likely to move for such offers because of their lack of means or family ties in the U.S.<sup>8</sup> This historical narrative suggests that endogeneity concerns may arise in our setting primarily to the extent that economic drivers of settlement in the early 1850s correlated with the strength of anti-slavery and pro-republican convictions in the latter half of the decade. This concern can be addressed by exploring what these factors were and controlling for them. We therefore compiled a rich set of town-level characteristics, including proxies for towns' attractiveness to German immigrants, and estimate a simple location model that provides a sharp characterization of the correlates of the *Forty-Eighters*' settlement choices, and guides the choice of control variables in all our regressions, conditional on either state or county fixed effects.

This leaves the concern that the *Forty-Eighters'* might have moved selectively later in the 1850s, when political considerations could have potentially motivated them. We address this with an instrumental variable (IV) strategy based on the primacy of economic motives in their initial location choices and on the fact that later relocations by *Forty-Eighters* were mostly over short distances. Specifically, we use each U.S. town's minimum distance to one of the *Forty-Eighters'* first towns of settlement as an instrument for whether a towns was settled by *Forty-Eighters* in 1856–1861. Lastly, we employ a matching strategy that eliminates imbalances in observables between treatment and control towns and rerun the OLS and IV regressions on a matched subsample of towns.

To construct town-level data on Union Army enlistments, we cleaned the location-of-residence information reported in the Union Army Rosters, and created a cross-walk to towns reported in the Census. We then filled missing location-of-residence information by linking the Rosters to the Full-Count 1860 Census, and in a last step, developed algorithms to spatially interpolate the towns of residence of remaining unlocated soldiers within each regiment. To the best of our knowledge, ours is the first paper to measure the spatial distribution of Union Army enlistment at any level of disaggregation.

Across identification strategies, we estimate that having one or more Forty-Eighter in town

<sup>&</sup>lt;sup>8</sup> The *German Society of New York* reported, "in 1850 and 1851 a sudden steep increase in requests for assistance to people totally deprived of all means, mostly political refugees flocking to America after the failure of the revolutions" (Wust, 1984, 31).

raised Union Army volunteering by between nine and twelve soldiers per hundred adult men. This is a sizeable effect, as the mean enlistment rate in the data is thirteen per hundred. In log terms, a *Forty-Eighter* town had between seventy to ninety percent higher enlistments. We also find that the average volunteer in *Forty-Eighter* towns enlisted earlier, consistent with the view that early enlistment cohorts had stronger anti-slavery convictions (McPherson, 1997, ch1).

To get a better idea of the *Forty-Eighters'* influence on their social network, we predicted soldiers' ancestry from their names, using a machine-learning algorithm that was trained in the Full-Count 1860 U.S. Census. Their background suggests the *Forty-Eighters* might have been most influential in the German-American communities, but they also gave speeches and wrote articles in English (Curti, 1949; Wittke, 1970; Baron, 2012). Conditioning on each ancestry group's townlevel population shares, the data suggests that the *Forty-Eighters* had a somewhat stronger effect on the enlistment of German-Americans, and a somewhat weaker effect on Irish men, relative to their mean effect on American men.

The historical narrative suggests the *Forty-Eighters* influenced men's volunteering through three specific channels, namely through their written treatises in local newspapers, as public speakers, and through their involvement in local social and political clubs, especially the *Turner Societies* ('Turnvereine').<sup>9</sup> We can measure two of these channels, and show that the *Forty-Eighters* had sizable effects both on local German-language newspapers and on the formation of Turner Societies.

We also study whether the *Forty-Eighters'* leadership extended beyond the choice to enlist: we re-estimate the duration-analysis of soldier desertion in Costa and Kahn (2003), and add to this a test for whether *Forty-Eighter* commanding officers reduced their troops' desertion rates in battle.<sup>10</sup> We find that *Forty-Eighter* did have a significant negative effect on their companies' desertion rate.

As a final exercise, we investigate whether the *Forty-Eighters* had a permanent legacy in their towns of settlement. As a long-run outcome that ties closely into the anti-slavery issue, we use the formation of town-level chapters of the *National Association for the Advancement of Colored People* (NAACP), the first of which was founded in 1909. Despite the long time gap, we find strong evidence that NAACP chapters in *Forty-Eighter* towns were more likely to be founded, and they

<sup>&</sup>lt;sup>9</sup> Turner Societies frequently formed bodyguards at Lincoln's public appearances during his 1860 presidential campaign, at a time when violent outbreaks were the norm rather than the exception at such events. See section 2.

<sup>&</sup>lt;sup>10</sup> We analyze the entire Union Army while Costa and Kahn (2003) perused a random sample.

were founded at an earlier time. We cautiously interpret these longer-run effects as indicative for a lasting change in social norms.

Our core contribution is to provide rigorous empirical evidence of the impact that individual leaders can have on their social networks, and consequently the important role they can play in shaping the path of history. Our findings confirm the broad hypothesis that individual leaders shape equilibrium behavior inside social networks (Galeotti and Goyal, 2010). Our findings relate to Murphy and Shleifer (2004) and Akerlof and Holden (2016) who emphasize that leaders' matter in networks because of persuasion and communication. Their strong effect on the rise of local newspapers and Turner societies is clearly in line with this prediction.<sup>11</sup> Our findings further relate to Loeper et al. (2014) and Acemoglu and Jackson (2015) who emphasize that leaders coordinate beliefs about acceptable behaviors and expectations on the behavior of others. While we cannot directly test this channel, narrative evidence from the historical records strongly supports this interpretation. An illustrative example is the *Forty-Eighter'* harsh criticism of their earlier German immigrants "for their indifference concerning the abolitionist crusade and their blind loyalty to a party [the Democrats] which once had espoused the political philosophy of Jefferson and Jackson, and now was controlled by Southern politicians and Northern doughfaces" (Wittke, 1970, 191). Finally, we connect to the literature on 'persuasion cascades' (Caillaud and Tirole, 2007). We find strong spatial clustering of residence-towns within regiments, implying that friends and neighbors enlisted jointly. In line with this, Mitchell (1990) and Costa and Kahn (2010, 51) emphasize that peer pressure played a major role in Civil War enlistees' motivations.

Second, we contribute to the literature on knowledge and belief diffusion, which frequently uses the arrival of narrowly defined immigrant groups as natural experiments to study the transmission of knowledge embedded in elites. Examples include Hornung (2014), who studies the late-17th-century migration of skilled Huguenots from France to Germany; Moser, Voena and Waldinger (2014), who look at the influx of German Jewish scientists into the U.S. after 1939; or Borjas and Doran (2012) who study the effect of the post-1990 influx of Russian mathematicians into the U.S. We use a similar exogenous immigration shock, but focus on the diffusion of beliefs

<sup>&</sup>lt;sup>11</sup> McPherson (1997, p.5) emphasizes the importance of the volunteers' "values rooted in the homes and communities from which they sprang to arms" and Costa and Kahn (2003) find ideology to be an important predictor of men's willingness to fight. Related to this, spur-of-the moment decisions to enlist following a stirring speech by a charismatic *Forty-Eighter* could certainly also explain part of the effects we find.

and behavior instead of knowledge.

We also relate to other strands of literature, including a theoretical one on effective leadership (Hermalin, 1998; Dewan and Myatt, 2008; Lazear, 2012; Bolton et al., 2012),<sup>12</sup> an empirical one on formal leadership inside organizations or institutions (Bertrand and Schoar, 2003; Jones and Olken, 2005), and to a literature on persuasion, see e.g. DellaVigna and Gentzkow (2010).

# 2 Background

### 2.1 The German Revolutions of 1848–1849

Beginning in the early 19th century, a new social and political movement across Europe started propagating a more Republican form of government that would result in a more balanced distribution of power between the ruling monarchs and their subjects.<sup>13</sup> In German lands, leaders of this movement varied in their aims from moderate liberals whose views were heavily influenced by the enlightenment to radical democrats whose ideas became formative for later socialist movements (Real, 1983, chIV). This movement gained momentum in the 1830s and 1840s. In German lands, its collision course with the establishment culminated in March 1848, when political unrest spilled over from France and sparked the *March Revolution*. The revolutions started with first uprisings in Baden and quickly spread to other states. We provide some discussion of the German revolutions in Online Appendix A. For our purpose, the key observation is that they failed, and that by the summer of 1849 the revolutions' leaders had to flee from German lands. On July 12th 1849, the last revolutionary troops on German soil escaped to Switzerland.

By the late spring of 1849 began a period of systematic repression and persecution. Those involved in the revolutions who had not already fled were prosecuted, and either sentenced to long prison terms, or in some cases executed (Siemann, 2006).<sup>14</sup> Prison terms were often commuted for those who agreed to leave German lands for good (Reiter, 1992, p.218). Wittke (1973, 46-49) recounts how in Hessian courts, revolutionary "offenders were released on condition that they

<sup>&</sup>lt;sup>12</sup> This literature has identified competence (Lazear, 2012), resoluteness (Bolton et al., 2012), a 'sense of direction' (Dewan and Myatt, 2008), and a willingness to make sacrifices (Hermalin, 1998) as important leadership characteristics. We cannot directly distinguish which of these characteristics mattered most.

<sup>&</sup>lt;sup>13</sup> The movement also propagated a political union between the many German states.

<sup>&</sup>lt;sup>14</sup>Raab (1998) discusses a large number of biographies of individuals involved in the revolutions. While information is fragmented, it is worth noting that of the 1,880 cases indicating an investigation for treason, only 21 mention a death-sentence.

depart for America," and in Württemberg judges "inquired of rebels whether they preferred immigration to America to serving out their sentences, and when they chose the former offered them money for the journey."

Even before systematic repression was organized in German lands, most of the revolutionary leaders and their followers had already fled across the border to Switzerland, one of only two republics in Europe at the time (Goodheart, 2011, 356), and the only country within reach that was sympathetic to the revolutions. In total, Swiss authorities estimated there were about 12,000 revolutionary refugees inside its borders in 1849 (Reiter, 1992, ch.E.V). The majority of these were man lands. Unfortunately for the revolutionaries, the Swiss authorities, however sympathetic, felt the fiscal burden of supporting such a high number of refugees and disputes over their settlement led to conflict between different Cantons as well as between the Cantons at large and the federal government (Jung, 2015; Nagel, 2012). On July 16th 1849, the Swiss parliament passed an Act expelling 14 of the most prominent revolutionary leaders from its borders. Of these 14, listed in footnote 172 of Reiter (1992), ten ended up being among the Forty-Eighters we study. Explicitly stated in the act was the deliberation that if the revolutionary leaders were expelled, the rest would follow. Being landlocked, Switzerland negotiated precise terms with France under which revolutionaries could make their way to their port of embarkation in Le Havre, being accompanied by police all along the way (Reiter, 1992, 226). While England was in principle willing to accept the revolutionaries, the German and French governments pressured Switzerland to incentivize refugees to embark for the United States to remove the danger of them returning to German lands.<sup>15</sup> In practice, this usually meant that the Swiss authorities would pay the expellees' ship fare from Le Havre to the U.S. but not to any other destination (Reiter, 1992, 223). This expulsion is nicely illustrated in a contemporary political cartoon from 1849 (Figure Online Appendix Figure 1 in Online Appendix A) that depicts the absolutist rulers sweeping the leaders of the revolution out of Switzerland and then further out of Europe. To make sure the expellees remained in the

<sup>&</sup>lt;sup>15</sup>These fears were not unfounded. Carl Schurz' Swiss journals reveal that many of the revolutionaries expected the German revolution to have a second coming very soon and that they would naturally be at the forefront of these renewed revolutions (Frei, 1977, 389). Quite a few expellees—those who had either their own means or financial support from other sources—therefore preferred initially to stay in London, awaiting a renewed revolutionary outbreaks. However, when Louis Napoleon's coup d'etat ended France's Second Republic in 1852, many of these holdouts gave up hope and set sail for the United States (Frei, 1977, 427).

U.S., German police authorities started circulating 'black lists' of revolutionaries after 1852.<sup>16</sup> Of the almost 500 *Forty-Eighters* in our data, less than ten ever returned to Germany again.

## 2.2 Defining the Forty-Eighters

Wittke (1970, 4) defines the *Forty-Eighters* as those German-Americans "who in some way actually participated in the liberal movements and the Revolutions of 1848 and 1849, and left their homes because of a conflict with the established authorities, or because they realized that henceforth it would be either too dangerous or too intolerable to remain."

We adopt this definition and code up biographical information on the *Forty-Eighters* from the biographical compendia by Zucker (1950); Wittke (1970); Raab (1998) and Baron (2012). We identified a total of 493 individuals, and completed their U.S. biographies through individual searches in genealogical online sources. (See also Appendix A.1.)

A key feature of the natural experiment we are exploiting in this paper is that the *Forty-Eighters'* strongly held beliefs of republicanism, liberty, and equality that mapped cleanly into the political struggles in the U.S. in the decade after their arrival. This is important because it means not only that the *Forty-Eighters* were already marked out as potential leaders at the time of their arrival, but also that the issues they had fought for in Europe found a natural (and measurable) continuation in the U.S., as we will discuss next.

## 2.3 The Forty-Eighters and the Antebellum U.S. Political Conflicts

The hypothesis we want to test is that the *Forty-Eighters* were leaders in the sense of shaping people's beliefs and behaviors in the years leading up to the Civil War. Given this hypothesis, it is important to provide an adequate discussion of the political struggles of the antebellum period. To remain succinct, we discuss here only the six years leading up to Lincoln's election in November 1860. As added background, we discuss the decade 1844–1854 in Online Appendix B.<sup>17</sup> Readers

<sup>&</sup>lt;sup>16</sup> Rupieper (1977) emphasizes that these black lists were very incomplete. More important was their symbolic significance, signalling an intent to keep revolutionaries from returning to German lands for good.

<sup>&</sup>lt;sup>17</sup> This decade was extraordinarily politically complex, marking one of only two times in U.S. history when Congressional politics could not be summarized by one or two dimensions in the NOMINATE score method; in fact, the 1853–54 Congress required four dimensions to explain three-quarters of voting decisions (Poole and Rosenthal, 1991). 1854 marked the end of the 'second American party system,' the last time a major party dissolved. The second such chaotic time was 1828, which marked the end of the 'first American party system,' when the Federalist party dissolved and the Democratic-Republican Party split into the Democratic and the Whig Party.

interested in the more thorough history may want to read that appendix chapter before reading on. It is also worth restating that our empirics will focus on the *Forty-Eighters'* local effects in the towns they settled, whereas the following background section provides the broader context of national politics at the time.

Halfway through the 1852–1856 presidential term, and after a period of relative quiet following the compromise of 1850, the slavery-issue re-emerged with never before seen force on the national stage as a result of the 1854 Kansas-Nebraska bill, which repealed the Missouri Compromise that had prohibited slavery in the North since 1820, and gave people in the territories of Kansas and Nebraska the choice of allowing slavery within their borders. This bill was seen as a major success of Southern slave power in Congress (Foner, 1970, 94). Over the next six years, the sectional conflict over slavery came to a head.

In 1855, violent conflicts in Kansas between pro- and anti-slavery settlers ("Bleeding Kansas") gave birth to the new Republican Party, which combined Free-Soilers with disaffected Whigs and Democrats (Srinivasan, 2017, 120-121).<sup>18</sup> Shortly after, the 1856 election marked a sea change in American politics, as it saw in the Whig Party the complete disappearance of a party that eight years earlier had won the presidency, while two out of the three major parties—the American Party and the Republican Party—had not even existed in 1852. The Democratic Party carried the election with 45 percent of the popular vote, with James Buchanan as the new president. The Republican Party did "remarkably well for a new party," winning 33 percent of the popular vote (Foner, 1970, 130).<sup>19</sup>

These developments led many *Forty-Eighters* to—in Baron's words—"revive the spirit of their failed struggle for liberty", and to re-enter public life as anti-slavery campaigners. They helped to articulate a "rational" argument for emancipation by tying the slavery issue in with broader issues of liberty and equality, instead of the previously dominant puritan-moralistic argument, which was less palpable to many (Kamphoefner 2006, 3). Friedrich Kapp's editorial in the *New York Abendzeitung* illustrates the *Forty-Eighters*' views: "The problem of slavery is not the problem

<sup>&</sup>lt;sup>18</sup> 1854 also gave a rise to a short-lived effort by *Forty-Eighters* to form their own party, called the Louisville Platform. This quickly dissolved, however, since the *Forty-Eighters* found a natural political home in the Republican Party (Wittke, 1973, 164).

<sup>&</sup>lt;sup>19</sup> Two key factors worked against it in its challenge to the Democratic Party: first, the American Party which won 22 percent of the vote attracted large portions of the former Whig vote; second, internal strife in the Democratic Party over the slavery issue found its outlet in the Democratic primaries where the incumbent president was not re-elected, so that disaffected Democratic Party supporters mostly remained loyal to their party in 1856.

of the Negro. It is the eternal conflict between a small privileged class and the great mass of the non-privileged, the eternal struggle between aristocracy and democracy" (quoted in Zucker, 1950, 121). Such rational arguments for emancipation highlighted the logical inconsistency of a Republic based on liberty and equality that allowed slavery within its borders. This mattered because it ultimately implied legal inconsistencies that had to be resolved either in favor of republican institutions or in favor of slavery for all states in the Union. In March 1857, the Supreme Court's Dredd Scott decision seemed to do just that: it strengthened slave-owners' property rights in Northern states, and it seemed to many to be a stepping stone to re-establishing slavery in the North. Its result was that Northerners came to increasingly view slavery as a threat to the Union's republican institutions themselves.<sup>20</sup> Such fears grew because of a general view that the Buchanan administration was dominated by Southern slave power.<sup>21</sup> In 1858, Lincoln's future Secretary of State Seward summarized these fears in a Congressional speech, foreseeing "an irrepressible conflict between opposing and enduring forces, [which] means the U.S. must and will, sooner or later, become either entirely a slave-holing nation or entirely a free-labor nation."

Americans, in the North especially, were keenly aware that their institutions were a "great experiment" that stood in stark contrast to the oligarchic and hereditary government that prevailed almost everywhere else (Doyle, 2014, 93-96). From 1857, the amalgamation of the issue of slave-emancipation with the defense of republican institutions dramatically increased popular opposition to Southern slavery.<sup>22</sup> Lincoln would repeatedly combine the issues of slavery and republicanism in his speeches, when he called the Union the "last best hope for the survival of republican government" (McPherson, 1997, 112),<sup>23</sup> and famously in his Gettysburg address, when he promised "a new birth of freedom," and reminded soldiers that they fought so "that government of the people, by the people, for the people shall not perish from the earth."

<sup>&</sup>lt;sup>20</sup> This included concerns that the African slave trade was going to be re-opened and that there would be attempts to destabilize nascent Latin American republicans and replace them with slave-holding oligarchies in the Southern mold.

<sup>&</sup>lt;sup>21</sup> Foner (1970, 100) notes that "two judicious observers of the politics of the 1850s, Roy Nichols and Allan Nevins, agree that during the Buchanan administration southern control of all branches of the federal government was virtually complete."

<sup>&</sup>lt;sup>22</sup> This explains why many soldiers in their letters home professed to be fighting for liberty while relatively few initially professed to fight for "emancipation per se" (McPherson, 1997, 116-119). McPherson agrees with the assessment in Wiley (1952) that only one in ten Union soldiers "had any real interest in emancipation per se" but notes that this ratio increased sharply during the war.

<sup>&</sup>lt;sup>23</sup>These words are from Lincoln's December 1962 address to congress —one month before the Emancipation proclamation—where he wrote "we know how to save the Union [...] In giving freedom to the slave, we assure freedom to the free. [In doing so,] we shall nobly save, or meanly lose, the last best hope of earth."

A second aspect in which the *Forty-Eighters* became involved in national politics, especially after 1856, was in their efforts to sway the German-American vote for the Republican Party (Wittke 1973, 14, Kamphoefner 2006, 4).<sup>24</sup> German-Americans had traditionally supported the Democratic Party, and were additionally put off the Republican Party when after 1857 it absorbed large numbers of anti-immigrant 'Know-Nothings'.<sup>25</sup> To counteract this, the *Forty-Eighters* demanded a formal repudiation of nativism by the Republican Party at the 1860 Chicago convention; effectively "forcing the party to choose between Eastern nativists and the German vote in the West" (Wittke, 1973, 213). It is not our aim to weight in on whether the *Forty-Eighters*' demands were the main reason this formal repudiation came to pass, but pass it did, and became known as the "Dutch plank" in the Republican Party platform (Baron, 2012, 5).<sup>26</sup> And as a result of the Dutch plank, many German-American votes swung Republican, whilst the nativists "were absorbed into a party which made no concessions to them" (Foner, 1970, 258).<sup>27</sup>

## 2.4 How the Forty-Eighters Influenced Their Social Networks

While the *Forty-Eighters'* early years in the U.S. were dominated by practical and professional concerns, they did, with time, involve themselves again more in political life, especially beginning in 1854. In the historical narrative three ways stand out in which they did so, which we now discuss in turn.

First, given that many had already been publicists and editors in Germany, the *Forty-Eighters* ended up being disproportionately represented in the newspaper business, where "they took control of the German newspapers, founded many new ones, and redirected public opinion" (Baron, 2012, 3). It is worth stressing that most German-language newspapers were in fact bilingual, and

<sup>&</sup>lt;sup>24</sup> This is characterized as the struggle between the new "Greens" and the old "Grays" (Wittke, 1973, 191).

<sup>&</sup>lt;sup>25</sup> The American Part disintegrated in 1857, as many members came to view immigration as a secondary issue relative to slavery (Alsan, Eriksson and Niemesh, 2018).

<sup>&</sup>lt;sup>26</sup> Wittke (1973, 213) lists the prominent attendees of the German Club's pre-convention 1860 meeting; they were almost to a man *Forty-Eighters*.

<sup>&</sup>lt;sup>27</sup> One other thing that had changed in 1860 relative to 1856 was the Republican Party's presidential candidate: Abraham Lincoln was a shrewd politician but was also in many ways a surprise candidate, emerging only very late as a viable candidate. However, at a time when the Republican Party combined radical Abolitionists, conservative ex-Whigs, Nativists, and disenchanted ex-Democrats, with each group's favored candidate raising strong objections from one of the other factions, he was the ideal compromise candidate. As one observer put if, he was "the second choice of everybody" (Foner, 1970, 183, 213). Lincoln appears to have understood this before anyone else: Pratt's analysis of Lincoln's personal finances concluded that Lincoln had set his mind on the Republican presidential nomination by early 1859, the main evidence being that he took a secret ownership stake in the German-language *Illinois Staatszeitung* at that time.

were read by both English-speakers and German-Americans. At this time, newspapers were becoming the most important source of information as well as a forum for public debate (Gentzkow, Glaeser and Goldin, 2006; Gentzkow, Shapiro and Sinkinson, 2011). They were widely read, including by people of low educational or occupational status. Ulysses Grant later noted with pride that the Union Army was "composed of men [...] who knew what they were fighting for" and attributed this primarily to them reading the newspapers regularly (McPherson, 1997, 94). Evidence of the Forty-Eighters' political writings in newspapers abounds. For example, when the Civil War broke out in April 1861, Ottile Assing wrote in the Allgemeine Zeitung that "everyone whose sense of humanity and justice has not been poisoned by that national plague, slavery, must concede that the bloodiest war has to be favored over so called peace which we have 'enjoyed' under the slave-holders' despotic rule" (Öfele, 2004, 2). And on the eve of Lincoln's emancipation proclamation in the fall of 1862, Heinrich Börnstein wrote in the St Louis, Missouri Anzeiger des Westens: "The same Abraham Lincoln who has been much maligned by those skeptics who until only a few hours before the proclamation were ashamed to admit they had elected him president has now forced them to cast down the eyes in utter remorse. By this proclamation, Mr. Lincoln made [...] every soldier in this army into an emancipator, into a soldier of freedom."

We are able to measure this channel, having coded up the town-level circulation of Germanlanguage newspapers and journals from Arndt (1965), which includes the full history of the German-American press.<sup>28</sup> The left panel of Figure 1 displays the time-series of the total number of German-language newspapers in the U.S. together with our data on the arrival of the *Forty-Eighters*.

Second, many *Forty-Eighters* used their oratorical skills to give public lectures, and as speakers (*Sprecher'*) in the political clubs and societies that were common everywhere in the North at this time. Public speakers could appeal to the 'emotional truth' of an argument, and greatly influence the formation of beliefs. This was well understood and "agitation" was viewed as a critical political tool, abolitionist congressman Joshua Giddings calling it "the great and mighty instrument for carrying forward reforms" (Foner, 1970, 113).<sup>29</sup> As public speakers, the *Forty*-

<sup>&</sup>lt;sup>28</sup>Arndt lists all German-language newspapers and political journals, including the dates of their first and last issues.

<sup>&</sup>lt;sup>29</sup> McPherson (1997, ch7–9) emphasizes the importance of 'emotional truth' in his analysis of soldier letters and diaries; stating that "the genuineness of [Civil War soldiers' ideological] sentiments" can be hard for contemporary readers to understand, as "theirs was an age of romanticism" (p.100).



Figure 1: The Forty-Eighters' Arrival, German Newspapers, and Turner Societies

*Notes*: The left panel plots the arrival of the *Forty-Eighters* (solid line) together with the growth of German-language newspapers in the U.S. (dashed line). German newspapers are on the right axis, and the scale starts above zero, as the first German-language newspapers had already been around since the 18th century. The right panel plots the arrival of the *Forty-Eighters* (scaled on the left axis) together with the emergence of the *Turner Societies* in the U.S., the first two of which were founded in 1848.

*Eighters* were at the forefront of the anti-slavery agitation, both in front of German-speaking and English-speaking audiences. For example, one observer wrote of Carl Schurz in 1860 that "of the German speakers a man named Carl Schurz has acquired a great reputation. He even drew loud applause from the Americans for his speeches in English. The Democratic party though hates him all the more, especially the slaveholders." (Kamphoefner, 2006, 38). Lincoln called Schurz "foremost among the Republican orators of the nation" (Wittke, 1973, 215). Other *Forty-Eighters* like Friedrich Schünemann-Pott gave lectures and speeches all over the North (Wittke, 1973, 130).

