

# Leadership and Social Movements: The *Forty-Eighters* in the Civil War

## ONLINE APPENDIX

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## A Extended Historical Background

### A1 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>1</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>2</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

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<sup>1</sup>See Dahlinger (1903), Valentin (1930) and Whitridge (1949) for seminal accounts of the revolutions of 1848–1849.

<sup>2</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 A1: 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.

and as little as 883 refugees in August 1850 (Jung, 2015; Nagel, 2012; Reiter, 1992). This expulsion is nicely illustrated in a cartoon (Figure A1) 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 immigrants of German heritage around that time.

## A2 The Slavery Issue in U.S. Politics 1844–1860

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 Democrats—started 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.

The two ensuing years were 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.<sup>3</sup> In fact, the 1853–54 Congress required four dimensions to explain three-quarters of voting decisions (Poole and Rosenthal, 1991). The field of political issues simplified 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

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<sup>3</sup>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.

success of Southern slave power in Congress and made slavery re-emerge as the defining issue of the time (Foner, 1970, 94). Throughout 1855, Eastern newspaper readers were captivated by events in “Bleeding Kansas,” where pro- and anti-slavery settlers battled it out violently for the upper hand. 1855 also gave birth to the new Republican Party, which combined Free-Soilers with newly disaffected Whigs and Democrats (Srinivasan, 2017, 120-121).<sup>4</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, Eriksson and Niemesh, 2018).

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>5</sup>

In March 1857, the Supreme Court’s *Dredd Scott* decision seemed to further strengthen slave-owners’ property rights in Northern states, and many perceived it as 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>6</sup> Such fears grew because of a general view that the Buchanan administration was dominated by Southern slave power.<sup>7</sup> In 1858, Lincoln’s future

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<sup>4</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>5</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.

<sup>6</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>7</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.”

Secretary of State, William 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-holding 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>8</sup> Lincoln was a shrewd politician, but was also in many ways a surprise candidate for the Republican Party's presidential candidate in 1860, 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 it, he was "the second choice of everybody" (Foner, 1970, 183, 213). 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>9</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."

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<sup>8</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>9</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."

### A3 Additional Historiography of the Role of the *Forty-Eighters* and the *Turner Societies* in the 1860 Election and in the Civil War

Given the large effect on enlistment that we attribute to the *Forty-Eighters*, a review of historiography on this topic is in order. The two foundational historical sources for our paper are Zucker (1950) and Wittke (1973).

Between these two, Zucker (1950) is less concerned with the effect of the *Forty-Eighters*, and more concerned with who they were and the ideas and ideals that characterized them as a group. Wittke (1973) also focused on these themes, but is less biographical in focus and more concerned with discussing the impact they had as a group. In relation to our topic, the related historiography has overall focused more on the *Forty-Eighters'* impact on the 1860 election. While there is some disagreement, overall the historiography agrees that German-Americans as a group supported Lincoln in 1860: Kamphoefner (1991, p.235), for example, states that “the heavily German counties just east of St. Louis were the only small islands of Republicanism in the vast Democratic delta in southern Illinois.” Baron (2012) cites Henry Villard of the *New York Herald* as reporting (December 9th 1860): “In Ohio, Illinois, Indiana, Iowa, and Wisconsin, native Republicans now openly acknowledge that their victory was, if not wholly, at least to a great extent, due to the large accessions they received in the most hotly contested sections from the German ranks.” The debate in this literature is the extent to which the *Forty-Eighters* were pivotal in winning the German vote election for Lincoln. This debate turns on two topics in particular: One, conflicts between older generations of German immigrants and the newer immigrants, among them the *Forty-Eighters*. Tóth (2014, 206) for example, cites from Heinrich Börnstein’s memoirs, that “young German-Americans welcomed the project with joy and enthusiasm and advertised it, while the quieter and more mature members of the community, namely all the so-called ”greys” decidedly disapproved it.” Two, the *Forty-Eighters'* role in overcoming German voters prejudices against the Republican Party that arose from its association with Nativists and Know-Nothings. We discuss these in Section 1.2 of the paper. The *Forty-Eighters'* role is emphasized not only by historians of German Americans, but also by Foner, perhaps the greatest modern-day historian of the antebellum politics (Foner, 1970). Our focus is not the 1860 election. Electoral data in this period is practically impossible to obtain at the sub-county level, and the county is too coarse a spatial unit to capture the local

effects that the *Forty-Eighters* had in their towns.

On the other hand, our focus on local enlistment rates is actually almost completely absent in the historical literature. Our view is that this is because no data (not even a good “guesstimate”) existed up to now on local differences in the extent of Union Army enlistment. Without knowledge of where enlistment was greatest, there was no scope for a historical literature on the local determinants of enlistment. Even seminal treatments of the topic do not attempt any quantitative assessment of local enlistment, while mostly emphasizing aspects that are consistent with our story, such as the strong ‘ideological’ motivation of Civil War soldiers (McPherson 1997, ch7–9; Costa and Kahn 2010), as well as the fact that “the volunteers’ values remained rooted in the homes and communities from which they sprang to arms” (McPherson, 1997, p.5). Related to the effect of individual leadership on enlistment, we came across a quote by Joshua Chamberlain, who would later become a war hero but was then a college professor trying to raise men, who wrote to the governor of Maine in 1861 that “nearly 100 of those who have been my pupils are now officers in our army but there are many more all over our state who, I believe, would respond with enthusiasm, if summoned by me” (Longacre, 2009, p.53).

The *Forty-Eighters’* role during the War is more often discussed than their effect on enlistment. This makes sense insofar as there is much more information available on what went on during the war, from both Union Army statistics as well as from the millions of soldier letters that historians have studied. For example, Costa and Kahn (2003) find that German immigrants were the least likely to desert and as “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.” More qualitatively, Turner regiments (often *Forty-Eighter* led), were rated among the “fightingest” in the accounts in Fox (1889).

One episode that straddles the *Forty-Eighters’* role in enlistment and in the fighting itself is their involvement in defending the St Louis, Missouri, federal weapons Arsenal against the secessionist Missouri militia. Goodheart (2011, 256–264) contains a detailed account of how the local commanders of the federal Arsenal, Nathaniel Lyon and Frank Blair, formed a coalition with local *Forty-Eighters* who were leading a movement called the “Wide-Awakes”. They Wide-Awakes enlisted en bloc and were effectively transformed into military units which came to be called the Home Guards. These defended the Arsenal against the secessionist state militia. Goodheart

concludes that “Lyon, Blair, and the Germans did save Missouri. [...] Grant himself would believe for the rest of his life that but for them the Arsenal and with it St. Louis would have been taken by the Confederacy. [...] In effect the small band of German revolutionaries accomplished in St. Louis what they had failed to do in Vienna and Heidelberg: overthrow a reactionary state government.”  
(p264)

## A4 Selected Biographical Case Studies of *Forty-Eighters*

### A4.1 Example of a Journalist

**Herman Raster** was born in Zerbst.<sup>10</sup> His father, the duke of Anhalt's administrative officer and friend, put emphasis on his children's education and even brought a tutor from England to teach the language. It soon became obvious that Raster was particularly gifted and still in school, he earned his first money for the translation of a French play into German. Raster reportedly spoke seven languages when he finished school and went on to study philology, linguistic and history at the universities of Leipzig and Berlin. While his father hoped for him to become a philologist, Raster himself was more interested in politics and journalism. This interest was additionally stimulated by an encounter with the writer, novelist and social activist Bettina von Arnim as part of the liberal political scene in Berlin.

When the 1848 revolution broke out, Raster was a protagonist in Dessau's freedom party who penned masterly pamphlets. At the same time, his rare skills in stenography got him a position as Secretary of the State Assembly of Dessau. In the aftermath of the failed revolution, Raster was forced to leave Germany in 1851 and chose to move to the United States. Upon his arrival in New York, he was looking in vain for a job and after five weeks in New York and Philadelphia, he ran out of funds and had to take up a job as farm hand in rural Pennsylvania. The owner of the farm in Tioga, Mr Johnson, was well educated and soon after his arrival, Raster was teaching farmers' children and learned in long conversations with a solicitor named Garritson the specifics of American politics.

In spring 1852, Raster left his farm job to take up an editorial position at a newspaper, the Buffalo Democrat. He quickly gained journalistic reputation and only one year later, he became the editor of the *New York Abendzeitung*. During his time in New York, Raster became an active member of the Republican Party and an elector in the 1856 presidential, and his articles in support of the union and abolitionist movement in the *Abendzeitung* helped the Republican Party gain momentum among German immigrants. During the civil war, Raster was the main American correspondent for influential newspapers in German cities. In this position, he was very effectively complaining for the Union's cause and helping attract investors for Union bonds.

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<sup>10</sup>The biography is based on Raster's own memoirs published as Raster (1891).

After the Civil War, Raster accepted the position as editor of the *Illinois Staats-Zeitung* in Chicago in 1867 where he remained until his death.

#### A4.2 Example of an Artist

**Theodor Kaufman** was born in Uelzen close to the city of Hanover.<sup>11</sup> He started a mercantile apprenticeship but then decided to study painting in Düsseldorf and Munich and additionally studied philosophy for some years. Kaufmann became an influential pictorial artist whose approach to painting was to merge image and language in an attempt to go beyond mere aesthetics. Instead, he called for "a political-philosophical form of art [...] that instead functions as an emancipative instrument raising awareness by pushing through democratic processes" (Roob, 2012). Artistically, this attitude was expressed in a series of eight etchings named the "The Development of the Idea of God" published in 1850 that were inspired by Feuerbach's religion-critical writings. Practically, this attitude led him to join the revolutionary activities during the 1848 barricade fighting in Dresden and he had to flee from the Prussian army to Switzerland and eventually emigrated to the United States in 1850.

After his arrival in New York, he worked as a painter and started art training in his studio in New York. His one and only student was Thomas Nast, the son of Forty-Eighter Joseph Thomas Nast. In the 1850s, Kaufmann's art career slowed down and he temporarily earned his living as a portrait painter and assistant in photo studios.

Being an ardent abolitionist, Kaufmann felt the call to support the Union Army and enlisted as a private. He took part in the naval expedition against Forts Hatteras and Clark and served under General Fremont whose radical attitude toward slavery he admired. After his active career as a soldier, Kaufmann went on to support the Union Army as a speaker and writer. When he contributed one of his paintings to a fund-raising event for wounded soldiers, it attracted great interest and subsequently, his career as a painter caught a second wind and he could make a living off it. Subsequently, he created a number of important historical paintings like "On to Liberty" in 1867 that is today exhibited at the *New York Met*.

While not being a Forty-Eighter himself, Kaufmann's student Thomas Nast still deserves mention. At age fourteen, he received his basic artistic training in Kaufmann's studio in New York.

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<sup>11</sup>Biographical information is taken from Hoffmann (2001) and Zucker (1950).

Possibly influenced by his father's revolutionary attitude and his teacher Kaufmann, Nast became one of the most influential graphical artists whom the New York Times called in 1908 the "Father of the American Cartoon." His U.S. career started at the illustrated magazine Harper's Weekly which supported the Union during the Civil War with picture campaigns. Nast started as a graphic war correspondent, but soon switched to emblematic cartoons. The popularity of his patriotic graphics led Abraham Lincoln to say that "Thomas Nast has been our best recruiting sergeant. His emblematic cartoons have never failed to arouse enthusiasm and patriotism, and have always seemed to come just when these articles were getting scarce" (Paine, 1904).

### **A4.3 Example of a Turner**

**Joseph Gerhardt** was born in Oberdallendorf close to Bonn.<sup>12</sup> He studied at the University of Bonn and subsequently worked as a merchant and innkeeper in Bonn. During the 1848 Revolution, Gerhardt commanded a battalion of volunteers in the Baden revolt in an attempt to defend the Rastatt Fortress, a bastion of the revolutionaries. When Prussian troops quelled the riots, Gerhardt was imprisoned in Rastatt fortress but then managed to escape to Switzerland. In 1850, he had to leave Switzerland without his family and came via New York to settle in Washington D.C.

