BOWLING FOR FASCISM:
SOCIAL CAPITAL AND THE RISE OF THE NAZI PARTY*

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Abstract: Social capital is often associated with desirable political and economic outcomes. This paper contributes to a growing literature on its "dark side". We examine the role of social capital in the downfall of democracy in interwar Germany. We analyze Nazi Party entry in a cross-section of cities, and show that dense networks of civic associations such as bowling clubs, choirs, and animal breeders went hand-in-hand with a rapid rise of the Nazi Party. Towns with one standard deviation higher association density saw at least one-third faster entry. All types of associations – veteran associations and non-military clubs, "bridging" and "bonding" associations – positively predict NS Party entry. Party membership, in turn, predicts electoral success. These results suggest that social capital aided the rise of the Nazi movement that ultimately destroyed Germany's first democracy. We also show that the effects of social capital were more important in the starting phase of the Nazi movement, and in towns less sympathetic to its message.

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1 Introduction

Social capital – a dense network of civic associations – is typically associated with a host of benign outcomes. Alexis de Tocqueville saw it as a basis of vigorous democracy; similarly, Putnam argues that it creates more trust, social cohesion, and political participation. Social capital also predicts positive development outcomes.[1] Where it is plentiful, GDP per capita is higher, and financial markets are more developed (Knack and Keefer 1997; Dasgupta and Serageldin 2000; Grootaert and Bastelaer 2002). Guiso, Sapienza, and Zingales (2008) point to the deep historical roots of civil society – citizens in Italian cities that were self-governing in the Middle Ages are today richer, participate more in elections, and engage more in pro-social behavior such as blood donations.[2]

Social capital can also have negative effects.[3] Durlauf and Fafchamps (2004) argue that "the creation of clubs may … reinforce polarization in society between the 'in' group and the 'out' group". Similarly, Portes (1998) emphasizes downsides such as excessive "taxation" of successful individuals by network members, or restrictions of individualistic self-expression. Also, extremist groups – like the Ku Klux Klan – thrive on civic society values, but actually promote hate (Chambers and Kopstein 2001; Gutmann 1998). In addition, in-group cooperation can facilitate criminal activities (Field 2003). So far, the emerging literature on the "dark side" of social capital has focused mostly on individuals within groups. What is missing is clear-cut evidence at the "macro" level – that social capital can also have negative institutional and political consequences.

This paper shows that a dense network of civic associations can help to destroy democratic institutions, using the rise of the Nazi Party in interwar Germany as a case study.[4] The Nazi takeover of power in 1933 was a turning point in 20th century history, ultimately leading to genocide and world war. Using new, hand-collected data from

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[1] Putnam and Goss (2002) conclude that "communities endowed with a diverse stock of social networks and civic associations are in a stronger position to confront poverty and vulnerability, resolve disputes, and take advantage of new opportunities."

[2] Costa and Kahn (2007) find that social connections predict survival in prisoner of war camps; social capital is also essential for the efficiency of military units (Creveld 1982; Costa and Kahn 2008).

[3] Putnam's (1995) *Bowling Alone* contains a chapter on the "dark side of social capital" that acknowledges some of these ambiguities. Putnam (2000) distinguishes between bridging and bonding social capital, and argues that only the former is unambiguously benign.

[4] Germany before and after World War I was home to a vigorous civil society – clubs for singing, bowling, shooting, hiking, and animal-breeding were everywhere, absorbing a significant share of citizens' spare time (Nipperdey 1976). Our work follows on from an earlier argument by Berman (1997), who pointed to the failure of the Weimar Republic as a challenge to the literature on social capital.

interwar city directories, we examine the relationship between local social capital and the speed of Nazi mobilization. In a cross-section of German towns and cities, higher association density went hand-in-hand with more frequent entry into the NSDAP. Our paper thus adds important evidence that social capital can undermine good governance (Acemoglu, Reed, and Robinson 2013; Anderson, Francois, and Kotwal 2011).

Rates of entry into the Nazi Party matter because the organizational strengthening of the party during the 1920s contributed to its rise to power. In 1928, for example, the party already had 100,000 party members in some 1,400 local chapters (Anheier 2003). In later years, the NSDAP's organization – composed of thousands of local "cells" in the majority of German cities – became crucial for electoral success (Brustein 1998). We demonstrate that cities with higher association density did not only see higher entry rates into the party, but also recorded markedly higher vote shares for the NSDAP.

The historical record suggests that associations facilitated Nazi recruitment by helping to spread the party's message, and by increasing trust in its intentions and officials. Figure 1 summarizes the basic pattern in the data: in towns and cities with a denser network of clubs and associations, Germans were more likely to enter the Nazi Party. We group locations into terciles based on association density; the higher association density, the more rapidly citizens joined the ranks of the Nazi Party. For cities in the highest tercile of association density, the average entry rate per 1,000 for the period as a whole was 0.74; in the lowest, it was only 0.44/1,000 – 40 percent lower.

The basic pattern is confirmed when we control for a range of socio-economic characteristics. Results are also robust to a wide range of alternative specifications and group definitions. Some associations were anti-democratic and militaristic (e.g., veterans' associations), so that the correlation with NS entry may reflect shared political beliefs. However, even apolitical associations such as bowling, singing, hiking, and animal breeding clubs have predictive power for NS membership. To address the possible endogeneity of party entry and association membership (for example, due to the local political or economic environment in the 1920s), we use an IV-strategy. We use 19th century gymnast and singing association density to predict civic engagement in the 1920s, reflecting deeper historical roots of association density; this component also strongly predicts NS entry rates.[5]

[5] While our IV results suggest a causal link, they have to be interpreted with caution. Unobserved local characteristics may be associated with both the formation of associations in the mid-19th century and the rise

Under which conditions can extremist parties exploit social networks? We document an important interaction with institutions, using regional variation within our sample. The federal state of Prussia had strong and stable institutions, acting as a bulwark of democracy in Weimar Germany (Orlow 1986). There, the relationship between association density and Nazi Party entry was weaker than in the rest of Weimar Germany. This suggests that strong, inclusive institutions can keep the "dark side" of social capital in check, while a weak state may allow its enemies to abuse the freedom of association.

In the absence of membership data for other parties, election results allow us to examine the effect of social capital on other groups. There is no link between association density and success at the polls for the communists or the German nationalists. This suggests that the Nazi Party was particularly effective at exploiting social connections. In a stylized model, we rationalize this finding by emphasizing the particular benefits of association density for a small and new party. In addition, the Nazi Party probably profited more from associations than other small parties because of ideological compatibilities between its main message and the predominantly bourgeois outlook of German civic society.

We also connect with work on social dynamics and network effects in politics. Zuckerman (2005) highlights the "social logic of politics" – how group interactions among citizens spread new political ideas. Acemoglu and Jackson (2011) show theoretically how influential individuals shape beliefs in networks. Lohmann (1993) emphasizes information revelation through political activism, which provides insight into the advantages and disadvantages of participation in a new movement. Madestam et al. (2013) examine these competing theories empirically, analyzing the rise of the Tea Party in the US. They find evidence for a "social multiplier", with many more people favoring a radical movement if they see support in large numbers.

Our work follows earlier historical research on interwar politics in Europe. Riley (2010; 2005) analyzes the role of civic associations and the rise of fascism in Italy and Spain. In Italy, the North – with its denser networks of clubs and societies – was home to

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of the Nazi Party in Weimar Germany. To assess the extent to which unobservables may drive our results, we follow Altonji, Elder, and Taber (2005) in calculating how strong selection on unobservables would have to be in order to explain the full observed relationship between association density and Nazi Party entry. We find that the impact of unobserved factors would have to be at least 2.5 times stronger, as compared to observed factors, in order to explain away the relationship between associations and Nazi Party entry. This makes it much less likely that unobservable factors drive our results.

more fascist cells. In Spain, there is no clear-cut relationship with support for the Franco regime. Riley argues that in countries without strong hegemonic organizations – i.e., well-established parties – social capital can undermine the development of democracy. In a similar spirit, Wellhofer (2003) examines the rise of fascism in Italy, focusing on election results. In contrast to Riley, he finds that civic society offered some protection from the rise of fascism, but only in certain elections.[6]

Finally, we contribute to the large literature seeking to explain the Nazi Party's success at the polls and as a mass movement. Initial theorizing focused on "isolated members of the masses", marginal loners for whom the party represented a group in which they finally belonged (Shirer 1960).[7] An alternative literature interpreted the rise of the Nazi Party as a form of class conflict (Winkler 1987). Our paper is closely related to the research emphasizing group membership, which gained wider currency from the 1970s onwards (Linz 1976). This strand of the literature assigns crucial importance to the "conquest of the bourgeois infrastructure" (Mommsen 1978), i.e., the infiltration of existing high-level national and regional lobbying groups (*Verbände*) representing farmers and other special interests. Berman (1997) pointed out that Weimar Germany as a whole had many civic associations. She argues that "… had German civil society been weaker, the Nazis would never have been able to capture so many citizens for their cause ..." (Berman 1997), but she offers no systematic evidence that the NSDAP spread faster where there were more associations. Koshar (1987), in a detailed study of Marburg, demonstrated that NS members were active in many local groups. Anheier (2003) showed how well-connected individuals acted as political entrepreneurs. Using their social connections and professional standing, they attracted new members for the party, leading to the founding of new local chapters.[8]

Relative to the existing literature, we make several contributions. Our paper is the first to show on the basis of detailed cross-sectional data that social capital can undermine and help to destroy a democratic system. This adds a new dimension to the evolving literature on the "dark side" of social capital. Second, we demonstrate that the positive

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[6] Neither paper exploits cross-sectional variation in association membership quantitatively to predict entry rates into the fascist party.

[7] Abel (1938) analyzed autobiographical notes of NS members submitted for an essay competition "Why I became a Nazi".

[8] The vast literature on voting results for the Nazi Party cannot be surveyed here. Important contributions include (Childers 1983; Hamilton 1982; Falter 1991; King et al. 2008).

association between social capital and the rate of joining an extreme party is not simply a reflection of pre-existing differences in ideological outlook. Our results are equally strong for bowling, singing, and animal breeding clubs etc. This implies that even "bridging" social capital can have negative effects. Third, we find that association density did not only boost Nazi Party membership, but also helped the party win more votes. Fourth, we show that social capital had the strongest effects in the early phase of the Nazi movement, and in towns less sympathetic to its message; we use a small model to rationalize these findings. Finally, our results show an important interaction with institutional quality. In the state of Prussia – which featured stronger and more inclusive institutions compared to the rest of Weimar Germany – the link between social capital and Nazi Party entry was markedly weaker.

The paper proceeds as follows. Section 2 discusses the historical context and our data. Section 3 presents our data and derives empirical predictions. Section 4 summarizes the main empirical results. Section 5 presents robustness checks and IV-estimates, and Section 6 discusses the implications of our findings. Section 7 concludes.

2 Historical Context and Data

In this section, we briefly describe the social origins of Nazi Party members and the role of associations in Germany after 1800. We also summarize earlier historical research on the link between association membership and Nazi Party entry.

2.1 Nazi Party Membership

The Nazi Party deliberately aimed to compete with leftwing parties for mass support, replacing the class-based ideology of the latter with nationalist and racist ideals (Shirer 1960). From the party's early days, Hitler and his associates emphasized organization-building – in their view, the rise to power required the Nazi Party to turn itself into a mass movement. Initial growth was slow, but eventually, membership grew to 850,000 members in January 1933 – on par with the Social Democratic Party (SPD).[9]

Local chapters (*Ortsgruppen*) provided the organizational foundation for the Nazi Party's rise in any one location. Local leaders of party chapters were in charge of coordinating member activities, recruiting new members, collecting dues, and organizing

[9] Childers (1983). The NS membership figure was also nearly three times higher than Communist membership in 1932.

social, cultural, and political activities. In towns without a local NS chapter, individual members could also join. These "single members" often formed the nucleus of newly founded local chapters.

Who joined the Nazi Party and for what reasons has been the subject of a major research effort. Initial theories emphasized the party's appeal for marginalized groups such as unemployed workers, and marginalized individuals; Marxists argued that the petty bourgeoisie – threatened by a possible slide into the proletariat – gave overwhelming support to the Nazis (Heiden 1935; Stephan 1931). From the 1970s onwards, when the NS membership files were partly computerized, these predictions could be confronted with data.

In the early years, the party drew a disproportionate share of its members from the upper ranks of the *Mittelstand*.[10] Blue collar workers were substantially underrepresented relative to the population. In the party's early years (1919-23), only 22.8% were laborers. This compares with a proportion of 53% in the Reich as a whole (Madden and Mühlberger 2007). As the depression wore on, the share of workers increased. By January 1933, the workers' proportion in the party had reached 31.5% (Mühlberger 2003). The over-representation of white collar workers was actually not specific to the NSDAP; even in the Social Democratic Party (SPD) and the Communists (KPD), the educated middle classes constituted a much higher proportion than in the population at large. In terms of the class composition of its members, the Nazi Party was similar to other large parties (*Volksparteien* - people's parties) such as the SPD.