While these examples of speakers of national prominence are illustrative, it is worth noting that our identification strategy will mostly identify those less prominent *Forty-Eighters* whose effects were concentrated in the communities in which they lived.

Third, the *Forty-Eighters* were also very active in the political and social life of German-American communities, especially in social and political clubs. Social clubs are often seen as as important transmission channels of beliefs, social norms and convictions (Putnam, 2001), and this certainly rings true in the period we study. Historians often describe American men in the 19th century as 'joiners',<sup>30</sup> because voluntary clubs and associations played such a prominent role in U.S. social life, a phenomenon which was noted as early as 1835 by de Toqueville. What was true of American men was even more true of German-American men. There was a phletoria of German social clubs

<sup>&</sup>lt;sup>30</sup> See for example Neem (2009); White (2017).

and societies such as "free men's socities", "free congregations", singing clubs, book clubs, shooting clubs etc. Bretting (1981, 201) lists over 50 German social clubs that existed between 1835 and 1859 in Philadelphia alone. However, most of these traditional German-American clubs were not political (Wittke, 1973, ch10). German-American social life only became politicized with the emergence of Turner Societies (*Turnvereine*'), the first of which was founded in 1848, followed by an explosion in their number in the 1850s.<sup>31</sup> Historians agree that *Forty-Eighters* were directly involved in founding many of them and in turning them into highly political organizations (Wittke 1973, ch11, Kamphoefner 2006, 4). The national convention of Turner Societies articulated a clearly abolitionist platform in 1855 (Wittke, 1973, 195); by 1856 Turners would frequently form bodyguards for anti-slavery activists during public speeches, in 1860 they made up Lincoln's bodyguards at his inauguration (Zucker, 1950; Baron, 2012); and from 1861 on Turner societies would often enlist en bloc into the Union Army, forming so-called "Turner Regiments" (Hofmann 1995, 158; Levine 1980, p.256). Wittke (1970, 225) estimates that 60 percent to 80 percent of the Turners enlisted for the Civil War.

We are able to measure this channel, having coded up the founding of all U.S. Turner Societies from the annual reports of the national Turner Societies (Metzner, 1890—1894). The right panel of Figure 1 shows that the emergence of Turner Societies in the U.S. coincided with the *Forty-Eighters'* arrival. It also shows their increased proliferation especially after 1856, when the *Forty-Eighters* reengaged themselves with political life.

## 3 The Data

Two major data innovations were necessary for the empirical analysis that follows this section. One, while empirical analysis of the 19th century U.S. below the state-level normally peruses readily available county-level data,<sup>32</sup> we had to locate the *Forty-Eighters* at a level of spatial granularity that more plausibly reflects a 'local community' or social network. To do this, we constructed a georeferenced data set of all U.S. *towns* in 1850 and 1860. To the best of our knowledge, we are

<sup>&</sup>lt;sup>31</sup> The Turner movement emerged at the beginning of the 19th century in the German states during the time of the Napoleonic occupation with the goal to strengthen physical and moral powers through the practice of gymnastics. In German lands, the movement became more politicized during the 1830s and 1840s, and Turner Societies became important vehicles of political organization during the revolutions in Germany.

<sup>&</sup>lt;sup>32</sup> The Census published aggregate county statistics for each each wave. These data were digitized in *Historical*, *Demographic*, *Economic*, and *Social Data: The United States*, 1790-2002 (Haines, 2010).

the first to perform a statistical analysis at what is approximately the universe of Northern towns in the 19th century. Two, to construct a meaningful outcome of the *Forty-Eighters'* influence that varies at the level of local communities, we created a dataset of Union Army enlistments at the town-level. We are not aware of any other paper that measured the spatial distribution of Union Army enlistments at any level of spatial disaggregation level.<sup>33</sup>

In the following, section 3.1 describes the town-level data and section 3.2 describes the Union Army enlistment data, before we discuss the data on the *Forty-Eighters'* settlement in section 3.3.

#### 3.1 U.S. Towns in 1850–1860

The first challenge with moving the analysis to the town-level is to establish the universe of U.S. towns that existed in the time spanning the *Forty-Eighters*' arrival and the Civil War. Present-day data does not provide a good guide: many places in the U.S. today were founded after 1860, and many place in the U.S. in 1860 were subsequently abandoned or incorporated into other places. Fortuitously, the Census published town-level aggregates in hardcopy for precisely the years 1850 and 1860. This information has been digitized and is available in the ICPSR-dataset *Population of Counties, Towns, and Cities in the United States, 1850 and 1860* created by Fishman (2009). This data contains more than 10,000 towns, but the 1850 and 1860 cross-sections map poorly into each other. We manually cleaned the two cross-sections and created a cross-walk to improve the match.<sup>34</sup> Additionally, we mapped the data from Fishman (2009) into the 1850 and 1860 Full-Count U.S. Census and created a cross-walk between these two data-sources. In the Northern states, we can map close to 100 percent of the Fishman (2009) towns to places in the Full-Count U.S. Census. Importantly, these make up over 90 percent of the Full-Count U.S. Census population, indicating that we capture almost the entire U.S. population in the North. The overlap in the Confederate States and in the West is much poorer, but this does not affect our analysis.<sup>35</sup>

Finally, we geolocated the Fishman (2009) towns in the following two-stage procedure. First, we matched the universe of towns to the 2018 'U.S. Cities Database'. Next, we used google's ge-

<sup>&</sup>lt;sup>33</sup> While voting data would be another interesting outcome given the historiography in sections 2.4 and 2.3, it is not available below the county- or congressional-district level.

<sup>&</sup>lt;sup>34</sup> The two main issues where incorporations (e.g. Brooklyn becoming part of NYC), and changing county-boundaries between the two waves.

<sup>&</sup>lt;sup>35</sup> In the Confederate States , we can map 83 percent of the Fishman (2009) towns to places in the Full-Count U.S. Census. But only 29 percent of the Full-Count population lived in Fishman (2009) towns. This reflects the much lower share of the Southern population living in towns. In the West, the overlap was 68 and 57 percent respectively.

olocation service and manual checks on historical county maps to locate unmatched towns. With these two steps, we were able to locate 90 percent of all towns and 94 percent of all Northern town in Fishman (2009).<sup>36</sup> Once we geolocated all towns, we can supplement the town-level census data with spatial controls like distance to rivers and railways or local temperature, precipitation and elevation.

#### 3.2 The Union Army Data

#### 3.2.1 Locating Enlisted Soldiers

The enlistment data stem from a newly digitized collection of the *Union Army Registers*, reports issued by each state's *Adjutant General's Office* at the end of the war. The reports provide information on all enlistments for the entire Union Army. Table 1 reports the total number of Union Army soldiers by state, the enlistment date of the tenth chronological percentile of enlisted men, the average enlistment date, as well as the enlistment men's population shares. The table divides states into Northern states, Confederate states, border states (who had slaves but did not secede from the Union), and Western states (most of which did not yet have statehood). Pro-Lincoln states where the Republican party had the biggest vote share also have the highest enlistment numbers relative to the population. They also have earlier enlistments. Outside of the Confederacy, border states were the most divided on the slavery issue and tended to have lower enlistment numbers relative to their population. (West Virginia was not a state yet in the 1860 Census.) Every Confederate state state had some Union Army enlistments, but these occurred later. The majority of Southern enlistments to the Union Army occurred after the Union Army had defeated the bulk of Confederate forces in a state.

To derive the spatial distribution of enlistments from these data, we clean the residence information in the *Union Army Registers* and match them to the set of towns in Fishman (2009). For just under half the soldiers, the data report the county or state of residence but not the town. We fill in missing town-of-residence information by linking the *Registers* to the *1860 Full-Count U.S. Census*, 'blocking' soldiers by state and using their first name, last name, middle name, age, and (where

<sup>&</sup>lt;sup>36</sup> In all steps, we project the allocated coordinates into counties' polygons and only keep observations that are located in the correct county. Moreover, we drop duplicates in latitude and longitude because google might allocate the county-centroid to all unmatched towns within a county.

State	Enlistment total	10th Perc. Enl-Date	Median Enl-Date	Enlistm./ 1860 Pop		Enlistment total	10th Perc. Enl-Date	Median Enl-Date	Enlistm./ 1860 Pop
Core States					Confederate States				
CONNECTICUT	39,202	25jun1861	28oct1862	4.3	ALABAMA	3,442	01oct1862	10mar1864	0.2
D.C.	11,433	16apr1861	07apr1862	7.6	ARKANSAS	12,889	16aug1862	13nov1863	1.5
ILLINOIS	226,922	25jul1861	04dec1862	6.6	FLORIDA	1,274	04jan1864	13may1864	0.5
INDIANA	185,774	17aug1861	02feb1863	6.9	GEORGIA	376	23mar1864	03sep1864	0.0
IOWA	70,982	16jul1861	06oct1862	5.3	LOUISIANA	35,128	01aug1862	25may1863	2.5
MAINE	55,859	15jul1861	16dec1862	4.4	MISSISSIPPI	15,668	27jul1863	14dec1863	1.0
MASSACHUSETTS	94,498	13jun1861	29sep1862	3.8	NORTH CAROLINA	2,968	27jun1862	05nov1863	0.1
MICHIGAN	82,121	12aug1861	06feb1863	5.5	SOUTH CAROLINA	3,552	31jan1863	20may1864	0.3
MINNESOTA	24,478	28sep1861	17feb1863	7.1	TENNESSEE	59,286	29may1862	13sep1863	2.7
NEW HAMPSHIRE	28,101	09aug1861	30dec1862	4.3	TEXAS	1,426	01nov1862	20may1863	0.1
NEW JERSEY	62,045	30may1861	06mar1863	4.6	VIRGINIA	3,683	20jun1862	06oct1863	0.1
NEW YORK	396,339	25may1861	29nov1862	5.1					
OHIO	299,457	13jun1861	10dec1862	6.4	Western States				
PENNSYLVANIA	354,625	01jul1861	13jan1863	6.1	CALIFORNIA	14,785	09sep1861	22mar1863	1.9
RHODE ISLAND	21,700	06jun1861	19oct1862	6.2	COLORADO	4,913	01dec1861	29jan1863	7.2
VERMONT	27,783	14aug1861	23oct1862	4.4	NEBRASKA	19,226	24jul1861	20oct1862	9.0
WISCONSIN	79,219	26aug1861	15mar1863	5.1	KANSAS	3,284	13jun1861	08nov1862	5.7
					NEVADA	8,073	01jul1861	04mar1862	4.3
Border States					NEW MEXICO	1,285	01jul1863	03sep1863	9.4
DELAWARE	11,800	22may1861	26jun1862	5.3	OREGON	2,121	21nov1861	21may1863	2.0
KENTUCKY	93,764	19sep1861	08mar1863	4.1	SOUTH DAKOTA	123	05dec1861	01may1862	2.5
MARYLAND	33,693	03sep1861	11feb1863	2.5	UTAH	126	13aug1864	29aug1864	0.2
MISSOURI	150,647	08may1861	17jun1862	6.4	WASHINGTON	1,064	27nov1861	18mar1864	4.6
WEST VIRGINIA	31,906	01jul1861	31aug1862						

## Table 1: Enlistment by State

*Notes*: This table reports the total number of Union Army soldiers by state, the enlistment date of the tenth chronological percentile of enlisted men, the average enlistment date, as well as the enlistment men's population shares. Data is from the *Adjutant General's Reports*. The table divides states into core/Northern states, border states (who had slaves but did not secede from the Union), Confederate states, and Western states (who did not yet have statehood). A notable feature of the data is that there were Union Army enlistments from every Confederate state.

#### Figure 2: Mapping Enlistments



*Notes*: This figure displays the spatial distribution of our main outcome variable, i.e. enlistments per adult males. In addition, the figure displays rivers and 1860 county boundaries.

available) location information for the record linkage. Matching is aided by the fact that the Census was recorded just one year before the war broke out and the *Registers* include enlistees' age and middle name. Appendix A.2.1 explains the details of our record-linkage procedure, including how the match threshold is set. The matching procedure only accepts unique matches and the match threshold is set sufficiently high that after extensive spot-checking, we are confident in the accuracy of the matches. To illustrate the derivation of match scores to the reader, Table A1 in Appendix A.2.1 reports on a random draw of three matches for each match score that occurs in our data above the threshold score where we keep matches. This procedure uniquely identifies 750,000 soldiers from the Registers inside the Full Count Census. For half of these men, the hometown information was previously missing, increasing the share of records with town-of-residence information to over two-thirds. Figure 2 illustrates the resulting spatial distribution of enlistments across home towns.

To assign the remaining soldiers to a town of residence, we take advantage of the fact that regiments in the Union army were raised locally, most often from a small area encompassing no more than a few counties, and frequently no more than a few towns within a county (Costa and Kahn,



*Notes*: The left panel of this figure visualizes our favored approach where we calculate the convex hull around all observed enlistment locations in a given regiment *r*. This determines our enlistment area and we randomly allocate soldiers without location information to towns inside the enlistment area using the 1860 town population as weight. The right panel of this figure visualizes a simpler version of this polygon procedure where we delineate a regiment's enlistment area by a rectangle that spans the minimum and maximum coordinates of all observed enlistment towns for a given regiment *r*. Soldiers without location information are allocated as before.

2003, 524). 'Local enlistment' means that the observed distribution of located soldiers' hometowns in a regiment is highly predictive of the unobserved distribution of unlocated soldiers' home-towns.<sup>37</sup> We consider two approaches which exploit the spatial clustering of enlistments to determine regiment r's relevant 'enlistment area.' Both approaches are visually represented in Figure 3. The light-gray dots represent the set of towns where we observe enlistments for regiment r (within a state s), and the black dots represent the remaining towns in the enlistment area where we do not observe enlistments.<sup>38</sup> Our preferred procedure to delineate an enlistment area is to calculate the convex hull of all (gray) locations with enlistment information. The resulting polygon is shown in the left panel of Figure 3. A simpler method to delineate the enlistment area is to calculate the rectangle that spans the minimum and maximum coordinates of all observed enlistment towns per regiment and state. The right panel of Figure 3 illustrates this. Once we have defined an enlistment area, we randomly assign unlocated cases to enlistment-area towns using their 1860 population as weights. The latter reflects the fact that larger towns enlisted more soldiers.

We recognize that it would be preferable to have all town-of-residence information completely reported in a single data source. We have no reason to believe that our treatment of interest should

<sup>&</sup>lt;sup>37</sup> The U.S. Army abandoned local enlistments only after D-day in World War II.

<sup>&</sup>lt;sup>38</sup>Regiments were recruited within states. If we observe home towns in more than one state in a regiment, we determine the most frequent home state and drop all enlistments from different home states.

			5		
	German	Irish	Other	<u>Scandinavian</u>	American
Number:	502,018	722,860	20,486	92,749	912,862
Share in %:	22.3	32.11	0.91	4.12	40.55

Table 2: Enlistment by State

*Notes*: This table reports on the distribution of predicted ancestries of soldiers. The shares of German-ancestry and Irish-ancestry soldiers considerably exceed reasonable estimates of immigrant shares in the Union Army. Because the machine learning algorithm infers ancestry from name alone, this reflects the long history of German and Irish immigration into the U.S.

correlate with the reporting of residence in the Registers or with finding an individual in the Full Count Census. Nonetheless, having incomplete town-of-residence may introduce classical measurement error in our outcome, resulting in imprecise estimation results. It is not clear that spatial interpolation will necessarily improve this, so that section 4 will present results both without and with interpolated soldiers.

#### 3.2.2 Soldiers' Ethnicity/Ancestry

The *Union Army Registers* contain exclusively military information (the units men belonged to, their rank, when they enlisted, their enlistment terms and whether they died, deserted, were wounded or mustered out at the end of their service). Aside from this, we only know the enlistees' age at enlistment, and town-of-residence. Fortunately, the reporting of birthplaces in the 1860 Full Count Census provides us with a natural training data set on which to train a machine-learning algorithm that can predict soldiers' ancestry from their names. Knowing soldiers' ancestry will prove useful in the following sections, for example in section 4.2, where we will ask if the *Forty-Eighters* had a disproportionate effect on German-Americans' enlistments and in section 4.4.

We group birthplaces into German, Irish, Italian, Scandinavian, American and 'Other Immigrants' in the Full-Count 1860 U.S. Census, and then train the algorithm to predict the relative probabilities of an individual belonging to each group. A detailed description of the machinelearning algorithm is provided in Appendix A.3. In the training data, we accurately predict birthplace in more than ninety percent of the cases. We then apply the trained algorithm to our soldier data, and associated each soldier with a probability distribution of ancestries. The number of Italians in the U.S. turned out to be so small in 1860 that we grouped them with the 'Other' category. Table 2 reports on the distribution of predicted ancestries. For the non-American groups, the predicted number for soldiers of each *ancestry* group is considerably larger than contemporary estimates of the number of soldiers of each *ethnicity*, which were compiled by the U.S. Sanitary Commission during the war (Kamphoefner (2006, 9), based on Gould (1869)). This is because the algorithm assigns many of the second and third-generation immigrants with typical German or Irish last names to their immigrant ancestry group, while they would have been recorded as American in official documents. To the extent that recent immigrants likely would have behaved in more distinct ways than second or third-generation immigrants, our coding will make it less likely that we find any distinctions along ancestry-lines.

## 3.3 Measuring Treatment

Our treatment of interest is a locations' exposure to *Forty-Eighters*. We collected detailed biographies for 493 *Forty-Eighters*, including their arrival port and residence locations before the beginning of the Civil War. Typically, the *Forty-Eighter* spent a short while in the arrival port—in the vast majority of cases New York City— before they went westward to wherever they could find a job. The historical record suggests that the *Forty-Eighters* did not immediately get involved in the sectional political conflict smoldering in the U.S. They arrived penniless, had no social network and did not speak English. As a result, they were living from day to day with no time left to engage in the political process. However, over time they settled and when the Kansas-Nebraska Act ended the second American party system most *Forty-Eighters* were ready to reengage politically. For our purposes, towns are treated if they were exposed to at least one *Forty-Eighter* in the five years prior to the Civil war, i.e. between 1856-1861. Since the *Forty-Eighters* did not emerge as civic leaders over night, we further restrict our treatment to locations where they stayed for at least three years. This treatment definition leaves us with 73 Northern towns that were exposed to at least one *Forty-Eighter*. Figure 4 displays the spatial distribution of these towns.<sup>39</sup>

Closer inspection of the number of *Forty-Eighters* across towns reveals a heavily right-skewed distribution. While we observe 73 towns with at least one *Forty-Eighter*, almost three-quarters of the *Forty-Eighters* went to (or stayed in) only six large urban centers: New York, Cincinnati, St.

<sup>&</sup>lt;sup>39</sup> Ten other towns were located in the Confederate States or the West, and play no role in our analysis.

## Figure 4: Spatial distribution of the Forty-Eighters



*Notes*: The map shows the spatial distribution of the towns in which *Forty-Eighters* settled. Larger bubbles indicate locations with more *Forty-Eighters*. In addition, the figure displays rivers and 1860 county boundaries.

Louis, Philadelphia, Baltimore, and Milwaukee. This skew is evident in the left panel of Figure 5.40

Postponing a discussion of identification concerns to section 4, this skew raises the question which functional form to use. One concern is that towns with many *Forty-Eighters* would depress the estimated treatment effect if the treatment effect was erroneously assumed to be linear. A first inspection of the relationship between town size in 1850 and exposure to *Forty-Eighters* reveals an interesting pattern: for towns where at least one *Forty-Eighter* settled, the intensive margin of treatment (i.e. the number of *Forty-Eighters*) can be explained by a simple quadratic in their 1850 population size. This is evident in the right panel of Figure 5, which shows the fitted regression plot from a regression or the number of *Forty-Eighters* on state fixed effects and a town's 1850 population. Therefore, our approach to dealing with the skewed distribution is to focus on a simple binary *Forty-Eighter* indicator, conditional on the log of a town's 1850 population size in all

<sup>&</sup>lt;sup>40</sup> New York City was the most important arrival port. In the *Germans to America* shipping-lists—discussed in section 4.2 and Appendix A.5.2—New York City alone accounts for 85 percent of the 4.1 million German arrivals between 1850 and 1894. It is thus not surprising that roughly one-quarter of the *Forty-Eighters* did not leave New York. In our analysis, we disregard NYC for two reasons. First, there is no plausible control town for the largest city. Second, New York was the biggest entry port so that a large portion of NYC soldiers enlisted straight after debarkation, i.e. did not represent the resident population. (We thank Dora Costa for pointing this out.)



*Notes*: The left panel of this figure displays the distribution of the number of *Forty-Eighters* across treated towns. There are over 60 towns where one or two *Forty-Eighters* settled, as well as a number of towns where several settled. More than thirty *Forty-Eighters* settled in each of Cincinnati, and St Louis, Missouri, Twenty settled in Philadelphia, and Baltimore, Milwaukee and Davenport each had 15 or more. Among treated towns, the distribution of the number of *Forty-Eighters* was thus clearly skewed toward larger cities. (The left panel omits NYC where over 100 *Forty-Eighters* settled.) The right panel of the figure shows that a quadratic function of a town's 1850 population size fits the distribution of the number of *Forty-Eighters* very well.

regressions.<sup>41</sup> In robustness checks, we will alternatively drop towns that hosted a large number of *Forty-Eighters*.

In the following regressions, the exact number of treatment towns will vary with specifications. If we use state or county fixed effects, we will lose singletons like Washington DC and if we employ a matching strategy, all large towns will be omitted because conditional on regional fixed effects there will be no control group in the common support.<sup>42</sup> To account for this, we will consistently report the number of *Forty-Eighter* towns that provide identifying variation for each estimation result.

# 4 Results

In the following, section 4.1 discusses the potentially selective nature of the *Forty-Eighters'* towns of settlement. Section 4.2 presents estimates of our core results of the effect of the *Forty-Eighters* on town-level enlistment. Section 4.3 investigates mechanisms, where we estimate the effect of

<sup>&</sup>lt;sup>41</sup> This captures the quadratic relation with town size since the log of population and the log of squared population are collinear.

<sup>&</sup>lt;sup>42</sup> The following are the large towns that are dropped with matching: Baltimore MD, Brooklyn NY, Buffalo NY, Chicago IL, Cincinnati OH, Cleveland OH, Davenport IA, Detroit MI, Louisville KY, Milwaukee WI, Newark NY, Philadelphia PA, St Louis MO.

*Forty-Eighters* on the circulation of German-language newspapers and *Turner Societies*. The last two sections provide additional results that buttress our core findings. In section 4.4, we track the *Forty-Eighters* who enlisted in the Union Army themselves, and re-estimate the duration-analysis in Costa and Kahn (2003) with an indicator for having a *Forty-Eighter* commanding officer as an additional treatment. Section 4.5 investigates whether the *Forty-Eighters* had a long-run effect on the likelihood of a local NAACP chapter being founded after 1909.

## 4.1 Empirical Setup

To assess the *Forty-Eighters'* effect on Union Army enlistment enlistments in town *i*, we estimate:

$$\mathbf{y}_{i} = \beta \cdot \mathbf{D}(Forty-Eighter_{i} > 0) + \mathbf{X}_{i}^{\prime}\delta + \eta_{s} + \epsilon_{i}, \tag{1}$$

where our two primary outcomes are the share of a town's adult male population that enlisted over the course of the war, and the log of enlistments.  $D(Forty-Eighter_i > 0)$  is an indicator function that takes the value one if town *i* was settled by at least one *Forty-Eighter*,  $X_i$  is a vector of town and county control variables,  $\eta_s$  are state (or county) fixed effects, and  $\epsilon_i$  is an error term.

Our primary empirical concern is that the *Forty-Eighters* may have chosen where to settle based on the strength or growth of places' anti-slavery or pro-republican beliefs. This could create a bias in our estimation if we falsely attribute higher enlistments for the Union Army to the presence of *Forty-Eighters*. Their biographies suggest that the *Forty-Eighters*' initial settlement choices in the U.S. were dominated by economic necessities, and that work opportunities arose idiosyncratically, making the towns where *Forty-Eighters* settled an approximately random draw out of those towns which had characteristics that attracted *all* German immigrants in the 1850s (Wittke, 1970, 66). Concerns may thus arise if such characteristics correlated with the strength of anti-slavery and pro-republican convictions at the time. This concern can be addressed by exploring what these characteristics were and controlling for them.

**The 'Core Controls':** Unlike most immigrants at the time, the *Forty-Eighter* arrived in U.S. penniless and with no existing family ties (Wittke 1970, ch.6, Wust 1984, p.31). As a result, the first place they went to after leaving their port of debarkation was wherever they could find work. This often meant moving somewhere to the Mid-West around German-American communities

that were actively seeking German-speaking workers from port-cities. Labor bureaus operated by German Societies in port cities advertised these jobs and helped immigrants organize their trip inland.<sup>43</sup> According to Wust (1984, p.32), this "employment service provided 2,200 jobs in 1846, 4,950 jobs in 1849 and 9,435 in 1853."<sup>44</sup> Key factors explaining where they moved inland were (i) the presence of pre-existing German-American communities and (ii) the attractiveness of a town for newly arrived German immigrants. We constructed four variables to measure the existence of German American communities and a town's overall attractiveness for German immigrants in the early 1850s. First, we measure each town's distance to destination locations advertised in Metzler's Map for Immigrants, the most widely circulated cartographic guide for German immigrants to the U.S. in the early 1850s. (We show the geo-referenced map in Appendix A.5 Figure A1.) Second, we measure the size of a town's German community as measured in the 1850 Full-Count U.S. Census. Third, we measure the change in the size of German communities between the 1850 and 1860 Full-*Count U.S. Census.* Fourth, we measure each town's intake of German immigrants arriving during the narrow time-window 1849–1851 that coincided with the Forty-Eighters' arrival. To create this control, we digitized the 'Germans to America' Shipping Indices from Glazier and Filby (1999) and Glazier (2005), and matched all immigrants arriving between 1849–1851 into the 1860 Full Count U.S. Census based on name, age, gender and birthplace.<sup>45</sup> In the short term, job opportunities for the Forty-Eighters were often limited to the same occupations where most immigrants found work, i.e. on the railroad, on farms, and as office clerks. Wittke (1970, p.66) describes the Forty-Eighters in the first few years after their arrival as "scholars able to quote Homer but forced to work with pick and shovel as day laborers on canals and railroads." However, our biographical records suggests that they quickly put down their picks and shovels, and for the most part soon started working in teaching, journalism, publishing and the arts.<sup>46</sup> While the Forty-Eighters changed occupation,

<sup>&</sup>lt;sup>43</sup>The German Societies themselves had a vital interest to move new immigrants inland because of two scandals, in 1847 and 1848, when groups of paupers from Grosszimmern and Griesheim in Hesse had arrived in New York City and refused to leave the city's Poor House. The German Society was fiercely attacked by New York officials and newspapers, who accused the 'Dutchmen' of loading this group of paupers onto New York (Wust, 1984, p.30).