Upon his arrival, Gerhardt played the violin in theater orchestras and took up other humble jobs to make a living before he returned to his former occupation as hotel and innkeeper. He opened the Germania Hotel with a beer garden and restaurant.

When his friend Adolf Cluss came to organize the Socialist Turner Association in Washington in 1852, Gerhardt served as speaker and president. According to the club's statutes, membership was open to anyone willing to support their revolutionary efforts. Gerhardt also got involved in politics. He joined the Republican Party in 1856, became Republican marshal for his district, and in October 1860 he was a founding member of the German Republican Association. The association's main goal was to inform and educate Germans about the Republican Party's matters.

After Lincoln's election, Gerhardt entered organized a volunteer Turner Company which became known as "Turner Rifles." They were guarding Lincoln's inauguration, protected Washington's public buildings at the onset of the Civil War, and went to Great Falls, Virginia to protect the

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<sup>12</sup>Biographic information is extracted from the newspaper articles für Texas (1881) and Star (1881) published at Gerhardt's death and an essay on Turners in Washington by Dugan (2007).

city's water supply. Subsequently, Gerhardt went on to New York where he was made colonel of the 46th New York Volunteers. In 1863, he had to resign from the Union Army for health reasons and returned to Washington. He continued to be a well-known hotel and innkeeper until his death.

#### **A4.4 Example of a Military Man**

**August von Willich** was born in Braunsberg with his father being a captain in the Prussian army.<sup>13</sup> Willich himself received his military education in the cadet schools of Potsdam and Berlin and joined the Prussian field artillery as an officer. When he got exposed to Karl Marx' political ideas, he chose to resign from the army in 1847 because his communist and republican beliefs were incommensurate with the military obligations. Around the same time, he decided to give up his noble title and went by "Willich" instead of "von Willich." Subsequently, he played an active part in the 1848 revolution; he participated in the attack on the Cologne City Hall, and led a corps of volunteers during the Baden Revolution with Friedrich Engels being his aide-de-camp. When the revolution failed, Willich escaped to Switzerland and eventually joined an exile group of German revolutionaries and communists around Marx and Engels in London. After a fallout with Marx and Engels, Karl Schapper and Willich split off the League of Communists and in 1853, he eventually emigrated to the United States.

Willich learned to be a carpenter in England and initially worked in this occupation at the Brooklyn Navy Yard. However, his talent in maths and science soon got him a better position in the coastal survey at Washington D.C. Over the years, Willich became politically more active and when he was offered to edit the "Deutscher Republikaner", a Cincinnati-based German newspaper, he took the position in 1858. In the 1860 election, he supported Lincoln and at the outbreak of the Civil War, Willich helped organize the first German voluntary regiment of Cincinnati. In line with his communist ideals, he initially signed up as an ordinary soldier but his military training soon got him the rank of colonel. In the course of the war, Willich participated in numerous battles and got promoted to Brigadier General for his braveness in the battles of Shiloh. When sustained injuries forced him to end his active military career, he turned to administrative roles before he resigned from the army in fall 1865.

After the war, Willich held different government positions in Cincinnati before he returned to

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<sup>13</sup>Biographic information is taken from Dlubek (2003), Nagel (2012) and Rattermann (1878).

Germany for some years obtain a philosophy degree from the University of Berlin at the age of 60. After that, he returned to the United States and died in Ohio.

## B Data Appendix

### B1 The *Forty-Eighters*

To code up the *Forty-Eighters*' biographies, we started with 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 also presents a list of revolutionaries who went to the U.S. Finally, Baron's (2012) book includes a name index, although this is fully subsumed in the other sources. In total, we end up with a list of just over 500 individual *Forty-Eighters*, and we completed their biographies in Germany and the United States through individual searches in genealogical online sources like [Ancestry.com](https://www.ancestry.com). In this way, we are able to locate 493 *Forty-Eighters* in the towns they settled in.

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. Louis, Philadelphia, Baltimore, and Milwaukee. This skew is evident in the left panel of Figure A2.<sup>14</sup>

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 A2, which shows the fitted line from a regression of the number of *Forty-Eighters* on state fixed effects and a town's

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<sup>14</sup>New York City was the most important arrival port. In the *Germans to America* shipping-lists—discussed in B5.2—New York City alone accounts for 85 percent of the 4.1 million German arrivals between 1850 and 1894. Therefore, it is not surprising that roughly one-quarter of the *Forty-Eighters* did not leave New York city. In our analysis, we disregard New York city for two reasons. First, there is no plausible control town for the largest city. Second, New York was the biggest entry port and a large portion of soldiers enlisted straight after debarkation, i.e. did not represent the resident population. (We thank Dora Costa for pointing this out.)

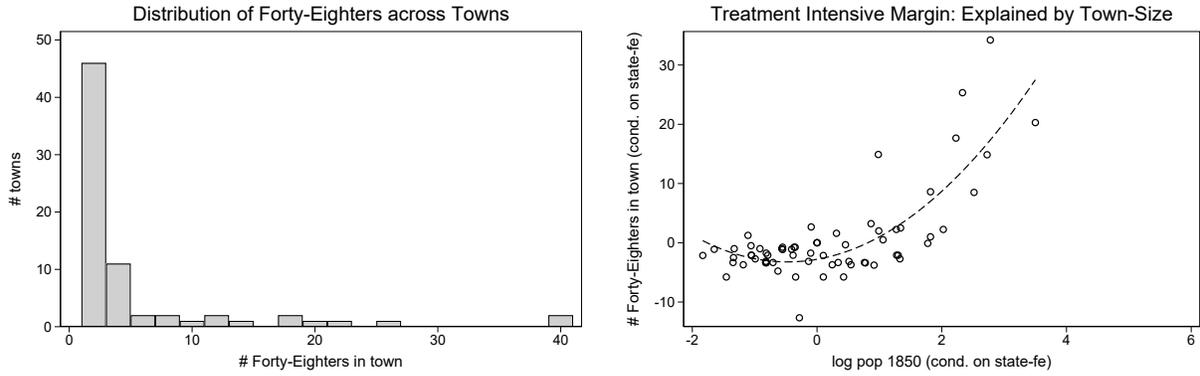


Figure A2: Distribution of No. of *Forty-Eighters*

*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 Cincinnati, and St Louis, Missouri; twenty settled in Philadelphia, and Baltimore; and 15 or more in Milwaukee and Davenport. Among treated towns, the distribution of the number of *Forty-Eighters* was thus clearly skewed towards 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.

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 regressions.<sup>15</sup>

## B2 The Union Army Data

State-specific Adjutant General’s Reports and appended Soldier-Registers that underlie the town-level enlistment data stem from the following sources:

- **California:** Orton, R.H. (1890) “Records of California Men in the War of the Rebellion 1861 to 1867”, State Office, J. D. Young, Supt. State Printing, Sacramento, CA
- **Connecticut:** Barbour, L.A., Camp, F.E., Smith, S.R., and White, G.M. (1889) “Record of Service of Connecticut Men in the Army and Navy of the United States During the War of the Rebellion”, Case, Lockwood, & Brainard Company, Hartford, CT
- **Illinois:** Reece, J.N. (1900) “Report of the Adjutant General of the State of Illinois”, Vols. 1-9, Philips Bros. State Printers, Springfield, IL

<sup>15</sup>This captures the quadratic relation with town size since the log of population and the log of squared population are collinear.

- **Indiana:** Terrell, W.H.H. (1866) “Report of the Adjutant General of the State of Indiana”, Vols. 1-5, Samuel M. Douglass State Printers, Indianapolis, IN
- **Iowa:** Thrift, W.H. (1908) “Roster and Record of Iowa Soldiers in the War of Rebellion”, Vol. 1-6, Emory H. English State Printers, Des Moines, IA
- **Kansas:** Fox, S.M. (1896) “Report of the Adjutant General of the State of Kansas”, The Kansas State Printing Company, Topeka, KS
- **Maine:** Adjutant General (1861-66) “Supplement to the Annual Reports of the Adjutant General of the State of Maine”, Stevens & Sayward State Printers, Augusta, ME
- **Massachusetts:** Schouler, W. (1866) “Report of the Adjutant General of the Commonwealth of Massachusetts”, Wright & Potter State Printers, Boston, MA
- **Michigan:** Crapo, H.H. (1862-66) “Report of the Adjutant General of the State of Michigan”, John A. Kerr & Co. State Printers, Lansing, MI
- **Minnesota:** Marshall, W.R. (1861-66) “Report of the Adjutant General of the State of Minnesota”, Pioneer Printing Company, Saint Paul, MN
- **Nebraska:** Dudley, E.S. (1888) “Rosters of Nebraska Volunteers from 1861 to 1869”, Wigton & Evans State Printers, Hastings, NB
- **New Hampshire:** Head, N. (1865) “Report of the Adjutant General of the State of New Hampshire”, Vols. 1& 2, Amos Hadley State Printers, Concord, NH
- **New Jersey:** Stryker, W.S. (1874) “Report of the Adjutant General of the State of New Jersey”, Wm. S. Sharp Steam Power Book and Job Printers, Trenton, NJ
- **New York:** Sprague, J.T. (1864-68) “A Record of the Commissioned Officers, Non-Commissioned Officers and Privates of the Regiments which were Organized in the State of New York into the Service of the United States to Assist in Suppressing the Rebellion”, Vols. 1-8, Comstock & Cassidy Printers, Albany, NY

- **Ohio:** Howe, J.C., McKinley, W., and Taylor, S.M. (1893) “Official Rosters of the Soldiers of the State of Ohio in the War of the Rebellion 1861-65”, Vols. 1-12, The Werner Company, Akron, OH
- **Pennsylvania:** Russell, A.L. (1866) “Report of the Adjutant General of Pennsylvania”, Singlerly & Myers State Printers, Harrisburg, PA
- **Vermont:** Peck, T.S. (1892) “Revised Roster of Vermont Volunteers and Lists of Vermonters who Served in the Army and Navy of the United States during the War of the Rebellion 1861-66”, Press of the Watchman Publishing Co., Montpelier, VT
- **Wisconsin:** Rusk, J.M. and Chapman, C.P. (1886) “Roster of Wisconsin Volunteers, War of the Rebellion 1861-65”, Democrat Printing Company, Madison, WI
- **Other States:** Adjutant General’s Office (1861-65) “Official Army Register of the Volunteer Force of the United States for the Years 1861, ’62, ’63, ’64, ’65”, Part 1-8, Adjutant General’s Office, Washington DC

In the aggregate, Table A1 shows which state had the highest enlistment numbers overall and relative to the population. Border states were the most divided on the slavery issue and tended to have lower enlistment numbers relative to their population. Every Confederate state had some Union Army enlistments, but these occurred later, mostly after the Union Army had defeated the bulk of Confederate forces in a state.

### **B2.1 Record-Linking Union Army Data to the Full-Count Census**

To record-link the enlistment *registers* to the 1860 Full Count Census, we bloc on state-of-residence, and on first and last name initial. Similarity-scores are derived from a serious of exact matches on the following variables:

- last name (11 -6)
- last name initials (5 -1)
- firstname (5 0)

Table A1: Enlistment by State

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
<b><u>Core States</u></b>					<b><u>Confederate States</u></b>				
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	<b><u>Western States</u></b>				
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
<b><u>Border States</u></b>					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						

*Notes:* This table reports the total number of Union Army soldiers for each state's enlistment *registers*, the enlistment date of the tenth chronological percentile of enlisted men, the average enlistment date, as well as the enlisted men's population shares. Data stem 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.