2.2 Associations in Germany after 1815

The right to free assembly, and to form associations, was hotly contested after the Restoration of the old political order in 1815. Until 1848, the German territories repressed most forms of bourgeois sociability. Both associations and larger gatherings needed approval by the authorities, which were routinely denied. Gymnast associations – spreading in number and influence during the Napoleonic Wars – were outlawed from 1820 until 1848. Singers' associations never suffered a blanket ban, but were closely watched. Student fraternities (*Burschenschaften*) also grew after 1815. They agitated in favor of German unification. Following a political murder, most of the student fraternities were

[10] University students were amongst the first groups to sign up. This contradicts the hypothesis of the petty bourgeoisie being the first to be drawn to the party. Lower middle class Germans did however join in increasing numbers in later years (Kater 1983).

suppressed.[11] Before 1848, Germany's early associations were both liberal and nationalist in character; they mostly favored the formation of a unified fatherland and an end to the rule by princes over often tiny territories, as well as parliamentary representation, a bill of rights, and freedom of assembly, speech, and religion.[12]

Both the singing and the gymnast associations contributed to the 1848 revolution, but their exact influence is hard to gauge (Obermann 1963). After the failed revolution, which was closely followed by an end to many of the earlier prohibitions, associations spread throughout the country. At the same time, many of them became increasingly apolitical, focusing on folklore and local traditions (Düding 1984). In addition to the original associations, new ones brought together pigeon breeders, rabbit owners, stamp collectors, and supporters of a plethora of other causes. Student associations on the other hand became increasingly nationalistic and militarist, and several of them adopted xenophobic and anti-Semitic ideas in the late 19th century (Haupt 1925).

During the interwar period, membership in associations soared. The main singers' association's membership tripled, to 1.2 million; the German gymnast association registered a 50% rise in membership. Most associations saw themselves as apolitical, and did not support particular parties. In the Catholic Rhineland, all ranks of societies often joined Carnival associations, organizing revelry during the "silly season". While many organizations were explicitly Catholic or Protestant, almost every town and city also had a large number of non-denominational associations (Reichardt 2004). Associations reflected the views and biases of German civic society in general; where politics were not deliberately kept out of the club, there was a society for every political grouping. Workers gathered in workmen's singing associations; Communists reminisced about their frontline experiences together; fervent nationalists had their own societies to discuss the fate of Germany's colonies; and enlightened Germans organized a society for reducing anti-Semitism (Zeiss-Horbach 2008; Koshar 1986).

2.3 Associations and Party Entry

A number of regionally-based case studies have analyzed the relationship between the Nazi

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[11] The movement split into a political and a non-political branch, and never recovered its wider political significance (Wentzcke 1965).

[12] *Vereinsnationalismus* (nationalism of the associations) was neither xenophobic nor militaristic; it mainly emphasized the need to unify all Germans in a nation state similar to France and England, where all could interact as equals (Dunn 1979). The liberal nationalism of early 19th century Germany is therefore fundamentally different in nature to the nationalism fostered by the actual unification of the Reich under Bismarck in 1871 (Eley 1980).

Party and local clubs and associations. One thesis holds that Nazi activists deliberately targeted clubs and associations to hollow them out ("*Unterwanderung*").[13] A second, related view is that local chairmen and other opinion leaders increasingly converted to the Nazi creed, and hence induced other members to follow (Zofka 1979). Finally, some scholars have argued that it was not the strength of Weimar's civic society, but its increasing weakness after 1930 that provided an opening for Nazi Party's message (Heilbronner and Schmidt 1993). The testable prediction of all interpretations is that towns and cities with denser social networks should have seen more frequent Nazi Party entry – partly because the Nazi Party targeted associations deliberately, and partly because its folkloristic rituals and nationalist outlook was similar to everyday practice and attitudes in local clubs (Bösch 2005).

A close reading of the historical record strongly supports a tight relationship between associations and Nazi Party entry. For example, Koshar (1986) describes the case of Emil Wissner, a salesman in Marburg. He was a member of a white-collar employee association (from 1921), and active in two gymnastics clubs (from 1904). He joined the Nazi Party in 1929, and actively used his position to proselytize for the party, winning many new members. Koshar's work shows that new Nazi Party members in Marburg had on average more association and club memberships than non-joiners. Similarly, Anheier (2003) analyzes single members – entrepreneurial NS Party members who did not join through a local chapter, and often established a bridgehead for the movement. They succeeded on a vastly greater scale in founding new party chapters where they had numerous pre-existing affiliations.[14]

Abel's (1938) analysis of NS member autobiographies underlines that recruitment often succeeded in a context of pre-existing affiliations. A bank clerk was a member of the youth movement that emphasized outdoor activities, music, and hiking (*Wandervogel*);[15] he called it his "personal preparatory school for National Socialism" (Abel 1938). After drifting into an anti-Semitic association, he eventually joined the NSDAP. A soldier

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[13] Noakes (1971). It is interesting that the NSDAP, once in power, used similar tactics when trying to garner support amongst German immigrants to the US (Wilhelm 1998)

[14] Single members with four or more civic society connections were 18 times more likely to successfully establish a local branch of the Nazi Party than those with no connections at all – and still three times more likely than party members with only one association membership (Anheier 2003).

[15] The *Wandervogel* (German for migratory bird) had a strong romanticist and anti-authoritarian bend. While nationalistic in some aspects, it is seen by some as a precursor of the hippie movement. It was outlawed after 1933 (Stachura 1981).

recounts how after the war, he joined a variety of associations, including the *Jungdo*[16], an "association of nationally minded soldiers", and the *Stahlhelm*.[17] Eventually, he joined the Nazi Party. Personal interaction with Party members often worked wonders in convincing skeptics. One member recounts how he

> "…became acquainted with a colleague of my own age with whom I had frequent conversations. He was a calm, quiet person whom I esteemed very highly. When I found that he was one of the local leaders of the National Socialist party, my opinion of it as a group of criminals changed completely…"

Zofka (1979) describes how in small-town Bavaria, the NSDAP succeeded in recruiting two local "opinion leaders" from the competing BVP (Bavarian People's Party) in 1931/32. Given their multiple memberships in local associations and the prominent role of the new members – who were active in the local firefighting brigade, the gymnast association, and the theatre club – the NSDAP received a major boost. Reflecting the importance of membership contacts and personal connections, the NS *Gauleiter* (regional leader) for Hannover, Bernhard Rust, argued that

> "personal canvassing is the movement's most effective weapon. Branch leaders must ... examine the relationship of individual members to relations and colleagues ... and set them suitable canvassing tasks." (Noakes 1971, p. 206).

While not every party member was recruited via clubs, the Nazi Party successfully targeted pre-existing social networks to spread its message. Whenever the strategy succeeded, the importance of personal connections and trust is readily apparent.

3 Data and Empirical Strategy

In this section, we describe our newly collected data. We also present a small model that allows us to derive testable predictions.

3.1 Data

We hand-collected data on association density for 111 German towns and cities located on the territory of modern-day Germany.[18] The sources for information on associations are town and city directories listing "useful contacts", from local banks and service providers

[16] A national-liberal youth group, it was anti-monarchist and favored reconciliation with France. The association was also anti-Semitic and elitist (Wolf 1972).
[17] Literally, "steel helmet" – a veterans association with mostly nationalist aims (but not affiliated or allied with the Nazi Party until the very end of the Weimar Republic).
[18] Towns and cities in the formerly German areas of Eastern Europe rarely preserved marginal library holdings such as city directories – and war damage in many of the relevant cities (Königsberg, Breslau) was massive. We therefore decided to focus on the territory of modern-day Germany.

such as dentists to local clubs and associations. Printed and distributed in a small area, city directories often only survived in the local city library or archive. We wrote to all towns and cities with a listed archive or public library.[19] If directories for different years survived, we used the average number of clubs for all available years in the 1920s. We collect data on 8,661 associations. Of these, 49 percent were sports clubs, choirs, animal breeding associations, or gymnastics clubs. Military associations accounted for another 14.3 percent of the total. All associations and their frequencies are listed in Table A.17.

Figure 2 presents the geographical distribution of our sample. Data come from all parts of Germany – cities as far North as Kiel and as far South as Konstanz are included; the sample also covers the entire country from East to West. The figure also shows that towns and cities with high vs. low association density are relatively evenly distributed. To examine data representativeness, we use socio-economic controls from the 1925 and 1933 censuses. These provide data on occupational composition, religious affiliation, and (for 1933) unemployment rates. In addition, we draw on voting results from King et al. (2008). Table 1 compares the national averages with the dictionary sample. By construction, our sample is more urban than the national average. Average population size in our sample is 92,900; in the country as a whole, it was 13,000. The employment structure is broadly in line with the aggregate: In the Reich as a whole, 46% of employees worked in blue collar jobs; in our sample of cities and towns, 52% did so. Unemployment reached 18.6% in Germany as a whole in 1933. In our sample, it is higher by 9 percentage points – driven by a more urban environment, with more volatile employment. This difference is much smaller when comparing our sample to the average German *city*, which had an unemployment rate of 25% in 1933.

In terms of political preferences, our city sample is broadly representative. NS votes in March 33 were 39% of the total; in the Reich as a whole, the number is 44%. In line with the slight overrepresentation of workers in our sample, there is also a higher share of KPD and SPD voters than on the national scale. These differences in election outcomes become minuscule when comparing our sample to the urban averages. Next, Catholics are

[19] We used central directories of city and county archives; the two main directories used are http://home.bawue.de/~hanacek/info/darchive.htm#AA and http://archivschule.de/DE/service/archive-im-internet/archive-in-deutschland/kommunalarchive/kommunalarchive.html. From this list, our dataset comprises all locations with surviving directories listing associations in the 1920s. For many towns and cities, however, this information was lost, destroyed during the war, or it did not exist in the first place. Table A.16 in the appendix lists all towns and cities in our sample.

over-represented. They constituted 32% of the Reich's population, but in our sample, they are 39.7%.[20]

To calculate rates of entry per location, we use the computerized sample of NS members compiled by the universities of Berlin and Minnesota (Schneider-Haase 1991). The universe of membership cards is 11.6 million strong.[21] The sample contains information on 42,018 membership cards drawn in 1989, and comprises only pre-1933 party entries. We matched our directory data with the *Ortsgruppe* in the Berlin-Minneapolis database. This identifies 6,553 members who joined before 1933, or 15.5% of all digitized cards, which closely resembles the population share of our sample: 14.8%.[22]

Rates of Nazi Party entry varied over time. They were stable or declining between 1925 and 1927, before rebounding sharply and rising after 1928.[23] After January 1933 – when the Nazi Party entered into government – entry rates into the party jumped. Because the party feared it would be overwhelmed by the influx of opportunistic members, it banned new entry from April 1933. Throughout, the cross-sectional dispersion is high, with many towns and cities showing almost no entry into the Nazi Party, and others recording fairly high rates of entry (see for example Figure A.5 in the appendix).

One important concern is balancedness. How similar are the towns and cities that had above/below average densities of associations? In Table 2, we use voting results for the last pre-World War I election as an indicator of ideological outlook. We also add interwar data on the religious composition of the population, as well as socio-economic characteristics. Overall, there are few significant differences. Votes for nationalistic parties in 1912 show a mixed pattern: The NLP (National Liberal Party) is underrepresented in

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[20] This is due to the fact that the more Catholic southern areas of Germany, where destruction from bombing raids was less, are oversampled in our data. Less bomb-damage probably facilitated the survival of city archives and library collections. However, this does not affect our findings. Below, we show that our results hold equally in Catholic and Protestant areas.

[21] Every member had two cards – one for the central register originally ordered by name, the other initially ordered by geographical area (but later organized alphabetically, too, by the US authorities).

[22] The 111 towns in our sample had altogether 9,264,343 inhabitants in 1925, as compared to a total population of Germany of 62,411,000.

[23] The Berlin-Minneapolis dataset changes sampling methodology after 1930. Before 1930, entrants were oversampled deliberately to raise the sample size when the party was still small. Since this affects each location in the same way, it does not change cross-sectional differences within any given year. To allow for comparability of coefficients for early and late party entry, we interpret magnitudes in terms of standard deviations (beta coefficients). Finally, to calculate *aggregate* entry rates (such as in Figure 1, or when interpreting absolute coefficient sizes), we use a correction based on Kater (1980), who drew a smaller but intertemporally consistent sample. We explain this in Appendix C, where we also show that our regression results hold when correcting for oversampling, or when standardizing entry rates in each year before computing location-specific averages.

areas with many associations, whereas the DKP (German Conservative Party) is overrepresented. Later, in Weimar Germany, areas with high association density had slightly fewer blue-collar workers. The share of Jews was relatively similar, while there was a lower share of Catholics in towns and cities with more associations. Since blue-collar workers and Catholics (as compared with Protestants) were less inclined to support the Nazi Party (Childers 1983), this may stack the odds in favor of finding a link between social capital and NS entry. We therefore include both variables in our set of baseline controls. Next, cities with high association density had only half the population of their counterparts with many associations.[24] We add city population to our baseline controls.[25] At the height of the Great Depression, locations with more civic associations recorded lower unemployment rates, and fewer people were on welfare. Thus, if Nazi Party entry reflected a form of economic protest, this would introduce a *downward* bias in our main analysis. Similarly, there are fewer WWI veterans in high-association cities – who were also more inclined to join the Nazi Party. Finally, there are only minor differences in income (proxied by tax payments) and social insurance pensioners. Overall, there is little reason to believe that socio-economic or ideological characteristics pre-disposed cities with numerous societies and clubs towards the Nazi Party.

For our main analysis, we only use the 103 cities with more than 5,000 inhabitants (in 1925), i.e., we drop 8 small cities. This is for two reasons. First, in small towns people typically know and interact with each other independent of clubs or associations. Second small towns have a high signal-to-noise ratio, because it becomes increasingly difficult to find NS members in any one locale in the digitized subset of membership records. In Appendix D we show that our results are robust to using all cities in the sample.