<sup>&</sup>lt;sup>44</sup>Wust (1984) mentions that the archives of the *German Society of New York City* held every annual report since 1845 at the time of his writing. Unfortunately, the society today has a staff of one, no archives and no library.

<sup>&</sup>lt;sup>45</sup>This fourth measure is particularly important because it addresses the concern that the *Forty-Eighters* co-located with other German immigrants arriving at the same time who might have shared their ideals of liberty and equality. If we did not account for this potential correlation, we would overstate the *Forty-Eighters*' true influence. The Shipping Lists and the matching procedure are discussed in Appendix A.5.2.

<sup>&</sup>lt;sup>46</sup>The example of Hermann Raster illustrates this argument. Raster was a true intellectual. He spoke seven languages. He studied in Leipzig and Berlin, and he was part of a literature circle around Bettina von Arnim, a German writer and novelist who was known to support young talents. Raster was imprisoned because of his active role in the German

they tended to stay close to where they had first found work, often moving only to a neighboring town or county. So in the medium run, the *Forty-Eighters* may have been particularly attracted to towns that offered job opportunities for highly educated German immigrants. To control for the potentially different socio-political climate of such towns, we coded the 1850 town-level circulation of German-speaking newspapers and journals from Arndt (1965).<sup>47</sup> In addition, as discussed in section 3.3, we always include the log of a town's 1850 population Together, these six factors make up our 'core controls', which we always incorporate into our analysis as either controls or matching variables.

Additional Controls: Beyond the set of core controls, we consider any additional observables that a variable selection algorithm finds to be predictive of the *Forty-Eighters'* settlement locations. These are chosen from a pool of town- and county-level controls from the following data sources: Fishman (2009) provides a set of town-level population control variables, including the female population share, the free colored and the slave population shares. In addition, Michael Haines shared 1840 town-level demographic information with us from a thus-far unpublished part of the data collection in Haines (2010). Having geo-located all Fishman (2009) towns, we can also calculate a rich set of geographic location factors comprising longitude and latitude, log elevation, the mean temperature and precipitation, and (log) distance to the coast, to the next navigable river and to the railway network in 1850 (provided by Atack, 2015), and the shortest distance to one of the four relevant arrival ports (Baltimore, New Orleans, New York and Philadelphia). In addition, we have a rich set of *county*-level controls for 1850 from Haines (2010), including the county population share living in towns with either more than 2,500 or more than 25,000 inhabitants, the share of foreign-born inhabitants, the size of the agricultural sector and the size of the manufacturing sector, and the number of churches. Finally, we peruse historical countylevel voting data for presidential elections from the dataset Electoral Data for Counties in the United States: Presidential and Congressional Races, 1840-1972 (Clubb, Flanigan and Zingale, 1987).<sup>48</sup> This latter control is particularly valuable because it allows us to asses whether Forty-Eighter towns were initially different in their political environment.

Revolution, but he was released from prison in 1851 under the condition that he would leave Germany. He arrived in New York in July 1851. The only work he could find upon his arrival was as a wood-chopper on a farm near Tioga, Pennsylvania. However, by 1852 he had found employment as a newspaper editor.

 <sup>&</sup>lt;sup>47</sup> Arndt lists all German-language newspapers and political journals, including the dates of their first and last issues.
<sup>48</sup> This data-source is discussed in Appendix A.4.1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Control	Treated	balance	-test Treated vs	Control	Vari	able Selection M	Aodel
fixed effects:	-	-	-	state	county	-	state	county
Share German-Born 1850	0.016	0.089	0.074***	0.075***	0.058***	0.101***	0.107***	0.112***
	(0.056)	(0.112)	(0.007)	(0.007)	(0.006)	[0.008]	[0.007]	[0.002]
log dist: Metzler-Map Destinations	3.853	2.729	-1.124***	-1.177***	-0.707***	-0.007***	-0.006**	-0.012**
	(0.849)	(2.073)	(0.100)	(0.085)	(0.050)	[0.009]	[0.023]	[0.028]
∆Share German-Born 1860-1850	0.008	0.011	0.003	-0.002	-0.005	0.088*	0.075	0.064*
Commente Ta America 1840.52	(0.056)	(0.126)	(0.007)	(0.007)	(0.007)	[0.055]	[0.112]	[0.080]
Germans-10-America 1849-52	(0.025)	23.002	23.453***	23.570***	20.073***	0.003***	0.003***	0.003***
Count German Newspapers 1850	0.011	2 176	2 165***	2 207***	1 905***	0.016*	0.017*	0.014
Count Octman (Vewspapers 1850	(0.221)	(5.638)	(0.058)	(0.058)	(0.055)	[0.062]	[0.059]	[0 278]
log Pop 1850	6.471	8.129	1.658***	1.858***	1.579***	0.008***	0.009***	0.011***
5 F	(1.137)	(1.949)	(0.133)	(0.099)	(0.086)	[0.000]	[0.000]	[0.000]
log dist nearest port	6 789	6 857	0.068	-0.035***	-0.003	0.009***		
tog unt nearest port	(0.426)	(0.494)	(0.050)	(0.013)	(0.002)	[0 008]		
log dist nearest navigatable river	3.672	2.615	-1.058***	-0.996***	-0.650***	-0.002**	-0.002**	-0.004**
	(1.385)	(2.204)	(0.162)	(0.145)	(0.087)	[0.019]	[0.027]	[0.023]
log dist nearest railway	3.853	2.729	-1.124***	-1.177***	-0.707***			. ,
	(0.849)	(2.073)	(0.100)	(0.085)	(0.050)			
log dist nearest coast	4.690	4.001	-0.689***	-0.861***	-0.388***	-0.003*	-0.003**	-0.005**
	(1.412)	(2.482)	(0.166)	(0.120)	(0.061)	[0.067]	[0.024]	[0.043]
Latitude	41.369	40.928	-0.442**	-0.202**	-0.012	0.001*		
	(1.880)	(1.680)	(0.219)	(0.099)	(0.015)	[0.077]		
Longitude	-83.202	-85.563	-2.360***	0.329**	0.022			
	(7.347)	(6.987)	(0.857)	(0.150)	(0.019)	0.00444		
log elevation	5.401	5.084	-0.317***	-0.339***	-0.105***	0.004**	0.004**	0.009***
maan tamparatura	(0.678)	(0.817)	(0.079)	(0.060)	(0.031)	[0.019]	[0.023]	[0.004]
mean temperature	95.175	(18,001)	(2,221)	(1.248***	(0.421)			
	(19.913)	(18.001)	(2.321)	(1.201)	(0.451)			
County: Churches 1850	39.470	41.878	2.408	13.531***		-0.000***	-0.000***	
Country 1850 Share Day in Discoss 25 000	(42.431)	(52.339)	(4.956)	(3.280)		[0.004]	[0.002]	
County: 1850-Share Pop in Places>25,000	0.010	(0.261)	(0.000)	(0.000)		-0.026	-0.025	
County: 1850 Share Pop in Places 2 500	(0.073)	(0.201)	(0.009)	(0.009)		[0.194]	[0.294]	
County. 1850-Share 1 op in 1 laces-2,500	(0.131)	(0.275)	(0.015)	(0.014)		[0.052]	[0.066]	
County: farmacres improved 1850	10.952	10.839	-0.113	0 502**		-0.001*	[0.000]	
county: humanes improved rooo	(2.468)	(1.416)	(0.306)	(0.250)		[0.050]		
County: share foreign born 1850	0.102	0.201	0.099***	0.081***		-0.027**	-0.031**	
, ,	(0.102)	(0.147)	(0.013)	(0.011)		[0.033]	[0.042]	
County: manufacturing capital share foreign born 1	11.233	12.176	0.943	2.141***				
	(4.697)	(3.956)	(0.579)	(0.452)				
County: Colleges 1850	0.232	0.785	0.553***	0.580***				
	(0.586)	(1.375)	(0.074)	(0.071)				
Slave Pop Share 1850	0.010	0.004	-0.006	-0.007	-0.000			
	(0.056)	(0.018)	(0.007)	(0.005)	(0.003)			
Free Colored Pop Share 1850	0.008	0.022	0.014***	0.010***	0.009***	0.044		
	(0.026)	(0.038)	(0.003)	(0.003)	(0.002)	[0.202]		
%-Δ Pop 1850-1840	1.200	1.526	0.326***	0.066	0.148*			
-	(0.945)	(0.749)	(0.110)	(0.088)	(0.081)			
%-Δ Slave Pop 1850-1840	0.055	0.033	-0.022	-0.057	-0.010	-0.004*	-0.005*	-0.004
	(0.438)	(0.703)	(0.051)	(0.042)	(0.037)	[0.057]	[0.094]	[0.231]
%-Δ Free Colored Pop 1850-1840	0.312	0.952	0.640***	0.594***	0.603***			
	(1.013)	(1.137)	(0.118)	(0.117)	(0.122)			
%-Δ Female White Pop 1850-1840	1.200	1.524	0.324***	0.064	0.155*	0.004***	0.003***	0.004***
	(0.944)	(0.747)	(0.110)	(0.087)	(0.081)	[0.001]	[0.005]	[0.005]
County: 1848 Vote-Share Democratic Party	44.702	44.878	0.176	-0.299	0.000			
	(13.556)	(9.853)	(1.711)	(1.224)	(0.000)			
County: 1848 Vote-Share Liberty Party	11.894	9.303	-2.591	-2.198*	-0.000	-0.000***	-0.000**	
	(13.189)	(9.922)	(1.665)	(1.201)	(0.000)	[0.002]	[0.049]	
R-Squared						0.220	0.218	0.250
Observations	11,568	73				9,883	9,907	11,517

### Table 3: Balancing Table & Variable-Selection (Location) Model

*Notes*: This table reports on the control variables in our data and their relation to the treatment variable  $D(Forty-Eighter_i > 0)$ . Columns 1–2 report variable-averages for control and treated towns, with standard deviations in brackets. Columns 3–5 report Wald-tests of the equality of each variable across control and treated towns. Column 4 does so conditional on state fixed effects, and column 5 conditional on county fixed effects. Columns 6–8 report on the variables selected as predictors of  $D(Forty-Eighter_i > 0)$ , which uses the *Furnival-Wilson leaps-and-bounds algorithm* to select the set of control variables based on *Akaike's information* criterion for automated variable selection (Lindsey, Sheather et al., 2010). Column 6 includes no regional fixed effects, column 7 adds state fixed effects, column 8 adds county fixed effects.

Table 3 reports on the control variables in our data and their relation to the treatment variable  $D(Forty-Eighter_i > 0)$ . The table omits variables in our data that never display any significant correlation with  $D(Forty-Eighter_i > 0)$  in any of the exercises discussed below. The table is vertically segmented into the core controls, followed by geographic and climatic town-level controls, then county controls from Haines (2010), then controls for 1850 town-level demographics from Fishman (2009), and town-level controls for changes in demographics between 1840 to 1850. Lastly, we report on 1848 party vote-shares from (Clubb et al., 1987). Columns 1–2 report variable-averages for control and treated towns, with standard deviations in brackets. Columns 3–5 report Wald-tests of the equality of each variable across control and treated towns. Column 3 does so with no fixed effects. Column 4 repeats the exercise conditional on state fixed effects, and column 5 conditions on county fixed effects. The imbalance between treated and control towns decreases as we condition on finer-grained spatial fixed effects, moving from column 3 to 4 to 5. The core controls, as well as several others, remain unbalanced with county fixed effects.

In columns 6–8, we assess which of the controls remain imbalanced in a multivariate setting that relates the treatment to all controls simultaneously. This is done though a variable selection model that provides us guidance on which of the many controls should be included in our regressions; see notes to Table 3. We first run the variable selection model and then report the results of regressing  $D(Forty-Eighter_i > 0)$  on the selected variables. For illustrative purposes, we first run the variable selection model with no fixed effects (column 6), followed by state fixed effects (column 7) and finally county fixed effects (column 8). The number of observations varies because the Haines (2010) data does not include some counties in our data. The historical voting data excludes a few more counties in addition. When we get to the main regressions, we will re-visit the resulting trade-off between increasing the number of controls and reducing the sample of available towns. A key observation in columns 6–8 is that the core controls are always selected by the model, as are a number of geographic characteristics. County controls are mechanically omitted in column 8 because of the county fixed effects. The growth rate of a town's female population between 1840 and 1850 is also significantly predictive of  $D(Forty-Eighter_i > 0)$ . Interestingly, pre-arrival party vote-shares in columns 6 and 7 do not have the sign one would expect if the Forty-Eighters had settled into established abolitionist areas. This is consistent with the historical narrative in section 2.3, whereby the Forty-Eighters "rational" abolitionism ran anathema to the previously dominant puritan abolitionism, which the 1848 Liberty Party vote share would have picked up.<sup>49</sup>

## 4.2 Core Results

Our first approach to identification is to perform OLS estimations of equation (1), letting our choices of control variables  $X_i$  be guided by the selection in columns 7–8 of Table 3.

Table 4 reports the results. In Panel A, we consider enlistments per adult males in a town as the outcome, In Panel B, we consider the natural log of enlistments instead. Columns 1-6 include state fixed effects and columns 7–8 include county fixed effects. We always condition on the set of core controls. In columns 2–4 we incrementally add the controls selected in column 7 of Table 3, first the town controls, then the county controls, then the 1848 vote-share controls. We always report the number of *Forty-Eighters* that provide identifying variation in each specification, since this can vary with the controls and fixed effects that are included. Our baseline OLS results in Panel A suggest that the Forty-Eighters increased enlistments in a town by twelve per hundred adult men. In Panel B, the corresponding estimate is about ninety percent, which is consistent since the mean enlistment rate in our data is thirteen men per hundred adult males. The estimates in columns 3-4 are somewhat smaller, but this can be because of either the added controls or because the sample shrinks with the inclusion of county controls which are not available for all counties further west. To investigate, columns 5–6 re-run the specification with fewer controls (column 2) on the smaller sample from columns 3–4. Comparing column 5 with 3 and column 6 with 4 suggests that it is the sample selection and not the inclusion of additional controls that reduces the estimated coefficients relative to column 2. Because there is no reason to prefer the sample selection imposed by columns 3 and 4, we will from now focus on the specifications with core controls and town controls, i.e. columns 1–2 only. Columns 7–8 repeat these specification with county instead of state fixed effects. The estimated coefficients are remarkably robust to these much more fine-grained spatial fixed effects. We also confirmed the robustness of the point estimates more formally by calculating the generalized Hausman test for differences in the treatment variable's point estimates when

<sup>&</sup>lt;sup>49</sup>See Online Appendix B for a discussion of the Liberty Party. Its local vote share was likely explained mostly by western pockets of puritan settlements. Foner (1970, 107) quotes a contemporary observer: "almost every free state has its New England within its border", and argues that these "little New Englands" were everywhere the centers of abolitionism.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
PANEL A	Enlistments / Male 1860-Pop								
D(Forty-Eighters)	0.124*** [0.000]	0.124*** [0.000]	0.098*** [0.000]	0.102*** [0.000]	0.100*** [0.000]	0.104*** [0.000]	0.119*** [0.000]	0.117*** [0.000]	
R-squared	0.092	0.095	0.098	0.100	0.096	0.097	0.354	0.355	
PANEL B				Log Enl	istments				
D(Forty-Eighters)	0.915*** [0.000]	0.926*** [0.000]	0.836*** [0.000]	0.884*** [0.000]	0.852*** [0.000]	0.886*** [0.000]	0.888*** [0.000]	0.880*** [0.000]	
Fixed Effects Core Controls Town Controls County Controls Vote-Share Controls	state ✓	state ✓ ✓	state ✓ ✓	state ✓ ✓ ✓	state ✓ ✓	state ✓ ✓	county ✓	county ✓	
Observations # Forty-Eighter Towns R-squared	11,095 72 0.563	11,095 72 0.565	10,045 66 0.544	9,482 63 0.521	10,045 66 0.544	9,482 63 0.518	10,971 68 0.677	10,971 68 0.678	

Table 4: Effect of Forty-Eighters on Union Army Enlistments

*Notes*: The table reports results estimating equation (1) on our two core outcomes of Union Army volunteering: the share of a town's adult male population that enlisted overall (Panel A), and the log of enlistments (Panel B). Columns 1–6 include state fixed effects, columns 7–8 include county fixed effects. # *Forty-Eighter Towns* is the number of treated towns providing identifying variation in each specification. This varies with the controls included (columns 3–4 vs 1–2); it also varies with the inclusion of county fixed effects because some treated towns are singletons in their county. Standard errors are clustered at the county-level, *p-values* are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

using different sets of controls, while taking account of the added controls' contribution to the regressions' *R-squared*, as proposed in Pei, Pischke and Schwandt (2017). We compared column 1 with each of columns 2, 7, 8, and additionally column 3 with 5 as well as 4 with 6. The p-value of this test-statistic was comfortably above 0.5 in all comparisons, confirming our reading that there are no substantive changes in the estimated effects across the columns of Table 4.

To conserve space, we report the estimated coefficients on the controls included in Table 4 in Online Appendix Table 1 and Online Appendix Table 2. Of the core controls, the presence of German newspapers and Germans who newly arrived between 1850 and 1860 stand out as having a positive influence on enlistments. This is consistent with German newspapers overall taking an abolitionist stance during this time, and with the newer arrival cohorts being more anti-slavery than the older German American communities, which in the table show a negative association with enlistments. Within the core control, the 1849–1851 'Germans to America' arrival cohorts deserve a brief separate investigation in our view. This is because we need to allow the possibility that the *Forty-Eighters* were the 'tip of the iceberg' of a broader wave of politically active German

immigrants arriving at the same time. If that was the case, then we would expect this broad 1849– 1851 arrival cohort to have had an independent effect on enlistments. Moreover, the inclusion of this cohort in the regressions should reduce the *Forty-Eighters*' estimated effect on enlistments, and we would expect this cohort to stand out from earlier and later arrival cohorts in the regressions. It turns out that none of these three hypotheses is borne out in the data, as we show in Online Appendix Table 3. We view the lack of these patterns as evidence against the notion that the *Forty-Eighters* were just the prominent spearhead of a larger group of politically active and influential immigrants from that period.



#### Figure 6: Placebo Estimations

*Notes*: The figure shows the distribution of 1,000 coefficients from placebo estimations where we replace the actual *Forty-Eighter* locations with an equal number of randomly drawn locations. The red line contrasts this distribution with the magnitude of the actual coefficient, for enlistments per adult men on the left-hand side, and for the log of enlistments on the right-hand side.

**Placebo Estimations:** Table 4 conveys a very robust association between *Forty-Eighters* and volunteering for the Union Army. As a further robustness check, we rule out spuriously correlated effects through a placebo test, replacing the actual *Forty-Eighter* locations with an equal number of randomly drawn locations, and then re-estimating equation (1) with this placebo treatment. We repeat this experiment 1,000 times, comparing the distribution of the estimated placebo effects to the actual treatment effect. Figure 6 shows the result of this placebo exercise for the two main outcomes, per capita enlistments in the left panel, and the log of enlistments on the right panel. In both panels, the placebo distribution is centered around a mean of zero, and even the 99-th percentile of the distribution is far to the left of the actual estimated coefficients (displayed as a

red line).

In Online Appendix Table 4, we report further robustness checks to the baseline results in Table 4. In Panel B of Online Appendix Table 4, we drop all large treated cities where the number of Forty-Eighter exceeds nine and we worry that our binary treatment variable might not reflect the Forty-Eighters' influence appropriately. As one would expect, this reduces the estimated magnitude on the dummy specification (from twelve to ten per hundred, or from ninety to seventy-five percent in log terms), but without affecting the significance of the Forty-Eighters' impact. In the baseline, we calculate town-level enlistments only based on the two-thirds of soldiers where we do observe residence. One reason is that we will present additional results below that are based on differences across soldiers that can only be calculated from the soldiers that we can locate. A second reason is that the spatial interpolation described in Figure 3 may introduce measurement error into town-level enlistments. In expectation, spatial interpolation should reduce the sharpness of our results because interpolation by design smoothly allocates unlocated soldiers in space. In Panel C and Panel D, we report the baseline results when we do include spatially interpolated unlocated soldiers. For the per capita measure of enlistment, this has no effect on the estimated coefficients; for the log enlistment outcome it reduces the estimated coefficient by about twenty percentage points (consistent with the fact that the interpolation smoothly allocates soldiers in space), but without affecting the significance of the *Forty-Eighters*' estimated impact.<sup>50</sup>

**Other Enlistment Outcomes:** We have in our data two more outcomes that are worth inspecting as a check on the core results. One is the average enlistment date in a town. Historians have argued that earlier enlistment cohorts were the most enthusiastic for the anti-slavery cause (McPherson, 1997, ch1). If this was true, we would also expect the *Forty-Eighters* to have led to earlier enlistment on average. This is what we find in columns 1–2 of Table 5, where we report only on the two most conservative specifications with all controls. A second outcome pertains to the ancestry of enlisted men. While it is clear that the *Forty-Eighters* were not content with limiting their influence to German-American communities, we nonetheless would expect them to have had a more pronounced effect on their enlistment rates. We can test this because we have

<sup>&</sup>lt;sup>50</sup> We also observe that missing residence information is significantly explained by state-specific reporting standards. A variance decomposition of a dummy for missing location in the soldier data shows that 35% of the variance in having a soldier's location information reported in the Register data is cross-state variation. In light of this fact, we verify that our core results are robust to dropping any one state. See Online Appendix Table 5, which shows that when drop the states with the most sparse town-of-residence information our estimates tend to get larger without losing precision.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:	Avg Enlistment Date in Days		Share German Ancestry / All Soldiers		Share American / All Soldiers		Share Irish Ancestry / All Soldiers	
D(Forty-Eighters)	-54.770** [0.012]	-64.745*** [0.009]	0.003 [0.424]	0.003 [0.329]	-0.001 [0.671]	-0.001 [0.744]	-0.002 [0.634]	-0.003 [0.264]
Share German-Born 1860			0.001** [0.035]	0.001* [0.064]	-0.001** [0.015]	-0.001** [0.042]	-0.001* [0.082]	-0.000 [0.161]
Share Irish-Born 1860			-0.001*** [0.000]	-0.001*** [0.000]	0.000 [0.670]	-0.000 [0.607]	0.001*** [0.000]	0.001*** [0.000]
Share Other-Immigrant 1860			-0.000*** [0.000]	-0.000*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]
Fixed Effects	state	county	state	county	state	county	state	county
Core Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Town Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Observations	11,031	10,904	11,095	10,971	11,095	10,971	11,095	10,971
# Forty-Eighter Towns	72	68	72	68	72	68	72	68
R-squared	0.159	0.316	0.244	0.460	0.320	0.487	0.202	0.394

Table 5: Other Outcomes

*Notes*: This table reports results estimating equation (1) for a number of secondary outcomes. Each set of two columns re-runs the specifications in columns 2 and 8 of Table 4. # *Forty-Eighter Towns* is the number of treated towns providing identifying variation in each specification. Standard errors are clustered at the county-level, *p-values* are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. r

predicted soldiers' ancestry as described in section 3.2.2. In columns 3–8, we report on the three biggest groups, dividing the number of each ancestry group's soldiers by a town's total number of soldiers to construct our outcome as an ancestry group's share of a town's soldiers.<sup>51</sup> For this outcome, we need to additionally control for each ancestry group's immigrant-share in a town in the 1860 Census.<sup>52</sup> While the results are statistically imprecise, they do display the expected pattern: The *Forty-Eighters* were associated with a relative increase in German enlistments and a relative decrease in the share of enlisted men from the Irish as other big immigrant group. Because outcomes are shares, any increase in the German ancestry group must come from a decrease in another group. A plausible interpretation of the pattern in columns 3–8 is that the *Forty-Eighters* overall positive impact on enlistments can be broken down into them having had less of an impact on Irish men's enlistments, increasing American men's enlistment enough to keep their relative share of enlisted in a town constant, and increasing German men's enlistments somewhat more.

<sup>&</sup>lt;sup>51</sup>An alternative outcome would be to instead divide each ancestry group's enlistments by the number of men of the same ancestry group (measured in the Full Count Census) to construct an ancestry-specific equivalent of our main outcome of interest. However, this induces variation in sample size driven by the fact that not all ancestry groups are represented in all towns

<sup>&</sup>lt;sup>52</sup> The Census reports birthplace, not ancestry. By contrast, as discussed in section 3.2.2, Irish or German ancestry will be predicted for many second or third generation immigrants whom the Census simply reports as U.S.-born.

To confirm that the *Forty-Eighters* had sizeable effects on non-Germans, we also omit all soldiers who we predict to be German-American from the data altogether before generating townlevel enlistment figures. Panel E of Online Appendix Table 4 reports on the results from doing that. For the log enlistment measure of enlistment, this has no impact. For the per capita measure of enlistment, this reduces the *Forty-Eighters*' estimated enlistment enlistment effect by twenty percent, without affecting the significance of the *Forty-Eighters*' estimated impact.