- firstname-initials (5 -2)
- firstname first three letters (5 -1)
- middlename-initials (2 -2)
- town-name (5 -3)
- county string-code (5 -3)

In brackets are the positive weights for an exact match, and the negative weights for a non-match. 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 an exactly matching variable is a strong indication of a 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 an 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' (and 'Will') to 'Wm' in all data-sets. Given the values in the algorithm above, two exemplary records with completely identical names receive a match-score of  $11 + 5 + 5 + 5 + 5 + 2 = 33$ , and two exemplary records with identical names except 'Charles' in one record becomes 'Chad' in the other receive a match-score of  $11 + 5 + 0 + 5 + 5 + 2 = 28$ .

The only numeric variable in the linkage algorithm is

- year-of-birth (5 -1 1) and (0 -4 3)

where the third number in brackets is the allowed deviation ('caliper') from an exact match. For example, in the Full-Count census, birth year is given, but in the Army register birth year is constructed as enlistment age minus the year of enlistment. This latter variable can easily be off by one year in either direction so that it is important to allow for 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. By defining two such ranges, one can trace out a gradient. In our algorithm, a birth-year deviation

of 1 adds  $5 + 0$  to the match score, a birth-year deviation of 2 or 3 years adds  $-1$  to the match score, and a birth-year deviation of more than 3 years adds  $-1 - 4 = -5$  to the match score.

We use STATA's command `dtalink` to perform the matching. One upside of `dtalink` is that it offers complete transparency on how the match-score is generated. Since the match-score is simply an additive score of exact matches on a record's characteristics, one can manually calculate each match-score by simple arithmetic. Stated differently, one can look at the characteristics of a record in Table A2 (one row), and manually calculate the match-score reported in the table. Other currently available methods do not offer this transparency.

The 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.

Linkages are unique, i.e. after finding the set of all linkages with a match score above 30, `dtalink` performs a grid-search so that each Census-record is linked to only one soldier record.

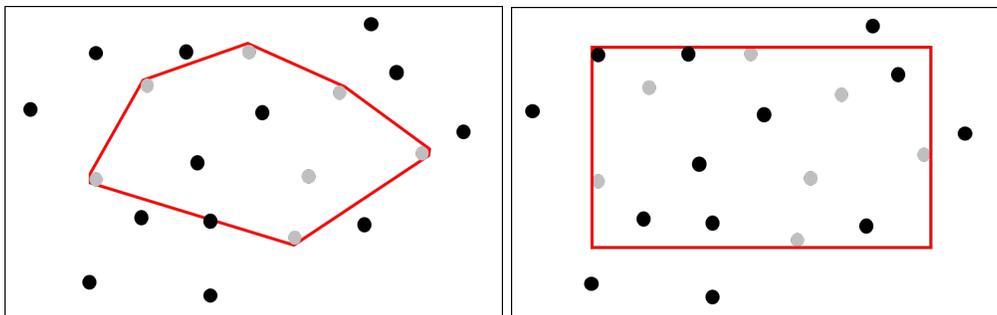
One downside of `dtalink` is that it does not allow string-similarity indexation (e.g. Jaro-Winkler or similar indices); instead one has to "fan out" sub-strings manually as outlined above. In our data, this is easily compensated by `dtalink`'s most critical upside, which is the ability to deal with *missing data*. If a linkage-variable is missing in a record, that variable's contribution to the total match-score is zero, but if other variables compensate by providing high overlap, two linked records can still have a high match-score. This is important for us because we miss town-of-residence in the majority of military records, we miss county-of-residence in about half the military records, and we miss age in about one-third of the military records. Lastly, the military records frequently miss middle names (unlike the other three variables, one can only know after linking to the census if a middle name is missing or if a soldier did not have one). Standard packages typically do not allow missing variables, and records with missing variables are consequently dropped. This is likely not a big deal when a research question is concerned with an individual-level analysis and one is confident that the missings are random. In our application, however, we would like to maximize the number of good links because we aggregate our individual links into spatial units (towns). To illustrate this, consider the three links in Table A2 with match-scores of 33 (listed in the middle-column).

All three look like very good matches (exact and unique matches on state, first name, and last name, as well as middle name initial; in addition, the census-birth-years are plausible for a Union Army soldier). However, all three have missing ages in the soldier-records, and would by default be discarded in most linkage algorithms, whereas `dtalink` is not sensitive to this missing. In fact, all three records even have fairly high match-scores despite missing age information because they include middle name information (which is often missing).

For a more detailed discussion of record linkage approaches, we refer the reader the excellent review in Bailey et al. (2019).

## B2.2 Spatial Interpolation Based on Local Enlistment

Figure A3: Spatial Interpolation of Soldiers' Residences



*Notes:* The left panel of this figure visualizes our favored spatial interpolation 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.

As mentioned above, we miss town-of-residence in the majority of military records. Linking the records to the census recovers this information for many observations. 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, 2003, 524). 'Local enlistment' means that the observed distribution of located soldiers' home-towns in a regiment is highly predictive of the unobserved distribution of unlocated soldiers' home-towns.<sup>16</sup> We consider

<sup>16</sup>The U.S. Army abandoned local enlistments only after D-day in World War II.

Table A2: Sample of linked Individuals

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							
Alexander	Pricer	08aug1864	33		OH	30	Alexander	Pricer	1833	South Salem	Ross	OH							
John	Mcqueen	24aug1861	36		NY	30	John	Mcqueen	1828	Fulton	Schoharie	NY							
Edward	Boyle	27feb1865	28		PA	30	Edward	Boyle	1835	East Mauch Chunk	Carbon	PA							
Jacob	Schuler				NY	31	Jacob	Schuler	1826	Brooklyn	Kings	NY							
John	Carroll	18sep1861			MO	31	John	Carroll	1825	St Louis	Ind. City: St Lot	MO							
Jacob	Ulrick	12sep1862			PA	31	Jacob	Ulrick	1841	Graham	Clearfield	PA							
George W	Gardner	09may1861	19		NY	32	George W	Gardner	1844	Fallsburg	Sullivan	NY							
John C	Morris	23jan1864	19		OH	32	John C	Morris	1848	Clay	Montgomery	OH							
James H	Danner	15aug1864	28		OH	32	James H	Danner	1839	Racoon	Gallia	OH							
David S	Everett	02mar1865			RI	33	David S	Everett	1849	Providence	Providence	RI							
James M	Bollinger				MO	33	James M	Bollinger	1822	St Francis	Wayne	MO							
Frederick S	Carter				MO	33	Wm E	Carter	1848	Benton	Knox	MO							
Frederick S	Henderson	28mar1865	22	Lapeer	MI	34	Freelen M	Henderson	1842	Lapeer	Lapeer	MI							
John W	Wright	12mar1864	33	Polk	IA	34	Johnson T	Wright	1830	Allen	Polk	IA							
Wm A	Briddle	01may1861	19	Van Buren	IA	34	Wm E	Briddle	1843	Van Buren	Van Buren	IA							
James	Campbell	19aug1861	34	Schuykill	PA	35	James	Campbell	1825	Cass	Schuykill	PA							
Morgan	Bahn	29jul1861	24	York	PA	35	Morgan	Bahn	1840	Hellam	York	PA							
Benjamin	Norton	10feb1863	23	Hillsdale	MI	35	Benjamin	Norton	1843	Adams	Hillsdale	MI							
Wm	Fox	24dec1863	43		OH	36	Wm	Fox	1820	Denmark	Ashtabula	OH							
Charles	Myers	29feb1864	21		OH	36	Charles	Myers	1842	Springfield	Summit	OH							
James	Tabor	29feb1864	19	Warren	MN	36	James	Tabor	1845	Jordan	Fillmore	MN							
George J	Bates	07sep1861	19	Warren	OH	37	George J	Bates	1840	Wayne	Warren	OH							
James D	Gay	30sep1862	31	Newaygo	MI	37	James D	Gay	1829	Bridgton	Newaygo	MI							
Calvin T	Sharp	25dec1863	18	Carroll	AR	37	Calvin T	Sharp	1848	Carrollton	Carroll	AR							
Henry C	Nichols	03sep1864	32		NH	38	Henry C	Nichols	1831	Ossipee	Carroll	NH							
James W	Clark	02nov1863	25	Franklin	NY	38	James W	Clark	1839	New York	New York	NY							
Mathew B	Burns	19oct1861		Franklin	IN	38	Mathew B	Burns	1843	Fairfield	Franklin	IN							
David	Beadle	23nov1861	37	St Joseph	MI	41	David	Beadle	1823	Lockport	St Joseph	MI							
Charles	Anthony	14dec1861	22	St Joseph	MI	41	Charles	Anthony	1839	Florence	St Joseph	MI							
David	Wright	06oct1862	22	Washington	OH	41	David	Wright	1841	Warren	Washington	OH							
John W	Mauk	19jan1864	21	Lucas	IA	43	John W	Mauk	1843	Whitebreast	Lucas	IA							
Henry S	Hubbard	14aug1862	21	Muscatine	IA	43	Henry S	Hubbard	1841	Pike	Muscatine	IA							
John H	Boyden	08aug1862	25	Benton	IA	43	John H	Boyden	1836	Eden	Benton	IA							

Notes: To illustrate how match scores vary in the linkage procedure outlined in B2.1, this table reports on three randomly drawn matches for each match-score above the cutoff of 30.

two approaches which exploit the spatial clustering of enlistments to determine regiment  $r$ 's relevant 'enlistment area.' Both approaches are visually represented in Figure A3. 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>17</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 A3. 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 A3 illustrates this. Once we have defined an enlistment area, we randomly assign unlocated cases to the enclosed enlistment-area towns using their 1860 population as weights. The latter accounts for the fact that larger towns enlisted more soldiers.

### **B3 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 information and then applied the trained algorithm to the Union Army Enlistment Data to infer missing place of birth information. 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". Naming conventions become less stable and 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 et al. (2009) and Treeratpituk and Giles (2012) classify ethnic groups on a corpus of news data. Chang et al. (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 impor-

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<sup>17</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.

tant 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 significant computational capacity and often fails, even on industrial supercomputers.

Mikolov et al. (2010) and Bahdanau, Cho and Bengio (2014) show that recurrent neural networks are cost-effective alternatives to other approaches to language modeling. Recurrent neural networks iteratively introduce additional  $n$ -grams as covariates, update the prediction and keep them only if the quality of the prediction increased by more than a certain threshold. Thus, they effectively keep and operate over important patterns only. Bahdanau, Cho and Bengio (2014) show that recurrent neural networks outperform most of the standard models of statistical learning on large-size datasets for tasks such as machine translation while not suffering from over-fitting (see also, Hochreiter and Schmidhuber (1997)). Kim et al. (2016) , Chiu and Nichols (2015), and Lee et al. (2017) who 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 first 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).

We employ the algorithm to the *Union Army Registers* which contain military information like 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’ name, age at enlistment, and town-of-residence. To infer soldiers’ ancestry, the 1860 Full Count Census where we observe names and birth places, provides us with a natural training data set to train a machine-learning algorithm. 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 described in the previous subsection to predict the relative probabilities of an individual belonging to each group. 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. Note that the number of Italians in the U.S. turned out to be so small in 1860 that we grouped them with the ‘Other’ category. This is in line with historical records suggesting that the majority of Italian immigrants arrived after 1870.

#### **B4 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 of elevation calculated from a DEM provided by the *Joint Institute for the Study of the Atmosphere and Oceans* and available at <http://research.jisao.washington.edu/datasets/elevation/elev.americas.5-min.nc>,
- mean temperature over the period 1950–2000 from the dataset “North America Climate – Monthly Mean Temperature - GIS Data” published by USGS and available at <https://www.sciencebase.gov/catalog/item/4fb5528ee4b04cb937751d9e>.
- mean precipitation over the period 1948–2006 from “CPC US Unified Precipitation data” provided by the NOAA/OAR/ESRL PSD, Boulder, Colorado, USA and available at <https://psl.noaa.gov/>.
- (log) distance to (i) the coast, (ii) the next navigable river (provided by Attack, 2015), and (iii) the railway network in 1850 (provided by Attack, 2016).