3.2 Framework for Empirical Analysis

We begin by conceptualizing the link between association membership in any one location and party entry rates. The aim is twofold – to derive testable implications that can be taken to the data, and to clarify how the link between association density and entry rates might have worked.

[24] This difference is probably also driven by the fact that we observe the number of associations in each city, but not the overall members.

[25] In addition, we carefully check that different city sizes do not drive our results, by comparing similar-sized cities with high and low association density in the robustness section below.

In each city, locals support political parties. We assume that each individual has to choose one party. Not supporting any party is a possibility, too.[26] In addition, citizens can be members of associations. Association density varies exogenously across cities. We are interested in the probability that an individual *j* that is initially politically neutral chooses to support party *i*. For simplicity, we use a static setup with one period. Individual *j* makes a number of acquaintances – some connections arise at random, and others arise via associations. Afterwards, *j* makes a decision which party to enter. The probability of supporting party *i* is affected by how many supporters of this party were among the acquaintances of *j*.

Denote as m_r the number of acquaintances that person *j* is exposed to at random. The city-wide proportion of supporters of party *i* is given by $p_r(i)$. In expectations, *j* meets $m_r p_r(i)$ party supporters by chance. In addition, *j* meets m_a acquaintances via associations, where m_a reflects local association density – the denser the local network of associations, the more encounters occur non-randomly. We assume that associations are not politically biased, so that supporters of any party can join them.

The proportion of association members that are also supporters of party *i* is given by $p_a(i)$. Therefore, individual *j* meets (in expectation) $m_a p_a(i)$ supporters of party *i* via associations. In order to translate the frequency of encounters into probabilities of party support, we use a simple linear setup. We assume that the probability that *j* will choose party *i* is given by:

$$Prob(i) = \frac{m_r\, p_r(i) + m_a\, p_a(i)}{m_r + m_a} \qquad (1)$$

where $m_r + m_a$ is the number of total acquaintances that *j* makes. We allow the proportion of party supporters in associations to differ from their population counterpart: $p_r(i) \neq p_a(i)$. That is, associations can in principle be completely free of party supporters, but they can also host disproportionately more supporters of some parties than others.[27] We analyze the effect of association density on support for a party by deriving the marginal effect of m_a on $Prob(i)$:

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[26] Supporting a party does not necessarily have to result in formal membership. Under the assumption that more local supporters translate into a higher number of party entries, our model applies to both party membership and election results.

[27] Note that if $p_r(i) = p_a(i)$, i.e., if party *i*'s representation in associations exactly reflects its membership proportion in the city overall, then $Prob(i) = p_r(i)$. That is, associations do not matter in this case. On the other hand, if $p_r(i) \neq p_a(i)$, association density in a city will affect party entry.

$$\frac{\partial\, Prob(i)}{\partial\, m_a} = \frac{m_r\,[p_a(i) - p_r(i)]}{(m_r + m_a)^2} \qquad (2)$$

This expression is positive if $p_a(i) > p_r(i)$. In this case, higher association density fosters support for party *i*. Intuitively, if supporters of party *i* are overrepresented in associations, *j* is relatively more likely to meet them in an association than at random. Thus, more association-based interactions (higher m_a) will favor party *i*. Crucially, if a party is relatively large (i.e., it has a high proportion $p_r(i)$ of supporters in the population), then it needs a very high representation in associations in order to benefit from higher association density. In other words, large parties can rely on their existing base of supporters and members in order to attract new entries. Denser associations may actually work against large parties if they increase the proportion of encounters with supporters of other parties, i.e., if $p_a(i) < p_r(i)$.

Conversely, a new party with initially few supporters (small $p_r(i)$) can achieve $p_a(i) > p_r(i)$ more easily, guaranteeing that (2) has a positive sign. Intuitively, small parties cannot rely on a large stock of existing supporters and members to attract new ones. Instead, they can exploit encounters that occur within associations. By strategically raising $p_a(i)$, party *i* can exploit associations to grow its own support and membership. These effects will be amplified the greater the share of social contacts provided by clubs and societies (m_a).

The Nazi Party was very small in the early and mid-1920s. It also actively sought to exploit local associations to attract new members (Anheier 2003). Therefore, $p_a(i) > p_r(i)$ probably holds for the early years of the Nazi Party. This leads to the following testable predictions:

P1. Association density m_a is positively correlated with Nazi Party entry and political support.

P2. The marginal effect of m_a is greater in the Nazi Party's early days. Later, once a location contains a higher share of Nazi Party members, the effect of association density on Nazi Party entry declines in size.

P3. Cities with a higher proportion of supporters for the Nazi Party (higher $p_r(i)$) should show a *smaller* effect of association density on membership (because the difference $p_a - p_r$ is smaller for any given p_a).

To examine whether our data support these predictions, we estimate:

$$NSENTRY_i = \alpha + \beta ASSOC_i + \boldsymbol{\gamma X}_i + \varepsilon_i \qquad (3)$$

where $NSENTRY_i$ is entry into the Nazi Party in location i, α is a constant, $ASSOC_i$ are measures of social capital, and $\boldsymbol{X}_i$ is a vector of controls. P1 predicts $\beta>0$ when estimating (3) directly; for P2, we split $NSENTRY_i$ into early and late entries to examine if β is smaller for the latter; and P3 implies that β should be smaller in cities with a closer 'ideological proximity' to the Nazis. Finally, in addition to entry rates, we also use election results for the NSDAP as dependent variable.

4 Main Results

In this section, we present our main results. In line with prediction P1, we show that more civic associations spelled a higher frequency of NSDAP entry. This result holds after controlling for a host of socio-economic variables. In line with predictions P2 and P3, the effect of association density is stronger for early party entries and in cities with less pro-Nazi ideology. Both military associations and 'apolitical' clubs have the same predictive power. Overall, there is powerful evidence that more civic associations went hand-in-hand with a more rapid rise of the Nazi Party.

4.1 Two cities: Kleve and Coburg

We first illustrate the basic idea by comparing two towns – Kleve and Coburg. Both had a similar number of inhabitants in 1925: 20,241 in Kleve, and 24,701 in Coburg. Coburg had a vigorous civic society. The directory for 1924 lists five animal breeding clubs, including two canary breeders associations and a club for poultry- and rabbit-breeding. There were also 10 bowling clubs ("Happy Brothers" and "Riot" were some of the names chosen), 9 choirs or music associations, and one for the preservation of the local Bismarck memorial. In addition, there were 10 military associations (for former members of the 5th infantry regiment, for veterans of the Imperial Army, and for officers). The total number of associations came to 74 – 2.99 per 1,000 inhabitants of Coburg.

In Kleve, there were only two associations for animal breeding (horses and poultry), and one choir; there were no clubs for former members of the German armed forces. The overall density of associations per 1,000 inhabitants was 0.89 – less than one third of the value in Coburg (18 clubs in total). As our hypothesis predicts, there were numerous entries into the NSDAP in Coburg – 52 citizens in our sample joined the Nazi Party, 8 of them as early as 1925. In Kleve, there were only 9 new members – a rate of entry approximately 80% lower than in Coburg.

4.2 Baseline Results

In the following, we examine the link between association density and Nazi Party entry systematically. In Table 3, we present our baseline results, estimating equation (3), and reporting beta coefficients. Overall, association density strongly and significantly predicts higher entry rates into the NSDAP. The effect is large – the per capita entry rate increases by approximately 0.4 standard deviations (or by 0.025/1,000) for every standard deviation increase in association density (1.6/1,000).[28] With average entry rates of 0.077 per year in the Berlin-Minneapolis sample, a standard deviation higher association density thus went hand-in-hand with one-third faster Nazi Party entry. This offers direct support for our prediction P1.

Non-military clubs (animal breeders, bowling clubs, singing associations, gymnasts, Carnival clubs, and firefighting associations) produce similar coefficients (col 2 in Table 3). Military associations (col 3) are also significant predictors of NS entry. In columns 4-6, we also control for our baseline set of socio-economic characteristics. All coefficients remain significant, and of similar magnitude. Overall, the results show a strong connection between Nazi Party membership and association density – one that is not driven by the religious make-up of the population, by the size of the population, or the socio-economic characteristics of a location. Figure 3 plots the conditional correlation based on the baseline specification in col. 4 in Table 3. It is clear that in towns and cities with high association density, many more citizens joined the Nazi Party.[29]

So far, we have only controlled for the share of population that is Catholic, for the share of blue-collar workers, and the size of each city. In Table 4, columns 1-3, we add political controls, including votes for nationalistic parties in 1912, the percentage of Jews in each town in 1925, and the number of Hitler speeches in 1932. In columns 4-6 we also

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[28] In Appendix C, we use entry rates that are corrected for the change in sampling methodology in the Schneider-Haase (1991) membership sample. These yield equally strong estimates, with larger absolute effects: in the baseline specification (col. 4 in Table A.1, panel A), per capita entry rates increase by 0.077/1,000 for a one-standard deviation increase in association density (relative to average entry rates of 0.25/1,000), while the standardized beta coefficient is 0.375. Since our sample accounts for about 15% of overall entries, the total effect of a one-standard deviation increase in association density is 0.5 additional entries per 1,000 inhabitants, relative to an average annual entry rate of 1.67/1,000 prior to 1933.

[29] There are two observations in the "North-Eastern" corner of Figure 3 that have high leverage – Memmingen and Passau. If we drop these observations, we obtain a somewhat larger coefficient with a slightly lower t-statistic (Figure A.1 in the appendix).

use several socioeconomic controls, such as the number of welfare recipients and social insurance pensioners, tax receipts, as well as war veteran density.[30]

Socio-economic indicators are poor predictors of party entry. The depth of the economic downturn in 1933 – which may reflect underlying economic vulnerabilities in the 1920s already – is not significantly associated with party entry. The same is true for most other socioeconomic variables, as well as for the share of Jews. Hitler speeches are an exception. As one might expect, these are positively associated with party entry (and causality could run either way). Vote shares for the conservative parties in 1912 also show consistent coefficients across specifications – albeit with opposite signs. Votes for the National Liberal Party predict higher Nazi Party entries, while the effect of the German Conservative Party is negative. This underlines the important ideological (and class) differences between German conservatism in general and National Socialism. Crucially, including this wider set of controls does not weaken our main results.

4.3 Early vs Late Entry

Entry rates for the NSDAP were not constant over time. After the party's ban was lifted in 1925, entry rates were low; they gradually increased over time, culminating in a torrent of entry during the Great Depression. Our model predicts that the link between association density and party entry was stronger in the early years of the Nazi Party (P2). To test this prediction we split overall entry rates into early (1925-28) and late (1929-33).

In Table 5, we first use early entry rates as the dependent variable (cols 1 and 2). Results are somewhat larger than the ones obtained before (Table 3) and highly significant. Estimating with late entry (cols 3 and 4) also yields significant but markedly weaker results.[31] This supports prediction P2. Finally, controlling for early entry rates reduces the coefficient on association density to insignificance (col 5 and 6). This is also in line with P2; in later years, the already existing (early) Nazi membership base played a central role in attracting new members, while dense local social capital affected late entry only indirectly, by fostering early party entry.

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[30] These data are from Adena et al. (2013). We thank Maja Adena, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Katia Zhuravskaya for kindly sharing their digitization of socioeconomic variables from the 1933 *Statistik des Deutschen Reichs*.

[31] Table A.3 in the appendix reports further results on early and late entry, using different measures of association density. In order to make the coefficients for early and late entry comparable, we first standardize annual entry rates before computing their average. Appendix C provides further detail on standardized entry rates.

4.4 NS Recruitment in Areas of Low Potential

Proposition 3 of our model predicts that in areas where the NSDAP had a larger pool of (potential) supporters, association membership should have been relatively less important. To measure 'ideological proximity', we do not use NS membership or voting for the Nazis, since they may reflect the effects of association density. Instead, we measure potential support as the share of votes for the DVP (German People's Party).

The DVP was the successor to the National Liberal Party of the Imperial period. The party was right-wing, nationalist, and pro-free trade. Initially opposed to the new democratic order, it changed course after 1920 and became more centrist. As it moved towards the center, many of its traditional supporters looked for alternatives.[32] The nationalist DNVP profited, and so did the NSDAP. We expect "NS potential" to be higher where the DVP received more votes in Weimar's early years. We use DVP votes in the 1924 election as an indicator of potential support – just before we observe Nazi Party entry rates. The 1924 election has the additional advantage that the NSDAP itself was still banned, so that it did not directly interfere with DVP votes.

Does the effect of association density on NS entry vary with DVP support? Table 6 shows that areas with below-median DVP election results, the coefficient on association membership is large and significant (col 1); in areas with high DVP support, it is positive but only 1/5th in size, and insignificant. The difference in slopes is significant (col 3). The same conclusion emerges from interacting the DVP vote share with association density (col 4). These results support prediction P3 – in locations less inclined towards the NSDAP, association density mattered more in promoting party entry.

4.5 Election Results

So far, we have focused on Nazi Party membership. We now turn to election results. A strong organization in the form of thousands of membership cells was key to the Nazi Party's electoral success in the late Weimar Republic. Columns 1-3 in Table 7 show that Nazi Party membership was strongly associated with success at the polls. In the 1928, 1930, and 1933 parliamentary elections NSDAP vote shares are strongly correlated with average party entry rates up to that date.[33] The coefficients are significant and positive; Figure A.6

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[32] The DVP declined from a vote share of almost 14% in 1920 to 1.9% in November 1932. Its decline is paradigmatic for Weimar's shrinking political middle (Bracher 1978).