IV: We have argued that the Forty-Eighters early years in the U.S. were dominated by economic necessities and that the political conflict around slavery was relatively subdued during this time. As a result, we have assumed that we can gain identification by conditioning on all observable characteristics that explained the Forty-Eighters' locations. However, there is still the possibility that the Forty-Eighters' might have moved selectively later in the 1850s, when political considerations could have potentially motivated them. We address this concern with an instrumental variable (IV) strategy that exploits the randomness in the location of *Forty-Eighters'* first jobs outside their port of debarkation. To determine the locations of first jobs, we screen the Forty-Eighters' biographies and select all locations of 'first settlement', which we define as locations that were at least one *Forty-Eighter*'s first place of work outside of their debarkation port. Overall, we find 66 locations that match this criterion. For clarity, we let these 66 locations be indexed by  $j \in \mathbb{J} = \{1, .., J\}$ , and let the 73 treatment towns be indexed by  $i \in \mathbb{I} = \{1, .., I\}$ . We find that 20 percent (13/66) of the first locations in J had no Forty-Eighters live in them during the period 1856-61. And among the treated locations, 28 percent (20/73) were not a first settlement.<sup>53</sup> Online Appendix Figure 3 visualizes the location of instrument towns relative to treatment towns Let the instrument town that is nearest to *i* be labeled j(i). We define our instrument  $Z_i$  for each town *i* as its proximity to j(i), where proximity is defined as inverted distance so that  $Z_i = \frac{1}{d_{i,j(i)}}$  is distributed on (0,1].<sup>54</sup> To the extent that any *Forty-Eighters* did move later in the 1850s because of socio-political considerations, our IV strategy gives us identification under the assumption that such unobserved socio-political characteristics were orthogonal to proximity to towns that were a *Forty-Eighter's* first place of employment, conditional on fixed effects and controls.

<sup>&</sup>lt;sup>53</sup> More formally, there are 13 towns in  $\mathbb{J} \setminus \mathbb{I}$ , 20 in  $\mathbb{I} \setminus \mathbb{J}$ , and 53 in  $\mathbb{I} \cap \mathbb{J}$ .

<sup>&</sup>lt;sup>54</sup> We set a town's distance to itself to one mile so that the instrument is = 1 if j(i) = i, i.e. for towns that are treatment and instrument towns. We also constructed an alternative instrument that is the sum of inverted distances to all towns in  $\mathbb{J}$ , i.e.  $Z'_i = \sum_{j \in \mathbb{J}} \frac{1}{d_{i,j}}$ . This instrument delivered very comparable results.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	E	Cnlistments / N	Aale 1860-Pa	p	·	Log Enl	istments	
PANEL A		IV	: Treatment	Instrumented	by Proximity	to Closest In	itial	
D(Forty-Eighters)	0.100***	0.093**	0.117***	0.113***	0.873***	0.867***	0.800***	0.786***
	[0.006]	[0.011]	[0.001]	[0.001]	[0.001]	[0.001]	[0.000]	[0.000]
p-value [Wu-Hausman test]	0.636	0.560	0.803	0.765	0.998	0.974	0.674	0.683
Kleibergen-Paap F statistic	86.57	85.55	86.57	85.55	74.17	73.72	74.17	73.72
PANEL B				First	Stage			
Proximity to Closest Initial	0.549***	0.550***	0.549***	0.550***	0.613***	0.612***	0.613***	0.612***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations (Panels A-B)	11,095	11,095	10,971	10,971	11,095	11,095	10,971	10,971
# Forty-Eighter Towns	72	72	68	68	72	72	68	68
PANEL C			OLS	: on 66 Initi	al-Town Indic	cators		
D(Initial Forty-Eighters Towns)	0.107***	0.107***	0.107***	0.107***	0.789***	0.789***	0.755***	0.755***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
R-squared	0.091	0.091	0.353	0.353	0.562	0.562	0.676	0.676
PANEL D		IV	: Treatment	Instrumented	by 66 Initial-	Town Indica	tors	
D(Forty-Eighters)	0.144***	0.147***	0.145***	0.145***	1.061***	1.081***	1.018***	1.024***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
p-value [Wu-Hausman test]	0.386	0.321	0.279	0.250	0.358	0.325	0.381	0.330
Kleibergen-Paap F statistic	150.6	150.3	138.3	137.9	150.6	150.3	138.3	137.9
PANEL E			First S	tage on 66 In	itial-Town Inc	licators		
D(Initial Forty-Eighters Towns)	0.744***	0.743***	0.742***	0.741***	0.744***	0.743***	0.742***	0.741***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Observations (Panels C-E)	11,095	11,095	10,971	10,971	11,095	11,095	10,971	10,971
# Forty-Eighter Towns	65	65	62	62	65	65	62	62
Fixed Effects Core Controls Town Controls	state ✓	state ✓	county ✓	county ✓	state ✓	state ✓	county ✓	county ✓

#### Table 6: Instrumental Variable Results

*Notes*: This table re-runs columns 1–2 and 7–8 of Panels A and B of Table 4, including identical controls and fixed effects. # *Forty-Eighter Towns* is the number of treated towns providing identifying variation in each specification. (*a*) Panel A reports on the second stage, where treatment is instrumented with  $Z_i = \frac{1}{d_{i,j(i)}}$ . (*b*) Panel B reports the corresponding first-stage coefficient, which suggests that increasing the proximity to a town where *Forty-Eighters* first settled from its furthest to its closest raised the probability of being treated by between fifty and sixty percent. (*c*) Panels C–E relate enlistments directly to the 66 indicators of *being* an town of initial settlement instead of proximity to one. Panel C reports on an OLS estimation of enlistments on these 66 indicators. Panel D–E report on the equivalent of Panels A–B when using the 66 indicators as the instrument. (*d*) Standard errors are clustered at the county-level. *p-values* are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 6 reports on the results of the IV estimation. Columns 1–4 of Panel A re-run columns 1–2 and 7–8 of Panel A in Table 4, columns 5–8 re-run columns 1–2 and 7–8 of Panel B in Table 4, including identical controls and fixed effects. For enlistments per adult males, the IV results are about twenty percent smaller than the OLS (e.g. (0.1 - 0.124)/0.124 in column 1). For log enlistments, the IV results are about five to ten percent smaller than the OLS (e.g. (0.873 - 0.915)/0.915 comparing column 5 of Table 6 to column 1 in Panel B of Table 4). Panel B reports the first stage coefficient, which suggests that increasing the proximity to a town where *Forty-Eighters* first settled from its furthest to its closest raised the probability of being treated by between fifty and sixty percent.

We recognize that 53 of the 66 towns of initial settlement are also treated towns, and that for these towns, the IV strategy assumes that any unobserved socio-political characteristics that influenced enlistments were orthogonal to the characteristics that led to the town becoming a *Forty-Eighter*'s first place of employment, conditional on fixed effects and controls. Under this identifying assumption, instead of basing identification on proximity to these towns, we can also define an alternative treatment variable to be the 66 indicators for towns of initial settlement. We report on this approach in Panels C–E of Table 6. Panel C reports on an OLS estimation of enlistments on the 66 indicators for towns of initial settlement. The estimates are very similar to our core estimates.<sup>55</sup> Panel D reports on the IV estimation that instruments treatment with a set of 66 indicators for towns of initial settlement. Finally, Panel E reports on the corresponding first stage coefficient.

**Matching:** Overall, across specifications and outcomes, the IV and OLS results are quite similar. From a more econometric viewpoint, the p-values reported at the bottoms of Panels A and D in Table 6 indicate that the Wu-Hausman test for the equality of the OLS and IV estimates is never rejected. This suggests that, conditional on observed controls and region fixed effects , the *Forty-Eighters* did not select their towns of settlement based on unobservables that also drove enlistments. A remaining concern is that we are comparing a relatively small number of treated towns to a much larger number of control towns. As a result, the control pool can include towns with a covariate distribution that is quite different from the treated sample. This can affect the

<sup>&</sup>lt;sup>55</sup> On the one hand, the 66 indicators include 13 towns where *Forty-Eighters* did not settle in the long run, and where we therefore expect their effect to be small. On the other hand, the 66 include those 53 out of our 73 treatment towns where *Forty-Eighters* had been the longest, and where we therefore might expect their effect to be the strongest.



#### Figure 7: Balancing Tests

*Notes*: Blue circles represent the average difference between treated and control towns in the full sample. Red diamonds show that balance is achieved across the core controls in the propensity-score matched sample.

precision of the estimates or the outcome might be sensitive to small changes in the model specification (Imbens and Rubin, 2015). To address this concern, we employ propensity score matching (PSM) to create a control sample of cities whose distribution of observable covariates resembles the one of the treated *Forty-Eighter*-towns. In our baseline specification, we allow for five matches per observation and we restrict the pool of control towns to the same state (or county) as the treated town.<sup>56</sup> This leaves us with 58 treated towns and 186 control towns conditional on state fixed effects.<sup>57</sup> Compared to previous results, we lose large towns because they are off the common support, i.e. have no suitable matching partner.<sup>58</sup>

The propensity score matching dramatically improves the balancedness between treated and control towns, as illustrated in Figure 7. The figure shows the standardized percentage bias across matched covariates before and after propensity score matching.<sup>59</sup> We condition the matching

<sup>&</sup>lt;sup>56</sup> Alternative specifications where we alter the number of matching partners do not lead to different results.

<sup>&</sup>lt;sup>57</sup> It was not possible to combine propensity score matching with county fixed effects, as a result of the lack of statistically comparable control towns within the treated towns' counties.

<sup>&</sup>lt;sup>58</sup>The *Forty-Eighter*-towns we loose are Baltimore MD, Brooklyn NY, Buffalo NY, Chicago IL, Cincinnati OH, Cleveland OH, Davenport IA, Detroit MI, Louisville KY, Milwaukee WI, Newark NY, Philadelphia PA, St Louis MO.

<sup>&</sup>lt;sup>59</sup> Following Rosenbaum and Rubin (1985) and Imbens and Rubin (2015), we define the normalized difference associated with each covariate X as the difference between the covariate in treated towns t and control towns c, i.e.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Enlistmer	nts / Male			Enlistmer	ıts / Male		
Outcome:	1860	)-Pop	Log Enl	istments	1860	-Pop	Log Enl	istments
D(Forty-Eighters)	0.081***	0.085***	0.677***	0.693***	0.096**	0.098**	0.798***	0.800***
	[0.001]	[0.000]	[0.000]	[0.000]	[0.013]	[0.010]	[0.000]	[0.000]
Fixed Effects	state							
Core Controls	$\checkmark$							
Town Controls		$\checkmark$		$\checkmark$		$\checkmark$		$\checkmark$
Observations	244	244	244	244	244	244	244	244
# Forty-Eighter Towns	58	58	58	58	58	58	58	58
R-squared	0.449	0.499	0.716	0.731				
Kleibergen-Paap F statistic					136	200.3	136	200.3

Table 7: Propensity-Score Matched Sample Results

*Notes*: Columns 1–4 run OLS estimations on the PSM-matched sample for the main specifications (column 1–2 of Table 4) with state fixed effects. Columns 5–8 doe the same for the IV estimations. # *Forty-Eighter Towns* is the number of treated towns providing identifying variation in each specification. Standard errors are clustered at the county-level. *p-values* are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

on state fixed effects. Blue circles represent the average difference between treated and control towns before matching in the full sample. Here, the covariate distribution in treated and control towns is strongly imbalanced. Red diamonds show that balance is achieved across controls in the propensity-score matched sample with state fixed effects.

Table 7 reports the results of re-estimating the specifications thus far on the propensity-scorematched sample. We first focus on the specifications with state fixed effects in columns 1–4, where the PSM-matching retains 58 treated towns and 186 control towns, for a total of 244. For the per capita measure of enlistments, the OLS results in Panel A are about one-third smaller than they were in columns 1–2 of Table 4 (e.g. (0.081 - 0.124)/0.124). For the log enlistments measure, the OLS results in Panel A are about one-quarter smaller (e.g. (0.677 - 0.915)/0.915). For the IV, the estimates in columns 5–8 are also marginally smaller than those in Table 6.<sup>60</sup>

In summary, the results in Tables 4, 6, and 7 consistently and robustly suggest that the settlement of *Forty-Eighters* increased enlistments rates by between eight to twelve men per hundred adult males, or by between seventy-five and one hundred percent. We now turn to a quantitative investigation of the likely mechanisms that explained the *Forty-Eighters*' impact on men's enlist-

 $<sup>\</sup>hat{\Delta}_{ct} = \frac{\bar{X}_t - \bar{X}_c}{\sqrt{(s_c^2 + s_t^2)/2}}$ 

<sup>&</sup>lt;sup>60</sup> To be exact, the difference is (0.096 - 0.1)/0.1 = -0.05, comparing column 1 of Table 7 with column 1 of Table 6, and (0.798 - 0.873)/0.873 = -0.09, comparing column 3 of Table 7 with column 5 of Table 6.

ment choices.

#### 4.3 Mechanisms

In section 2.4, we discussed that the historical narrative emphasizes three specific mechanisms by which the *Forty-Eighters* influenced their social networks: they worked or at least regularly wrote for newspapers; they were gifted orators and gave public speeches and lectures in English and German; and they were active in local social clubs, particularly the Turner Societies that were the primary German-American political clubs. In this section, we focus on the two mechanisms that we can measure, having coded up the annual town-level circulation of German-speaking newspapers and journals from Arndt (1965), and the annual distribution of town-level Turner Societies from the *Turner Society Foundation*'s yearbook (Metzner, 1890—1894).

Table 8 reports estimations of the effect of the *Forty-Eighters* on these two mechanisms. Panel A reports on estimations with newspapers as the outcome. Panel B reports on estimations with Turner Societies as the outcome. Columns 1 and 2 report on specifications with all controls and either state or county fixed effects (equivalent to columns 2 and 6 in Table 4). Columns 3 and 4 report on IV estimations of those specifications (equivalent to columns 2 and 6 in Table 6). Columns 5 and 6 report on OLS and IV estimations of the matched sample with state fixed effects (equivalent to columns 2 and 6 of Table 7). Additionally, we can analyze both mechanisms in a town-year panel because—unlike the enlistment outcomes—we observe them annually during the time the *Forty-Eighters* settled in the U.S. Columns 7 and 8 report on panel regressions of the outcome on a town-year specific dummy for *Forty-Eighter* settlement, where we let the time-window of the panel cover the years 1840–1861. In column 7 we include town and year fixed effects, in column 8 we include state-specific year fixed effects.

Across specifications 1–6, the results are fairly stable and always highly significant. As before, the matched-sample results provide the most conservative point estimates. They suggest that *Forty-Eighters* raised the likelihood of having a German newspaper by between twenty and forty percent, which is consistent with the historical record that they founded many new newspapers (Baron, 2012, 3). Importantly, 1850 newspapers are always conditioned on as part of the core controls and are unsurprisingly a powerful predictor of 1861 newspapers (unreported). *Forty-Eighters* also raised the likelihood of having a *Turner Society* in a town by an almost equal percentage.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PANEL A:			D(0	German News	papers 1861-	64)		
D(Forty-Eighters)		0.390*** [0.000]	0.320*** [0.000]	0.572*** [0.000]	0.372*** [0.000]	0.202*** [0.000]	0.205** [0.013]	0.218*** [0.000]	0.218*** [0.000]
Kleibergen-Paap Wald	rk F statistic			97.57	87.43		136.3		
R-squared		0.272	0.417			0.667		0.810	0.811
	PANEL B:				D(Turner Se	ociety 1861)			
D(Forty-Eighters)		0.237*** [0.000]	0.222*** [0.000]	0.420*** [0.000]	0.374*** [0.001]	0.155*** [0.006]	0.228*** [0.006]	0.321*** [0.000]	0.319*** [0.000]
Kleibergen-Paap Wald	rk F statistic			97.57	87.43		136.3		
R-squared		0.196	0.269			0.514		0.461	0.465
Fixed Effects		state	county	state	county	state	state	town + t	town + state*t
Core Controls		<b>v</b>	<b>√</b>	<b>√</b>	<b>v</b>	<b>√</b>	<b>v</b>		
Town Controls		<b>v</b>	<b>v</b>	<b>√</b>	<b>v</b>	<b>v</b>	<b>v</b>		
Strategy:		OLS	OLS	IV	IV	Matching	Match-IV	Panel	Panel
Observations		11,095	10,971	11,095	10,971	244	244	260,169	260,169
# Forty-Eighter Towns		72	66	72	66	58	58	73	73

Table 8: Effect of Forty-Eighters on Turner Society Foundations and Newspapers

*Notes*: This table replicates previous specifications for two likely mechanisms of the *Forty-Eighters'* influence: The presence of a German newspaper in a town (Panel A), and the presence of a Turner Society (Panel B). Columns 1–2 report on the same specifications as columns 2 and 8 in Table 4. Columns 3–4 report on the corresponding IV specifications as columns 2 and 4 in Table 6. Columns 5–6 report on OLS and IV estimations of the matched sample, i.e. column 2 and 6 of Table 7. Columns 7–8 report on estimations from an annual town-panel. *# Forty-Eighter Towns* is 73 because Washington D.C. is not excluded by state fixed effects in columns 7–8. Standard errors are clustered at the county-level. *p-values* are reported in square brackets. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

In columns 7–8, we estimate remarkably similar magnitudes in a generalized difference-indifference panel setting. This is reassuring because the specifications in columns 7–8 derive their identifying variation only within-town over-time.

#### 4.4 In Battle

In this section, we study whether the *Forty-Eighters'* leadership extended beyond swaying people to enlist, by tracking those *Forty-Eighters* who enlisted in the Union Army themselves, and estimating their effect on desertion rates in the companies they fought in. We essentially re-estimate the duration analysis performed in Costa and Kahn (2003), just adding indicators for a *Forty-Eighter* commanding officer or private in a company.

While we have much biographical information on some *Forty-Eighters*, for most variables we cannot know how complete our information is. For example, we know of many *Forty-Eighters* who worked for or founded newspapers, but we have no way of verifying that we know of all *Forty-Eighters* who worked for newspapers. Information on the *Forty-Eighters*' involvement in the army is different in this respect: we observe the universe of Union Army soldiers, and we carefully gleaned it for matches to all of the *Forty-Eighters*. We therefore know precisely the 149 *Forty-Eighters* who enlisted in the Union Army. At some level, 149 struck us as low given the *Forty-Eighters* were in their mid-forties or older when the Civil War broke out, which was an advanced age to serve in the Union Army: 95 percent of soldiers in our data were below 40 when they enlisted. In fact, the enlistment agencies discouraged men above 45 from enlisting unless they had military training (Costa and Kahn, 2010, ch.5). As a result, the historical record suggests that individual *Forty-Eighters*' enlistment decisions were primarily driven by whether they had a military background or not.<sup>61</sup>

We split the *Forty-Eighters* who enlisted into commissioned officers who commanded companies, i.e. had the rank of 'captain', and privates or lower-ranking non-commissioned officers, i.e.

<sup>&</sup>lt;sup>61</sup> Wittke (1973, 22) notes that the *Forty-Eighters* had already divided into two 'types' with arguably different leadership styles in Germany, i.e. those "who belonged to local diets of the Frankfurt Parliament [or were] publicists and editors", and those who " commanded troops in the field". It was mostly the latter types who enlisted in the Union Army 15 years later. While we have no systematic data on their military training in Germany, we find a strong correlation between (possibly incomplete information on) having been involved in military altercations during the German revolutions and enlisting in the Civil War.

corporals or sergeants. There are 22 commanding officers and 75 lower-ranking officers and privates in our data. The remaining *Forty-Eighters* belonged to military staff that could not be linked to companies. These 97 *Forty-Eighters* belonged to 94 different companies; only company F of the 3rd Missouri Infantry, and company K of the 7th New York Infantry had two *Forty-Eighters* each in them.

We treat the presence of either a *Forty-Eighter* commanding officer or private as a companylevel characteristic, following the literature on combat motivation, which treats companies as the units of "primary group cohesion" (McPherson 2003, 85, Costa and Kahn 2003). We also follow this literature in focusing on desertion as the outcome and interpreting it as an inverse measure of conviction.<sup>62</sup> In the following we essentially replicate the core empirical exercise in Costa and Kahn (2003). The main difference is that we have a much larger data set with much fewer controls.<sup>63</sup> We run the following Cox Proportional Hazard Model

$$\lambda(t) = \exp(x_I'\beta_I + x_C'\beta_C)\lambda_0(t),\tag{2}$$

where  $\lambda(t)$  is the time elapsed to a soldier's desertion ("time to failure"),  $\lambda_0(t)$  is the baseline hazard, and a spell without desertion ends in a soldier either being killed, discharged due to wounds, taken prisoner of war, or being 'mustered out' after seeing out his enlistment term. The number of observed spells for which have an end date and end reason is just over 2 million men. I indexes individual variables, and C indexes company variables. The individual variables  $x_I$  are made up of a soldier's ancestry as predicted by our machine-learning algorithm, his enlistment date, and his enlistment rank, captured as two binary variables for being a commanding officer or a private, with lower-ranking officers (sergeants and corporals) being the omitted category. For company variables  $x_C$ , we approximate the core ethnic-fragmentation measure in Costa and Kahn (2003) by an ancestry-fragmentation measure of identical functional form:  $s_{ka}$  is ancestry group a's share of men in company k, so that the fragmentation index  $FI_k = 1 - \sum_a s_{ka}^2$  is 0 if the company is completely homogenous and it is bounded from above by 1. We add to this our

<sup>&</sup>lt;sup>62</sup> In total, 8 percent of all soldiers deserted according to our data, which is slightly lower than estimates of around 10 percent that have been reported elsewhere (Costa and Kahn, 2003).

<sup>&</sup>lt;sup>63</sup> Costa and Kahn (2003) peruse a a random sample of 303 companies, i.e. just over 30,000 men, which was collected as the 'Early Indicators Project', and for which a huge amount of additional data-sources were manually linked to the military reords. By contrast, we have data on the entire Union Army, but have only the information from the military records for both individuals and companies, as well as individual soldiers' machine-learning-predicted ancestry.

company variables of interest, namely dummies for having a *Forty-Eighter* commanding officer in the company (*Forty-Eighter*<sup>o</sup><sub>k</sub> = 1), and for having a *Forty-Eighter* in the company (*Forty-Eighter*<sup>p</sup><sub>k</sub> = 1).

Table 9 presents the results of estimating equation (2). We report hazard rates, where a hazard rate of 1.5 means a fifty percent higher probability of desertion. As a baseline, we include only our treatment of interest in column 1. The estimate suggests that a Forty-Eighter commanding officer reduced desertion rates by thirty percent in their company, while a Forty-Eighter private of lowerranking officer reduced them by seventeen percent. In columns 2-5 we add the other controls. This serves to check the robustness of the Forty-Eighter, as well as to check that the data overall aligns with the existing evidence. Column 2 shows that officers had the lowest desertion rate and privates the highest. Commanding officers were only five percent as likely to desert as the omitted category of lower-ranking officers, and far less likely than privates. Column 3 shows that all immigrants had higher desertion rates relative to American men, but Germans had the lowest desertion rates among immigrants. They were 19 percent more likely to desert than American men, while Scandinavian, Irish and other immigrant men were respectively 48, 66, and 100 percent more likely to desert. This mirrors the results in Costa and Kahn (2003) who actually state as an explanation that "Germans who fled the revolutions of 1848 were more likely than Irish or British immigrants who migrated for economic reasons to view the United States as the best hope for the survival of a form of republican government." Column 4 shows that soldiers who enlisted in the first year of the war (the omitted category) were least likely to desert, consistent with historians' assessment that they had the highest level of enthusiasm for the war (McPherson, 2003, ch1). In 1863, desertion rates were highest, consistent with generally low morale in that year following the costly battles of Antietam and Fredericksburg (Öfele, 2004, 83). Desertion in 1865 was higher primarily because soldiers who considered the war over did not wait to be mustered out before returning home for the harvest. Column 5 adds ancestry fragmentation, the core variable in Costa and Kahn (2003). The estimate implies that a completely homogenous company ( $FI_k = 0$ ) had a 10 percent lower desertion rate than a counterfactual company made up of three equal-sized ancestry groups ( $FI_k = 1 - 3 \times 0.33^2 = 0.67$ ). Despite our treatment variable's thin support in the data (with only 94 out of thousands of companies having a Forty-Eighter), its estimated effect is surprisingly robust across these specifications. We view this as tentative support for the hypothesis that the

	(1)	(2)	(3)	(4)	(5)
Outcome:			D(Desertion)		
Forty-Eighter Captain in Company	0.70***	0.69***	0.71***	0.77***	0.75***
	[0.000]	[0.000]	[0.000]	[0.003]	[0.001]
Forty-Eighter Private in Company	0.83***	0.84***	0.87***	0.92*	0.89**
	[0.000]	[0.000]	[0.002]	[0.064]	[0.015]
D(Officer)		0.05***	0.05***	0.05***	0.05***
		[0.000]	[0.000]	[0.000]	[0.000]
D(Private)		2.42***	2.40***	2.29***	2.30***
		[0.000]	[0.000]	[0.000]	[0.000]
Ommitted: American Soldier					
German Soldier			1.19***	1.20***	1.20***
			[0.000]	[0.000]	[0.000]
Scandinavian Soldier			1.48***	1.46***	1.47***
			[0.000]	[0.000]	[0.000]
Irish Soldier			1.66***	1.67***	1.68***
			[0.000]	[0.000]	[0.000]
Other Immigrant Soldier			2.00***	1.98***	1.99***
			[0.000]	[0.000]	[0.000]
Ommitted: year==1861					
year==1862				1.10***	1.10***
				[0.000]	[0.000]
year==1863				2.00***	2.01***
10.51				[0.000]	[0.000]
year==1864				1.19***	1.19***
1965				[0.000]	[0.000]
year==1865				2.14***	2.14***
An asstra Fragmentation				[0.000]	1 29***
Ancestry Fragmentation					1.28
					[0.000]
Observations	2,034,475	2,034,475	2,034,475	2,034,475	2,034,475

Table 9: Desertion of Individual Soldiers

*Notes*: The table reports hazard rates from a Cox Proportional Hazard Model. The outcome of interest is the time elapsed to a soldier's desertion ("time to failure"). A spell can alternatively end in a soldier being killed, discharged due to wounds, taken prisoner of war, or being 'mustered out' after seeing out his enlistment term. The number of observations is the number of spells for which have an end-date and end-reason. p-values for robust standard errors are reported in brackets. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

leadership qualities that allowed the *Forty-Eighter* to influence men to enlist also carried over into other, arguably more testing, settings.