#### **B4.1 Historical County-Level Controls**

We supplement our town-level data with 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

#### **B4.2 Historical Voting Data**

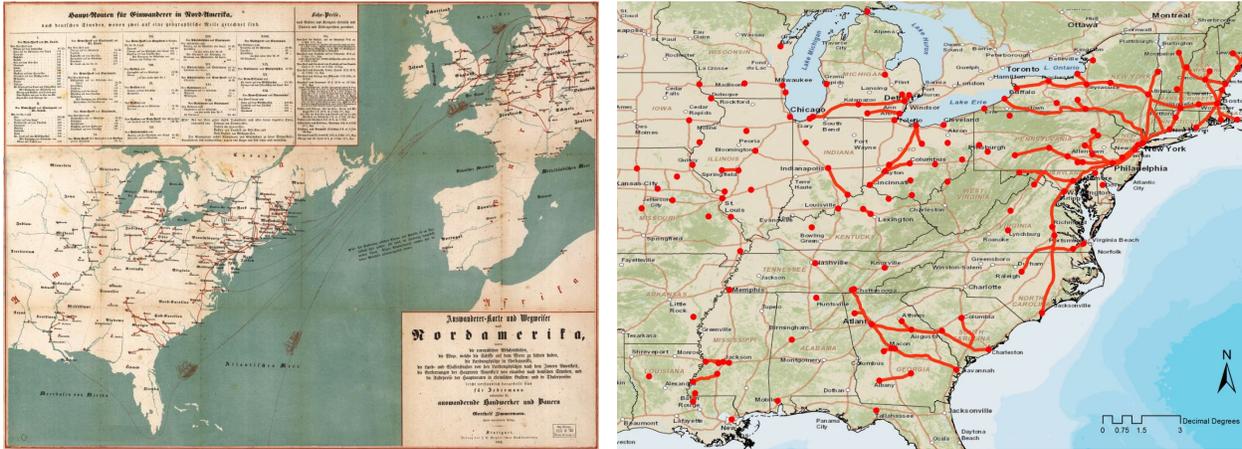
We have historical voting data from ICPSR’s *Electoral Data for Counties in the United States: Presidential and Congressional Races, 1840-1972* (Clubb, Flanigan and Zingale, 2006). Unfortunately, in addition to only covering about two-thirds of areas included in our study, the historical voting data exist only at the county level. This is disappointing because many historians’ have argued that the *Forty-Eighters* had an effect on the rise of the Republican Party (See Section 1.2 of the paper). We attempted to obtain sub-county historical voting data, and we owe a debt of gratitude to John Wallis and Jeremy Darrington for helpful advice in this regard. Unfortunately, such data does not exist. The only promising path is data on state legislatures, for which Dubin (2015) is the starting point. Unfortunately, voting data on electoral districts is only available in states such as Iowa that are so large that a state electoral district is actually coarser than a county, so that nothing is gained in terms of obtaining voting information at a more fine-grained level than what can be gleaned from Clubb, Flanigan and Zingale (2006).

### **B5 Factors Attracting the *Forty-Eighters* into Specific Towns**

#### **B5.1 Metzler’s Map for Immigrants**

A novel control variable that we are introducing for this paper is *Metzler’s Map for Immigrants*; see Figure A4. 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’ (log) distance to the nearest city on Metzler’s map.

Figure A4: Metzler’s Map for Immigrants



Notes: The left panel shows the second edition of Metzler’s *Auswanderer Karte*, published in 1853. The table in the top-left provides information on the distance and fare, red lines indicate the main travel routes, and red dots mark common destinations. The right panel shows our digitized version of Metzler’s map along with the main routes and locations.

## B5.2 Mapping the *Germans to America Shipping Lists into U.S. Towns*

We digitized Glazier and Filby (1999) and Glazier (2005) for the years 1845–1855. We use these data as control variable in our regressions, for the placebo exercises in Table A8, and as basis of our instrument in Section 4.2 of the paper. To construct the instrument, we first record-link the *Forty-Eighters* to the ship lists using bigram indexation on name similarity, and restrict differences in reported age to be at most three years. We limit our search to ships arriving between 1848 and 1852 because the “haphazard arrival” logic is much less plausible for the few *Forty-Eighters* who arrived later (and had more time to think about their trip). With this, we identify the set of *Forty-Eighter* ships, i.e. the immigrant ships with *Forty-Eighters* on them. For these ships, we compute a distribution of reported intended destinations in the U.S. As a control variable, we compute the distribution of reported intended destinations for passengers on all other ships in the collection that arrived in the U.S. in the same time window.

## B6 *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 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.

## C Matched Sample Details

Table A5 shows that the matched sample moves the distribution of the outcome variable for treated towns closer to controls towns. Table A6 shows the same distributions for per capita enlistments instead of the log of enlistments.

As a robustness check on the sample selection, we constructed two additional matched samples, *PSM-2* and *PSM-3*. In *PSM-2*, we do not impose exact matching on state and population bin, so that state fixed effects just enter the logistic regression as dummy variables. This is expected to increase the number of matched treated towns because control towns can be drawn from a wider set. At the same time, the number of control towns may decrease because an untreated town can be a nearest neighbor for additional treated towns in other states. In *PSM-3*, we decrease the number of required nearest neighbors from five to three. This should again increase the number of matched treated towns because the required number of ‘statistical twins’ is decreased. At the same time, the number of control towns decreases because of the lower number of neighbors. Both *PSM-2* and *PSM-3* therefore have a higher ratio of treated to control towns.

Unfortunately, the 1850 Full Count Census does not provide a large sample of control variables.<sup>18</sup> The 1860 Full Count Census, however, has additional wealth, education and occupation information. On the one hand, the sparsity of town level controls means that the 1860 controls may help absorb time-invariant confounding characteristics that could have potentially attracted *Forty-Eighters* and had an impact on enlistment. On the other hand, 1860 controls may be viewed as ‘bad controls’ in the sense that they post-date the *Forty-Eighters*’ settlement and could be potentially endogenous. To get an idea how sensitive the matched sample is to the inclusion of 1860 county controls, we construct another matched sample (labeled *PSM-4*) where we include 1860 town controls as additional matching variables but keep the concerns about these control variables in mind.

## D Robustness Checks and Additional Results

This section presents robustness checks for the results reported in section 4 of the paper.

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<sup>18</sup>Variables are being added to historical Full Count Censuses, by the Integrated Public Use Microdata Series (IPUMS) but the process is slow because the addition of any variable for the entire U.S. population is time-consuming and costly.

Table A3: Balance & Variable-Selection in the Matched Sample

	(1)	(2)	(3)	(4)	(5)	(6)
	Control	Treated	Test [Treated = Control]		Variable Selection Model	
fixed effects:	-	-	-	state	-	state
Share German-Born 1850	0.059 (0.114)	0.076 (0.115)	0.017 [0.344]	0.015 [0.353]		
Log Dist: Metzler-Map Destinations	3.554 (1.281)	3.147 (1.902)	-0.406 [0.064]	-0.341 [0.041]		
ΔShare German-Born 1860-1850	0.030 (0.115)	0.020 (0.142)	-0.010 [0.588]	-0.007 [0.700]		
Germans-To-America 1848-52	0.033 (0.051)	0.087 (0.123)	0.054 [0.000]	0.051 [0.000]	1.671 [0.000]	1.825 [0.000]
Count German Newspapers 1850	0.208 (1.292)	0.704 (1.829)	0.496 [0.023]	0.396 [0.033]	0.038 [0.015]	0.041 [0.017]
Log Pop 1850	6.983 (1.191)	7.485 (1.474)	0.502 [0.009]	0.478 [0.000]		
Log Dist Nearest Port	6.897 (0.472)	6.891 (0.479)	-0.007 [0.928]	0.005 [0.762]		
Log Dist Nearest Navigatable River	2.766 (2.088)	2.753 (2.245)	-0.013 [0.968]	-0.077 [0.789]		
Log Dist Nearest Railway	3.884 (2.109)	3.620 (2.395)	-0.265 [0.425]	-0.271 [0.159]		
Log Dist Nearest Coast	4.505 (1.825)	4.352 (2.219)	-0.154 [0.600]	-0.201 [0.322]		
Latitude	41.255 (1.818)	41.118 (1.756)	-0.137 [0.620]	-0.094 [0.447]		
Longitude	-85.918 (6.895)	-85.891 (7.014)	0.027 [0.980]	-0.050 [0.766]		
Log Elevation	5.242 (0.685)	5.200 (0.718)	-0.041 [0.695]	-0.095 [0.114]		
Mean Temperature	98.884 (18.858)	101.120 (18.054)	2.237 [0.434]	2.342 [0.116]		
Mean Precipitation	2.706 (0.352)	2.696 (0.349)	-0.011 [0.844]	-0.001 [0.971]		
Slave Pop Share 1850	0.004 (0.023)	0.001 (0.008)	-0.003 [0.400]	-0.003 [0.227]		
Free Colored Pop Share 1850	0.013 (0.034)	0.016 (0.031)	0.003 [0.592]	0.003 [0.442]		
White Female Pop Share 1850	0.464 (0.050)	0.469 (0.047)	0.006 [0.469]	0.003 [0.627]		
%-Δ Pop 1850-1840	1.630 (0.719)	1.479 (0.812)	-0.151 [0.181]	-0.131 [0.184]		
%-Δ Slave Pop 1850-1840	0.044 (0.435)	-0.037 (0.474)	-0.081 [0.232]	-0.082 [0.075]	-0.163 [0.037]	-0.160 [0.047]
%-Δ Free Colored Pop 1850-1840	0.699 (0.961)	0.783 (1.198)	0.084 [0.587]	0.106 [0.482]		
%-Δ Female White Pop 1850-1840	1.633 (0.711)	1.490 (0.797)	-0.143 [0.201]	-0.123 [0.206]		
County: Churches 1850	33.242 (42.917)	33.333 (45.245)	0.092 [0.989]	-2.012 [0.641]		
County: 1850-Share Pop in Places>25,000	0.034 (0.155)	0.030 (0.142)	-0.004 [0.872]	-0.004 [0.854]		
County: 1850-Share Pop in Places>2,500	0.104 (0.202)	0.114 (0.194)	0.010 [0.745]	0.008 [0.760]		-0.208 [0.136]
County: Manufacturing Capital Share Foreign Born	8.813 (7.230)	9.958 (6.205)	1.146 [0.287]	0.924 [0.174]		
County: Colleges 1850	0.246 (0.712)	0.370 (0.592)	0.124 [0.240]	0.099 [0.318]		
County: 1848 Vote-Share Democratic Party	52.202 (9.009)	52.460 (9.052)	0.258 [0.861]	0.584 [0.678]		
County: 1848 Vote-Share Liberty Party	5.724 (7.590)	4.196 (4.303)	-1.528 [0.183]	-1.666 [0.083]		
Observations	207	54				

*Notes:* This table resembles Table 1 in the paper, but it investigates the balance between treatment and control locations in the matched sample (*PSM1*). Columns 1–2 report on means and standard deviations of observable characteristics for control and treated towns. Columns 3–4 test for balance (with and without state fixed effects). Columns 5–6 report which variables are most predictive of treatment in a multivariate setting (with and without state fixed effects). Columns 1–2 report standard errors in round brackets. Columns 3–6 report p-values in square brackets. This sample is considerably more balanced. This is obvious from both the higher p-values in columns 3–4, and the lower number of variables selected in columns 5–6.