[33] We focus on the elections in 1928, 1930, and 1933 because these are the years for which NSDAP election results are available at the city level. In order to make the coefficients on membership for different election years comparable, we standardize Nazi Party entry rates in each year before computing the average. This is

in the appendix shows that this reflects a broad pattern that is not driven by outliers.

Columns 4-6 in Table 7 explore the link between association membership and votes for the NSDAP. We report two-stage least square (2SLS) results, using association density to predict Nazi Party membership, which in turn explains NSDAP votes. Results are similar in magnitude to those in columns 1-3, suggesting that associations affected votes via Nazi Party entry. For every standard deviation increase in membership shares in 1928, NSDAP votes were 0.7 standard deviations higher. For later elections, the coefficients are smaller (0.55 in 1930 and 0.3 in 1933). This is in line with prediction 2, which says that local associations were particularly important for the Nazi Party to garner support during the early years. Finally, reduced-form regressions of NSDAP votes on association density also yield strongly positive coefficients (see Table A.14). A one standard deviation increase in $ASSOC_{all}$ is associated with Nazi votes that are higher by 0.17-0.37 standard deviations.[34] These results strongly suggest that association density did not only result in more members of the Nazi Party; it also boosted the NSDAP's fortunes at the polls.

5 Robustness and Omitted Variable Bias

In this section, we examine the robustness of our findings. We already showed that results are strong for both early and late entry, and after controlling for a host of socio-economic characteristics. We now test the strength of the main effect in varying subsamples and for different estimation techniques. We also present results for different types of associations. Finally, we use an IV strategy that allows us to sidestep potential concerns about omitted variable bias.

5.1 Alternative Specifications and Different Association Types

We begin by analyzing whether our results hold within a number of subsamples, defined by socioeconomic characteristics. Columns 1 and 2 in Table 8 show that where Catholics dominated, more clubs and societies led to proportionately faster entry than in Protestant areas (col 1 and 2), but the effects are highly significant in both cases. In general, Catholic areas were typically more resistant to the lure of the Nazi Party. That is why it is interesting that in cities dominated by Catholics, the effect of social capital was stronger. This finding

necessary because the Berlin-Minneapolis team uses a new sampling method after 1930, so that in the raw data, later entries are underrepresented. See Appendix C for detail.

[34] When including both association density and NSDAP membership (not reported in the tables), only the latter is significant. This further supports the interpretation that social capital affected votes via fostering Nazi Party entry.

is in line with prediction P3 from our model – where the party faced a more adverse political climate, associations mattered most to garner support. Next, localities in predominantly working-class areas saw similar increases in NS entry as a function of association density as the rest (cols 3 and 4). There is also no evidence that the presence of Jews modified the basic relationship between the density of civic associations and the rise of Nazi membership (cols 5 and 6). Finally, city size was not crucial for the relationship between associations and party entry (cols 7 and 8). This alleviates the concern in terms of balancedness (Table 2), where cities with high association density are on average smaller.

We perform a number of additional robustness check, which we briefly summarize here, while coefficients are reported in Appendix D. In Table A.4, we use propensity score matching to compare Nazi Party entries in cities of similar size and geographic location. We find large and statistically significant differences in entry rates for locations with high (upper tercile) versus low (lower tercile) association density. Next, a log specification does not change results (Table A.5); the same is true of robust estimation (Table A.6), and for median regressions (Table A.7). When we use the conditional 25^{th} or 75^{th} percentile as the dependent variable (Table A.8), we also find that our main results hold.[35] Finally, Table A.9 reports results for the full sample including the noisy observations for small towns (with less than 5,000 inhabitants).

5.2 Different Association Types

Social capital comes in different types. Putnam distinguishes between "bonding" and "bridging" social capital. The former cements pre-existing social cleavages; the latter brings people from different backgrounds together. According to Putnam, bonding social capital may have adverse effects; bridging social capital should always have benign consequences. To analyze this further, we classify the associations in our sample accordingly (Appendix B). For example, a choir is a typical bridging club – only enthusiasm for singing (and a good voice) were needed, and there were no monetary, social, or gender barriers to entry. In contrast, *Herrenclubs* were bonding associations – broadly similar to London gentlemen clubs, they served the members of the old, land-owning elite and the new wealthy upper class.

Table 9 gives the results of regressing Nazi Party entry rates on the density of

[35] In Figure A.5 in the appendix, we plot the full range of coefficients for all quantiles from the 5th to the 95th, for the main specification (for all associations, with controls). The coefficients rise slightly with Nazi Party entry rates, but are overall remarkably stable and significant.

bridging and bonding associations. We find that both are strongly associated with NS Party entry, with positive, significant, and quantitatively meaningful coefficients that are similar in magnitude. This suggests that *both* types of associations were important pathways for the spread of the Nazi Party. When including both types simultaneously, none of them dominates (see Table A.10).[36]

5.3 Omitted Variable Bias

Could our regression results reflect reverse causality or omitted variable bias? Reverse causation is not plausible – the Nazi Party did not sponsor a plethora of local clubs and associations. However, it could be argued that NS membership entry was frequent in locations where economic distress was high, and hence the opportunity cost of time was low. This would also translate into more time spent in clubs and associations and therefore result in a spurious correlation between association membership and Nazi Party entry.

To sidestep this issue, we investigate the deeper history of associations in each city. Association density reflects two factors – incentives to join a club at any one point in time, and the cumulative history of sociability, co-operation, and shared interests. We use two instruments to capture the deeper historical roots of social capital. The first is based on the early history of gymnast associations. Inspired by Friedrich Ludwig Jahn, Germans joined gymnast associations (*Turnvereine*) in great numbers in the 19th century. Gymnast associations had a political edge, but they were not reactionary: it was one of the groups contributing to the 1848 revolution. Detailed information on *Turnverein* members exists from the 1860s onwards. Our second instrument uses participation of town delegates in the 1861 Nuremberg Singers' Festival (*Sängerfest*). Some 283 singing associations participated; the number of singers is given as between 6,000 and 20,000 (Klenke 1998). We normalize both instruments by city population in 1863.[37]

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[36] The correlation coefficient of the two variables is 0.43 in our sample. Table A.10 also shows that non-military associations were probably more important for the rise of the Nazi Party than their military counterparts. The same is true for non-worker associations (as opposed to worker-specific ones).

[37] Some city boundaries changed over time, especially when surrounding towns and villages were incorporated. This creates large and spurious increases in reported population – in some cases the number of recorded inhabitants grew by more than a factor of 20 between 1863 and 1925. We therefore weigh our regressions by a proxy for the comparability of the 1863 population figure: The ratio of population in 1863 to 1925, relative to the average nationwide difference in city population over the same period. Results are very similar when not weighing, but the first stage is somewhat weaker. For example, for our main specification (column 4 in Table 10), the p-value for the first stage (underidentification test) becomes 0.04 instead of 0.01, and the second-stage beta coefficient is 1.168, with an Anderson-Rubin p-value of 0.001.

The exclusion restriction is as follows: For gymnast density and singer festival participants to be valid instruments, we have to believe that towns with relatively higher values in the 1860s only had higher entry rates to the Nazi Party because association density in general was higher there. In other words, there is no direct effect of gymnast membership and singer festival participation on Nazi entry 60-70 years later, and both instruments must also be uncorrelated with other factors that drove NSDAP membership.

One possible threat to the exclusion restriction is that participation in the singer festival or in gymnast associations may potentially reflect aggressive nationalistic tendencies of the Nazi type. However, 19th century nationalism was typically liberal, not militarist nor aggressive: "Germany and other modernizing nations became real to people because many thousands traveled around these nations…meeting their fellow countrymen and singing together" (Applegate 2013). The liberal, folk-based nationalism of the 19th century is not to be confused with the political agitation and xenophobia that the Nazis and other right-wing parties represented in Weimar Germany. In sum, while our IV strategy has to be interpreted with caution, we are confident that the exclusion restriction is broadly plausible.

Table 10 presents our IV results. The first stage is highly significant for most specifications, as reflected by the p-values for the F-test of excluded instruments. For our main specification in column 4, the first stage has a p-value of 0.013. In addition, the overidentification test does not reject instrument exogeneity in any of the specifications. While this result is subject to the usual concern of weak statistical power, it is reassuring with respect to the exclusion restriction of our instruments. In the second stage, we obtain large and statistically significant coefficients on association density. We report p-values based on the Anderson-Rubin test of statistical significance in square brackets.[38] These are robust to weak instruments (Andrews and Stock 2005). We also perform a reduced-form estimation (not reported in the table), regressing party entry rates on the first principal component of the two instruments.[39] Without controls, the beta coefficient is 0.37 with a t-statistic of 4.52, and when adding our baseline controls, 0.27 (4.21).

The IV coefficients are between two and four times larger than their OLS counterparts. Measurement error is a likely reason for the difference: In the main analysis,

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[38] We report the Chi-square test; the F-test based p-values are very similar – for example, for our main specification in column 4 of Table 10, the F-test yields a p-value of 0.0088.

[39] The principal component combines our two instruments into one variable. Following Bai and Ng (2010) and Winkelried and Smith (2011), linear combinations of valid instruments remain valid instruments.

we use association density per city, i.e., the number of associations per 1,000 inhabitants in the 1920s. The number of *members* – which would be a more precise measure – is not available. Both instrumental variables, on the other hand, rely on the number of members/participants. Thus, our instruments may capture both the intensive and extensive margin of association participation. It is plausible that this reduces noise in the estimation, yielding higher coefficients in the second stage. If taken at face value, the IV results imply that a one standard deviation increase in association density is associated with an approximately one standard deviation rise in Nazi Party entries.[40]

6 Discussion

So far, we have shown that NS entry in a cross-section of towns and cities was robustly and strongly correlated with association density. Both in terms of membership and electoral support, social capital appears to have undermined Germany's first democracy, by boosting the fortunes of an extremist party. Before we can accept this conclusion, two questions arise: First, did association density also strengthen other parties in the same location? Second, given that social capital is normally associated with better-functioning political systems, what are the reasons for the opposite holding true in Weimar Germany?

6.1 Other Parties and Worker Associations

Were people in towns and cities with more civic associations simply more social, joining *all* manners of clubs, societies and parties to a greater extent? Ideally, we would like to test if entry rates for all parties (including, at the opposite end of the political spectrum, the Communist party), were higher in places with more associations. Unfortunately, membership records for other parties are not readily available for the period. Instead, we examine two aspects. First, we test if the reduced-form relationship of association density

[40] We cannot entirely exclude the possibility that our instruments are related to Nazi Party entry via channels other than association density. We allow for deviations from perfect instrument exogeneity, using the method in Conley, Hansen and Rossi (2012). In this way, we examine the consequences of a possible direct effect on party entry. Appendix E summarizes this analysis. It shows that, for our IV result to become insignificant, the direct effect of the instruments would have to be at least one-half of their overall reduced form effect on party entry. In other words, *Sängerfest* participation in 1861 and the density of gymnasts in the 1860s would have to be at least half as potent a pathway to NS membership as participation in clubs and associations in the 1920s – which seems improbable. The Conley et al. results strongly suggests that the IV estimates are robust even to substantial deviations from strict exogeneity. In addition, we perform a bounding exercise in the spirit of Altonji, Elder, and Taber (2005). Results can be found in Appendix F. Overall, we estimate that the effect of selection on unobservables would have to be between 2.5 and 9 times stronger than selection on observables for our main results to be overturned – a ratio normally considered too high to be plausible.

and electoral results that we found for the Nazi Party also held for other parties (Table A.14 in the appendix shows that the reduced form yields strong results for the NSDAP). Second, we collect additional data on workers' associations to test if there is evidence of location-specific sociability independent of social background.

In Table A.15, we examine the link between association density and election results at both ends of the political spectrum, using vote shares for the Communist Party (KPD), as well as for the DNVP, a far-right, bourgeois party that shared many of the NSDAP's extremist views. Both parties won about 10% of the votes in 1928. For the communists, we consistently find negative coefficients on association density – the higher social capital in any one location, the lower the vote share that went to the KPD. For the DNVP, we obtain small positive and insignificant coefficients.

These results suggest that denser networks of associations did not increase support for all parties at the extreme ends of the political spectrum. Instead, among the more radical, small parties, the interaction between civic associations and support at the polls was unique to the NSDAP – the Nazis were highly successful in exploiting networks of associations and pre-existing contacts to grow and to spread their message. This finding offers strong support to the historical hypothesis as supported by local and regional case studies, that the NSDAP successfully penetrated clubs and associations, and co-opted local opinion leaders (see Section 2) – a path not open to other radical parties like the Communists because of basic ideological incompatibilities between its main message and the bourgeois associations (Anheier 2003; Bösch 2005; Noakes 1971).[41]

Next, we ask i) is there a general sociability component in association membership – are there also more *workers*' associations in cities with generally high membership rates; ii) is the density of workers' associations also correlated with Nazi Party entry (which would lend support to the notion of a location-specific sociability). Table 11 performs such a test and finds strong support for i), but none for ii): locations with more associations in general also had greater densities of workers' associations (col 1 and 2).[42] However, workers' associations have no predictive power for NSDAP entry (col 3 and 4). In addition, our baseline measure of association density is not affected by controlling for workers' associations (col 5). In sum, these results suggest that places with high association density

[41] Zofka (1979, pp.142-143) provides several examples for how the Nazis established themselves in bourgeois circles by organizing local cultural events, such as symphony concerts.
[42] We classify workers' associations based on their names within each category, e.g., the "Workers' Cycling Club", the "Red Front Boxing League", etc.

were more sociable in general. At the same time, sociability alone cannot explain the rise of the Nazi Party. Middle-class clubs acted as gateways to the Nazi movement, but working class associations did not – "infection" apparently required a minimum degree of ideological compatibility. In other words, one reason why the Nazis benefited from associations disproportionately is that they could spread their message to many social groups via clubs and societies, whereas workers' parties only succeed in organizing support amongst their own clientele.