#### 4.5 Long Run Effects

As a final exercise, we ask whether the *Forty-Eighters* left a *permanent* legacy in their towns of settlement. As a long-run outcome that ties closely into the slavery issue, we consider the formation of local chapters of the *National Association for the Advancement of Colored People* (NAACP). The NAACP was formed on February 12th, 1909 (intentionally coinciding with Lincoln's 100th birthday) to advance political, educational, social, and economic equality for African Americans.<sup>64</sup> It was the earliest and for many decades the only national political organization that actively pursued the attainment of racial equality. We peruse a dataset on the formation of local NAACP branches, for which we again had to create a crosswalk to the Fishman (2009) towns.<sup>65</sup>

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:		1	D( NAACP for	unded in town	)		Year F	ounded
D(Forty-Eighters)	0.376*** [0.000]	0.371*** [0.000]	0.340*** [0.000]	0.439*** [0.000]	0.350*** [0.000]	0.144** [0.012]	-2.430 [0.474]	-5.673 [0.261]
Fixed Effects	state	state	county	state	county	state	state	state
Core Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Town Controls		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Strategy	OLS	OLS	OLS	IV	IV	Matching	OLS	IV
Observations	11,640	11,095	10,971	11,095	10,971	244	274	274
# Forty-Eighter Towns	72	72	66	72	66	58	41	41
Kleibergen-Paap Wald rk F statistic				105.4	94.97			66.33
R-squared	0.149	0.156	0.240			0.611	0.180	

Table 10: Town-Level NAACP Chapters as an Outcome

*Notes*: Columns 1, 2, 3 report on the same specifications as columns 1, 2, 6 in Table 4. Columns 4–5 report on the same IV specifications as columns 2 and 6 in Table 6. Columns 6 reports the matched sample specification in column 2 of Table 7 Panel A. Standard errors are clustered at the county-level. *p-values* are reported in square brackets.

Our main outcome of interest is whether a town had a local chapter of the NAACP in the 1909– 1965 period that our data covers. In the following we simply re-estimate equation 1 for this longrun outcome. We recognize that one might want to make changes to the empirical setup given the long-run nature of this outcome. For example, one might want to transform the treatment variable

<sup>&</sup>lt;sup>64</sup>By the early 1960s it lost much of its importance to newly found organizations that were more directly involved in the Civil Rights struggle.

<sup>&</sup>lt;sup>65</sup> A research team at the University of Washington has digitized the time-line of NAACP branches from the NAACP's Annual Reports and branch directories, and made this collection available for download.

of interest to distinguish *Forty-Eighters* who stayed in their towns long after the Civil War; or add additional control variables to capture events that occurred after the Civil War. However, given the paper's focus, we believe it is more transparent to re-run the exact same specifications as before.

Columns 1–3 in Table 10 repeat the OLS specifications in columns 1, 2, and 8 of Table 4. Columns 4–5 repeat the IV specifications in columns 2 and 4 of Table 6. Across columns 1–5, the estimated coefficients suggest that Forty-Eighter-towns were about 35 percent more likely to see the founding of a local chapter of the NAACP sixty or seventy years later. Column 6 repeats the core specification on the matched sample, equivalent to column 2 of Table 7. The effect is considerably smaller in column 6, where larger towns are omitted in the propensity-score matched sample. In this sample of smaller towns only, Forty-Eighter-towns were only about 15 percent more likely to see the founding of a local chapter. The effect of propensity-score matching on the estimated coefficient is much more pronounced than it was for our previous results. Our interpretation of this fact is that de-selecting the largest towns in 1850 is likely to affect the Forty-Eighters' estimated long-run impact more than it affects their short-run impact. This is because 20th-century outcomes like the founding of an NAACP chapter largely depended on a town's 20th-century population size, and because towns that were large in 1850 were all still very large in the middle of the 20th century, whereas towns that were smaller in 1850 varied a lot in their subsequent long-run growth trajectory. Given the sample selection, we therefore view the estimated coefficient in column 6 as a lower bound. Finally, in columns 7–8 we also consider the founding year of a town's NAACP chapter as an added outcome, with the sample naturally limited to towns that ever had a chapter. The coefficient has the expected sign, but it is imprecisely estimated.

# 5 Discussion and Conclusion

A growing body of theoretical literature on social networks points to the importance of individual leaders in the formation and equilibrium selection of beliefs, behaviors and social norms. However, in contrast to an abundant literature on leadership in formal organizations like corporations or governments, there is no rigorous empirical evidence for the importance of leadership inside social networks. This is in large part due to the difficulty of assigning the label 'leader' to individuals, and to the 'reflection problem' of not knowing whether someone who is viewed as a leader is in fact a driver or perhaps merely a symbol of change. In studying the effect of the *Forty-Eighters* on enlistments for the Union Army, we have a setting that addresses these difficulties because leaders are defined ex-ante based on their actions prior to joining the social networks in which we study them.

This allows us to provide empirical evidence for the importance of informal leadership at a critical juncture in 19th century history. Across a wide range of specifications and identification strategies, we robustly find that the *Forty-Eighters* increased Union Army volunteering in a town by between nine and twelve soldiers per hundred adult men, or by between seventy to ninety percent in log terms. Evidence on mechanisms and auxiliary outcomes is presented to buttress our core findings. Our core contribution is to provide rigorous empirical evidence of the impact that individual leaders can have on their social networks, and consequently the important role they can play in shaping the path of history.

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# Appendix A Data

## Appendix A.1 The Forty-Eighters

We started with the 318 accounts listed in the explicitly biographical book by Zucker (1950). We complement this source with names from Wittke's (1970) book on the *Forty-Eighters*' influence in U.S. politics, which includes over 400 individual names. Raab's (1998) index of revolutionaries in the German state of Baden gives us another 43 names. Finally, Baron's (2012) book includes a name index with over 300 *Forty-Eighters*. All three sources overlap in large part with Zucker (1950), but each also contains some new names. In total, we end up with a list of just over 500 individuals, and we completed their U.S. biographies through individual searches in genealogical online sources. Ancestry.com to follow these individuals over their life and code their locations in Germany and the United States. We can locate 493 in the towns they settled in. In Online Appendix E, we list in abbreviated form the biographies of the *Forty-Eighters*.

# Appendix A.2 The Union Army Data

## Appendix A.2.1 Full-Count Census Linkage for the Union Army Data

For record-linkage, we use STATA's command dtalink, which has substantial advantages over other record-linkage packages in terms of the control it offers. For each string, variable a positive weight for a match and a negative weight for a mismatch are specified. Negative weights for mismatches are appropriate when the fact of a not-exactly matching variable is a strong indication of a non-match. For example, initials should be expected to match between records for the same person. Positive weights for matches are appropriate when the fact of a match is not a strong indication of a mismatch. For example, a non-match, but the absence of a match is not a strong indication of a mismatch. For example, a non-matching first name should not receive a negative weight because first names are prone to being abbreviated, i.e. Bartholomew can become Bart, or Charles can become Chad. To account for this, one can create a extra variable consisting of the first, say, three letters of a first name, so that Bartholomew matches Bart, and Charles matches Chad. The only commonly abbreviated name we found that is not captured by this rule is William so that we changed William to Wm in all data-sets.

For numeric variables, one can additionally define a 'caliper', which is an allowed deviation from an exact match. For example, in the Full-Count census, birth year is given, but in the Army register we constructed birth year as enlistment-age minus the year of enlistment. This latter constructed variable can easily be off by one year in either direction so that it is important to allow a caliper of 1 in the matching, i.e. 1840 and 1841 as well as 1840 and 1839 are considered exact matches, but 1839 and 1841 are not.

The exact variables and weights we settled on are:

- last name 11 -6
- last name initials 5 -1
- firstname 5 0
- firstname first three 5 -1
- firstname-initials 5 -2
- middlename-initials 2 -2

- year-of-birth YOB 5 -1 1
- YOB 0 -4 3
- town-name 5 -3
- county string-code 5 -3

Missing variables generate no weight. So a located soldier whom we find in the same town in the Full-Count census, receives a 5-point-higher weight from this match, but a soldier who is unlocated in the Army register does not receive a negative weight for this missing data-point. Since we are matching two data-sets in which one record uniquely identifies a person, we used 1:1 matching, so that every master-data-observation is matched to at most one using-data observation, and this using observation has its highest match-score in this pairing. The match-score cutoff we chose is 30. Given the weights listed above, 30 is a high match-score for soldiers who have no location information in the army registers. We are therefore very confident that matches of 30 or above are correct. It is important that we prevent matching location information from dominating poorly matched name-matching: this is achieved by the negative weights on non-matching last names and non-matching middle-name initials.

In Online Appendix C, we provide a brief summary of other record linkage approaches, based on the excellent review in Bailey, Cole, Henderson and Massey (2017).

#### Appendix A.3 Inferring Soldiers' Ancestry Using Machine Learning

This section describes how we trained a Machine Learning Algorithm on the 1860 Full Count U.S. Census (where we observe place of birth) and then applied the trained algorithm to the Union Army Enlistment Data discussed in Appendix A.4 (where we do not observe place of birth). A vast corpus of computer science and statistical learning literature is devoted to the question if characters of a word can be used to investigate how words are classified. In comparison to proper nouns of other types (such as company names), personal names have many more conventional structures than others. For example, German names tend to end with "berg" or "mann", while Mexican names often end with "guez" or "arro". At the same time, naming conventions become less stable and much more difficult to identify when a model predicts a specific nationality given a specific individual name.

Despite the availability and simplicity of name data, few studies utilize personal names to predict individual nationality or ethnicity. Using decision trees, Ambekar, Ward, Mohammed, Male and Skiena (2009) and Treeratpituk and Giles (2012) classify ethnic groups on a corpus of news data. Chang, Rosenn, Backstrom and Marlow (2010) develop a Bayesian classifier with name data from the U.S. Census. Harris (2015) predicts ethnicity based on proportions of each unique name within ethnic groups.

One of the key challenges with predicting nationality based on name information is that important patterns (i.e., combinations of *n* specific name characters, *n*-grams) are not known a priori. The standard way developed in statistics and econometrics to approach this problem includes two-steps. In a first step, all potential combinations of characters of a given length *n*, *n*-grams, are extracted from the corpus of names and are used as binary covariates. In the next step, a statistical model (e.g., logistic regression, ridge-regression, random forest, etc) is applied to the processed data to calculate predictions. This approach, however, requires a significant computation capacity and often fails even on industrial supercomputers.

Mikolov, Karafiát, Burget, Cernock and Khudanpur (2010) and Bahdanau, Cho and Bengio (2014) show that recurrent neural networks are cost-effective alternatives to other approaches to

		Army Rosters	Data							Census Data		
first name	last name	enlistm. date	enlistm. age	county of residence	state of residence	dtalink score	first name	last name	birthyear	town of residence	county of residence	state of residence
Lewis	Wentworth	04feb1864	18		HO	30	Lewis	Wentworth	1848	Carryall	Paulding	НО
Daniel	Williams	30aug1863	19		MA	30	Daniel	Williams	1847	Concord	Middlesex	MA
Milo	Kemp	14aug1864	21		НО	30	Milo	Kemp	1845	Dayton	Montgomery	НО
James P	Henry	06dec1864	22		ЛY	31	James	Henry	1843	North Salem	Westchester	λλ
Thomas	Johnson	27 mar 1865			PA	31	Thomas	Johnson	1834	Tyrone	Blair	PA
Thomas	Brennan	01aug1862			LA	31	Thomas	Brennan	1851	New Orleans	Orleans	LA
Peter H	Williams	06sep1861	19		НО	32	Peter H	Williams	1844	Uniopolis	Auglaize	НО
James H	Danner	15aug1864	28		НО	32	James H	Danner	1839	Racoon	Gallia	НО
Joseph C	Smith	20aug1861	25		ЛY	32	Joseph C	Smith	1833	Hector	Schuyler	ΝΥ
Charles W	Scott	27oct1864			ЛY	33	Charles W	Scott	1848	Warwarsing	Ulster	ΝΥ
Charles D	Zane	19aug1861			R	33	Charles D	Zane	1844	Upper Penn's Neck	Salem	ſZ
Jose M	Garcia	31may1862			MN	33	Jose M	Garcia	1817	Hamlet Of La Bolsa	Valencia	MN
William	Hinton	21jun1861	34	Centre	$\mathbf{PA}$	35	Wm	Hinton	1830	Snowshoe	Centre	$\mathbf{PA}$
Francis	Bates	09aug1861	37	Houghton	IM	35	Francis	Bates	1827	Portage	Houghton	IM
Elias	Beidleman	22feb1864	34	Dauphin	PA	35	Elias	Beidleman	1832	Middletown	Dauphin	PA
William	Morgan	02sep1864	23		ЛY	36	Wm	Morgan	1841	Chesterfield	Essex	ΝΥ
Ralph	Norton	20jan1864	37		ЛY	36	Ralph	Norton	1828	Manlius	Onondaga	ΝΥ
Hiram	Coolidge	21mar1864	19		НО	36	Hiram	Coolidge	1845	Paris	Union	НО
John L	Miller	12jan1862	18	Monroe	IM	37	John L	Miller	1847	La Salle	Monroe	IM
Levi T	Greenlee	28oct1861	20	Wayne	IA	37	Levi T	Greenlee	1843	Benton	Wayne	IA
Wesley A	Harbeson	02oct1863	18	Lee	IA	37	Wesley A	Harbeson	1847	Harrison	Lee	IA
Thomas C	Cory	07sep1861	23		НО	38	Thomas C	Cory	1838	Cranberry	Crawford	НО
Napoleon B	Carpenter	26aug1861	24		ΝΥ	38	Napoleon B	Carpenter	1838	New York	New York	ΝΥ
Luther B	Phelps	23aug1862	22		ΝΥ	38	Luther B	Phelps	1841	Gouverneur	St Lawrence	ΝΥ
John	Brunner	17jun1863	22	Lebanon	PA	41	John	Brunner	1841	Swatara	Lebanon	PA
John	Phillips	21jul1862	21	Mahaska	IA	41	John	Phillips	1842	Oskaloosa	Mahaska	IA
Edward	Larkins	21may1861	28	Wayne	IM	41	Edward	Larkins	1832	Plymouth	Wayne	IM
Edward P	Clark	19jun1861	28	Washtenaw	IM	43	Edward P	Clark	1833	Ann Arbor	Washtenaw	IM
Nathan W	Brock	23may1864	39	Dallas	IA	43	Nathan W	Brock	1824	Dallas	Dallas	IA
George W	Webb	18oct1863	18	Pope	AR	43	George W	Webb	1845	Illinois	Pope	AR
<i>Notes</i> : To illifor each ma	ustrate with exa tch-score that is	amples how m s observed in t	latch sco he data.	res vary in the	e linkage pı	ocedure	outlined in /	Appendix A.2.1	, this table	e reports on a random	ו sample of thre	e matches

Table A1: Sample of linked Individuals

language modeling. Recurrent neural networks iteratively introduce additional *n*-grams as covariates, update the prediction and keep them only if the quality of prediction increased higher than a certain threshold. Thus, they effectively keep and operate over important patterns only. Bahdanau et al. (2014) show that recurrent neural networks outperform most of the standard models of statistical learning on large-size data-sets for tasks such as machine translation while not suffering from over-fitting (see also, Hochreiter and Schmidhuber (1997)). Kim, Jernite, Sontag and Rush (2016) , Chiu and Nichols (2015), and Lee, Kim, Ko, Choi, Choi and Kang (2017) use character level embedding with a recurrent neural network for a set of classification tasks, including personal name classification.

We build on the results from Hochreiter and Schmidhuber (1997), Chiu and Nichols (2015), and Lee et al. (2017) to develop a recurrent neural network based model which predicts nationality using an individual's first and last name. Using character embedding, our model automatically extracts character-level features for the fist and last name to predict the propensity with which a person belongs to a specific nationality (Germany, Scandinavia, Italy, Ireland, or 'Other/USA'). We trained our model with back-propagation through time (Werbos, 1990).

## Appendix A.4 Historical Town and County Controls

At the city level, we observe only population counts by race and gender, from Fishman (2009). We thank Michael Haines for sharing his cleaned version of the 1850 and 1860 town-level data. In addition, we geo-coded the location of all towns, which allows us to calculate a rich set of geographic location factors. These include longitude and latitude, log elevation, the mean temperature and precipitation, and the following set of (log) distance variables: distance to the coast, to the next navigable river, and the railway network in 1850 (provided by Atack, 2015).

## Appendix A.4.1 Historical County-Level Controls

In addition, we gleaned the following 1850 county-level controls from the *Historical*, *Demographic*, *Economic*, *and Social Data: The United States*, 1790-2002 (Haines, 2010):

- Economic: urbanization, manufacturing employment and output, farmland's share of area, farm equipment value
- Demographic: population size, foreign born, German-born, churches
- Voting: Party vote-shares by presidential election

## Appendix A.5 Factors Attracting the *Forty-Eighters* into Specific Towns

#### Appendix A.5.1 Metzler's Map for Immigrants

A novel control variable that we are introducing for this paper is *Metzler's Map for Immigrants*; see Figure A1. This map was published in Germany in 1853 to show emigrants the main travel routes across the ocean to the U.S. and within the U.S. along with some information about fares. Based on this map, we calculate all cities' distance to the nearest city on Metzler's map.

#### Appendix A.5.2 Mapping the Germans to America Shipping Lists into U.S. Towns

The 'Germans to America' Shipping Lists are the universe of 4 million Germans who arrived in the U.S. between 1840 and 1896. The collection is split into an 1840–1849 collection (Glazier,



Figure A1: Metzler's Map for Immigrants

Notes: This map depicts the second edition of Metzler's Auswanderer Karte, published in 1853.

2005), and an 1850–1896 collection Glazier and Filby (1999), roughly two meters of books in total, neatly organized in chronological fashion. We digitized the years 1848–1852, and then linked these arrival records to the universe of German-born individuals in the Full-Count 1860 Census.

#### Appendix A.6 Turner Societies

German immigrants had a strong sense for cultural heritage, and social organizations as they knew them from home were one way to preserve this heritage. These clubs included card clubs, music societies, sharpshooter organizations, library associations, and so-called *Turnvereine* ('Turner Societies'). The latter were probably the most prominent kind of social clubs, and certainly the most political ones. Many *Forty-Eighters* were members of them if not their founders. One of the first Turner Societies was founded in Cincinnati in 1849 by Friedrich Heckler, a prominent *Forty-Eighter* who had led the revolution in the German state of Baden (Barney, 1982). Subsequently, more Turner Societies were founded across the entire U.S., thus creating a social network with substantial political leverage.

The origin of the Turner Society goes back to Friedrich Ludwig Jahn—sometimes referred to as *Turnvater* Jahn—who defined gymnastic principles for physical fitness. He opened a first outdoor gymnasium (*Turnplatz*), in Berlin-Hasenheide in 1811 and the Turner movement spread quickly to other locations in Germany. What sounds like a leisure movement focused on athletics was in reality a highly political movement. Jahn was a patriot who believed that physical education would raise young gymnasts' physical and moral powers and their sense for national identity. In this way, he was hoping to prepare them for military service and ultimately the liberation of the German lands from Napoleon and France. But Jahn was also a liberal thinker who dreamed of overthrowing the feudal order of serfdom and reorganizing Germany into a unified nation state, a republic. While the Prussian authorities supported the first purpose, they were less impressed with the nationalist movement and banned *Turnen* between 1819-1842. After the ban was lifted, Turner Societies became centers of political discussions and activities and it is not surprising that they were the breeding ground for the revolution. Many *Forty-Eighters* were members of the Turner Societies in Germany.

Upon their arrival, the *Forty-Eighters* established the Turner movement in the United States, and the nationwide Turner network helped them spread their liberal ideals. Among their main goals was to fight American nativism and to abolish slavery. Consequently, most Turners were active supporters of the newly founded Republican Party during the 1850s and 60s. Among others, they helped protecting anti-slavery activists during public speeches; Turners were Lincoln's bodyguards for his first inauguration (Zucker, 1950; Baron, 2012) and when the Civil War started in 1861, they formed special "Turner Regiments" (Hofmann, 1995, p.158). Wittke 1970 estimates that 60 percent to 80 percent of the Turners enlisted for the Civil War.

# **Online Appendix**

to

"Leadership and Social Norms: Evidence from the *Forty-Eighters* in the Civil War"

# Online Appendix A The 1848–1849 Revolutions in Germany

Somewhat surprised by the revolutionary movement, rulers of smaller German states—what we know as Germany today comprised 39 independent states which were part of the German Confederation—were fast to give in. Eventually, also King Frederick William IV of Prussia agreed to pass a constitution, establish a parliament, and support German unification. In March 1849, almost one year after the beginning of the revolution, the Constitutional Assembly in Frankfurt issued a first constitution. It was designed as foundation of a liberal constitutional state with a strong parliament to control the government and the Prussian king at its head. 28 of the German states passed the constitution but the Prussian king, despite his earlier agreement, refused to "pick up a crown from the gutter" and rejected the constitution on 28 April 1849. In the following counter-revolution, the absolutist rulers fought the revolutionaries and re-established the situation before the March Revolution. After some last uprisings, most notably in Baden, Palatine, Saxony and Württemberg, the revolutionary momentum eventually abated in the summer of 1849.<sup>66</sup>

When the Prussian-led troops eventually quelled the last uprisings in the southwest of Germany, several thousand German revolutionaries escaped to Switzerland. There are different reasons why Switzerland was a good choice for the revolutionaries. Importantly, it was geographically close, considered a safe country of asylum, and, following the so-called Sonderbund War ('Sonderbundkrieg'),<sup>67</sup> Switzerland had already transformed into a federal republic with a democratic constitution. However, the substantial inflow of revolutionaries from German states, Italy and France presented a serious organizational and financial challenge to Switzerland. Even worse, the refugees presence raised concerns that Prussia and Austria could use their military power to force Switzerland to expel or deliver the revolutionaries. Faced with this threat, Switzerland put pressure on regular soldiers, who had little to fear, to return to their home countries. Leaders of the revolution like Gustav Struve, Lorenz Brentano or August Willich were expelled and, with the help of France, shipped to the United States. As a result, the number of German refugees in Switzerland decreased rapidly from more than 8350 at the beginning of September 1849 to roughly 2,000 in January 1850 and as little as 883 refugees in August 1850 (Jung, 2015; Nagel, 2012; Reiter, 1992). This expulsion is nicely illustrated in a cartoon (Figure Online Appendix Figure 1) where Prussian soldiers led by Friedrich Wilhelm IV of Prussia sweep the revolutionaries out of Europe.

While the majority of revolutionaries emigrated straight to the United States, a smaller fraction went on exile in London, hoping to spark another revolution in Europe. However, with the French coup d'état of 2 December 1851 which lead to the proclamation of the Second French Empire, they abandoned this hope and many followed their comrades to the United States (Nagel, 2012). This explains why we observe a second wave of indigent immigrates of German heritage around that time.

<sup>&</sup>lt;sup>66</sup>See Dahlinger (1903), Valentin (1930) and Whitridge (1949) for seminal accounts of the revolutions of 1848–1849.

<sup>&</sup>lt;sup>67</sup>The *Sonderbund War* ended the attempted succession of seven Catholic Cantons into a separate alliance ('Sonderbund') which was formed in opposition to a new Constitution for the Swiss Confederation proposed by the Protestant cantons.

Figure Online Appendix Figure 1: Cartoon by Ferdinand Schröder on the end of the revolution in Europe in 1849



*Notes*: The political cartoon by Ferdinand Schröder titled "Rundgemälde von Europa im August MDCCCXLIX" shows how the absolutistic rulers force the *Forty-Eighters* to leave Europe on a boat from Le Havre. It was first published in *Düsseldorfer Monatshefte*, 1849.

# Online Appendix B The Slavery Issue in U.S. Politics Up to 1856

After being relatively absent from public debate for the first half-century of the United States' existence, slavery entered politics in a big way in 1844 when Martin van Buren lost his seemingly secure Democratic nomination for the presidency on Southern Democratic agitation because he had opposed the immediate annexation of Texas into the Union as a slave-state. 1844 also saw the first time a national party—the Liberty Party— with an explicit abolitionist platform entering the presidential race.

During the 1844–1848 presidential term, both major parties–the Whigs and the Democratsstarted to strain over the slavery issue, and saw defections of so-called 'Conscience Whigs' and 'Barnburner Democrats' to third-party coalitions. In the lead-up to the 1848 presidential election, the Free-Soil Party emerged as a major third party out of a coalition of the Liberty party, 'Conscience Whigs' and 'Barnburner Democrats.' During the campaign of 1848, the term "slave power" came into heavy use as a description of the out-sized influence that Southern plantation owners appeared to have on the federal government. In the 1848 election, the Free-Soil Party obtained 10 percent of the popular vote, and it was the last election where the Whig Party won.

The 1848–1852 presidential term marked a period of relative quiet on the slavery issue, with many 'Conscience Whigs' and 'Barnburner Democrats' returning to their respective parties, largely due to the two main parties' "compromise of 1850", which allowed California to join the Union as a non-slave state while strengthening in return the enforcement of Fugitive Slave Acts in the North (Srinivasan, 2017, 115-119). In the 1852 presidential election, the Free-Soil Party obtained less than five percent of the popular vote and subsequently disappeared from the political landscape. The Democratic Party won the popular vote.

During the 1852–1856 presidential term, the issue of slavery re-emerged with doubled impetus, primarily as a result of the 1854 Kansas-Nebraska bill, which repealed the Missouri Compromise that had prohibited slavery in the North since 1820, and gave people in the territories of Kansas and Nebraska the choice of allowing slavery within their borders. This bill was seen as a major success of Southern slave power in Congress (Foner, 1970, 94). This and the resulting violent conflicts in Kansas throughout 1855 between pro- and anti-slavery settlers gave birth to the new Republican Party, which combined Free-Soilers with newly disaffected Whigs and Democrats (Srinivasan, 2017, 120-121).<sup>68</sup> This time, the corrosive force on the Whig Party was lethal, and the Whig Party completely disintegrated within a year. Conservative Whigs tended to join the newly formed nativist American (also called 'Know-Nothing') Party. Many did so less out of strong nativist sentiments but rather because they viewed nativism as a pressure valve that could circumvent the sectional conflict over slavery that they rightly viewed as a threat to the Union (Foner, 1970, 196). On the Eastern Seaboard, the Know Nothing Party had genuinely strong popular support, largely due to the rapid increase in Irish and German immigration (Alsan et al., 2018).

<sup>&</sup>lt;sup>68</sup> 1854 also gave a rise to a short-lived effort by *Forty-Eighters* to form their own party, called the Louisville Platform. This quickly dissolved, however, since the *Forty-Eighters* found a natural political home in the Republican Party (Wittke, 1973, 164).