Table A4: Estimated Coefficients in Alternative Samples

	(1)	(2)	(3)	(4)	(5)	(6)
<u>Panel A:</u>	<u><i>PSM-2 (no exact matching)</i></u>			<u><i>PSM-3 (3 neighbors)</i></u>		
D(Forty-Eighters)	0.662 [0.001]	0.697 [0.000]	0.681 [0.000]	0.528 [0.003]	0.563 [0.001]	0.548 [0.004]
Observations	283	283	283	191	191	191
R-squared	0.791	0.805	0.813	0.726	0.742	0.753
# Forty-Eighter Towns	59	59	59	57	57	57
<u>Panel B:</u>	<u><i>Prop. Score Matched (1860 ctrls)</i></u>			<u><i>Full Sample (w county f.e.)</i></u>		
D(Forty-Eighters)	0.617 [0.000]	0.583 [0.000]	0.532 [0.001]	0.881 [0.000]	0.838 [0.000]	0.843 [0.000]
Observations	268	268	268	10,971	10,971	10,971
R-squared	0.724	0.775	0.794	0.677	0.684	0.686
# Forty-Eighter Towns	55	55	55	68	68	68
Core Controls	✓	✓	✓	✓	✓	✓
+ Other Vselect		✓	✓		✓	✓
+ All Controls			✓			✓

*Notes:* The table reports results from estimations on alternative samples. *PSM-2* does impose exact matching on state and population bins but only controls for state fixed effects. This is expected to increase the number of matched treated towns because control towns can be drawn *PSM-3* considers three instead of five nearest neighbors. In *PSM-4*, we include 1860 town controls as additional matching variables. Full sample w county fixed effects reports results for regressions in the full sample where we replace state fixed effects with county fixed effects.

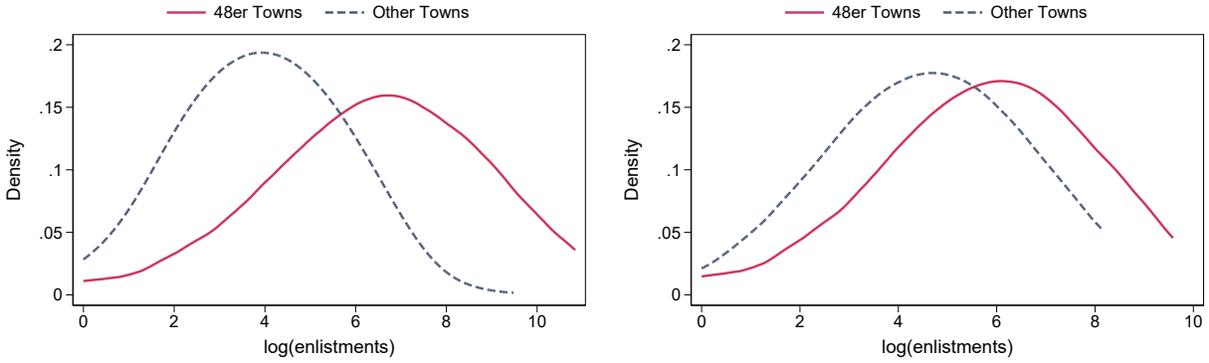


Figure A5: Kernel Density Plots for Enlistments

*Notes:* The figure shows Kernel density plots for treated and control towns. The left figure reports on the log of enlistments in the full sample, the right figure on the matched sample. The mean (standard deviation) for treated and control towns are 5.73 (1.87) and 4.44 (1.68) in the matched sample.

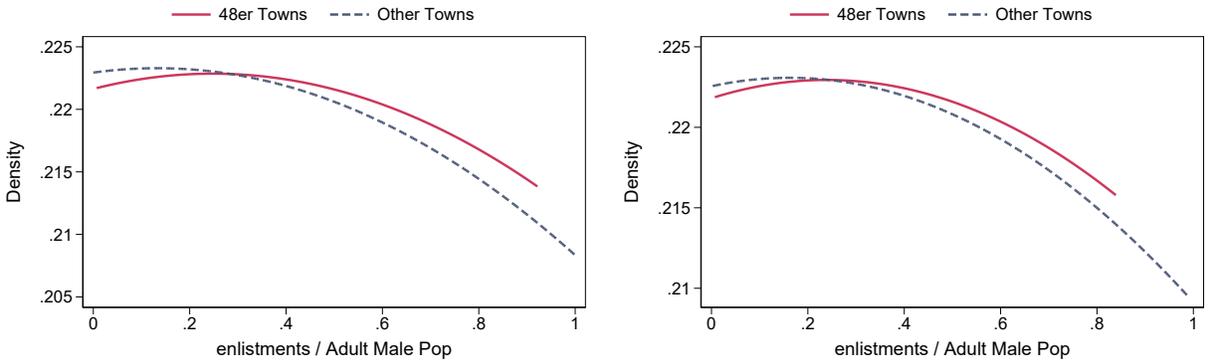


Figure A6: Kernel Density Plots for Per Capita Enlistment

*Notes:* The figure shows Kernel density plots for treated and control towns. The left figure reports on the log of enlistments in the full sample, the right figure on the matched sample. The mean (standard deviation) for treated and control towns are 0.25 (0.2) and 0.13 (0.13) in the full sample, compared to 0.24 (0.18) and 0.15 (0.16) in the matched sample.

Table A5: Effect of *Forty-Eighters* on Per Capita Enlistments

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Full Sample</i>			<i>Prop. Score Matched (PSM-1)</i>		
D(Forty-Eighters)	0.117 [0.002] {0.000}	0.115 [0.001] {0.002}	0.113 [0.002] {0.002}	0.074 [0.008] {0.002}	0.075 [0.001] {0.000}	0.078 [0.001] {0.006}
Observations	11,095	11,095	11,095	261	261	261
R-squared	0.110	0.121	0.132	0.183	0.236	0.266
# Forty-Eighter Towns	72	72	72	54	54	54
Core Controls	✓	✓	✓	✓	✓	✓
+ Other Vselect		✓	✓		✓	✓
+ All Controls			✓			✓

*Notes:* The table reports on the equivalent of Table 2 in the paper with the outcome replaced by per capita enlistments. Columns 1–3 report on the full sample, comparing 72 *Forty-Eighter* towns to 11,023 control towns. Columns 4–6 report on the matched sample, comparing 54 *Forty-Eighter* towns to over 207 matched control towns. Each column reports the number of treated towns (*# Forty-Eighter Towns*) providing identifying variation in each specification. In braces, we additionally report *p-values* for wild-bootstrap clustered standard errors.

Table A6: Estimated coefficients on control variables in Table 2 in the paper

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Full Sample</i>			<i>Prop. Score Matched (PSM-1)</i>		
Share German-Born 1850	-0.330 [0.199]	-0.201 [0.428]	-0.274 [0.301]	-1.831 [0.024]	-1.306 [0.119]	-1.350 [0.055]
Log Metzler-Map Destinations	-0.028 [0.392]	-0.028 [0.346]	-0.025 [0.320]	0.027 [0.710]	-0.012 [0.816]	-0.027 [0.469]
$\Delta$ Share German-Born 1860-1850	0.010 [0.982]	0.095 [0.834]	0.066 [0.877]	-0.813 [0.349]	-0.342 [0.657]	-0.238 [0.721]
Germans-To-America 1848-52	0.075 [0.595]	0.103 [0.470]	0.088 [0.562]	1.711 [0.063]	1.820 [0.096]	1.614 [0.190]
Count German Newspapers 1850	0.032 [0.322]	0.028 [0.407]	0.028 [0.442]	0.010 [0.680]	0.044 [0.206]	0.030 [0.328]
Log Pop 1850	0.911 [0.000]	0.894 [0.000]	0.890 [0.000]	1.111 [0.000]	1.005 [0.000]	0.999 [0.000]
Log Dist Nearest Port			0.453 [0.022]			0.616 [0.491]
Log Dist Nearest Navigab. River		-0.006 [0.745]	-0.007 [0.598]		-0.020 [0.488]	-0.022 [0.492]
Log Dist Nearest Railway			-0.029 [0.034]			-0.038 [0.304]
Log Dist Nearest Coast		0.051 [0.005]	0.045 [0.017]		0.063 [0.142]	0.060 [0.236]
Latitude			0.042 [0.332]			0.183 [0.541]
Longitude			-0.010 [0.692]			0.067 [0.467]
Log Elevation		-0.067 [0.174]	-0.026 [0.671]		0.300 [0.254]	0.522 [0.144]
Mean Temperature			0.005 [0.123]			0.021 [0.504]
Mean Precipitation			-0.112 [0.262]			0.769 [0.149]
% Slave Pop 1850			-0.818 [0.003]			-4.124 [0.002]
Free Colored Pop Share 1850			1.568 [0.067]			-2.305 [0.582]
%- $\Delta$ Female White Pop 1850-1840			0.929 [0.043]			0.436 [0.644]
%- $\Delta$ Pop 1850-1840		-0.031 [0.235]	0.233 [0.386]		-0.199 [0.014]	0.581 [0.645]
%- $\Delta$ Slave Pop 1850-1840		-0.031 [0.379]	-0.007 [0.812]		0.252 [0.172]	0.251 [0.193]
%- $\Delta$ Free Colored Pop 1850-1840		0.052 [0.001]	0.044 [0.006]		0.248 [0.004]	0.265 [0.003]
%- $\Delta$ Female White Pop 1850-1840			-0.274 [0.310]			-0.804 [0.536]
Observations	11,095	11,095	11,095	261	261	261
# Forty-Eighter Towns	0.563	0.566	0.571	0.700	0.724	0.733
R-squared	72	72	72	54	54	54
Core Controls	✓	✓	✓	✓	✓	✓
+ Other Vselect		✓	✓		✓	✓
+ All Controls			✓			✓

Notes: The table reports on the control variables included in the baseline Table 2 in the paper. Standard errors are clustered at the state-level, *p-values* are reported in square brackets.

Table A7: Effects by *Forty-Eighter* Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)
Char.:	Fought in Civil Civil War	Politically Active	Works as Journalist	Member of Turner Society	High Military Rank	Low Military Rank
D(Forty-Eighters)	0.642 [0.013]	0.455 [0.013]	0.487 [0.009]	0.524 [0.000]	0.597 [0.001]	0.665 [0.005]
D(Forty-Eighters) x Char.	-0.126 [0.745]	0.474 [0.068]	0.393 [0.155]	0.402 [0.282]	-0.000 [0.999]	-0.204 [0.579]
Share with Interaction = 1	33.33	33.33	31.48	20.37	9.26	33.33
Observations	261	261	261	261	261	261
R-squared	0.733	0.736	0.735	0.734	0.733	0.733

*Notes:* The table reports the results from interactions between the main treatment  $D(\text{Forty} - \text{Eighters})$  and an indicator that takes the value one if at least one of the individual *Forty-Eighter* characteristics displays in the column heads was prevalent in this town ( $D(\text{Forty} - \text{Eighters}) \times \text{Char.}$ ). At the bottom of the table, we report the share of treated towns for which the interaction takes a value of one. All regressions resemble the sample and controls of the specification in column 6 of Table 2 in the paper. Standard errors are clustered at the state-level and *p-values* are reported in square brackets.

Table A7 assesses sample heterogeneity. From the individual biographies, we distinguish whether individual *Forty-Eighters* (i) fought in the Civil War; (ii) were politically active; (iii) worked as journalists; or (iv) were members of a Turner Society. For those who fought in the Civil War, we further distinguish whether they were in (v) leading positions (colonel or above) or lower ranks (vi). The interaction between indicators for the presence of at least one *Forty-Eighter* and at least one of these characteristics (indicated in the column head) gives us some indication whether the observed treatment effects are intensified (or reduced) by these personal characteristics. We do not find strong evidence for treatment heterogeneity. The main effect does not vary a lot and most interaction effects are imprecisely estimated. The only significant interaction suggests that broadly ‘politically active’ *Forty-Eighters* were more successful in attracting enlistments. Turners and journalists have a quantitatively similar effect but the interactions are imprecisely estimated. For those who fought in the war, we see some indication that higher ranked observe that *Forty-Eighters* of higher military rank were a bit more influential.