6.2 The Importance of Institutional Context: The Case of Prussia

Why was social capital a double-edged sword for Germany's first democracy, when it is mostly associated with positive political outcomes elsewhere? In our view, the institutional context is key. The Weimar Republic in general was politically weak, governments changed with alarming frequency, the democratic state was unable to defend itself against extremists, and torn by strife between republican parties that were often unwilling to shoulder responsibility (Bracher 1978).

In the state of Prussia, however, democratic institutions were more resilient. Prussia's government administered about half of German interwar territory. The so-called "Weimar Coalition" – composed of the Social Democrat Party (SPD), the Center party (Zentrum), and the German Democratic Party (DDP) – ruled in Prussia from 1919 to 1932. For almost the entire time, the same Prime Minister, the social democrat Otto Braun, was in charge. It instituted several important constitutional reforms, such as the need for a new government to be formed simultaneously with the old one losing power.[43] This allowed the democratic coalition to rule despite losing its parliamentary majority early on (in parallel with developments in the Reich). The Prussian Interior Ministry vigorously cracked down on paramilitary units of the right and the left (the SA and the Red Front associations), regularly banned public demonstrations and assemblies planned by both the Communists and the Nazis, forbid the use of uniforms in public, and for extended periods stopped Hitler from speaking on Prussian territory. A strong democratic leadership was not afraid to make tough decisions, even when it came to "sacred cows".[44] For all these reasons – and despite Prussia's reputation for militarism – the regional state was a stronghold of democracy

[43] Prussia pioneered this so-called "constructive vote of no confidence"; this feature was later adopted by the Federal Republic of Germany (Skach 2005).

[44] In one (in)famous episode, the SPD-appointed police chief of Berlin banned all assemblies for May Day 1929. When the Communist party organized demonstrations regardless, violent clashes resulted in 19 workers being killed (Kurz 1988).

(Orlow 1986).

While Weimar's political, social and economic upheavals affected Prussian citizens as well, they had reason to trust the democratic process. Strong institutions ultimately require both pluralism and political centralization (Acemoglu 2013; Acemoglu 2005). Weimar on the whole erred on the side of excessive pluralism, allowing the enemies of an open society to abuse the rights of free assembly, free speech, and freedom of association. Prussia, on the other hand, successfully balanced the demands of pluralism and state capacity.

We expect Prussian institutions to matter for several reasons. Strong leadership can help to align beliefs by changing expectations (Acemoglu and Jackson 2011); the democrats in power in Prussia defended public order and (mostly) governed even-handedly and responsibly.[45] In Table 12, we analyze the extent to which the link between association density and Nazi Party entry also held in Prussia.[46] We begin by using early party entries as the dependent variable because we expect the difference to be particularly pronounced before 1930, which brought increasing pressure from the central government.[47] First, we split the sample. The Prussian part comprises about one half of all cities in our sample. Column 1 in Table 12 shows that for the 49 non-Prussian cities, the relationship between association density and party entries remains strong and significant. This suggests that fewer observations themselves do not affect our results. Next, for Prussia only (col 2), the coefficient on associations for early party entry is small (only one third as compared to col 1) and insignificant. In column 3, we use the full sample again and include an interaction term between the Prussia dummy and association density.[48] It shows that the relationship between early party entry and association density was significantly weaker in Prussia before 1930. Columns 4-6 repeat the analysis for late party entries. As expected, we do not find any significant differences between Prussia and the rest of Weimar Germany:

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[45] It is for the same reasons that the Prussian government under Prime Minister Otto Braun was eventually removed in July 1932, when the increasingly right-wing national government under Chancellor von Papen seized power in Prussia in a coup d'état (*Preussenschlag*).

[46] Table A.11 in the appendix examines the balancedness of our sample for Prussia vs. the rest of Weimar Germany.

[47] The appointment of Heinrich Brüning as Chancellor in 1930 is considered by historians to be the de facto end of democracy in Weimar Germany (Bracher 1978).

[48] We also include interaction terms with the controls, to avoid that ASSOC×Prussia alone captures all interaction effects associated with Prussia. However, results are almost identical when including only ASSOC×Prussia – see Table A.12 in the appendix, which also shows that the interaction effect is particularly strong (negative) for military associations.

Association density is correlated with more entries in both subsamples, and the interaction term is positive and insignificant. Thus, social capital eventually showed its "dark side" in Prussia, too, when economic and political problems in Germany as a whole became overwhelming.[49] Table A.12 in the appendix shows that these results also hold in alternative specifications, and for other measures of association density.

In parts of Weimar Germany where the regional government worked well, civic associations were markedly less potent as pathways for infection with Nazi ideology. This finding suggests that a functional, strong, democratic regional government – in charge of providing essential services such as policing and education – could do much to ensure that social capital did not develop a "dark side". In other words, in the presence of strong institutions, the potentially malign effects of a vibrant civic society can be kept in check. Our findings suggest an important interaction effect between social capital and institutions, and they allow us to assess what it takes for social capital to be a beneficial – fair, strong, and inclusive government.[50]

7 Conclusion

When is social capital beneficial? While a rich literature has documented a positive relationship between desirable political outcomes and dense networks of civic associations and clubs, the analysis of negative effects has mostly focused on crime and related localized activities (Field 2003). Tocqueville (1835) pioneered the argument that social capital is crucial for democracy. He also pointed out "the liberty of association is only a source of advantage and prosperity to some nations, it may be perverted or carried to excess by others, and from an element of life may be changed into a cause of destruction."

In this study, we show that a vigorous civic society can undermine the existing democratic order. In interwar Germany at least, the vigor of civic society facilitated the spread of the Nazi Party and its electoral success. It directly contributed to the eventual collapse of democracy and the rise of one of the most destructive regimes in history. Our

[49] In addition to providing evidence for the role of institutions, the results on Prussia alleviate the concerns that unobserved factors drive our results (see Section 5.3). The relationship between association density and Nazi Party entry is present throughout the sample in non-Prussian territories, but only after 1929 in Prussia. Our setup is thus similar to a difference-in-difference-in-differences (DDD) setup, represented by a 2x2 matrix with a territorial and a time dimension. Our main result holds only in the cells with weak institutions at the corresponding time. Location-specific unobservables cannot explain this pattern.

[50] Here, our conclusions are similar in spirit to the findings by Acemoglu et al. (2013), who show that social capital is associated with worse governance outcomes in Sierra Leone because it strengthens the role of traditional chiefs.

main results suggest that the negative effects of social capital go far beyond criminal activities and the entrenchment of established politicians. This conclusion is in stark contrast to an earlier literature that blamed Germany's path to dictatorship on a "civic non-age" of low social capital (Stern 1972), and Nazi entry on rootless, isolated individuals in a modernized society (Shirer 1960).[51]

Our results emerge clearly from new cross-sectional evidence collected from city directories. In towns and cities with more grass-root clubs and associations, the Nazi Party grew markedly faster. This is true both for the party's early years and for its final ascendancy to power, after the start of the Great Depression. Association density also predicts the NSDAP's electoral success – a result that works via party entry. Our findings highlight the importance of personal, face-to-face interactions in the spread of a radical new movement.[52] Historical instruments suggest that the link is causal: The share of variation in civic society indicators explained by deeper historical roots of association-based sociability strongly predicts NS entry rates.

Why is social capital associated with benign outcomes in some contexts, but not in others? We examine political differences within Germany to answer this question. Weimar Germany's institutions did not work well – governments were weak and short-lived, economic policy often failed, and extremist parties blossomed (Bracher 1978). At the same time, the state of Prussia was a bastion of well-functioning republican institutions. There, the "Weimar coalition" reigned without interruption from 1919 to 1932. Politicians from the middle governed, and their defense of democracy was vigorous (Orlow 1986). In Prussia, the link between association density and Nazi Party entry was much weaker than in the rest of the country. This suggests that the effects of social capital depend on the institutional context; where democratic politics on the whole "worked", more social capital was not associated with more Nazi Party entry.

[51] Stern argued that Germans lacked "the kind of voluntary, civic activity that attracted their English and American counterparts… Civic initiative takes practice, and German society never fostered it. Most Germans looked to the state for guidance and initiative" (Stern 1972).
[52] Here, our results echo those of Zuckerman (2005) and Madestam et al. (2013).

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FIGURES

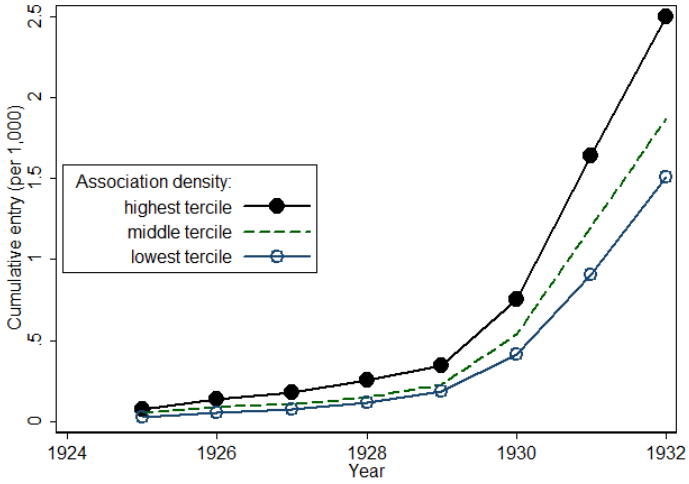

Figure 1: Cumulative NSDAP membership, by tercile of association density

Note: Each data point reflects the cumulative NSDAP entry rate (per 1,000 inhabitants), starting in 1925 and averaged across the cities with lower, middle, and upper tercile of association density. The data are described in Section 3. NSDAP entries are from the Berlin-Minneapolis sample (Schneider-Haase 1991); starting in 1930, we correct aggregate entry rates for a change in sampling methodology, as described in Appendix C.

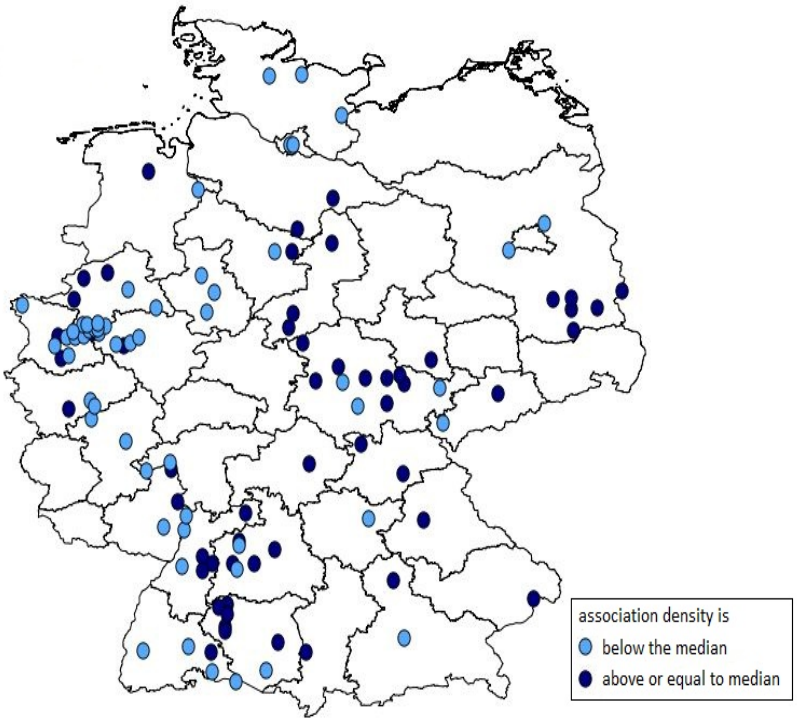

Figure 2: Location of towns and cities in the sample, by association density

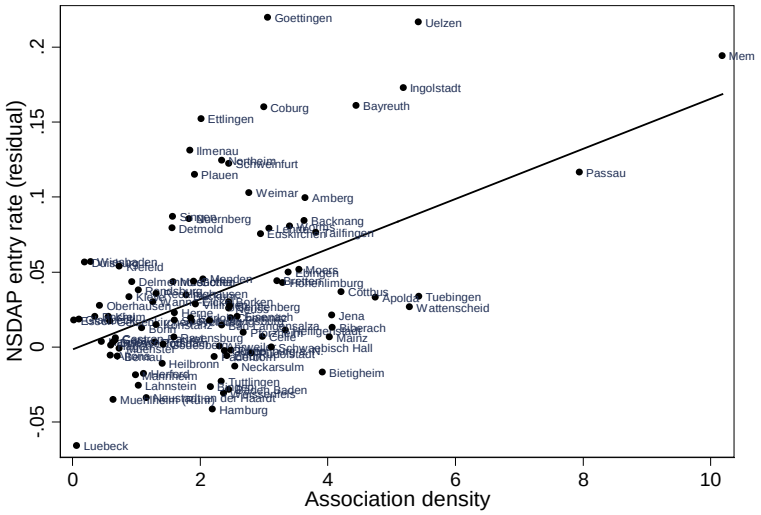

Figure 3: Conditional scatter, NSDAP entry rate and association density

Note: The y-axis plots the variation in NSDAP entry rates (per 1,000 inhabitants) after controlling for the share of Catholics, ln(population), and the of share blue collar workers, all measured in 1925. The regression line has a beta coefficient of 0.420 with a t-statistic of 4.73 (as in Table 3, col 4).