# Online Appendix C Alternative Linkage Methods for Robustness Checks

Bailey et al. (2017) review several record linkage methods and show that no algorithm can consistently produce samples that are representative of the underlying population. This includes linking records by hand. Figure Online Appendix Figure 2 from Bailey et al. (2017) summarizes the performance of different record linkage algorithms by plotting their share of correct and incorrect matches, and the type I error rate. The lowest error rate is achieved by Ferrie (1996) who links only individuals with uncommon names. This reduces the dimensionality problem, issues of name ties, and produces fairly accurate matches. The main downside with the approach Ferrie (1996) is the considerable reduction in sample size and potentially ad-hoc choice of what defines an *uncommon* name. Ferrie (1996) might thus be viewed as ideal when the primary objective of a linkage exercise is to test a hypothesis on individual behavior in a linked sample that is representative, with sample size a secondary consideration. By contrast, in our linkage exercise the primary objective is to maximize the amount of accurate links, with the data being collapsed down from the individual to the town level for our analysis.

Figure Online Appendix Figure 2: Match Rates and False Links across Record Linkage Methods Type I Error

	Тур	eren
LIFE-M	0.43 0.43	0.01
Ferrie 1996 (Name)	0.24 .07 0.31	0.22
Ferrie 1996 (NYSIIS)	0.19 0.26	0.26
Ferrie 1996 (SDX)	0.13 .06 0.19	0.33
Ferrie 1996 (Name) + common names	0.30 .13 0.43	0.30
Ferrie 1996 (NYSIIS) + common names	0.27 .16 0.43	0.37
Ferrie 1996 (SDX) + common names	0.22 .17 0.39	0.44
Abramitzky et al. 2014 (Name)	0.28 0.38	0.26
Abramitzky et al. 2014 (NYSIIS)	0.26 .13 0.39	0.34
Abramitzky et al. 2014 (SDX)	0.21 .16 0.37	0.43
Feigenbaum 2016 (Iowa)	0.32 .17 0.47	0.30
Feigenbaum 2016 (LIFE-M)	0.32 .13 0.44	0.35
Nix and Qian 2015 (Name)	0.31 .36 0.67	0.54
Nix and Qian 2015 (NYSIIS)	0.29 .47 0.76	0.61
Nix and Qian 2015 (SDX)	0.26 .56 0.82	0.69
	0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 Share right Share wrong	1

*Notes*: Comparison of different record linkage algorithms using the ground truth data from the LIFE-M survey. Type I errors are the false match rate over the total match rate and measure the chance of false positives, i.e. matches that were made when they should not. Methods are compared using original names, and names that were transformed via phonetic score using NYSIIS or soundex (SDX). The algorithms are described in detail in Bailey et al. (2017).

# Online Appendix D Robustness Checks and Additional Results



Figure Online Appendix Figure 3: Treatment and Instrument Towns

*Notes*: This Figure visualizes the relation between treated towns and instrument towns: 73 towns had *Forty-Eighters* live in them during the period 1856-61. These are indexed by  $i \in \mathbb{I} = \{1, ..., I\}$ . 66 towns were first locations of *Forty-Eighters* after leaving their ports of debarkation. These are indexed by  $j \in \mathbb{J} = \{1, ..., J\}$ . We find 13 towns in  $\mathbb{J} \setminus \mathbb{I}$ , they were first locations in  $\mathbb{J}$  but had no *Forty-Eighters* live in them by 1856-61. We find 20 towns in  $\mathbb{I} \setminus \mathbb{J}$ , and 53 in  $\mathbb{I} \cap \mathbb{J}$ .

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:			L	Enlistments / N	Male 1860-Pop	ŋ		
Share German-Born 1850	-0.170***	-0.154***	-0.049	-0.033	-0.138***	-0.133***	-0.035	-0.040
	[0.000]	[0.000]	[0.183]	[0.401]	[0.001]	[0.003]	[0.272]	[0.215]
Log Dist: Metzler-Map Destina	-0.005	-0.004	-0.003	-0.002	-0.004	-0.003	-0.005	-0.003
	[0.201]	[0.296]	[0.540]	[0.667]	[0.339]	[0.443]	[0.144]	[0.487]
$\Delta$ Share German-Born 1860-185	-0.110***	-0.102**	-0.010	0.010	-0.071	-0.059	0.017	0.018
	[0.008]	[0.015]	[0.824]	[0.833]	[0.138]	[0.242]	[0.635]	[0.607]
Germans-To-America 1849-52	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	[0.140]	[0.259]	[0.783]	[0.990]	[0.292]	[0.455]	[0.584]	[0.576]
Count German Newspapers 185	0.004	0.004	0.004	0.004	0.005*	0.005*	0.005	0.005
	[0.135]	[0.153]	[0.121]	[0.107]	[0.096]	[0.081]	[0.243]	[0.177]
Log Pop 1850	-0.010	-0.012*	-0.012*	-0.016**	-0.011	-0.015**	0.003	0.001
	[0.102]	[0.052]	[0.085]	[0.030]	[0.115]	[0.045]	[0.494]	[0.819]
Log Dist Nearest Navigatable R		-0.007**	-0.007*	-0.008*	-0.007*	-0.007*		-0.007**
		[0.046]	[0.065]	[0.062]	[0.087]	[0.079]		[0.015]
Log Dist Nearest Coast		0.007**	0.004	0.004	0.007*	0.007		-0.006
		[0.046]	[0.315]	[0.304]	[0.087]	[0.118]		[0.564]
Log Elevation		-0.007	-0.003	-0.004	-0.006	-0.007		0.001
		[0.197]	[0.608]	[0.502]	[0.254]	[0.233]		[0.894]
%- $\Delta$ Female White Pop 1850-1		-0.005	-0.001	-0.002	-0.003	-0.003		-0.005
CI I 1050		[0.157]	[0.647]	[0.546]	[0.380]	[0.320]		[0.107]
Churches 1850			*000.0	*000.0				
			[0.092]	[0.098]				
1850-Share Pop in Places>25,00			-0.03/	-0.036				
1850 Share Day in Places 2.50			[0.287]	[0.307]				
1830-Share Pop In Places>2,50			0.023	0.052				
Share Foreign Born 1850			0.127***	0.144***				
Share Poleign Born 1850			-0.127	-0.144				
1848 Vote-Share Republican Pa			[0.000]	0.000				
1040 Vote-Share Republican 12				[0.823]				
Fixed Effects:	state	state	state	state	state	state	county	county
Core Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>
Town Controls		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$
County Controls			$\checkmark$	$\checkmark$				
Vote-Share Controls				$\checkmark$				
	11.00-	11.005	10.045	0.100	10.045	0.400	10.071	10.0=1
Observations	11,095	11,095	10,045	9,482	10,045	9,482	10,971	10,971
# Forty-Eighter Towns	72	72	66	63	66	63	68	68
R-squared	0.092	0.095	0.098	0.100	0.096	0.097	0.354	0.355

Table Online Appendix Table 1: Estimated coefficients on control variables included in Table 4 Panel A

*Notes*: The table reports on the control variables included in the baseline Table 4, Panel A. Columns 1–6 include state fixed effects, columns 7–8 include county fixed effects. # *Forty-Eighter Towns* is the number of treated towns providing identifying variation in each specification. This varies with the controls included (columns 3–4 vs 1–2); it also varies with the inclusion of county fixed effects because some treated towns are singletons in their county. Standard errors are clustered at the county-level, *p-values* are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Outcome:				Log Enl	istments			
Share German-Born 1850	-0.329	-0.207	0.167	0.382	0.003	0.084	-0.138	-0.158
	[0.274]	[0.491]	[0.567]	[0.204]	[0.993]	[0.790]	[0.657]	[0.613]
Log Dist: Metzler-Map Destina	-0.028	-0.029	-0.014	-0.006	-0.020	-0.012	-0.001	0.007
	[0.191]	[0.177]	[0.512]	[0.773]	[0.354]	[0.578]	[0.968]	[0.776]
$\Delta$ Share German-Born 1860-185	0.010	0.103	0.669**	0.952***	0.547*	0.728**	0.314	0.320
	[0.974]	[0.732]	[0.040]	[0.006]	[0.085]	[0.029]	[0.337]	[0.333]
Germans-To-America 1849-52	0.002	0.002	0.003	0.004	0.002	0.003	0.005	0.006
	[0.446]	[0.331]	[0.198]	[0.140]	[0.326]	[0.243]	[0.108]	[0.105]
Count German Newspapers 185	0.031	0.028	0.033*	0.034*	0.032*	0.034*	0.051	0.055*
	[0.113]	[0.155]	[0.094]	[0.088]	[0.096]	[0.085]	[0.106]	[0.092]
Log Pop 1850	0.911***	0.904***	0.897***	0.864***	0.898***	0.872***	0.959***	0.950***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Log Dist Nearest Navigatable R		-0.009	-0.013	-0.015	-0.010	-0.011		-0.052***
		[0.564]	[0.410]	[0.347]	[0.525]	[0.516]		[0.001]
Log Dist Nearest Coast		0.051***	0.046***	0.062***	0.051***	0.052***		0.019
		[0.000]	[0.002]	[0.000]	[0.000]	[0.001]		[0.332]
Log Elevation		-0.067**	-0.060*	-0.089***	-0.070**	-0.076**		-0.003
		[0.037]	[0.074]	[0.008]	[0.031]	[0.022]		[0.919]
%- $\Delta$ Female White Pop 1850-1		-0.007	0.000	-0.003	-0.002	-0.007		-0.024*
		[0.644]	[0.993]	[0.834]	[0.893]	[0.663]		[0.096]
Churches 1850			-0.000	-0.000				
			[0.859]	[0.805]				
1850-Share Pop in Places>25,0			-0.304	-0.304				
			[0.252]	[0.250]				
1850-Share Pop in Places>2,50			0.264	0.340*				
			[0.125]	[0.053]				
Share Foreign Born 1850			-0.269	-0.413				
			[0.257]	[0.111]				
1848 Vote-Share Republican Pε				0.005***				
				[0.001]				
Fixed Effects:	state	state	state	state	state	state	county	county
Core Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	<ul> <li>✓</li> </ul>	<ul> <li>✓</li> </ul>
Town Controls		✓	$\checkmark$	$\checkmark$	✓	$\checkmark$		$\checkmark$
County Controls			$\checkmark$	$\checkmark$				
Vote-Share Controls				$\checkmark$				
	11.005	11.005	10.045	0.402	10.045	0.400	10.071	10.071
Observations	11,095	11,095	10,045	9,482	10,045	9,482	10,971	10,971
# Forty-Eighter Towns	72	72	66	63	66	63	68	68
R-squared	0.563	0.565	0.544	0.521	0.544	0.518	0.677	0.678

Table Online Appendix Table 2: Estimated coefficients on control variables included in Table 4 Panel B

*Notes*: The table reports on the control variables included in the baseline Table 4, Panel B. Columns 1–6 include state fixed effects, columns 7–8 include county fixed effects. # *Forty-Eighter Towns* is the number of treated towns providing identifying variation in each specification. This varies with the controls included (columns 3–4 vs 1–2); it also varies with the inclusion of county fixed effects because some treated towns are singletons in their county. Standard errors are clustered at the county-level, *p-values* are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A			Enlistm	ents / Male 18	860-Pop		
D(Forty-Eighters)	0.119*** [0.000]				0.124*** [0.000]	0.123*** [0.000]	0.123***
Germans-To-America 1849-51		0.000 [0.442]			-0.000 [0.140]		
Germans-To-America 1845-47			0.000 [0.461]			-0.000 [0.204]	
Germans-To-America 1853-55				0.000 [0.373]			-0.000 [0.209]
Panel B			I	Log Enlistmen	ts		
D(Forty-Eighters)	0.934*** [0.000]				0.915*** [0.000]	0.909*** [0.000]	0.913*** [0.000]
Germans-To-America 1849-51		0.007** [0.015]			0.002 [0.446]		
Germans-To-America 1845-47			0.009** [0.014]			0.003 [0.303]	
Germans-To-America 1853-55				0.004** [0.024]			0.001 [0.400]
Fixed Effects	state	state	state	state	state	state	state
Core Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Town Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Observations # Forty-Eighter Towns	11,095 72	11,095	11,095	11,095	11,095 72	11,095 72	11,095 72

Table Online Appendix Table 3: The Effect of the Broader Wave of German Immigrants

Notes: This table investigates the possibility that the Forty-Eighters were the 'tip of the iceberg' of a broader wave of politically active German immigrants arriving at the same time. If that was so, then we would expect the broad 1849-1851 arrival cohort to have had an independent effect on enlistments, we would expect the inclusion of this cohort in the regressions to reduce the Forty-Eighters' effect, given the co-location, and we would expect the 1849-1851 arrival cohort to stand out from earlier and later arrival cohorts in the regressions. To test this we separately consider the 1849–1851, the 1845–1847, and the 1853–1855 arrival cohorts' locations in this table, where we assign a dummy to each town that receives any Germans from the ship-lists in a given arrival cohort. In column 1, we estimate the effect of the Forty-Eighters on enlistment when none of the three immigrant cohorts are included. Columns 2-4 estimate the effect of each of the broad waves when the the Forty-Eighters are not included in the regressions. Columns 5–7 add the Forty-*Eighters*. We find that the effect of the *Forty-Eighters* in column 1 is not markedly higher than in columns 5–7, implying that the omission of the broader German immigrant waves does not create a confounder problem. By contrast, the effect of the broader German immigrant groups on enlistments is markedly affected by the inclusion of the Forty-Eighters, i.e. comparing columns 2-4 to columns 5-7. This is especially true in Panel B. Lastly, there is no marked difference between the three separate arrival waves, indicating that outside of the Forty-Eighters, German immigrants 1849–1851 were not politically influential. Standard errors are clustered at the county-level, p-values are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Eni	istments / N	1ale 1800-1	Pop		Log Enl	istments	
Panel A: Base								
D(Forty-Eighters)	0.124*** [0.000]	0.124*** [0.000]	0.119*** [0.000]	0.117*** [0.000]	0.915*** [0.000]	0.926*** [0.000]	0.888*** [0.000]	0.880*** [0.000]
Observations	11,095	11,095	10,971	10,971	11,095	11,095	10,971	10,971
	12	12	08	08	12	12	08	08
Panel B: Drop Big Cities	0.404444	0.400.444	0.0001111	0.005111	0 =0 <1.1.1	0 = 10111	0 = 1 1 1 1 1	0.500101
D(Forty-Eighters)	0.104*** [0.000]	0.102*** [0.000]	0.098*** [0.000]	0.095*** [0.000]	0.736*** [0.000]	0.740*** [0.000]	0.744*** [0.000]	0.733*** [0.000]
Observations	11.085	11.085	10.963	10.963	11.085	11.085	10.963	10.963
#48ers	62	62	61	61	62	62	61	61
Panel C: Interpolate Polygon								
D(Forty-Eighters)	0.110*** [0.000]	0.112*** [0.000]	0.110*** [0.000]	0.108*** [0.000]	0.652*** [0.000]	0.669*** [0.000]	0.655*** [0.000]	0.654*** [0.000]
Observations	11,583	11,583	11,462	11,462	11,584	11,584	11,463	11,463
#48ers	72	72	70	70	72	72	70	70
Panel D: Interpolate Rectangle								
D(Forty-Eighters)	0.113*** [0.000]	0.113*** [0.000]	0.115*** [0.000]	0.112*** [0.000]	0.656*** [0.000]	0.663*** [0.000]	0.657*** [0.000]	0.653*** [0.000]
Observations #48ers	11,602 72	11,602 72	11,480 70	11,480 70	11,603 72	11,603 72	11,481 70	11,481 70
Panel E: No Germans								
D(Forty-Eighters)	0.097*** [0.000]	0.097*** [0.000]	0.096*** [0.000]	0.094*** [0.000]	0.916*** [0.000]	0.925*** [0.000]	0.890*** [0.000]	0.881*** [0.000]
Observations	11,095	11,095	10,971	10,971	11,095	11,095	10,971	10,971
#48ers	72	72	68	68	72	72	68	68
Fixed Effects	state	state	county	county	state	state	county	county
Core Controls	$\checkmark$	✓	$\checkmark$	✓	$\checkmark$	✓	$\checkmark$	<b>√</b>
Town Controls		$\checkmark$		$\checkmark$		$\checkmark$		$\checkmark$

## Table Online Appendix Table 4: Robustness Checks for Table 4

*Notes*: The table reports robustness checks for the baseline results in Table 4. In each panel reported here, columns 1–4 re-run columns 1–2 and 7–8 of Panel A in Table 4, and columns 5–8 re-run columns 1–2 and 7–8 of Panel B in Table 4. Standard errors are clustered at the county-level, *p*-values are reported in square brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Panel A				Outcor	ne: Enlistme	ents / Male 18	60-Pop		
	drop:	MO	OH	MD	NJ	MN	KY	PA	DE
D(Forty-Eighters)		0.126*** [0.000]	0.139*** [0.000]	0.128*** [0.000]	0.126*** [0.000]	0.124*** [0.000]	0.124*** [0.000]	0.134*** [0.000]	0.123*** [0.000]
Observations # Forty-Eighter Towns R-squared		10,436 69 0.092	9,550 63 0.093	11,067 70 0.095	10,899 70 0.093	10,737 70 0.096	11,018 71 0.087	9,509 65 0.093	11,070 72 0.098
D(Forty-Eighters)	drop:	<u>KS</u> 0.104*** [0.000]	<u>IN</u> 0.115*** [0.000]	<u>NH</u> 0.124*** [0.000]	<u>IL</u> 0.111*** [0.000]	<u>IA</u> 0.131*** [0.000]	<u>RI</u> 0.124*** [0.000]	<u>NY</u> 0.129*** [0.000]	<u>WI</u> 0.124*** [0.000]
Observations # Forty-Eighter Towns R-squared		10,983 67 0.095	10,048 68 0.101	10,870 72 0.095	10,234 63 0.090	10,195 62 0.098	11,063 72 0.095	10,152 67 0.097	10,447 65 0.097
D(Forty-Eighters)	drop:	<u>MI</u> 0.112*** [0.000]	<u>MA</u> 0.125*** [0.000]	<u>VT</u> 0.124*** [0.000]	<u>ME</u> 0.124*** [0.000]	<u>DC</u> 0.124*** [0.000]	<u>CT</u> 0.124*** [0.000]		
Observations # Forty-Eighter Towns R-squared		10,435 68 0.096	10,766 71 0.095	10,855 72 0.095	10,692 72 0.095	11,095 72 0.095	10,935 71 0.095		
Panel B					Outcome: lo	g enlistments	8		
	drop:	MO	<u>OH</u>	MD	NJ	MN	<u>KY</u>	PA	DE
D(Forty-Eighters)		0.919*** [0.000]	0.979*** [0.000]	0.982*** [0.000]	0.928*** [0.000]	0.937*** [0.000]	0.934*** [0.000]	0.959*** [0.000]	0.928*** [0.000]
Observations # Forty-Eighter Towns R-squared		10,436 69 0.566	9,550 63 0.565	11,067 70 0.565	10,899 70 0.566	10,737 70 0.555	11,018 71 0.569	9,509 65 0.572	11,070 72 0.565
D(Forty-Eighters)	drop:	<u>KS</u> 0.867*** [0.000]	<u>IN</u> 0.891*** [0.000]	<u>NH</u> 0.928*** [0.000]	<u>IL</u> 0.884*** [0.000]	<u>IA</u> 0.930*** [0.000]	<u>RI</u> 0.927*** [0.000]	<u>NY</u> 0.930*** [0.000]	<u>WI</u> 0.901*** [0.000]
Observations # Forty-Eighter Towns R-squared		10,983 67 0.569	10,048 68 0.588	10,870 72 0.562	10,234 63 0.599	10,195 62 0.545	11,063 72 0.563	10,152 67 0.533	10,447 65 0.580
D(Forty-Eighters)	drop:	<u>MI</u> 0.880*** [0.000]	<u>MA</u> 0.939*** [0.000]	<u>VT</u> 0.925*** [0.000]	<u>ME</u> 0.927*** [0.000]	<u>DC</u> 0.926*** [0.000]	<u>CT</u> 0.926*** [0.000]		
Observations # Forty-Eighter Towns R-squared		10,435 68 0.563	10,766 71 0.554	10,855 72 0.562	10,692 72 0.559	11,095 72 0.565	10,935 71 0.560		

Table Online Appendix Table 5: Robustness to Dropping States	Table Onlir	ne Appendix	Table 5:	Robustness	to Dropping	States
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*Notes*: Missing residence information is in large part explained by state-specific reporting standards. A variance decomposition of a dummy for missing location in the soldier data shows that 35% of the variance in having a soldier's location information reported is cross-state variation. This table re-runs the core specifications in Table 4, dropping one state at a time. States are sorted from lowest to highest by the share of soldiers with reported town-of-residence information. Missouri (MO) has the lowest share, Connecticut (CT) the highest. Standard errors are clustered at the county-level, *p-values* are reported in square brackets. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

# **Online Appendix E** Individual Biographies

Here we list all *Forty-Eighters* sorted by last name and (first name). We further list location information, i.e. each individual's town, county and state of residence at each point in time.

ALMSTEDT (HEINRICH) 1849-1870: Washington, DC, District Of Columbia; 1871-1884: Saint Louis, St. Louis, Missouri. •

AMSBERG (GEORGE VON) 1859-1864: Hoboken, Hudson, New Jersey; 1865-1876: Jersey, Hudson, New Jersey. ●

**ANGELRODT** (ERNST) 1850-1869: *Hermann, Gasconade, Missouri.* ●

**ANNEKE** (EMIL P.) 1849-1850: New York, New York, New York; 1851-1855: Minersville, Schuylkill, Pennsylvania; 1856-1856: Detroit, Wayne, Michigan; 1857-1866: Lansing, Ingham, Michigan; 1867-1870: Grand Rapids, Kent, Michigan; 1871-1888: East Saginaw, Saginaw, Michigan.

**ANNEKE** (FRITZ) 1850-1872: Milwaukee, Milwaukee, Wisconsin. •

**ANNEKE** (MATHILDE FRANZISKA GIESLER-) 1850-1884: Milwaukee, Milwaukee, Wisconsin; 1853-1865: Newark, Essex, New Jersey.

**ANSCHUETZ** (CARL) 1858-1870: New York, New York, New York.

**ANSELM** (ALBERT) 1852-1878: Davenport, Scott, Iowa; 1879-1902: Saint Louis, St. Louis, Missouri. •

**ARNOLD** (FRANZ) 1850-1885: Chicago, Cook, Illinois.

ASSING (OTTILE) 1852-1855: New York, New York, New York; 1855-1883: Hoboken, Hudson, New Jersey. •

**AULENBACH** (KARL) 1850-1881: *Zanesville, Muskingum, Ohio.* ●

**BACKHOFF** (FRANZ) 1852-1863: Saint Louis, St. Louis, Missouri.

**BALATKA** (HANS) 1861-1899: Chicago, Cook, Illinois. •

**BARUS** (KARL) 1857-1902: Cincinnati, *Hamilton, Ohio.* •

**BAUER** (CARL FRIEDRICH) 1850-1885: Pittsburg, Allegheny, Pennsylvania; 1886-1888: Milwaukee, Milwaukee, Wisconsin. •

BAUER (LOUIS) 1850-1902: Saint Louis, St. Douglas, Kansas. •

Louis, Missouri. •

**BAUMBACH** (LUDWIG VON) 1858-1883: *Milwaukee, Milwaukee, Wisconsin.* •

**BAYRHOFFER** (KARL THEODOR) 1853-1888: Monroe, Green, Wisconsin. •

**BECKER** (AUGUST ) 1854-1860: Baltimore, Ind. City: Baltimore, Maryland; 1861-1871: Cincinnati, Hamilton, Ohio. •

**BECKER** (GOTTFRIED ) 1861-1867: *Chicago, Cook, Illinois.* •

**BEHLENDORF** (FREDERICK) 1861-1869: Saint Louis, St. Louis, Missouri; 1870-1872: Chicago, Cook, Illinois; 1873-1889: Grand Rapids, Kent, Michigan. •

**BEHR** (ALFRED VON) 1861-1863: Saint Louis, St. Louis, Missouri.

**BEHR** (HANS HERMANN) 1851-1904: San Francisco, San Francisco, California. •

**BEHRENDT** (KARL HERMANN ) 1852-1878: New York, New York, New York. •

**BERENDS** (JULIUS) 1854-1875: San Antonio, Bexar, Texas; 1876-1891: Cincinnati, Hamilton, Ohio. •

**BERGER** (HEINRICH) 1849-1902: New York, New York, New York. •

**BERGMANN** (CARL) 1850-1876: New York, New York, New York. ●

**BERNAYS** (CARL L.) 1849-1861: Saint Louis, St. Louis, Missouri; 1862-1879: Washington, DC, District Of Columbia. •

**BEST** (ADAM) 1849-1880: Cincinnati, Hamilton, Ohio. •

**BEST** (MICHAEL) 1853-1865: Saint Louis, St. Louis, Missouri; 1862-1906: Saint Louis, Ind. City: St. Louis, Missouri. •

**BETZ** (PHILIPP) 1853-1902: Davenport, Scott, Iowa. •

**BEYSCHLAG** (CARL) 1852-1866: Indianapolis, Marion, Indiana; 1867-1902: Saint Louis, St. Louis, Missouri. •

**BIEBUSCH** (HENRY) 1850-1882: Lawrence, Douglas, Kansas.
BIELING (JOHANN H.) 1850-1902: New York. York, New York, New York.

BIEN (JULIUS) 1850-1909: New York, New York, New York.

**BINDER** (HEINRICH) 1853-1865: Chicago, Cook, Illinois; 1866-1870: Saint Louis, St. Louis, Missouri; 1871-1888: Detroit, Wayne, Michigan; 1889-1901: New York, New York, New York.

BISKY (FRIEDRICH LUDWIG) 1851-1860: Columbus, Franklin, Ohio; 1861-1863: New York, New York, New York. •

BLANDWOSKI (CONSTANTIN) 1851-1861: New York, New York, New York. •

**BLENKER** (LUDWIG) 1851-1863: New York, New York, New York. •

BLESCH (PHILIP) 1850-1907: Columbus, Franklin, Ohio.