Table A8 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 this was true, we would expect the broad 1848–1852 arrival cohort to have an independent effect on enlistments. We would further expect the inclusion of this cohort in the regressions to reduce the *Forty-Eighters*’ effect, given their co-location, and we would expect the 1848–1852 arrival cohort to stand out from earlier and later arrival cohorts in the regressions. To test this we separately consider the 1848–1852, the 1845–1847, and the 1853–1855 arrival cohorts’ locations. Specifically, we assign a dummy to each town that received any German immigrants from the ship lists in a given arrival cohort.

The summary-finding is that German immigrants *other than* the *Forty-Eighters* do not appear to have been politically influential.

Table A8: Placebo On Other Co-Arriving German Immigrants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
D(Forty-Eighters)				0.621 [0.000]	0.597 [0.000]	0.593 [0.000]	0.597 [0.000]
Germans-To-America 1845-47	0.032 [0.084]			0.026 [0.131]			0.005 [0.811]
Germans-To-America 1848-52		2.459 [0.067]			1.614 [0.190]		-0.395 [0.759]
Germans-To-America 1853-55			0.040 [0.033]			0.029 [0.101]	0.030 [0.192]
Observations	261	261	261	261	261	261	261
R-squared	0.714	0.716	0.717	0.733	0.733	0.734	0.734
# Forty-Eighter Towns	54	54	54	54	54	54	54

*Notes:* The table reports results from variations of column 6 in Table 2 in the paper where we include all columns and state fixed effects. Columns 1–3 estimate the effect of each of the broad waves with the *Forty-Eighters* not being included in the regressions. Columns 4–6 ‘horse-race’ the *Forty-Eighters* with each wave. Column 7 includes the *Forty-Eighters* and all three waves of other German immigrants. Standard errors are clustered at the state-level, *p-values* are reported in square brackets.

Figure A7 shows the result of the permutation exercise described in Section 4 in the paper. The permuted distribution is centered around a mean  $-0.19$ , and even the 99-th percentile of the distribution is far to the left of the true estimate in columns 4.1 of Table 2 in the paper (displayed as vertical lines).

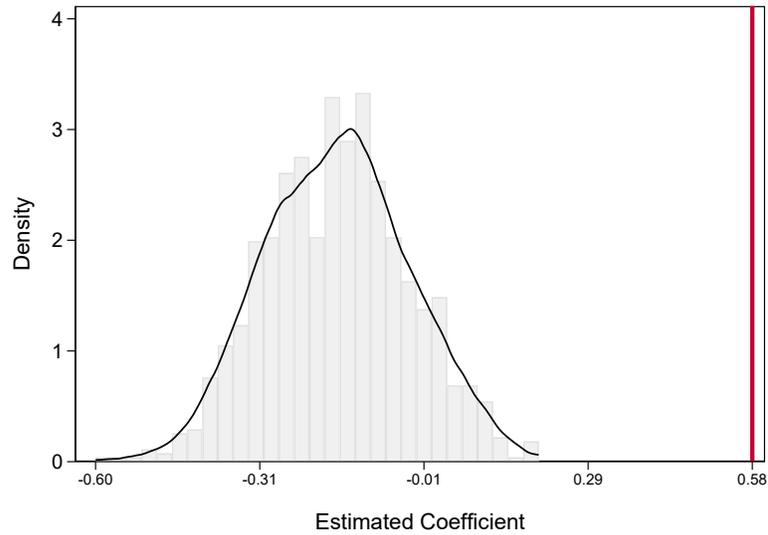


Figure A7: Permutation Tests

*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 in Union-Army states. The vertical line contrasts this distribution with the magnitude of the actual estimated coefficient estimated in the baseline sample (*PSM-1*) in Table 2, column 4 in the paper.

Table A9: Robustness Checks for Table 2 in the paper

	(1)	(2)	(3)	(4)	(5)	(6)
<u>Panel A:</u>	<i>Interpolate Data w Convex Hull (Figure 3)</i>					
D(Forty-Eighters)	0.655 [0.000]	0.658 [0.000]	0.653 [0.000]	0.420 [0.000]	0.434 [0.000]	0.427 [0.000]
Sample	<i>Full Sample</i>			<i>Prop. Score Matched (PSM-1)</i>		
Observations	11,094	11,094	11,094	261	261	261
# Forty-Eighter Towns	72	72	72	54	54	54
R-squared	0.717	0.722	0.726	0.812	0.825	0.832
<u>Panel B:</u>	<i>Interpolate Data w Rectangle (Figure 3)</i>					
D(Forty-Eighters)	0.661 [0.000]	0.654 [0.000]	0.651 [0.000]	0.440 [0.000]	0.451 [0.000]	0.452 [0.000]
Observations	11,095	11,095	11,095	261	261	261
# Forty-Eighter Towns	72	72	72	54	54	54
R-squared	0.733	0.740	0.743	0.828	0.842	0.848
Core Controls	✓	✓	✓	✓	✓	✓
+ Other Vselect		✓	✓		✓	✓
+ All Controls			✓			✓

*Notes:* The table re-runs the core estimations in Table 2 in the paper, but adding the interpolated enlistments data described in Figure A3 to the outcome. Standard errors are clustered at the county-level, *p-values* are reported in square brackets.

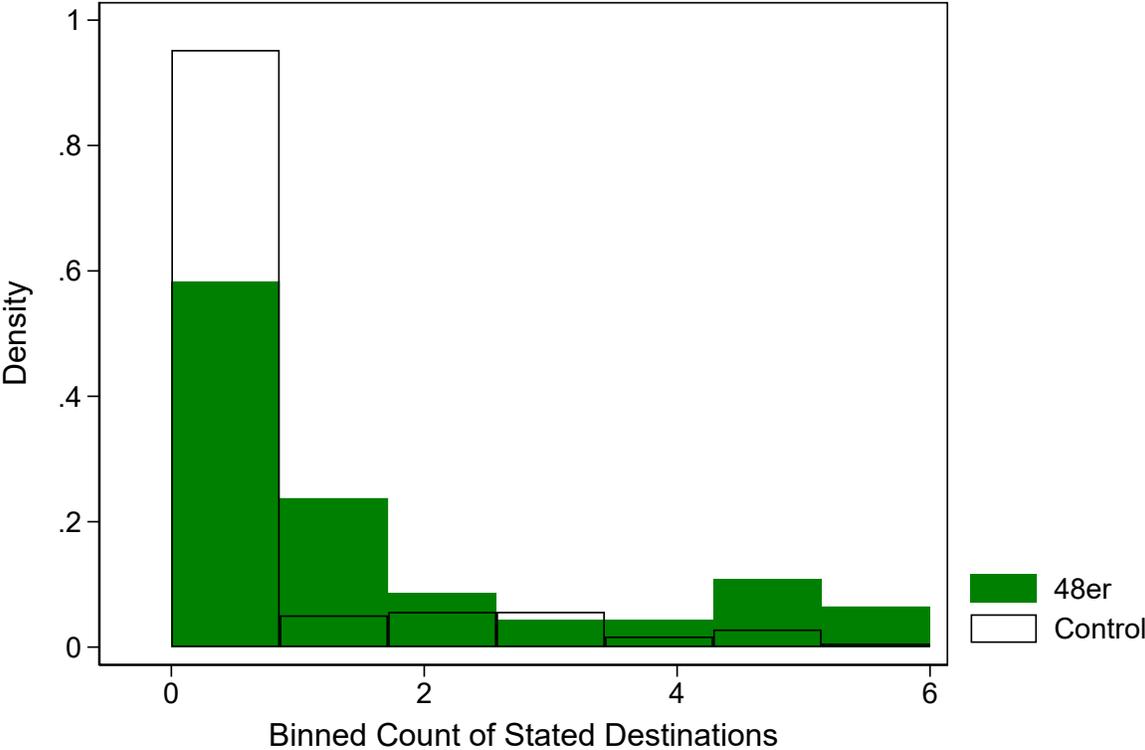
Table A10 shows the variation of stated destinations across treated and control towns: Three quarters of towns in treatment and control sets  $((27 + 169)/271)$  were never a stated destination on any ship, reflecting the fact that most passengers did not state a destination, and most who did stated a major city like Milwaukee or Cincinnati. Overall, a higher share of treated towns was mentioned as destinations in the treated than in the control set.

Table A10: Stated Destinations Description

		<i>54 Treated Towns</i>			<i>207 Control Towns</i>		
		Listed Destination on Other Ships			Listed Destination on Other Ships		
		No	Yes	Total	No	Yes	Total
Listed Destination on Forty-Eighter Ships	No	27	5	32	169	31	200
	Yes	14	8	22	1	6	7
	Total	41	13	54	170	37	207

*Notes:* The table cross-tabulates the listed destinations on *Forty-Eighter* ships and non-*Forty-Eighter* ships across treated towns and control towns.

Figure A8: Distribution of Binned Count of Being Stated as a Destination



Notes: This figure plots the distribution of 7 bins of counts of being stated as a destination in the ship-lists, comparing 54 treated towns to 217 control towns. Town is the unit of observation.

## D1 Alternative IV Strategy

In this section, we explore an IV strategy that hinges on the fact that *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 period. 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, and this suggests that the location of the *Forty-Eighters*' first jobs outside their port of debarkation was plausibly econometrically exogenous, and can therefore serve as an instrument for the *Forty-Eighters*' eventual pre-Civil War location from 1856 on. 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>19</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>20</sup>

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  $j \in \mathbb{J} = \{1, \dots, J\}$ , and let the 73 treatment towns be indexed by  $i \in \mathbb{I} = \{1, \dots, I\}$ . We find that 20 percent (13/66) of the first locations in  $\mathbb{J}$  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>21</sup> A9 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>22</sup> To the extent that any *Forty-*

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<sup>19</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>20</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>21</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>22</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.

Table A11: IV Results Based on the Location of First Jobs

	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A:</b>						
	<i>Second Stage (Z=Proximity to Closest Initial)</i>					
D(Forty-Eighters)	0.637 [0.002]	0.667 [0.000]	0.632 [0.001]	0.622 [0.002]	0.623 [0.001]	0.615 [0.001]
Hausman-p	0.649	0.559	0.572	0.743	0.872	0.678
Kleibergen-Paap Wald rk F statistic	403.2	359.6	395.8	575.9	429.0	376.0
Anderson-Rubin F-test	0.002	0.000	0.001	0.002	0.001	0.001
<b>Panel B:</b>						
	<i>First Stage</i>					
Instrument	0.890 [0.000]	0.900 [0.000]	0.910 [0.000]	0.881 [0.000]	0.884 [0.000]	0.900 [0.000]
R-squared	0.561	0.576	0.605	0.576	0.587	0.619
<b>Panel C:</b>						
	<i>Reduced Form</i>					
Instrument	0.566 [0.002]	0.600 [0.000]	0.576 [0.001]	0.548 [0.002]	0.551 [0.001]	0.553 [0.001]
R-squared	0.693	0.717	0.731	0.693	0.716	0.731
Instrument	<i>Proximity to closest initial</i>			<i>D(Initial Forty-Eighter Towns)</i>		
Observations	261	261	261	261	261	261
#48ers	54	54	54	54	54	54
Core Controls	✓	✓	✓	✓	✓	✓
+ Other Vselect		✓	✓		✓	✓
+ All Controls			✓			✓

*Notes:* This table reports on the alternative IV strategy. Panel A reports on the second stage, where treatment is instrumented with  $Z_i = \frac{1}{d_{i,j(i)}}$  (columns 1–3) or the 66 indicators of *being* an town of initial settlement instead of proximity to one (columns 4–6). Panel B reports the corresponding first-stage coefficient, and Panel C reports the reduced form. The controls resemble the ones reported in Table 3, columns 4–6 in the paper. Standard errors are clustered at the state-level. *p-values* are reported in square brackets.