TABLES

Table 1: Data representativeness: Sample vs. German Reich

	Means			Standard deviations		
Variable	Sample	Urbana	Reich	Sample	Urban[a]	Reich
Socio-economic variables						
blue collar (1925)	51.6%	48.8%	45.9%	10.9%	10.0%	11.5%
white collar (1925)	43.6%	46.1%	41.5%	9.8%	9.0%	8.3%
unemployment (1933)	27.4%	25.2%	18.6%	6.0%	7.2%	9.3%
pop. size (1933)	92,916	30,924	12,973[b]	166,850	82,306	49,992[b]
Elections of March 1933						
NSDAP	38.6%	38.3%	44.1%	6.5%	8.1%	11.4%
Zentrum (conservative)	15.2%	12.9%	15.1%	12.3%	13.7%	16.9%
KPD (communists)	15.8%	16.1%	11.8%	5.6%	7.5%	7.4%
SPD (social democrats)	19.2%	20.7%	17.6%	8.2%	8.2%	8.6%
Religious affiliation						
Protestant (1925)	58.9%	63.3%	63.4%	26.5%	27.4%	32.8%
Jewish (1925)	1.1%	1.5%	0.9%	0.7%	2.0%	1.5%
Catholic (1925)	39.7%	29.9%	32.3%	30.1%	29.4%	34.1%

Notes: The construction of our sample is described in Section 3.
a) Excludes eastern territories (east of the Oder-Neisse line) and towns with less than 5,000 inhabitants.
b) Towns with less than 2,000 inhabitants are not listed individually in the official *Reichsstatistik*, and are therefore excluded from these calculations.

Table 2: Balancedness: Controls for high and low association density

		Ass. dens. rel. to median		
year	variable	below	above	t-test
1912	National Liberal Party (NLP)	0.17	0.14	(0.68)
	German Conservative Party (DKP)	0.03	0.06	(-1.57)
1925	Share Catholics	0.45	0.34	(1.68)
	Population	126,381	53,628	(2.40)
	Share blue collar workers	0.52	0.48	(1.92)
	Share of Jews	0.01	0.01	(0.27)
1933	Share of unemployed	0.25	0.19	(4.53)
	Welfare recipients per 1000	31.1	26.5	(1.54)
	War participants per 1000	1.29	0.65	(1.65)
	Social insurance pensioners per 1,000	9.69	9.08	(0.67)
	Log(Average income tax payment)	2.51	2.62	(-0.82)
	log(Average property tax payment)	6.55	6.62	(-0.44)

Note: * "below" and "above" refer to the median of association density. The t-test for the corresponding difference is reported in the last column of the table.

Table 3: Baseline results: Nazi Party entry and association density

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)
ASSOC measure	all	non-military	military	all	non-military	military
ASSOC	0.407^{***}	0.225^{**}	0.386^{***}	0.420^{***}	0.276^{**}	0.308^{***}
	(4.82)	(2.53)	(4.49)	(4.73)	(2.50)	(3.16)
Share Catholics				-0.312^{***}	-0.372^{***}	-0.345^{***}
				(-3.73)	(-3.79)	(-3.85)
ln(pop)				0.161^{*}	0.252^{**}	0.135^{*}
				(1.83)	(2.58)	(1.71)
Share Blue-collar				-0.236^{***}	-0.279^{***}	-0.238^{***}
				(-3.16)	(-3.18)	(-3.20)
Observations	103	82	97	100	79	94
Adjusted R^2	0.157	0.039	0.140	0.315	0.262	0.305

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header.

Table 4: Additional controls and regional fixed effects

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)
$ASSOC_{all}$	0.420***	0.212**	0.421***	0.232**	0.410***	0.246*
	(4.73)	(2.14)	(4.73)	(2.34)	(4.77)	(1.98)
ln(1+Hitler speeches), 1932			0.209**	0.079	0.204**	0.105
			(2.24)	(0.58)	(2.12)	(0.75)
Share of Jews (1925)			-0.077	-0.107	-0.100	-0.142
			(-0.80)	(-1.07)	(-1.01)	(-1.43)
Vote for NLP (1912)			0.189**	0.061	0.189**	0.070
			(2.15)	(0.60)	(2.12)	(0.69)
Vote for DKP (1912)			-0.227***	-0.162**	-0.220***	-0.146
			(-2.99)	(-2.16)	(-2.77)	(-1.61)
Unemployment (1933)					0.028	0.052
					(0.25)	(0.45)
Welfare recipients per 1000					0.116	0.054
					(0.82)	(0.29)
War participants per 1000					0.074	0.050
					(1.03)	(0.92)
Social insurance pensioners per 1000					0.057	0.095
					(0.49)	(0.48)
ln(Average income tax payment)					0.091	0.042
					(1.05)	(0.46)
Baseline controls	yes	yes	yes	yes	yes	yes
Regional FE	no	yes	no	yes	no	yes
Observations	100	100	98	98	97	97
Adjusted R^2	0.343	0.665	0.452	0.712	0.497	0.730

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; t-statistics in parentheses * $p < .10$, ** $p < .05$, *** $p < .01$. *ASSOCall* is the number of associations per 1,000 inhabitants in each city. Baseline controls include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. Data on Hitler speeches are from Aldena et al. (2013) *NLP* and *DKP* are nationalist parties in the 1912 federal election: the National Liberal Party and the German Conservative Party, respectively. All socialeconomic controls starting from unemployment are from the 1933 *Statistik des Deutschen Reichs*. Regional fixed effects reflect dummies for 25 individual regions labeled *Wahlkreis* in the 1933 *Statistik des Deutschen Reichs*. Altogether, there were 35 such *Wahlkreise* in Germany in its 1933 borders; our sample lacks some of these because we focus on Germany in its current borders.

Table 5: Early and late Nazi Party entries

Dep. Variable:	(1)	(2)	(3)	(4)	(5)	(6)
	Early Party entry (1925-28)		Late Party entry (1929-33)			
$ASSOC_{all}$	0.537***	0.514***	0.298***	0.295***	-0.031	0.013
	(4.62)	(4.13)	(3.45)	(3.51)	(-0.29)	(0.12)
Early entry					0.613***	0.547***
					(5.31)	(4.47)
Baseline controls	yes	yes	yes	yes	yes	yes
Additional controls		yes		yes		yes
Observations	100	98	100	98	100	98
Adjusted R^2	0.289	0.358	0.238	0.323	0.500	0.510

Notes: In cols 1 and 2, dependent variable is the average (standardized) rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-28 ("early entries"); cols 3-6 use "late entries" between 1929-33). When calculating average entry rates, the entry rates for each year are first standardized – this ensures that coefficients for earlier and later entry rates are comparable. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. *Baseline controls* include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. *Additional controls* include the full set of political and socioeconomic controls used in Table 4.

Table 6: NS potential and the importance of associations

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)
$ASSOC_{all}$	0.551***	0.110	0.552***	0.622***
	(5.54)	(0.84)	(5.54)	(6.26)
DVP_{high}			2.088**	
			(2.35)	
$DVP_{high} \times ASSOC_{all}$			-0.370**	
			(-2.55)	
DVP_{1924}				2.540***
				(2.71)
$DVP_{1924} \times ASSOC_{all}$				-0.391**
				(-2.51)
Baseline controls	yes	yes	yes	yes
Baseline controls × DVP			yes	yes
Observations	48	48	96	96
Adjusted R^2	0.408	0.209	0.325	0.327

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ is the number of associations per 1,000 inhabitants in each city. DVP_{high} is a dummy for above-median votes for the DVP (*German National Party*) in 1924; DVP_{1924} is the actual vote share. Baseline controls include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925; we also include interactions of each control variable with DVP_{high} in col 3 and with DVP_{1924} in col 4.

Table 7: Election results

Dependent variable: Nazi Party vote share in year *y*

	(1) OLS	(2) OLS	(3) OLS	(4) 2SLS	(5) 2SLS	(6) 2SLS
Year (*y*)	1928	1930	1933	1928	1930	1933
Party entry 1925-*y*	0.708***	0.553***	0.296***	0.684***	0.459**	0.306*
	(5.43)	(6.28)	(3.47)	[0.001]	[0.050]	[0.088]
Baseline controls	yes	yes	yes	yes	yes	yes
Additional controls	yes	yes	yes	yes	yes	yes
Observations	95	95	95	95	95	95
Adjusted R^2	0.612	0.672	0.616			
p-value for first Stage ($ASSOC_{all}$)				0.0174	0.0079	0.0066

Notes: Dependent variable is the vote share for the Nazi Party at the city level in year *y* (indicated in the table header). Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. "Party entry 1925-*y*" is the average (standardized) number of individuals entering the Nazi Party (per 1,000 inhabitants) between 1925 and year *y* in each city. Second stage results in cols 4-6 report the p-values [in square brackets] for the Anderson-Rubin (Chi-square) test of statistical significance (heteroskedasticity-robust). This test is robust to weak instruments (see Andrews and Stock, 2005 for a detailed review). The 2SLS results use $ASSOC_{all}$ (the number of associations per 1,000 inhabitants in each city) to predict Nazi Party entry. *Baseline controls* include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. *Additional controls* include the full set of political and socioeconomic controls used in Table 4.

Table 8: Subsamples

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Catholic share		Worker share		Jewish share (rel. to median)		City size (rel. to median)	
	<50%	≥50%	<50%	≥50%	below	above	below	above
$ASSOC_{all}$	0.319**	0.658***	0.454***	0.320*	0.452***	0.429***	0.460***	0.266*
	(2.16)	(3.76)	(5.09)	(1.76)	(2.85)	(4.88)	(4.78)	(1.86)
Baseline Controls	yes	yes	yes	yes	yes	yes	yes	yes
Observations	58	42	61	39	49	51	50	50
Adjusted R^2	0.272	0.309	0.320	0.124	0.313	0.272	0.329	0.264

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; *t* statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ is the number of associations per 1,000 inhabitants in each city. Baseline controls include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925.

Table 9: Bridging and bonding social capital

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)
$ASSOC_{bonding}$	0.321*		0.357***	
	(1.98)		(2.92)	
$ASSOC_{bridging}$		0.202*		0.237*
		(1.71)		(1.87)
Baseline Controls	yes	yes	yes	yes
Additional Controls			yes	yes
Observations	94	94	91	91
Adjusted R^2	0.305	0.247	0.447	0.370

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{bonding}$ and $ASSOC_{bridging}$ are bonding (briding) clubs per 1,000 inhabitants. *Baseline controls* include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. Additional controls include the full set of political and socioeconomic controls used in Table 4.

Table 10: IV results

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)
ASSOC measure	all	non-military	military	all	non-military	military
			PANEL A: Second Stage			
ASSOC	1.206***	1.196***	1.213***	0.856***	0.767***	1.093***
	[0.0009]	[0.0042]	[0.0014]	[0.0050]	[0.0058]	[0.0058]
Controls	No	No	No	Yes	Yes	Yes
			PANEL B: First stage for association density			
p-value for instruments	0.009	0.060	0.023	0.013	0.068	0.165
Overidentification test (p-value)	0.829	0.828	0.453	0.421	0.329	0.332
N	103	82	97	100	79	94

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. Second stage results report the p-values [in square brackets] for the Anderson-Rubin (Chi-square) test of statistical significance (heteroskedasticity-robust). This test is robust to weak instruments (see Andrews and Stock, 2005 for a detailed review). Controls include %Catholic, ln(population), and %of blue collar workers, all measured at the city level in 1925. Instruments in the first stage are the density of gymnast association members in the 1860s (per 1,000 inhabitants in 1863), and participants from each city in the 1861 Sängerfest (singer festival) in Nuremberg (again normalized by city population in 1863). All regressions are weighted by a proxy for the comparability of 1863 population data, due to territorial changes (see footnote 37 for detail).

Table 11: Workers' associations

	(1)	(2)	(3)	(4)	(5)
Depend. Variable:	$ASSOC_{workers}$		Nazi Party entry rates		
$ASSOC_{all}$	0.420***	0.303***			0.293**
	(4.58)	(2.89)			(2.21)
$ASSOC_{workers}$			-0.023	0.061	-0.022
			(-0.21)	(0.50)	(-0.16)
Baseline controls		yes		yes	yes
Observations	99	96	99	96	96
Adjusted R^2	0.168	0.274	0.003	0.233	0.283

Notes: Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ ($ASSOC_{worker}$) is the number of all (workers') associations per 1,000 inhabitants in each city. Baseline controls include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925.

Table 12: Entry rates and association density – the case of Prussia

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	Early Nazi Party entry rates			Late Nazi Party entry rates		
Sample:	non-Prussia	Prussia	All	non-Prussia	Prussia	All
$ASSOC_{all}$	0.664***	0.199	0.700***	0.342***	0.351*	0.301***
	(6.86)	(1.44)	(6.87)	(3.27)	(1.68)	(3.27)
Prussia × $ASSOC_{all}$			-0.386***			0.122
			(-2.87)			(0.55)
Baseline controls + Prussia			yes			yes
Prussia × Baseline controls			yes			yes
Observations	49	51	100	49	51	100
Adjusted R^2	0.351	0.259	0.345	0.101	0.383	0.266

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-28 (col 1-3) and 1929-33 (col 4-6). Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ is the number of associations per 1,000 inhabitants in each city. Baseline controls include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. Prussia is a dummy that equals one for cities located in the Prussian state.