BLOEDE (GUSTAV) 1851-1902: New York, New York, New York. •

**BLUME** (ERNST CHRISTIAN FRIEDRICH) 1850-1902: Baltimore, Ind. City: Baltimore, Maryland.

BOEBEL (HANS) 1866-1902: Milwaukee, Milwaukee, Wisconsin.

BOERNSTEIN (HEINRICH) 1850-1892: Saint Louis, St. Louis, Missouri.

**BOGEN** (LUDWIG) 1865-1886: New Ulm, Brown, Minnesota.

BOLLMANN (LOUIS) 1850-1902: Bloomington, Monroe, Indiana.

BONDI (AUGUST) 1849-1856: Saint Louis, St. Louis, Missouri; 1857-1870: Walker, Ellis, Kansas; 1871-1880: Walnut, Crawford, Kansas; 1881-1907: Salina, Saline, Kansas. •

BRAND (FR.) 1850-1902: Boston, Suffolk, Massachussetts.

BRAUSE (CARL VON) 1850-1902: Manitowoc, Manitowoc, Wisconsin.

BRENDEL (FRIEDRICH) 1851-1852: Saint Louis, St. Louis, Missouri; 1853-1912: Peoria, Peoria, Illinois.

BRENTANO (LORENZ) 1851-1859: Kalamazoo, Kalamazoo, Michigan; 1860-1891: Chicago, Cook, Illinois.

BRETHAUER (OTTO) 1849-1882: New York, New York, New York. •

BRICKEL (ANDREW) 1850-1898: New York, New York, New York; 1899-1902: Buffalo, Erie, New troit, Wayne, Michigan. •

BRODBECK (CONRAD) 1850-1902: Dayton, Montgomery, Ohio.

BROOKMAN (ANTON) 1850-1903: Newark, Essex, New Jersey.

BRUHL (GUSTAV) 1850-1902: Cincinnati, Hamilton, Ohio.

BUSH (ISIDOR) 1850-1898: Saint Louis, St. Louis, Missouri.

BUTZ (CASPAR) 1850-1854: Detroit, Wayne, Michigan; 1855-1885: Chicago, Cook, Illinois.

CALBE (WILHELM LOEWE) 1850-1902: New York, New York, New York.

CANISIUS (THEODORE) 1859-1859: Marine, Madison, Illinois; 1860-1885: Springfield, Sangamon, Illinois.

CLAUSSEN (HANS REIMER) 1851-1894: Davenport, Scott, Iowa.

CONHEIM (MAX) 1850-1902: New York, New York, New York. •

CONRAD (CONSTANTIN) 1850-1850: New Orleans, Orleans, Louisiana; 1851-1858: Cincinnati, Hamilton, Ohio; 1859-1905: Pittsburg, Allegheny, Pennsylvania.

D'UTASSY (FREDERICK GEORGE) 1849-1892: New York, New York, New York.

DAENZER (CARL) 1855-1872: Saint Louis, St. Louis, Missouri.

DECKELMAN (HENRY) 1850-1902: Leavenworth, Leavenworth, Kansas.

DEGENER (EDUARD) 1851-1877: New Braunfels, Comal, Texas; 1878-1890: San Antonio, Bexar, Texas. •

DEMBITZ (LOUIS) 1850-1902: Louisville, Jefferson, Kentucky.

DENGLER (ADOLF) 1849-1884: Bellville, St. Clair, Illinois.

DENZLER (FRIEDRICH) 1849-1902: Leavenworth, Leavenworth, Kansas.

**DERLETH** (ALOIS) 1850-1860: Saint Louis, Ind. City: St. Louis, Missouri. •

DESHAUER (JOSEPH) 1850-1902: Chicago, Cook, Illinois.

DETTWEILER (HERMANN) 1850-1878: Louisville, Jefferson, Kentucky.

DIEPENBECK (RUDOLF) 1851-1875: De-

**DIETRICH** (HEINRICH) 1849-1902: New York, New York, New York. •

**DIETSCH** (THEODOR) 1850-1857: Louisville, Jefferson, Kentucky. •

**DIETZ** (JOHANN W.) 1855-1855: New York, New York, New York; 1856-1870: Burlington, Des Moines, Iowa; 1871-1902: Chicago, Cook, Illinois. •

**DIETZSCH** (EMIL) 1854-1890: Chicago, Cook, Illinois. •

**DOEHN** (RUDOLF) 1849-1895: Saint Louis, St. Louis, Missouri.

**DOLLMATSCH** (R.) 1850-1902: Saint Louis, St. Louis, Missouri. •

**DOMSCHKE** (BERNARD) 1851-1854: Boston, Suffolk, Massachussetts; 1855-1869: Milwaukee, Milwaukee, Wisconsin. •

**DORSCH** (EDUARD) 1850-1870: New York, New York, New York; 1871-1887: Monroe, Monroe, Michigan. •

**DOUAI** (CARL DANIEL ADOLF) 1853-1853: New Braunfels, Comal, Texas; 1854-1856: San Antonio, Bexar, Texas; 1857-1860: Boston, Suffolk, Massachussetts; 1861-1888: New York, New York, New York. •

**DREIHAUS** (GEORG) 1849-1870: Philadelphia, Philadelphia, Pennsylvania.

**DRESEL** (JULIUS) 1849-1861: New Braunfels, Comal, Texas; 1862-1869: San Antonio, Bexar, Texas; 1870-1891: Sonoma, Sonoma, California.

**DRESEL** ([FRIEDRICH] OTTO) 1850-1853: Massillon, Stark, Ohio; 1854-1881: Columbus, Franklin, Ohio. •

**DULON** (RUDOLF) 1854-1877: New York, New York, New York. •

**ECKSTEIN** (FRIEDRICH) 1852-1902: *Cincinnati, Hamilton, Ohio.* •

**EHRHART** (LORENZ) 1850-1908: Allegheny, Allegheny, Pennsylvania.

**EICKEMEYER** (RUDOLF) 1851-1854: New York, New York, New York; 1855-1895: Yonkers, Westchester, New York. •

**EICKHOFF** (ANTON) 1849-1850: New Orleans, Orleans, Louisiana; 1851-1861: Saint Louis, St. Louis, Missouri; 1862-1901: New York, New York, New York. •

**EIFLER** (KARL) 1850-1888: New York, New York, New York. •

**EISENLOHR** (GUSTAV WILHELM) 1851-1860: New Braunfels, Comal, Texas; 1861-1880: Cincinnati, Hamilton, Ohio; 1881-1881: Dallas, Dallas, Texas. •

**ELSNER** (HUGO VON) 1849-1896: Bloomington, Mclean, Illinois. •

**ENGELHARDT** (LUDWIG) 1850-1902: *New York, New York, New York.* •

**ENGELMANN** (ADOLF) 1849-1890: Bellville, St. Clair, Illinois. •

**ENGELMANN** (PETER) 1851-1902: Milwaukee, Milwaukee, Wisconsin.

**ESSELEN** (CHRISTIAN) 1853-1853: New York, New York, New York; 1854-1859: Detroit, Wayne, Michigan. •

**FABER** (PAUL) 1849-1891: St. Paul'S, Ramsey, Minnesota.

**FAEHTZ** (ERNST F.) 1851-1865: Elkton, Cecil, Maryland; 1866-1882: Baltimore, Ind. City: Baltimore, Maryland. •

**FALLER** (ALOYS) 1849-1870: Warsaw, Hancock, Illinois; 1871-1882: New York, New York, New York. •

**FEIGEL** () 1850-1902: Newark, Essex, New Jersey. •

**FEIN** (GEORG) 1846-1860: Baltimore, Ind. City: Baltimore, Maryland; 1861-1869: Bellville, St. Clair, Illinois. •

**FEJERVARY** (NICHOLAS) 1850-1895: Davenport, Scott, Iowa. •

**FIALA** (JOHANN T.) 1853-1873: Saint Louis, St. Louis, Missouri; 1874-1911: San Francisco, San Francisco, California. •

**FIEDLER** (ANTON B.) 1853-1897: Chicago, Cook, Illinois.

FINK (ALBERT) 1850-1857: Baltimore, Ind. Al- City: Baltimore, Maryland; 1858-1897: Louisville, Jefferson, Kentucky. •

**FISHER** (ADAM) 1850-1902: Leavenworth, Leavenworth, Kansas.

**FLAD** (HENRY) 1850-1865: New York, New York, New York; 1866-1898: Saint Louis, St. Louis, Missouri.

**FOERSCH** (J. A.) 1850-1902: New York, New York, New York. •

**FORSCH** (LOUIS) 1850-1902: New York, New York, New York. ●

FRAHM (MATHIAS) 1850-1899: Davenport, Scott, Iowa. FRANK (Aaron) 1850-1902: New York, New York, New York. • **FRANKFURTH** (WILHELM) *1849-1885*: Milwaukee, Milwaukee, Wisconsin. • FRATNY (FRIEDRICH) 1850-1902: Milwaukee, Milwaukee, Wisconsin. **FREUDENBERG** (CARL GOTTFRIED) 1849-1885: New York, New York, New York. • (HEINRICH C.) 1854-1880: FRICKE Chicago, Cook, Illinois. FUESTER (ANTON) 1850-1881: New York, New York, New York. GAMBS (JOHANNES) 1858-1879: New York, New York, New York. GAYLORD (L. F.) 1850-1902: Leavenworth, Leavenworth, Kansas. GEBRAETZ (GEORG) 1876-1881: Newark, Essex, New Jersey. GEHM (CARL) 1850-1902: Bellville, St. *Clair, Illinois.* • GEIWITZ (GEORG) 1849-1890: Baltimore, Ind. City: Baltimore, Maryland. • GERHARD (FRIEDRICH) 1850-1902: New York, New York, New York. GERHARDT (JOSEPH) 1852-1881: Washington, DC, District Of Columbia. GERNSBACH (WEIL VON) 1850-1902: San Francisco, San Francisco, California. GERWIG (ADOLF) 1850-1862: Cincinnati, Hamilton, Ohio. GIESLER (E.) 1850-1902: New York, New York, New York. • GILLIG (KARL EMIL) 1851-1861: Milwaukee, Milwaukee, Wisconsin; 1862-1883: Peoria, Peoria, Illinois. GILSA (LEOPOLD VON) 1853-1870: New York, New York, New York.

**GINDELE** (JOHN G.) 1853-1872: Chicago, Cook, Illinois. •

**GIRSCH** (FREDERICK) 1850-1870: New York, New York, New York; 1871-1891: East Chester, Westchester, New York; 1892-1895: Pelham, Westchester, New York. •

**GOEHLMANN** (MARTIN G.) 1858-1885: Waterford, Clinton, Iowa. **GOEPPER** (WILHELM) 1849-1879: Louisville, Jefferson, Kentucky. •

**GOHRINGER** (KARL) 1867-1902: Pittsburg, Allegheny, Pennsylvania.

**GOLDMARK** (JOSEPH) 1851-1881: New York, New York, New York. •

**GRAF** (KARL) 1850-1885: Cincinnati, Hamilton, Ohio. •

**GREINER** (THEODOR LUDWIG) 1850-1902: Newark, Essex, New Jersey. •

**GROSCHEL** () 1850-1902: New York, New York, New York. •

**GRUBER** (HEINRICH) 1850-1902: Brooklyn, Kings, New York. •

**GUELICH** (THEODOR) 1852-1861: Davenport, Scott, Iowa; 1862-1893: Burlington, Des Moines, Iowa. •

**GUENTHER** (JOHANN GEORG) 1849-1872: Milwaukee, Milwaukee, Wisconsin.

**HAAS** (HEINRICH C.) 1850-1902: Leavenworth, Leavenworth, Kansas. •

**HACKELMANN** (P. A.) 1850-1902: *Rushville, Rush, Indiana.* •

**HAGEN** (THEODOR) 1855-1871: New York, New York, New York. ●

**HAIMBACH** (PHILIPP) 1852-1904: Philadelphia, Philadelphia, Pennsylvania.

**HAMM** (THEODOR) 1855-1903: St. Paul'S, Ramsey, Minnesota. •

**HAMMER** (ADAM VON) 1849-1878: Saint Louis, St. Louis, Missouri. •

**HAMMERMEISTER** (HEINRICH) 1850-1860: New York, New York, New York. •

**HARTMANN** (KARL) 1849-1863: Cleveland, Cuyahoga, Ohio. •

**HARTMANN** (MORITZ) 1856-1902: *Lawrence, Douglas, Kansas.* •

**HARTUNG** (ADOLPH VON) 1876-1902: Baltimore, Ind. City: Baltimore, Maryland. •

**HASSAUREK** (FRIEDRICH) 1850-1885: *Cincinnati, Hamilton, Ohio.* ●

**HATTERSCHEIDT** (JOHN P.) 1850-1902: Cincinnati, Hamilton, Ohio; 1858-1859: Leavenworth, Leavenworth, Kansas. •

**HAUSSNER** (CHARLES FREDERICK) 1856-1866: Chicago, Cook, Illinois; 1867-1911: Chicago, Hamilton, Illinois. • **HECKER** (FRIEDRICH) 1850-1881: Bellville, St. Clair, Illinois. •

**HEDDE** (FRITZ) 1855-1857: Davenport, Scott, Iowa; 1858-1908: Grand Island, Hall, Nebraska. •

**HEILPRIN** (MICHAEL) 1857-1902: New York, New York, New York. •

**HEINZEN** (KARL PETER) 1851-1853: New York, New York, New York; 1854-1859: Louisville, Jefferson, Kentucky; 1860-1880: Boston, Suffolk, Massachussetts. •

**HELFENSTEIN** (J.) 1850-1902: New York, New York, New York. •

**HENNE** (ROBERT) 1852-1885: Davenport, Scott, Iowa. •

**HEXAMER** (ADOLF) 1849-1859: New York, New York, New York. ●

**HEXAMER** (ALEXANDER) 1850-1902: New York, New York, New York. •

**HEXAMER** (ERNST) 1849-1856: New York, New York, New York; 1857-1912: Philadelphia, Philadelphia, Pennsylvania. •

**HEXAMER** (FRITZ M.) 1849-1895: New York, New York, New York; 1896-1910: Stamford, Fairfield, Connecticut.

**HEXAMER** (WILHELM) 1849-1859: New York, New York, New York; 1860-1870: Hoboken, Hudson, New Jersey. •

**HIELSCHER** (THEODOR) 1852-1864: Indianapolis, Marion, Indiana; 1865-1870: Chicago, Cook, Illinois; 1871-1873: New Ulm, Brown, Minnesota; 1874-1900: Minneapolis, Hennepin, Minnesota; 1901-1907: Eagle Pass, Maverick, Texas. •

**HILLGAERTNER** (GEORG) 1854-1862: Chicago, Cook, Illinois; 1863-1865: Saint Louis, St. Louis, Missouri. •

**HIRSCHFIELD** (JOSEPH) 1850-1902: New York, New York, New York.

**HOBELMANN** (FRIEDRICH AUGUST) 1850-1902: Cincinnati, Hamilton, Ohio.

**HOCHHEINER** (HENRY) 1850-1912: Baltimore, Ind. City: Baltimore, Maryland. •

**HOFF** (HEINRICH) 1850-1852: New York, New York, New York. ●

**HOFFBAUER** (WILHELM) 1851-1860: Saint Louis, St. Louis, Missouri; 1861-1875: Guttemburg, Clayton, Iowa; 1876-1892: Dubuque, Dubuque, Iowa. • **HOFFMANN** (ERNST F.) 1849-1876: New York, New York, New York; 1877-1902: Davenport, Scott, Iowa. •

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**HOFFMANN** (FRANCIS) 1850-1902: *Chicago, Cook, Illinois.* •

**HOFFMANN** (GEORG RICHARD) 1850-1902: Louisville, Jefferson, Kentucky. •

**HOHLFELD** (JOHANN F.) 1849-1861: Saint Louis, St. Louis, Missouri. •

**HOMBURG** (CONRADIN) 1850-1902: Indianapolis, Marion, Indiana. •

**HOTTINGER** (ANTON) 1852-1852: Pittsburg, Allegheny, Pennsylvania; 1853-1856: Cincinnati, Hamilton, Ohio; 1857-1862: Guttemburg, Clayton, Iowa; 1863-1911: Chicago, Cook, Illinois.

**HUHN** (HEINRICH) 1863-1865: Saint Louis, St. Louis, Missouri; 1866-1902: Washington, Franklin, Missouri.

**HUTH** () 1850-1902: Boston, Suffolk, Massachussetts.

**JACOBI** (ABRAHAM) 1854-1919: New York, New York, New York. ●

**JACOBI** (FRITZ) 1850-1902: New York, New York, New York.

**JACOBS** (WILHELM HEINRICH) 1851-1882: Milwaukee, Milwaukee, Wisconsin. •

**JAZELLA** (APPOLONIA) 1850-1902: New York, New York, New York.

**JERZMANOWSKI** (JOSEPH) 1850-1902: New York, New York, New York. •

**KAEMMERLING** (GUSTAV) 1849-1902: *Troy, Perry, Indiana.* •

**KAHN** () 1850-1902: New York, New York, New York. ●

**KAHRMANN** (J. S.) 1850-1902: Davenport, Scott, Iowa. •

**KALISCH** (ISIDOR) 1850-1880: New York, New York, New York; 1881-1886: Newark, Essex, New Jersey. •

**KAMM** (FRIEDRICH) 1850-1902: New York, New York, New York. ●

**KAPFF** (EDUARD) 1849-1902: New York, New York, New York. ●

**KAPFF** (SIXTUS) 1849-1877: New York, New York, New York. ●

**KAPP** (FRIEDRICH) 1851-1884: New York, New York, New York. ●

**KAUFMANN** (SIGISMUND) 1849-1889: New York, New York, New York. •

**KAUFMANN** (THEODOR) 1851-1864: New York, New York, New York; 1865-1866: Saint Louis, St. Louis, Missouri; 1867-1896: Boston, Suffolk, Massachussetts. •

**KELLNER** (GOTTLIEB THEODOR) 1852-1856: New Ulm, Brown, Minnesota; 1857-1898: Philadelphia, Philadelphia, Pennsylvania. •

**KIEFER** (CHRISTIAN FRIEDRICH) 1850-1878: Philadelphia, Philadelphia, Pennsylvania.

**KIEFER** (HERMANN) 1850-1889: Detroit, Wayne, Michigan; 1890-1911: Ann Arbor, Washtenaw, Michigan. •

**KILLIAN** (JOSEPH) 1850-1902: Allentown, Lehigh, Pennsylvania.

**KLEINER** (MEINRAD) 1850-1873: Cincinnati, Hamilton, Ohio. •

**KLIPPART** (J. H.) 1850-1878: Cleveland, Cuyahoga, Ohio. •

**KNODERER** (Carl August) 1850-1863: *Reading, Berks, Pennsylvania.* •

**KOB** (CHARLES FRIEDRICH) 1850-1855: Hartford, Hartford, Connecticut; 1856-1857: Boston, Suffolk, Massachussetts; 1858-1858: Atchison, Atchison, Kansas; 1859-1861: Leavenworth, Leavenworth, Kansas. •

**KOCH** (EDMUND IGNATZ) 1851-1902: *nati, Hamilton, Ohio.* • *New York, New York, New York.* • **LEHLBACH** (FRI

**KOCH** (RUDOLF) 1850-1902: New York, New York, New York. ●

**KOENIG** (F. C.) 1856-1877: Peoria, Peoria, Ind. City: Baltimore, Maryland. • Illinois. • **LESER** (FRITZ) 1854-1880.

**KOERNER** (GUSTAV) 1834-1834: Saint Louis, St. Louis, Missouri; 1835-1896: Bellville, St. Clair, Illinois. •

**KOERNER** (JOSEPH ALOYS) 1851-1882: New York, New York, New York. •

**KORNER** (HERMANN JOSEPH ALOYS) 1852-1902: New York, New York, New York.

**KOVEN** (WILHELM) 1850-1902: New York, New York, New York. ●

**KOZLEY** (EUGEN ARTHUR) 1849-1883: New York, New York, New York. •

**KRACKOWITZER** (ERNST) 1850-1857: Brooklyn, Kings, New York; 1858-1875: New York, New York, New York. • **KRAUS** (ALBERT) 1850-1902: Benton, Dallas, Missouri.

**KREISMAN** (HERMANN) 1850-1902: *Chicago, Cook, Illinois.* •

**KREZ** (KONRAD) 1852-1854: New York, New York, New York; 1855-1885: Sheboygan, Sheboygan, Wisconsin; 1886-1897: Milwaukee, Milwaukee, Wisconsin. •

**KRIEGE** (HERMANN) 1850-1850: New York, New York, New York. •

**KROEGER** (JACOB) 1849-1885: Davenport, Scott, Iowa.

**KRUER** (A.) 1850-1902: New York, New York, New York.

**KRYZANOWSKI** (WLADIMIR) 1849-1878: Washington, DC, District Of Columbia; 1879-1887: New York, New York, New York. •

**KUDLICH** (HANS) 1854-1917: Hoboken, Hudson, New Jersey. •

**LAMBACH** (HEINRICH) *1849-1899: Davenport, Scott, Iowa.* •

**LANGE** (ALBERT) 1850-1869: Terre Haute, *Vigo, Indiana.* •

LANGE (JOHANN FRIEDRICH GOTTLOB LANGE) 1850-1879: New York, New York, New York. ●

**LAUENSTEIN** (KARL) 1850-1902: Cincinnati, Hamilton, Ohio. •

**LEHLBACH** (FRIEDRICH AUGUST) 1850-1875: Newark, Essex, New Jersey. •

**LEIST** (FRIEDRICH) 1849-1902: Baltimore, Ind. City: Baltimore, Maryland. •

**LESER** (FRITZ) 1854-1880: Saint Louis, St. Louis, Missouri; 1881-1902: Philadelphia, Philadelphia, Pennsylvania.

**LEUCHTWEISS** (AUGUST ) 1849-1902: *Cincinnati, Hamilton, Ohio.* •

**LEUSSLER** (ROBERT) 1849-1873: Saint Louis, St. Louis, Missouri. •

**LEXOW** (FRIEDRICH) 1853-1861: New York, New York, New York; 1862-1870: Jersey, Hudson, New Jersey; 1871-1872: North Bergen, Hudson, New Jersey. •

**LEXOW** (RUDOLF) 1852-1902: New York, New York, New York. •

**LIEBER** (OSCAR MONTGOMERY) 1851-1862: Columbia, Richland, South Carolina. **LIEVRE** (EUGENE) 1850-1902: New York, New York, New York. ●

**LINDEMAN** (GEORGE) 1850-1902: Cincinnati, Hamilton, Ohio.

LINDEMANN (HERMANN VON) 1850-1893: Saint Louis, Ind. City: St. Louis, Missouri.

**LOEHR** (FERDINAND VON) 1853-1877: San Francisco, San Francisco, California. •

**LOES** (FRANZ E.) 1853-1883: Philadelphia, Philadelphia, Pennsylvania.

**LOEWE AUS CALBE** (WILHELM) 1854-1886: New York, New York, New York. •

**LOHMANN** (HEINRICH) 1850-1889: Baltimore, Ind. City: Baltimore, Maryland. •

**LOOS** (ALEXANDER) 1853-1870: Hudson, Columbia, New York; 1871-1877: Philadelphia, Philadelphia, Pennsylvania. •

**LOOSE** (HEINRICH) 1849-1882: New York, New York, New York. ●

**LOWENBERG** (FRANZ SCHMIDT VON) 1850-1853: Saint Louis, St. Louis, Missouri.

**LUCAS** (JACOB) 1852-1861: Saint Louis, St. Louis, Missouri; 1862-1870: Peoria, Peoria, Illinois; 1871-1902: Pekin, Tazewell, Illinois. •

**LUDVIGH** (SAMUEL) 1850-1869: Baltimore, Ind. City: Baltimore, Maryland. •

**LUEDEKING** (CARL) 1852-1885: Saint Louis, St. Louis, Missouri.

**LUNGKWITZ** (HERMANN) 1851-1891: *Fredericksburg, Gillespie, Texas.* •

**MAAS** (BENJAMIN) 1850-1850: New York, New York, New York; 1851-1891: New Orleans, Orleans, Louisiana. •

**MAERKLIN** (EDUARD) 1849-1892: Milwaukee, Milwaukee, Wisconsin. •

**MAISCH** (JOHN MICHAEL) 1851-1893: *Philadelphia, Philadelphia, Pennsylvania.* •

**MARX** (JOSEPH E.) 1850-1902: Toledo, Lucas, Ohio. •

**MATZKA** (GEORG) 1854-1883: New York, New York, New York. ●

**MAYERHOEFER** (WILHELM) 1849-1877: New York, New York, New York; 1878-1880: Louisville, Jefferson, Kentucky. •

**MEHL** (JOHN) 1850-1902: New York, New York, New York. •

**MEHL** (MARTIN) 1850-1902: New York, New York, New York. ●

**MEINIGER** (KARL) 1849-1883: Cincinnati, Hamilton, Ohio. •

**MELOSCH** () 1850-1902: New York, New York, New York. •

**MENNINGER** (JOHN) 1850-1902: New York, New York, New York.

**MERSEY** (AUGUST ) 1856-1866: Bellville, St. Clair, Illinois.

**METTERNICH** (GERMAIN) 1852-1862: New York, New York, New York. •

**MEYER** (HERMANN) 1853-1902: New York, New York, New York. •

**MIEDING** (KARL) 1850-1902: Milwaukee, Milwaukee, Wisconsin. •

**MILLER** (HEINRICH) 1850-1896: Louisville, Jefferson, Kentucky.

**MINDING** (JULIUS) 1850-1902: New York, New York, New York. ●

**MOHR** (CHARLES THEODOR) 1853-1857: Louisville, Jefferson, Kentucky; 1858-1900: Mobile, Mobile, Alabama; 1901-1901: Ashville, Buncombe, North Carolina.