*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.

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 indicators for towns of initial settlement.

Table A11 reports on the results of the IV estimation, The column structure is the same as

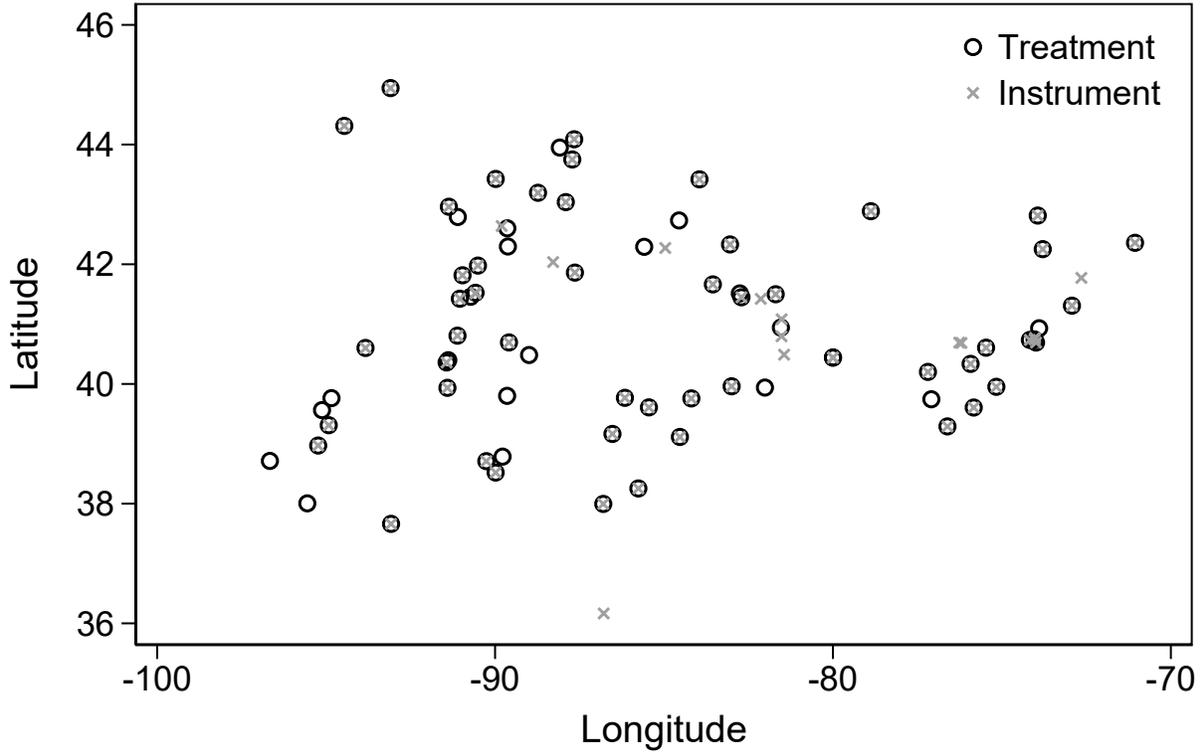


Figure A9: Treatment and Instrument Towns

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

Table 3 in the paper. Panels A–C report on the IV when  $Z_i = \frac{1}{d_{i,j(i)}}$  is the instrument. Panels D–F report on the IV using instead the indicators for towns of initial settlement.

Overall, the IV results in Panels A and D are very similar to those in Table 3 in the paper. Again, the p-values reported at the bottoms of Panels A and D in Table A11 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 un-observables that also drove enlistments.

## E Event Study

This section provides details on the event study specifications where assess whether (i) public speeches or (ii) individual *Forty-Eighters*' enlistment decisions had a positive effect on town-level enlistments in the subsequent weeks.

Our two-way fixed effects regressions to evaluate the events  $E_i^k$  with  $k \in [\textit{newspaper}, \textit{enlistment}]$  take the following form:

$$y_{it} = \mu_i + \theta_t + \underbrace{\sum_{l=\underline{l}}^{-1} \gamma_l \cdot D(t - E_i^k = l)_{it}}_{\text{pre-enlistment period}} + \underbrace{\sum_{l=1}^{\bar{l}} \gamma_l \cdot D(t - E_i^k = l)_{it}}_{\text{post-enlistment period}} + \varepsilon_{it}, \quad (1)$$

where  $y_i$  is the log of enlistments (excluding the *Forty-Eighters*' own enlistment),<sup>23</sup>  $\mu_i$  are town fixed effects and  $\theta_t$  are week-of-year fixed effects. Treatment effects are expressed over an *effect window*  $l \in [\underline{l}, \bar{l}]$  that we set to be  $[-4, +3]$ , and are estimated relative to the omitted week before the observed *Forty-Eighter* enlistment (i.e.,  $l = 0$ ). For  $l < 0$ ,  $\gamma_l$  estimates pre-trends and for  $l \geq 1$ ,  $\gamma_l$  estimates the dynamic treatment effects of the event. Following Schmidheiny and Siegloch (2019), we bin treatment indicators  $D_{it}$  at the start point ( $t \leq E_i^k + \underline{l}$ ) and end point ( $t \geq E_i^k + \bar{l}$ ).<sup>24</sup>

A11 plots the event time indicators for an event window of four weeks before and three weeks after the *Forty-Eighter* enlistment events. There is a flat pre-trend followed by a sharp increase in the number of enlistments in the week where a *Forty-Eighter* enlists, as well as in the following week. After that, the effect goes back to zero, suggesting no difference between the treated town and the control group of towns that were not treated in the same event window.

A10 and A12 report on the estimated effect of these events. The lower number of observations means that estimates are less precise than in Figure A11, but the point estimates are strikingly similar. Civilian acts of leadership cause enlistments to go up by sixty percent in the event week and the week after, followed by a return to the baseline. As discussed in Section 5.2 in the paper, the short duration of the treatment effects is not surprising since enlistments were *coordinated*

<sup>23</sup>Because there are many weeks of zero enlistments in any given town, we use the inverse hyperbolic sin ( $\log(y_i + (y_i^2 + 1)^{1/2})$ ), which can be interpreted in the same way as the log but without needing to change zero values (Card and DellaVigna, 2020).

<sup>24</sup>These bins overcome the identification problem raised in Borusyak and Jaravel (2016). We chose an *observation-window* that is two time periods wider than the estimated *effect window*, so that bins at the end-points contain 3 weeks each. This structure implies the usual assumption that  $\gamma_l$  is constant within the end-points  $\bar{l}, \underline{l}$ .

Table A12: Regression-Results of the Event-Study Depicted in Figures

Event-type	(1)	(2)	(3)	(4)
	<i>Forty-Eighter's Enlistment</i>		<i>Civilian Act of Leadership</i>	
$\gamma_{-4}$	-0.086 [0.116]	-0.086* [0.054]	0.240 [0.374]	0.240 [0.272]
$\gamma_{-3}$	0.048 [0.696]	0.048 [0.771]	-0.087 [0.760]	-0.087 [0.804]
$\gamma_{-2}$	0.093 [0.664]	0.093 [0.596]	0.264 [0.497]	0.264 [0.383]
$\gamma_0$	0.680*** [0.000]	0.680*** [0.000]	0.588** [0.038]	0.588** [0.017]
$\gamma_1$	0.419*** [0.005]	0.419** [0.024]	0.605** [0.011]	0.605*** [0.010]
$\gamma_2$	0.230 [0.156]	0.230 [0.166]	0.272 [0.171]	0.272 [0.388]
$\gamma_3$	0.246 [0.259]	0.246 [0.121]	0.193 [0.275]	0.193 [0.409]
$\gamma_4$	-0.032 [0.528]	-0.032 [0.216]	0.158 [0.403]	0.158 [0.430]
cluster	state	state*week	state	state*week
Observations	865	865	203	203
#Events	96	96	33	33
town f.e.	✓	✓	✓	✓
week f.e.	✓	✓	✓	✓
R-squared	0.810	0.810	0.947	0.947

*Notes:* This table reports regression results of the event-study in Section 5.2 in the paper. Reported coefficients are those depicted in Figures A11 and A10. The omitted week (co-linear with the constant term) is the week before the event. Standard errors are clustered by state in columns 1 and 3 and by state-week in columns 2 and 4. *p-values* are reported in square brackets.

local events where young men in a town would rallied to collectively enlist as one military unit (a company or a regiment) so they would go to war together (McPherson, 1997; Costa and Kahn, 2010).

Figure A10: Effect of *Forty-Eighters'* civilian acts of leadership

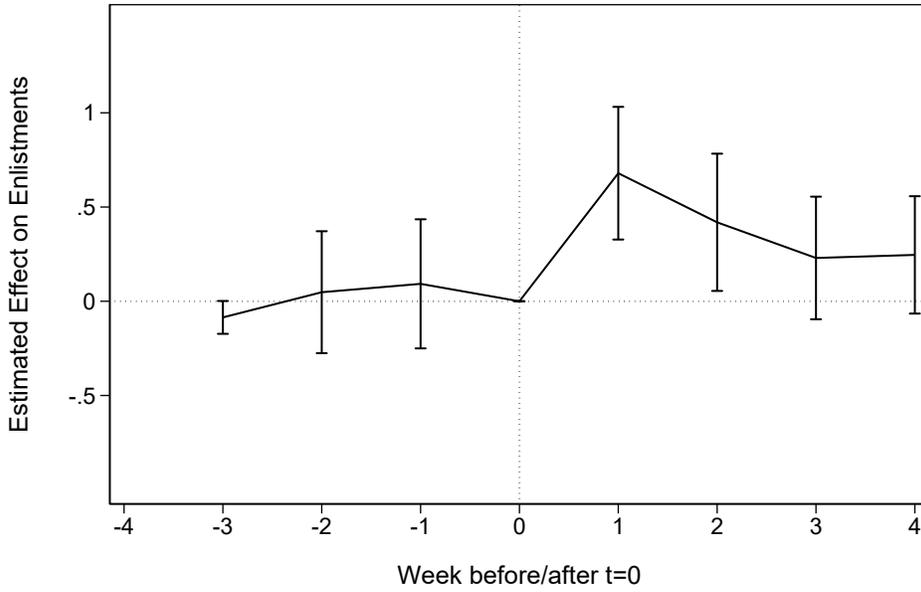
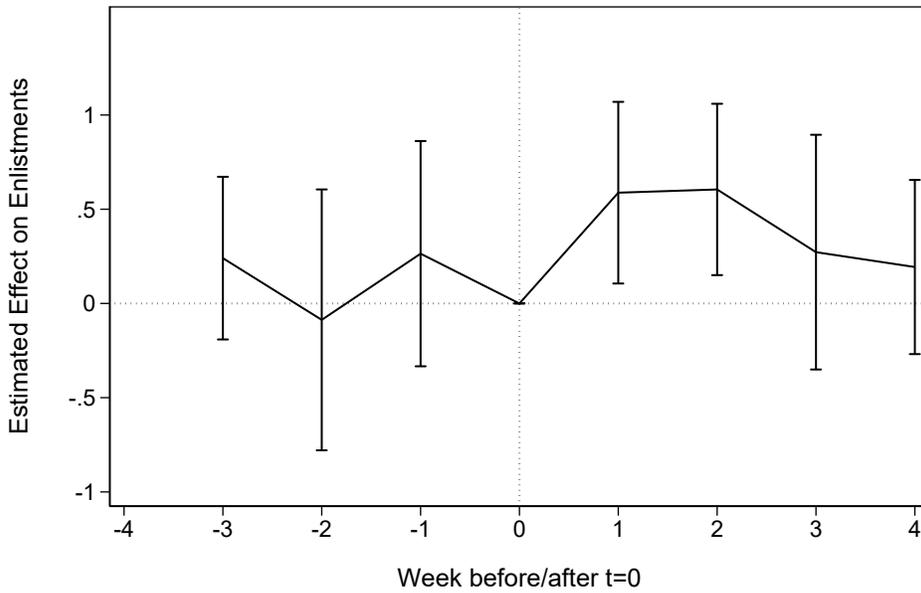


Figure A11: Effect of *Forty-Eighters'* own enlistments



Notes: This figures plot event-time indicators ( $\gamma$ ) from estimating equation (1). The upper figure considers speeches as civilian acts of leadership as outcome and the bottom figure looks at *Forty-Eighter* enlistments as outcome. The omitted week (co-linear with the constant term) is the week before the event. Standard errors are clustered by state-week, and 95-percent confidence intervals are shown as bars.