ONLINE APPENDIX

BOWLING FOR FASCISM:
SOCIAL CAPITAL AND THE RISE OF THE NAZI PARTY

Shanker Satyanath
NYU

Nico Voigtländer
UCLA and NBER

Hans-Joachim Voth
University of Zurich
and CEPR

APPENDIX A
Additional Figures

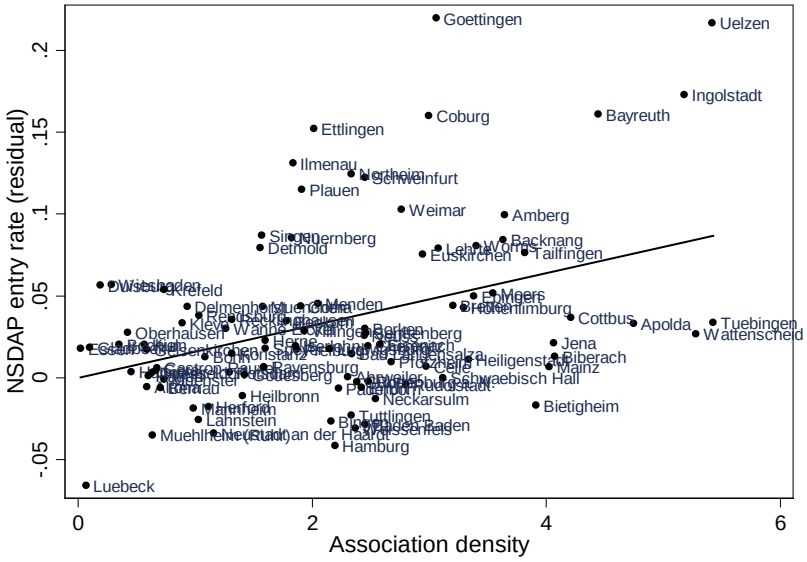

Figure A.1: Conditional scatter

Note: The figure is the same as Figure 3 in the paper, but without high leverage cities: Memmingen and Passau. The y-axis plots the variation in NSDAP entry rates (per 1,000 inhabitants) after controlling for the share of Catholics, ln(population), and the of share blue collar workers, all measured in 1925. The regression line has a beta coefficient of 0.327 with a t-statistic of 2.70.

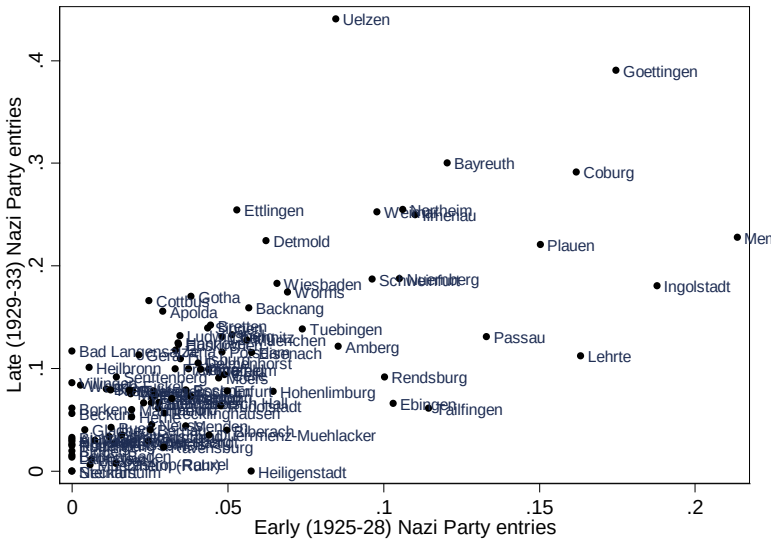

Figure A.2: Early and late Nazi Party entries, by locality

Note: The x-axis plots average rates of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-28 (early entries), and the y-axis over the period 1929-33 (late entries). Data are described in Section 3.

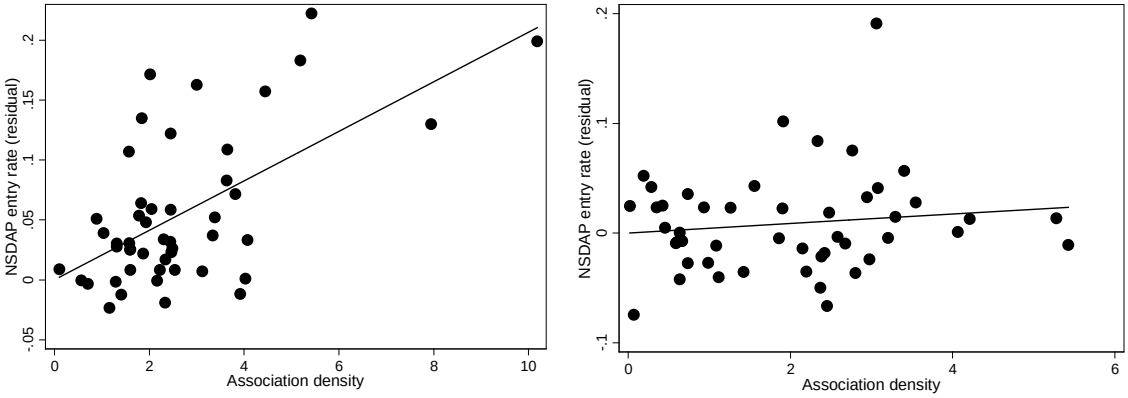

Figure A.3: Scatter for split sample by high and low DVP votes in 1924

Note: The y-axis plots the variation in NSDAP entry rates (per 1,000 inhabitants) after controlling for the share of Catholics, ln(population), and the of share blue collar workers, all measured in 1925. The left panel corresponds to column 1 in Table 6 in the paper, for the subsample of cities with above-median DVP votes in 1924. The right panel corresponds to column 2 in Table 6 (for above-median DVP votes in 1924).

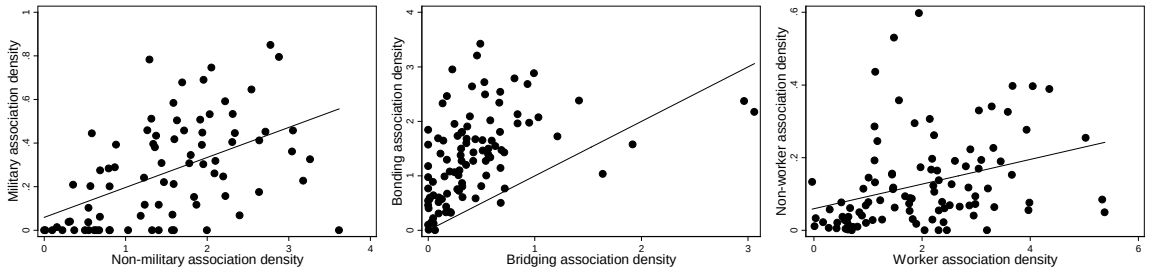

Figure A.4: Scatter for different divisions of social capital

Note: The left panel plots the local density of military associations against non-military associations. The middle panel plots the density of bonding associations against their bridging counterparts. The right panel plots the local density of non-worker associations against worker associations.

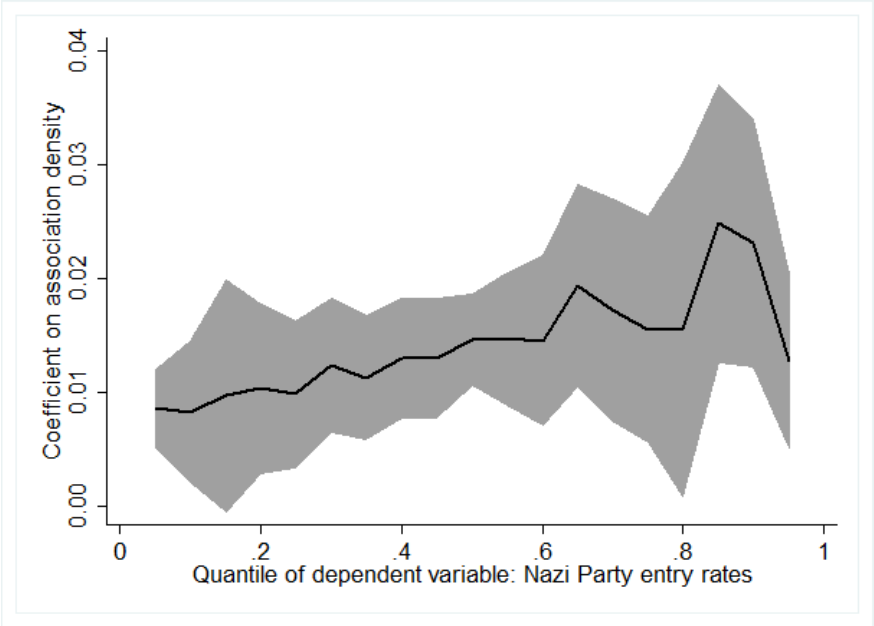

Figure A.5: Quantile regression graph

Note: The figure shows the effect of a unit increase in association density on Nazi Party entry rates, by quantile of the dependent variable. The shaded area reflects the 95% confidence interval of the quantile regressions. The figure is derived for our main specification, with the three baseline controls: share of Catholics, ln(population), and the of share blue collar workers, all measured in 1925. Absolute coefficient sizes are plotted. For standardized beta coefficients, see Table A.9.

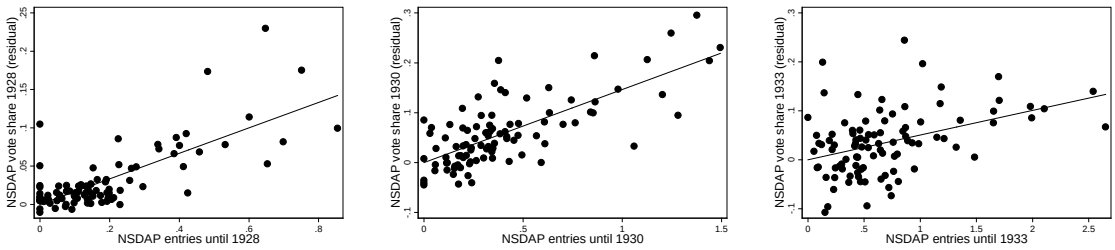

Figure A.6: Nazi Party membership and election results, 1928-33

Note: Each dots indicates a city in our sample. The vertical axis in the three panels plots the residual variation of NSDAP votes in 1928 (left panel), 1930 (middle panel), and 1933 (right panel), after controlling for the variables listed in Table 7 in the paper.

APPENDIX B

Classification scheme: "bridging" vs. "bonding" social capital

Bridging social capital

- Gymnastic clubs
- Athletic associations
- Rifle clubs
- Animal breeding
- Singing associations
- Music clubs
- Chess players
- "odd fellows" etc.
- Alpine societies
- Youth clubs

Bonding social capital

- Verein Deutscher Studenten
- Hunters
- Corps
- Burschenschaften
- Herrenklubs

APPENDIX C

Adjusting aggregate entry rates in the Berlin-Minneapolis NSDAP member sample

The Berlin-Minneapolis sample of NSDAP member records (Schneider-Haase 1991) was drawn as follows. Membership records are stored in card boxes. In a first step, every 25th of these boxes was randomly chosen (yielding altogether 203 boxes). Each box was separated in half, and for each half, the following sampling method was applied: 1) Draw all German NSDAP members with entry dates before 1930.[1] 2) For those who entered in 1930-32, draw the first five in the order of appearance. 3) Draw also five individuals who

[1] For example, Austrians and Sudeten German members were excluded.

entered in 1933, but instead of keeping the first five drawn, use only every third in the order of the cards (Schneider-Haase 1991, p.120).

This approach has the advantage that it provides a sufficiently large number of entries for cross-sectional comparisons, even in earlier years when entries were less frequent. Correspondingly, the average entry rates for each year are relatively stable over time in the Berlin-Minneapolis sample. This is shown in Figure A.7, which also reveals substantial cross-sectional variation within each year (as indicated by the black lines). Our econometric analysis uses the original sample data, because it exploits cross-sectional variation. However, the change in methodology in 1930 introduces a time-inconsistency, so that *overall* entry rates cannot be directly compared. In the following, we describe how we adjust aggregate entry rates over time, and show that our results are robust to these adjustments.

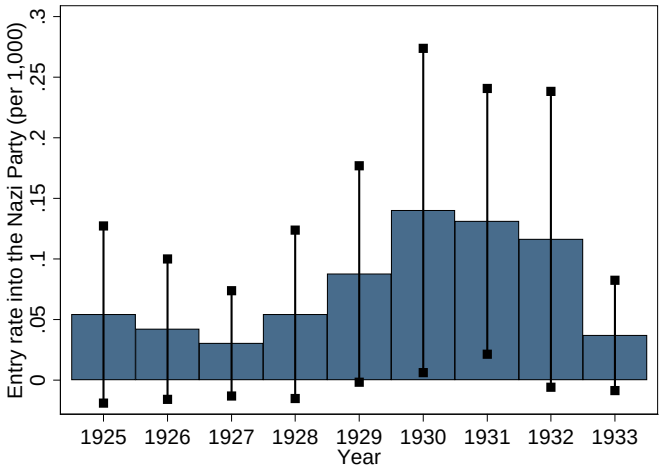

Figure A.7: NSDAP party entries 1925-1933 and cross-sectional variation

Note: Black lines indicate the range of one standard deviation.