**MOLITOR** (STEPHAN) *1850-1873: Cincinnati, Hamilton, Ohio.* •

**MORDES** (FLORIAN) *1850-1850: New Braunfels, Comal, Texas.* •

**MORWITZ** (EDWARD) 1851-1893: *Philadelphia, Philadelphia, Pennsylvania.* •

**MOSCHZISKER** (FRANZ A. VON) 1853-1863: Baltimore, Ind. City: Baltimore, Maryland; 1864-1867: Washington, DC, District Of Columbia; 1868-1871: Philadelphia, Philadelphia, Pennsylvania; 1872-1876: Rochester, Monroe, New York; 1877-1880: Utica, Oneida, New York. •

**MUELLER** (CHRISTIAN L. H.) 1850-1902: *Davenport, Scott, Iowa.* •

**MUELLER** (EDUARD) 1850-1871: New York, New York, New York; 1872-1886: Rochester, Monroe, New York. •

**MUELLER** (JACOB) 1850-1905: Cleveland, *Cuyahoga*, *Ohio*.

**MUELLER** (NIKOLAUS) 1849-1875: New York, New York, New York.

**MUELLER** (WILHELM) 1849-1902: Baltimore, Ind. City: Baltimore, Maryland. • **MUHLCBACH** (JOSEPH) 1850-1858: New York, New York, New York.

**MULD** (L.) 1850-1902: New York, New York, New York.

**MURER** (JOHN) 1855-1856: New York, New York, New York; 1857-1902: Buffalo, Scott, Iowa.

**NAST** (THOMAS) 1851-1857: New York, New York, New York. ●

**NEUBERT** (KARL) 1850-1902: Bellville, St. Clair, Illinois.

**NEUSTAEDTER** (JOHANN ALBERT) 1852-1885: Saint Louis, St. Louis, Missouri. •

**NIX** (JACOB) 1849-1897: New Ulm, Brown, Minnesota. •

**OBERMANN** (KARL) 1852-1901: Cincinnati, Hamilton, Ohio. •

**OELS** (ADOLPH ROSIER VON) 1851-1852: *New York, New York, New York.* •

**OLSHAUSEN** (THEODOR) 1852-1856: Davenport, Scott, Iowa; 1857-1869: Saint Louis, St. Louis, Missouri. •

**OSTERHAUS** (PETER JOSEPH) 1850-1861: Bellville, St. Clair, Illinois; 1862-1917: Saint Louis, St. Louis, Missouri. •

**OSWALD** (MICHAEL) 1850-1902: *Lawrence, Douglas, Kansas.* •

**OTTENDORFER** (OSWALD) 1851-1900: New York, New York, New York. •

**PABISCH** (FRANZ JOSEPH) 1863-1879: *Cincinnati, Hamilton, Ohio.* ●

**PEISSNER** (ELIAS) 1850-1863: Schenectady, Schenectady, New York. •

**PELZ** (EDUARD) 1851-1876: New York, New York, New York. •

**PETERS** (CHRISTIAN H. F.) 1868-1890: *Kirkland, Oneida, New York.* •

**PETERSEN** (LORENZ) 1855-1880: Springfield, Cedar, Iowa. •

**PETRI** (RICHARD) 1851-1857: Fredericksburg, Gillespie, Texas. •

**PETZ** () 1850-1902: Leavenworth, Leavenworth, Kansas. •

**PEYER** (JOHANNES) 1850-1902: Cincinnati, Hamilton, Ohio. •

**PFAENDER** (WILHELM) 1849-1850: Cincinnati, Hamilton, Ohio; 1851-1905: New Ulm, Brown, Minnesota. • **PFEIFFER** (P.) 1850-1902: Boston, Suffolk, Massachussetts. •

**PFEIFLFER** (ALEXANDER) 1852-1902: *Cincinnati, Hamilton, Ohio.* ●

**PILAT** (IGNAZ ANTON) 1852-1870: New York, New York, New York. ●

**PLESSNER** (MICHAEL CARL THEODOR) 1850-1894: Saginaw, Saginaw, Michigan. •

**POESCHE** (THEODOR) 1854-1858: Philadelphia, Philadelphia, Pennsylvania; 1859-1863: Saint Louis, Ind. City: St. Louis, Missouri; 1864-1899: Washington, DC, District Of Columbia.

**POHLE** (CARL ADOLF JULIUS) 1849-1859: *New York, New York, New York.* •

**POMUTZ** (GEORGE) 1850-1882: New Buda, Decatur, Iowa. ●

**POSCHNER** (FRIEDRICH) 1849-1873: *Cincinnati, Hamilton, Ohio.* •

**PRAGER** (DAVID) 1850-1902: Lawrence, Douglas, Kansas.

**PRAHL** (CHARLES) 1854-1900: New York, New York, New York; 1901-1904: Clinton, Hunterdon, New Jersey. •

**PRANG** (LOUIS) 1851-1909: Boston, Suffolk, Massachussetts. •

**PREETORIUS** (EMIL) 1855-1905: Saint Louis, St. Louis, Missouri.

**PREISER** () 1850-1902: Cincinnati, Hamilton, Ohio. •

**PREUSSNER** (CARL) 1850-1902: Milwaukee, Milwaukee, Wisconsin. •

**PUCHNER** (RUDOLF) 1851-1913: New Holstein, Calumet, Wisconsin.

**QUERNER** (EMIL) 1853-1886: Philadelphia, Philadelphia, Pennsylvania.

**RAMMING** (HEINRICH) 1852-1856: New York, New York, New York; 1857-1902: Davenport, Scott, Iowa. •

**RANST** () 1850-1902: Leavenworth, Leavenworth, Kansas. •

**RAPP** (WILHELM) 1853-1891: Baltimore, Ind. City: Baltimore, Maryland; 1892-1907: Chicago, Cook, Illinois. •

**RASTER** (HERMANN) 1852-1867: New York, New York, New York; 1853-1853: Buffalo, Erie, New York; 1868-1891: Chicago, Cook, Illinois. **RAU** (GOTTLIEB) 1850-1902: New York, New York, New York. ●

**RAUCH** (CHARLES) 1853-1902: St. Paul'S, Ramsey, Minnesota.

**REIBETANTZ** (CARL JULIUS) 1849-1894: Baltimore, Ind. City: Baltimore, Maryland. •

**REICHARD** (JOSEPH MARTIN) 1850-1872: Philadelphia, Philadelphia, Pennsylvania.

**REICHARDT** (FRIEDRICH) 1850-1876: *Cincinnati, Hamilton, Ohio.* •

**REICHMANN** (RUDOLPH) 1881-1908: Toledo, Tama, Iowa.

**REIFSCHNEIDER** (FELIX) 1850-1902: New York, New York, New York. •

**REITER** (PHILIPP) 1850-1902: Philadelphia, Philadelphia, Pennsylvania.

**RESCH** (KARL) 1850-1902: Louisville, Jefferson, Kentucky.

**RICHTER** (ERHARD) 1850-1902: New York, New York, New York. •

**RIEPE** (WILHELM) 1850-1902: Davenport, Scott, Iowa. •

**RIETZ** (CARL) 1850-1877: Saginaw, Saginaw, Michigan; 1878-1902: Chicago, Cook, Illinois.

**RITTER** (LOUIS) 1855-1902: Cleveland, Cuyahoga, Ohio. •

**RITTIG** (JOHANN) 1853-1857: Cincinnati, Hamilton, Ohio; 1858-1885: New York, New York, New York. •

**RITTLER** (A. W.) 1850-1872: New York, New York, New York. •

**ROCHOTTE** (HEINRICH) 1850-1902: *Cleveland, Cuyahoga, Ohio.* •

**ROESER** (CARL) 1854-1873: Manitowoc, Manitowoc, Wisconsin; 1874-1897: Washington, DC, District Of Columbia. •

**ROESER** (OTTO) 1851-1885: Saginaw, Saginaw, Michigan.

**ROESLER** (GUSTAV ADOLF) 1851-1855: New York, New York, New York. •

**ROESSLER** (FRIEDRICH) 1854-1870: New York, New York, New York.

**ROGGENBUCKE** (OSKAR VON) 1855-1860: New Braunfels, Comal, Texas; 1861-1883: Comfort, Kendall, Texas. •

**ROMBAUER** (ROBERT J.) 1849-1902: Saint Louis, St. Louis, Missouri.

**ROMBAUER** (THEODORE) 1850-1855: *Davenport, Scott, Iowa.* •

**ROSA** (RUDOLF VON) 1851-1865: Washington, DC, District Of Columbia; 1866-1902: New York, New York, New York. •

**ROSER** (KARL) 1854-1902: Milwaukee, Milwaukee, Wisconsin.

**ROSKOTEN** (ROBERT) 1850-1897: Peoria, Peoria, Illinois.

**ROSSWOG** (CONSTANTIN) 1849-1902: New York, New York, New York. •

**ROTHACKER** (WILHELM) 1851-1859: *Wheeling, Ohio, West Virginia.* •

**ROTHE** (EMIL) 1850-1852: New York, New York, New York; 1853-1869: Watertown, Jefferson, Wisconsin; 1870-1895: Cincinnati, Hamilton, Ohio.

**ROTTECK** (CARL) 1858-1859: Muscatine, Muscatine, Iowa; 1860-1860: Burlington, Des Moines, Iowa; 1861-1902: Keokuk, Lee, Iowa. •

**RUDOLPH** (JOSEPH) 1850-1853: Cincinnati, Hamilton, Ohio; 1854-1854: Saint Louis, St. Louis, Missouri; 1855-1855: Dubuque, Dubuque, Iowa; 1856-1902: Chicago, Cook, Illinois. •

**RUHL** (KARL) 1850-1852: New York, New York, New York; 1853-1902: Philadelphia, Philadelphia, Pennsylvania.

**RUPPIUS** (OTTO) 1853-1864: Milwaukee, Milwaukee, Wisconsin.

**RUSCH** (NICHOLAS) 1848-1863: Davenport, Scott, Iowa; 1864-1864: New York, New York, New York. •

**RUTHS** (PHILIPP) 1850-1874: Cincinnati, Hamilton, Ohio.

**SAHM** (KARL) 1854-1883: New York, New York, New York. ●

**SALOMON** (CARL EBERHARD) 1850-1881: Saint Louis, St. Louis, Missouri. •

**SALOMON** (EDWARD) 1856-1869: Milwaukee, Milwaukee, Wisconsin; 1870-1908: New York, New York, New York. •

**SALOMON** (FRIEDRICH S.) 1851-1860: Manitowoc, Manitowoc, Wisconsin; 1861-1880: Saint Louis, St. Louis, Missouri; 1881-1897: Salt Lake City, Salt Lake, Utah. •

**SANDER** (ENNO) 1854-1912: Saint Louis, St. Louis, Missouri. ●

**SCHADE** (LOUIS) 1852-1903: Washington, DC, District Of Columbia; 1857-1858: Chicago, Cook, Illinois; 1859-1859: Burlington, Des Moines, Iowa. •

**SCHADT** (OTTO) 1849-1902: Saint Louis, Ind. City: St. Louis, Missouri. •

**SCHEFFELT** (MICHAEL) 1850-1853: Buffalo, Erie, New York. •

**SCHEIBEL** (G.) 1850-1902: New York, New York, New York. •

**SCHEM** (ALEXANDER JAKOB) 1850-1881: bury, Ottawa, Ohio. • Carlisle, Cumberland, Pennsylvania. • **SCHRAMM** (K

**SCHIEFERDECKER** (JULIUS) 1872-1881: New York, New York. • Milwaukee, Milwaukee, Wisconsin. • **SCHROEDER** (F

**SCHIEREN** (JOHN NIKOLAUS) 1857-1863: New York, New York, New York. •

**SCHIMMELPFENNIG** (ALEXANDER) 1854-1865: Philadelphia, Philadelphia, Pennsylvania. •

**SCHLAEGER** (EDUARD) 1853-1854: Wheeling, Ohio, West Virginia; 1855-1902: Chicago, Cook, Illinois. •

**SCHLEICHER** (KARL) 1849-1882: Westfield, Sauk, Wisconsin. •

**SCHLUND** (FIDEL) 1849-1867: Chicago, Cook, Illinois; 1868-1882: Newark, Essex, New Jersey. ●

**SCHMIDT** (CARL WILHELM) 1852-1887: *Cleveland, Cuyahoga, Ohio.* •

**SCHMIDT** (ERNST) 1858-1900: Chicago, Cook, Illinois; 1864-1870: Saint Louis, St. Louis, Missouri. ●

**SCHMITT** (FRANZ) 1850-1902: New York, New York, New York. ●

**SCHMITT** (NIKOLAUS) 1849-1869: *Philadelphia, Philadelphia, Pennsylvania.* •

**SCHMOLZE** (KARL HEINRICH) 1849-1859: Philadelphia, Philadelphia, Pennsylvania.

**SCHNAUFFER** (CARL HEINRICH) 1852-1854: Baltimore, Ind. City: Baltimore, Maryland.

**SCHNEIDER** (GEORG) 1850-1851: Saint Louis, St. Louis, Missouri; 1852-1905: Chicago, Cook, Illinois. •

**SCHNEIDER** (JOHANN) 1850-1858: New Braunfels, Comal, Texas; 1859-1862: Austin, Travis, Texas. •

**SCHNEIDER** () 1850-1902: New York, New York, New York. •

**SCHOEPF** (ALBIN FRANCIS) 1859-1902: *Washington, DC, District Of Columbia.* •

**SCHOLER** (JACOB) 1855-1860: New York, New York, New York; 1861-1885: Littlestown, Adams, Pennsylvania. •

**SCHOTT** (CHARLES ANTHONY) 1849-1901: Washington, DC, District Of Columbia.

**SCHRAIDT** (KASPAR) 1853-1886: Danbury, Ottawa, Ohio. •

**SCHRAMM** (KARL) 1850-1902: New York, New York, New York. •

**SCHROEDER** (FREDERICK A.) 1850-1899: Brooklyn, Kings, New York. •

**SCHROETER** (EDUARD) 1851-1853: Milwaukee, Milwaukee, Wisconsin; 1854-1902: Westfield, Sauk, Wisconsin. •

**SCHUENEMANN-POTT** (FRIEDRICH) 1853-1854: 1855-1881: Philadelphia, Philadelphia, Pennsylva-1855-1902: nia. •

**SCHUETTNER** (NIKOLAUS) 1849-1870: Saint Louis, St. Louis, Missouri. •

**SCHULTZ** (EDUARD) 1849-1902: Milwaukee, Milwaukee, Wisconsin. •

**SCHULTZ** (HERMANN THEODORE) 1851-1902: Austin, Travis, Texas. •

**SCHURZ** (CARL) 1853-1855: Philadelphia, Philadelphia, Pennsylvania; 1856-1866: Watertown, Jefferson, Wisconsin; 1867-1867: Detroit, Wayne, Michigan; 1868-1877: Saint Louis, St. Louis, Missouri; 1878-1881: Washington, DC, District Of Columbia; 1882-1906: New York, New York, New York. •

**SCHUSSELE** (CHRISTIAN) 1849-1879: *Philadelphia, Philadelphia, Pennsylvania.* •

**SCHUSTER** (CHRISTIAN F.) 1849-1870: New York, New York, New York; 1871-1904: Brattleborough, Windham, Vermont. •

**SCHWAN** (HEINRICH) 1850-1905: Cleveland, Cuyahoga, Ohio. •

**SEEGER** () 1850-1902: Cincinnati, Hamilton, Ohio. •

**SEELAND** () 1850-1902: Leavenworth, Leavenworth, Kansas. •

**SEIFFERT** (KARL) 1851-1881: Newark, Essex, New Jersey. •

**SEILER** (SEBASTIAN) 1861-1890: New Orleans, Orleans, Louisiana. •

**SENGES** (ADAM) 1854-1902: New York, New York, New York. ●

**SERENBETZ** (FRANCIS) 1850-1902: Humboldt, Allen, Kansas. •

**SERODINO** (HERMANN FRANZ) 1850-1879: Cincinnati, Hamilton, Ohio.

**SIBER** (EDUARD) 1871-1902: Cincinnati, Hamilton, Ohio. •

**SIGEL** (FRANZ) 1853-1860: New York, New York, New York; 1861-1865: Saint Louis, St. Louis, Missouri; 1866-1870: Baltimore, Ind. City: Baltimore, Maryland; 1871-1902: Morrisania, Bronx, New York. •

**SOHNER** (KARL) 1851-1902: Indianapolis, *Marion, Indiana.* •

**SOLGER** (REINHOLD) 1854-1863: Boston, Suffolk, Massachussetts; 1864-1866: Washington, DC, District Of Columbia. •

**SORGE** (FRIEDRICH ADOLPH) 1853-1862: New York, New York, New York; 1863-1906: Jersey, Hudson, New Jersey. •

**STADLER** (WILHELM) 1850-1902: New York, New York, New York. •

**STAHEL-SZAMWALD** (JULIUS) 1860-1912: New York, New York, New York. •

**STARKLOFE** (HUGO) 1850-1902: Saint Louis, St. Louis, Missouri.

**STEINBERG** (T. J.) 1850-1902: Lawrence, Douglas, Kansas. •

**STEINWEDEL** (WILHELM) 1849-1902: *Quincy, Adams, Illinois.* •

**STENGEL** (WILHELM) 1851-1879: Louisville, Jefferson, Kentucky. •

**STIFEL** (CHARLES G.) 1850-1900: Saint Louis, St. Louis, Missouri. •

**STIGER** (JOSEPH LEOPOLD) 1850-1902: *Cleveland, Cuyahoga, Ohio.* •

**STILL** (GEORGE W.) 1850-1902: Leavenworth, Leavenworth, Kansas.

**STOCKMANN** (C. O.) 1856-1873: New *Haven, New Haven, Connecticut.* •

**STOECKEL** (GUSTAVE) 1850-1907: New *Haven, New Haven, Connecticut.* •

**STRAUBENMUELLER** (JOHANN) 1855-1863: Baltimore, Ind. City: Baltimore, Maryland; 1864-1897: New York, New York, New York. • **STRAUCH** (ADOLPH) 1853-1883: Cincinnati, Hamilton, Ohio. •

**STRUVE** (AMALIA) 1852-1862: New York, New York, New York. ●

**STRUVE** (GUSTAV) 1852-1870: New York, New York, New York. ●

**SZOLD** (BENJAMIN) 1860-1902: Baltimore, Ind. City: Baltimore, Maryland. •

**TAFEL** (ALBERT) 1850-1902: Cincinnati, Hamilton, Ohio.

**TAFEL** (GUSTAV) 1849-1908: Cincinnati, *Hamilton, Ohio.* ●

**TAFEL** (HUGO) 1850-1902: Cincinnati, Hamilton, Ohio. ●

**TAFEL** (KARL) 1850-1851: Cincinnati, Hamilton, Ohio; 1852-1902: Sandusky, Erie, Ohio.

**TAFEL** (LEONHARD) 1873-1902: New York, New York, New York. ●

**TAFEL** (RICHARD) 1850-1902: Cincinnati, Hamilton, Ohio.

**TAFEL** (RUDOLPH) 1850-1902: Cincinnati, Hamilton, Ohio. •

**TAUSSIG** (JAMES) 1849-1902: Saint Louis, St. Louis, Missouri. •

**TESOR** (AUGUST) 1850-1902: New York, New York, New York. ●

**THALMESSINGER** (MEYER) 1849-1906: New York, New York, New York. •

**THELEN** () 1850-1902: Leavenworth, Leavenworth, Kansas. •

**THIEME** (AUGUST ) 1850-1879: Cleveland, Cuyahoga, Ohio. •

**TIEDEMANN** (HEINRICH) 1849-1902: *Philadelphia, Philadelphia, Pennsylvania.* •

**TRAU** (JOHANN PHILIPP) 1851-1883: *Philadelphia, Philadelphia, Pennsylvania.* •

**TUERCKE** (KARL AUGUST) 1859-1886: *Cincinnati, Hamilton, Ohio.* •

**TYSSOWSKI** (IVAN) 1850-1902: New York, New York, New York. •

**TZSCHIRNER** (HERMANN) 1850-1902: *New York, New York, New York.* •

**UHL** (JAKOB) 1850-1902: New York, New York, New York. •

**UJHAZY** (LASZLO) 1850-1850: New York, New York, New York; 1851-1870: New Buda, Decatur, Iowa. •

ULFFERS (HERMANN) 1875-1879: Detroit, Wayne, Michigan.

ULKE (HENRY) 1853-1860: New York, New York, New York; 1861-1910: Washington, DC, District Of Columbia.

**UMBSCHEIDEN** (FRANZ) 1853-1874: Newark, Essex, New Jersey.

UNGER (PETER) 1849-1902: Baltimore, Ind. City: Baltimore, Maryland. •

VALENTINY (KARL HEINRICH) 1851-1882: New York, New York, New York.

VARGA (FRANK) 1850-1902: New Buda, Decatur, Iowa.

**VETTE** (WILHELM) 1849-1871: Detroit, Wayne, Michigan; 1872-1885: Milwaukee, Milwaukee, Wisconsin.

VILLARD (HENRY) 1854-1900: Cincinnati, Hamilton, Ohio.

VILTER (ERNEST) 1850-1902: Lawrence, Douglas, Kansas.

VIOLAND (ERNST) 1850-1875: Peoria, Peoria, Illinois.

**VOGT** (WILHELM) 1850-1871: Louisville, *Jefferson, Kentucky.* •

VOLCK (ADELBERT JOHN) 1850-1880: Dayton, Montgomery, Ohio; 1881-1912: Baltimore, Ind. City: Baltimore, Maryland. •

**VORTRIEDE** (HEINRICH KARL JULIUS) 1858-1899: Buffalo, Erie, New York.

WAGNER (HEINRICH WALDEMAR) 1860-1902: New York, New York, New York.

WAGNER (PHILIPP) 1850-1895: Boston, Suffolk, Massachussetts.

WAGNER (WILHELM) 1852-1877: Freeport, falo, Erie, New York. Stephenson, Illinois.

WANNER (GOTTLIEB) 1851-1879: Cincinnati, Hamilton, Ohio.

Erie, New York.

WEBBER (J. B.) 1850-1902: Farmersburg, Clayton, Iowa.

WEBER (GUSTAV CARL ERICH) 1850-1853: Saint Louis, St. Louis, Missouri; 1854-1856: New York, New York, New York; 1857-1912: Cleveland, Cuyahoga, Ohio.

WEBER (JACOB) 1850-1902: New York, New York, New York.

**WEBER** (MAX) 1851-1901: New York, New York, New York.

(FRIEDRICH WILHELM) **WEDEKIND** 1850-1865: San Francisco, San Francisco, California; 1866-1888: New York, New York, New York.

WEDISWEILER () 1850-1902: New York, New York, New York.

WEIGEL (PHILIPP F.) 1851-1881: Saint Louis, St. Louis, Missouri; 1882-1902: Denver, Denver, Colorado.

WEIL (L.) 1850-1902: Leavenworth, Leavenworth, Kansas.

WEILER (HENRY) 1850-1902: Lawrence, Douglas, Kansas.

WEITLING (WILHELM) 1847-1871: New York, New York, New York.

WERMERSKIRCH (WM. M.) 1850-1902: New York, New York, New York.

WERNERT (J. B.) 1850-1902: Cincinnati, Hamilton, Ohio.

**WESENDONCK** (HUGO) 1850-1860: Philadelphia, Philadelphia, Pennsylvania; 1861-1900: New York, New York, New York.

WEYDEMEYER (JOSEPH) 1852-1865: New York, New York, New York; 1856-1858: Milwaukee, Milwaukee, Wisconsin; 1859-1860: Chicago, Cook, Illinois; 1866-1866: Saint Louis, St. Louis, Missouri.

WIEDINGER (BERNHARD MARIA) 1852-1860: Philadelphia, Philadelphia, Pennsylvania; 1861-1861: Saint Joseph, Buchanan, Missouri; 1862-1894: Chicago, Cook, Illinois.

WIEDRICH (MICHAEL) 1851-1899: Buf-

WIESNER (ADOLPH) 1851-1860: Baltimore, Ind. City: Baltimore, Maryland.

WILHELMI (FRANZ) 1850-1868: Saint WAPPICH (LEOPOLD) 1849-1902: Buffalo, Louis, St. Louis, Missouri; 1869-1870: Saint John'S, Franklin, Missouri; 1871-1883: Washington, Franklin, Missouri.

> **WILLICH** (AUGUST ) 1854-1858: New York, New York, New York; 1859-1878: Cincinnati, Hamilton, Ohio.

> WILLLMAN (ANDREAS) 1850-1902: New York, New York, New York.

> WILSON (B.) 1850-1902: New York, New York, New York. •

**WISS** (GEORGE EDWARD) 1850-1902: Baltimore, Ind. City: Baltimore, Maryland. •

WISSERT (JOSEPH) 1850-1902: New York, New York, New York. ●

**WITTICH** (ALBERT) *1849-1877: Cincinnati, Hamilton, Ohio.* •

**WOHLGEMUTH** (F.) 1850-1902: New York, New York, New York. •

**WOLFF** (ALBERT) 1853-1902: St. Paul'S, Ramsey, Minnesota.

**WRATISLAW** (EDWARD C.) 1849-1867: New York, New York, New York; 1868-1871: Bridgeport, Fairfield, Connecticut; 1872-1902: New Haven, New Haven, Connecticut. •

**WUTSCHEL** (FRANZ) 1849-1902: New York, New York, New York. •

**ZENTMAYER** (JOSEPH) 1856-1888: *Philadelphia, Philadelphia, Pennsylvania.* •

**ZERRAHN** (CARL) 1855-1909: Boston, Suffolk, Massachussetts.

**ZIEGLER** (KARL T.) 1849-1882: Newark, Essex, New Jersey. •

**ZIMMERMANN** (JOHANN) 1849-1884: *Cincinnati, Hamilton, Ohio.* •

**ZIPPERLEN** (ADOLPH) 1850-1905: Franklin, Summit, Ohio. •

**ZITZ** (FRANZ H.) 1856-1861: New York, New York, New York; 1862-1877: Jersey, Hudson, New Jersey. •

**ZITZER** (JOHANN) 1850-1865: Carlisle, Cumberland, Pennsylvania; 1866-1883: Baltimore, Ind. City: Baltimore, Maryland. •

**ZUNDT** (ERNST ANTON) 1858-1858: Green Bay, Brown, Wisconsin; 1859-1864: Milwaukee, Milwaukee, Wisconsin; 1865-1868: Saint Louis, Ind. City: St. Louis, Missouri; 1869-1902: Jefferson, Cole, Missouri. •