## References

- Alsan, Marcella, Katherine Eriksson, and Gregory T. Niemesh.** 2018. “The Causes and Consequences of Nativism in the United States: Evidence from the Know-Nothing Party.” Working paper.
- Ambekar, Anurag, Charles Ward, Jahangir Mohammed, Swapna Male, and Steven Skiena.** 2009. “Name-ethnicity classification from open sources.” 49–58, ACM.
- Atask, Jeremy.** 2015. “Historical Geographic Information Systems (GIS) database of Steamboat-Navigated Rivers During the Nineteenth Century in the United States.”
- Atask, Jeremy.** 2016. “Historical Geographic Information Systems (GIS) database of U.S. Railroads.”
- Bahdanau, Dzmitry, Kyunghyun Cho, and Yoshua Bengio.** 2014. “Neural machine translation by jointly learning to align and translate.” *arXiv preprint arXiv:1409.0473*.
- Bailey, Martha, Connor Cole, Morgan Henderson, and Catherine Massey.** 2019. “How Well Do Automated Linking Methods Perform in Historical Samples? Lessons From U.S. Historical Data.” *NBER Working Paper 24019*.
- Barney, Robert Knight.** 1982. “Knights of Cause and Exercise: German Forty-Eighters and Turnvereine in the United States during the Antebellum Period.” *Canadian Journal of History of Sport*, 13(2): 62–79.
- Baron, Frank.** 2012. “Abraham Lincoln and the German Immigrants: Turners and Forty-Eighters.” *Yearbook of German American Studies, Supplemental Issue*, 4.
- Borusyak, Kirill, and Xavier Jaravel.** 2016. “Revisiting Event Study Designs.” Working Paper.
- Card, David, and Stefano DellaVigna.** 2020. “What Do Editors Maximize? Evidence from Four Economics Journals.” *The Review of Economics and Statistics*, 102(1): 195–217.
- Chang, Jonathan, Itamar Rosenn, Lars Backstrom, and Cameron Marlow.** 2010. “ePluribus: Ethnicity on Social Networks.” *ICWSM*, 10: 18–25.
- Chiu, Jason PC, and Eric Nichols.** 2015. “Named entity recognition with bidirectional LSTM-CNNs.” *arXiv preprint arXiv:1511.08308*.
- Clubb, Jerome M., William H. Flanigan, and Nancy H. Zingale.** 2006. “Inter-university Consortium for Political and Social Research. Electoral Data for Counties in the United States: Presidential and Congressional Races, 1840-1972.” *Ann Arbor, MI: Inter-university Consortium for Political and Social Research*, 05–21.
- Costa, Dora L, and Matthew E Kahn.** 2003. “Cowards and Heroes: Group Loyalty in the American Civil War.” *The Quarterly Journal of Economics*, 118(2): 519–548.
- Costa, Dora L, and Matthew E Kahn.** 2010. *Heroes and cowards: The social face of war*. Princeton University Press.
- Dahlinger, Charles William.** 1903. *The German Revolution of 1849: Being an Account of the Final Struggle, in Baden, for the Maintenance of Germany’s First National Representative Government*. Putman’s.

- Dlubek, Rolf.** 2003. “August Willich (1810–1878). Vom preußischen Offizier zum Streiter für die Arbeiteremanzipation auf zwei Kontinenten.” *Akteure eines Umbruchs. Männer und Frauen der Revolution von 1848/49*, ed. Helmut Bleiber, Walter Schmidt and Susanne Schötz, 923–1004. Trafo Verlag.
- Doyle, Don H.** 2014. *The cause of all nations: An international history of the American civil war*. Basic Books.
- Dubin, Michael J.** 2015. *Party affiliations in the state legislatures: A year by year summary, 1796-2006*. McFarland.
- Dugan, Sabine.** 2007. “Adolf Cluss in Washington—Marxist and Turner.” *Adolf Cluss und die Turnbewegung: vom Heilbronner Turnfest 1846 ins amerikanische Exil ; Vorträge des gleichnamigen Symposiums am 28. und 29. Oktober 2005 in Heilbronn*, ed. Lothar Wieser and Peter Wanner, 73–78. Stadtarchiv Heilbronn.
- Fishman, Michael J.** 2009. “Population of Counties, Towns, and Cities in the United States, 1850 and 1860. ICPSR09424-v2.” <https://www.icpsr.umich.edu/web/ICPSR/studies/9424>.
- Foner, Eric.** 1970. *Free Labor, Free Soil, Free Men: The Ideology of the Republican Party Before the Civil War*. Oxford University Press.
- Fox, William Freeman.** 1889. *Regimental Losses in the American Civil War, 1861-1865: A Treatise on the extent and nature of the mortuary losses in the Union regiments, with full and exhaustive statistics compiled from the official records on file in the state military bureaus and at Washington*. Albany Publishing Company.
- für Texas, Freie Presse.** 1881. “Joseph Gerhardt.” *Freie Presse für Texas*, September 3, 1881.
- Glazier, Ira A.** 2005. *Germans to America Series II: the 1840s*. Scarecrow Press.
- Glazier, Ira A., and P. William Filby.** 1999. *Germans to America Series I: Lists of Passengers Arriving at US Ports, 1850-1897*. Scarecrow Press.
- Goodheart, Adam.** 2011. *1861: The Civil War Awakening*. Vintage.
- Haines, Michael R.** 2010. “Inter-university Consortium for Political and Social Research. ICPSR2896. Historical, Demographic, Economic, and Social Data: The United States, 1790–2002.” <https://www.icpsr.umich.edu/web/ICPSR/studies/2896/publications>.
- Harris, J Andrew.** 2015. “What’s in a name? A method for extracting information about ethnicity from names.” *Political Analysis*, 23(2): 212–224.
- Hochreiter, Sepp, and Jürgen Schmidhuber.** 1997. “Long short-term memory.” *Neural computation*, 9(8): 1735–1780.
- Hoffmann, Horst.** 2001. *Theodor Kaufmann (1814–1896). Freiheitskämpfer und Historienmaler aus Uelzen*. Verlag der Stadt Uelzen.
- Hofmann, Annette R.** 1995. “The turners’ loyalty for their new home country: Their engagement in the American civil war.” *The International Journal of the History of Sport*, 12(3): 153–168.
- Jung, Joseph (Hrsg.).** 2015. *Digitale Briefedition Alfred Escher, Launch Juli 2015 (laufend aktualisiert)*. Alfred Escher-Stiftung.

- Kamphoefner, Walter D.** 1991. “German-Americans and Civil War Politics: A Reconsideration of the Ethnocultural Thesis.” *Civil War History*, 37(3): 232–246.
- Kim, Yoon, Yacine Jernite, David Sontag, and Alexander M Rush.** 2016. “Character-Aware Neural Language Models.” 2741–2749.
- Lee, Jinhyuk, Hyunjae Kim, Miyoung Ko, Donghee Choi, Jaehoon Choi, and Jaewoo Kang.** 2017. “Name Nationality Classification with Recurrent Neural Networks.”
- Longacre, Edward G.** 2009. *Joshua Chamberlain: The Solider And The Man*. Da Capo Press.
- McPherson, James M.** 1997. *For Cause and Comrades: Why Men Fought in the Civil War*. Oxford University Press.
- Mikolov, Tomas, Martin Karafiát, Lukas Burget, Jan Cernock, and Sanjeev Khudanpur.** 2010. “Recurrent Neural Network Based Language Model.” *Interspeech*, 1045–1048.
- Nagel, Daniel.** 2012. *Von republikanischen Deutschen zu deutsch-amerikanischen Republikanern: ein Beitrag zum Identitätswandel der deutschen Achtundvierziger in den Vereinigten Staaten 1850-1861*. *Mannheimer historische Forschungen*, Röhrig Universitätsverlag.
- Paine, Albert.** 1904. *Thomas Nast: His Period And His Pictures*. The MacMillan Company.
- Poole, Keith T, and Howard Rosenthal.** 1991. “Patterns of congressional voting.” *American Journal of Political Science*, 228–278.
- Raab, Heinrich.** 1998. *Revolutionare in Baden 1848-49*. Biographisches Inventar für die Quellen im Generallandesarchiv Karlsruhe und im Staatsarchiv Freiburg, Veröffentlichungen der Staatlichen Archivverwaltung Baden-Württemberg, 48. Kohlhammer.
- Raster, Hermann.** 1891. *Reisebriefe von Hermann Raster. Mit einer Biographie und einem Bildnis des Verfassers*. Druckerei Gutenberg.
- Rattermann, Heinrich A.** 1878. “General August Willich.” *Der Deutsche Pionier*.
- Reiter, Herbert.** 1992. *Politisches Asyl im 19. Jahrhundert: Die deutschen politischen Flüchtlinge des Vormärz und der Revolution von 1848/49 in Europa und den USA*. Duncker & Humblot.
- Roob, Alexander.** 2012. *Thomas Nast and Theodor Kaufmann: Higher Forms of Hieroglyph*. Melton Prior Institute.
- Schmidheiny, Kurt, and Sebastian Siegloch.** 2019. “On Event Study Designs and Distributed-Lag Models: Equivalence, Generalization and Practical Implications.” CEPR Discussion Paper 13477.
- Srinivasan, Bhu.** 2017. *Americana: A 400-year History of American Capitalism*. Penguin.
- Star, Evening.** 1881. “Death of General Joseph Gerhardt.” *The Evening Star*, August 20, 1881, p. 4.
- Tóth, Heléna.** 2014. *An Exiled Generation: German and Hungarian Refugees of Revolution, 1848–1871*. Cambridge University Press.
- Treeratpituk, Pucktada, and C Lee Giles.** 2012. “Name-Ethnicity Classification and Ethnicity-Sensitive Name Matching.”

- Valentin, Veit.** 1930. *Geschichte der deutschen Revolution von 1848-1849. 1. Bis zum Zusammentritt des Frankfurter Parlaments.* Ullstein.
- Werbos, Paul J.** 1990. "Backpropagation through time: what it does and how to do it." *Proceedings of the IEEE*, 78(10): 1550–1560.
- Whitridge, Arnold.** 1949. *Men in Crisis: The Revolutions of 1848.* C. Scribner's Sons.
- Wiley, Bell.** 1952. *Life of Billy Yank, the common soldier of the Union.* Bobbs-Merrill.
- Wittke, Carl Frederick.** 1970. *Refugees of Revolution: The German Forty-Eighters in America.* Greenwood Press.
- Wittke, Carl Frederick.** 1973. *The German-language press in America.* Ardent Media.
- Wust, K.** 1984. *Guardian on the Hudson: The German Society of the City of New York, 1784-1984.* The Society.
- Zucker, Adolf Eduard.** 1950. *The Forty-Eighters: Political Refugees of the German Revolution of 1848.* Columbia University Press.