Adjusting Nazi Party entries

Kater (1980) collected a sample with a consistent sampling strategy which allows us to infer the aggregate growth in membership for each year.[2] We follow three steps to adjust the Berlin-Minneapolis sample: First, we use the growth rates from the Kater sample to

[2] However, the Kater sample is less adequate for our cross-sectional analysis than the Berlin-Minneapolis sample. The Kater sample includes only 2,339 entries before 1933, Germany-wide. On the other hand, it has a disproportionately larger coverage for the years after the Nazi Party rose to power – 15,916 entries between 1933 and 1945.

extrapolate total entry for each year, starting in 1930; this yields $TotalEntry_t^K$, where $t \geq 1930$ is the year, and K indicates 'Kater'.[3] Second, we calculate the ratio of Kater-adjusted total entries to actual entries in the Berlin-Minneapolis sample ($TotalEntry_t^K / TotalEntry_t^{BM}$). Third, we use this ratio to adjust location-specific entry rates, using the formula:

$$Entry_{it}^{adj} = Entry_{it}^{BM} \cdot \frac{TotalEntry_t^K}{TotalEntry_t^{BM}}$$

where $Entry_{it}^{BM}$ denotes entries in location i in year t, as reflected in the Berlin-Minneapolis sample. This adjustment yields the pattern of entry rates over time shown in Figure A.6 (and Figure 1 in the paper). Later Nazi Party entries are now much more frequent than early ones. Thus, when calculating average entry rates for each city between 1925 and 1933, the later years dominate. This is particularly true for party entries in 1933, which grew by a factor of almost four over one year, according to the Kater sample (and are not shown in Figure A.6). However, since most of these party entries occurred after the NSDAP gained power in March 1933, they are less representative for the purpose of this paper. Below, we show regression results for the Kater-adjusted sample with and without 1933.

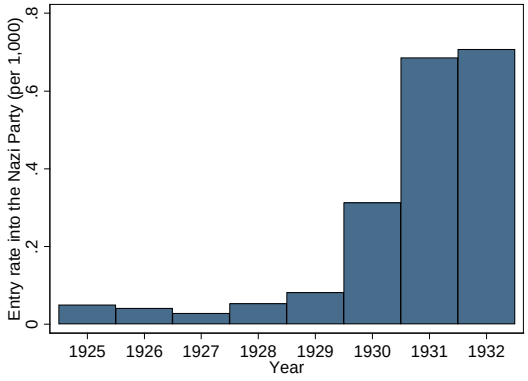

Figure A.8: Adjusted NSDAP entries 1925-1932

Regressions using adjusted entry rates

Table A.1 repeats our basic analysis (see Table 3 in the paper), using Kater-adjusted entry rates. Panel A excludes 1933 for the reasons discussed above, and Panel B includes

[3] The Kater totals are 112 in 1929, 361 in 1930, 829 in 1931, 905 in 1932, and 3,502 in 1933. Thus, for example, $TotalEntry_{1930}^K$ is calculated by multiplying the 1929 entries from the Berlin-Minneapolis sample by 361/112.

1933. Despite the fact that later entry years now receive higher implicit weights, results are remarkably similar to those presented in the paper.[4]

Table A.1: Baseline results with adjusted aggregate entry rates

Dependent variable: Nazi Party entry rates

ASSOC measure	(1) all	(2) non-military	(3) military	(4) all	(5) non-military	(6) military
			PANEL A: Excluding 1933			
ASSOC	0.364***	0.159*	0.415***	0.375***	0.212*	0.341**
	(3.75)	(1.75)	(3.57)	(3.99)	(1.97)	(2.61)
Baseline controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.124	0.013	0.163	0.323	0.280	0.358
			PANEL B: Including 1933			
ASSOC	0.171**	0.214**	0.113	0.144	0.252*	0.059
	(2.31)	(2.25)	(1.60)	(1.61)	(1.99)	(0.58)
Baseline controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.020	0.034	0.002	0.013	0.024	-0.009

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-32 (Panel A), and 1925-33 (Panel B). Party entry rates in this table have been adjusted for the change in sampling methodology in the Berlin-Minneapolis dataset, as described in the text. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. *Baseline controls* include: share Catholic, ln(pop '25), and share blue collar.

Regressions using annually standardized entry rates

As an additional check, we standardize entry rates in each year 1925-33 before calculating average entry rates. This procedure gives the same importance to entries from each year, by exploiting the city-level variation relative to the mean entry rate. Table A.2 gives the results, again with and without 1933. The results are highly significant and of almost identical magnitude as in our baseline analysis in Table 3 in the paper.

[4] As one should expect, including 1933 yields a worse fit, because it introduces substantial noise (which also receives a particularly high weight when calculating average entry rates for 1925-33, because of the large overall entry rates in 1933).

Table A.2: Baseline results with annually standardized entry rates

Dependent variable: Average of standardized Nazi Party entry rates

	(1)	(2)	(3)	(4)	(5)	(6)
ASSOC measure	all	non-military	military	all	non-military	military
			PANEL A: Excluding 1933			
ASSOC	0.437***	0.235**	0.382***	0.462***	0.289**	0.303***
	(5.09)	(2.58)	(5.37)	(4.80)	(2.52)	(3.90)
Baseline controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.183	0.043	0.137	0.331	0.275	0.310
			PANEL B: Including 1933			
ASSOC	0.422***	0.250***	0.351***	0.441***	0.305**	0.272***
	(5.30)	(2.76)	(5.07)	(4.87)	(2.61)	(3.45)
Baseline controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.170	0.051	0.114	0.296	0.238	0.255

Notes: Dependent variable is the *standardized* rate of Nazi Party entry (per 1,000 inhabitants) in each city, averaged over the period 1925-32 (Panel A), and 1925-33 (Panel B). Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. *Baseline controls* include: share Catholic, ln(pop '25), and share blue collar.

APPENDIX D

Further robustness checks

In this appendix, we examine the effect of using logs of the dependent variable, and examine the robustness of our findings by using median regressions. All results presented in the following use data from the original Berlin-Minneapolis sample. Table A.3 shows that we obtain results that are very similar to the baseline in Table 3 when analyzing only late Nazi Party entries (1929-33).

Table A.3: Early and late Nazi Party entry rates, 1929-33

ASSOC measure	(1) all	(2) non-military	(3) military	(4) all	(5) non-military	(6) military
PANEL A: Early Nazi Party entry rates						
ASSOC	0.508***	0.291***	0.292***	0.549***	0.322**	0.213**
	(5.46)	(3.10)	(2.90)	(4.73)	(2.61)	(2.03)
Baseline controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.250	0.073	0.075	0.301	0.199	0.174
Panel B: Late Nazi Party entry rates						
ASSOC	0.321***	0.179*	0.390***	0.318***	0.235**	0.319**
	(3.35)	(1.93)	(3.15)	(3.61)	(2.16)	(2.29)
Baseline Controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.094	0.020	0.143	0.277	0.251	0.308

Notes: In panel A, the dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-28; panel B uses entry rates over the period 1929-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. Baseline controls include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925.

Table A.4 reports results based on propensity score matching. Since our sample does not include a typical zero-one treatment variable for social capital, we construct an indicator that equals one for the upper tercile of association density (for each of the three measures), and zero for the lower tercile, excluding the middle tercile. We begin by matching cities with similar population size (panel A, col 1-3) and find large and significant coefficients for all and non-military associations. For military associations, the coefficient is lower and insignificant. Adding the remaining baseline controls as matching variables (panel A, col 4-6) yields similar results. In panel B of Table A.4 we match cities based on longitude and latitude. Geographical proximity allows us to sidestep omitted variable problems. In col 1-3 we compare nearby cities of similar size, and in col 4-6 we add the full set of baseline controls as matching variables. The results remain almost unchanged when focusing on local variation.

Table A.4: Matching estimation and geographic location

Dependent variable: Nazi Party entry rates, 1925-33

ASSOC measure	(1) all	(2) non-military	(3) military	(4) all	(5) non-military	(6) military
PANEL A: Matching estimation[a]						
ASSOC	0.881***	0.877**	0.519	0.841***	0.601**	0.305
	(2.71)	(2.37)	(1.61)	(3.39)	(2.57)	(1.10)
Matching var.	ln(city pop in 1925)			baseline controls		
Observations	69	55	65	66	53	63
PANEL B: Matching estimation by geographic location[b]						
ASSOC	0.779***	0.698**	0.209	0.984***	0.793***	0.268
	(2.79)	(2.56)	(0.64)	(3.67)	(2.81)	(1.01)
Matching var.	ln(city pop) + longitude, latitude			baseline controls + longitude, latitude		
Observations	69	55	65	66	53	63

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; t-statistics in parentheses * $p < .10$, ** $p < .05$, *** $p < .01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. 'Baseline controls' include: share Catholic, ln(pop '25), and share blue collar.

[a] Matching estimation based on the variables listed in the row "Matching var." Treatment variable is an indicator that equals one for the upper tercile of association density (for each of the three measures) and zero for the lower tercile. The average treatment effect for the treated (ATT) is reported, using robust nearest neighbor estimation with the three closest matches.

[b] Matching estimation based on geography; the matching characteristics are longitude and latitude in addition to the matching variables used in Panel A.

In Table A.5, we use logs of the dependent variable – entry rates into the NSDAP – and of the main explanatory variable. We find nearly-identical results to those presented in Table 3.

Table A.5: Log specification

Dependent variable: Natural log of Nazi Party entry rates, 1925-33

ASSOC measure	(1) all	(2) non-military	(3) military	(4) all	(5) non-military	(6) military
ln(ASSOC)	0.363***	0.226**	0.336***	0.396***	0.310***	0.252*
	(3.94)	(2.58)	(2.82)	(3.60)	(2.78)	(1.97)
Baseline Controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.123	0.039	0.104	0.283	0.274	0.279

Notes: Dependent variable is the natural logarithm of the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1929-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. *Baseline controls* include: share Catholic, ln(pop '25), and share blue collar.

Table A.6 uses a robust estimator that first drops all observations with a Cook's D statistic greater than unity; in a second round, the influence of the remaining observation is reduced using Huber weighting, i.e., in line with the size of the OLS residual. This procedure again yields very similar results, suggesting that our results are not driven by outliers.

Table A.6: Robust regression results

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)
ASSOC measure	all	non-military	military	all	non-military	military
ASSOC	0.318***	0.190**	0.378***	0.376***	0.285***	0.371***
	(4.17)	(2.06)	(4.71)	(4.89)	(3.11)	(4.69)
Baseline Controls				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.138	0.038	0.181	0.269	0.237	0.319

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1929-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. *Baseline controls* include: share Catholic, ln(pop '25), and share blue collar.

In Table A.8, we use median regressions, where we analyze the conditional median instead of the conditional mean by minimizing the absolute deviations from the expected value, and not of the square of deviations. Coefficients are large, and significance levels are high; results are largely identical with those derived in the baseline estimation results under OLS.

Table A.7: Median regression results

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)
ASSOC measure	all	non-military	military	all	non-military	military
ASSOC	0.345***	0.259***	0.352***	0.392***	0.255**	0.332***
	(5.35)	(2.65)	(3.13)	(7.22)	(2.27)	(4.16)
Baseline Controls				yes	yes	yes
Observations	103	82	97	100	79	94

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1929-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. *Baseline controls* include: share Catholic, ln(pop '25), and share blue collar.

In Figure A.2, we show the effect of a unit increase in association density on NS entry rates, by quantile of the dependent variable. The size of the coefficient rises slightly

for higher rates of Nazi Party entry, and stays significant for the full range of values, as indicated by the 95% confidence interval.

Is the effect of association density on party entry rates uniform throughout the range of towns and cities – from the most Nazi-skeptical locations to the most enthusiastic ones? Or are our results driven by behavior at one of the extremes? To examine this question, we estimate quantile regressions where the conditional 25th or 75th percentile is the dependent variable (and we minimize the absolute deviations, not the square). As shown in Table A.8, the effect is somewhat smaller in the sample of all associations for the lower entry rates (col 1) than for the high entry rates (col 4), but the difference is small and not significant. For non-military groups, the size of the coefficients is very similar, and for military associations, entry rates are somewhat more strongly influenced at the top end.[5]

Table A.8: Quantile regressions

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)
ASSOC measure	all	non-military	military	all	non-military	military
	25th percentile			75th percentile		
ASSOC	0.264***	0.257***	0.175**	0.418***	0.245	0.356**
	(3.02)	(3.26)	(2.52)	(3.11)	(1.21)	(2.09)
Baseline controls	yes	yes	yes	yes	yes	yes
Observations	100	79	94	100	79	94

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; *t* statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ is the number of associations per 1,000 inhabitants in each city. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header. Baseline controls include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925.

In the main analysis, we excluded observations for towns with populations below 5,000 inhabitants. These are excluded in the baseline because of the potential for noise to overwhelm the estimation. The noise arises for two reasons. First, it reflects the difficulty of finding NS members in any one locale in the digitized subset of membership records. Second, as the size of a city falls, the need to formally constitute clubs, associations, and

[5] In Figure A.2, we plot the full range of coefficients for all quantiles from the 5th to the 95th, for the main specification (for all associations, with controls). The coefficients rise slightly with Nazi Party entry rates, but are overall remarkably stable and significant.

societies declines – in small towns, many inhabitants know each other personally. Next, we include also small cities in the regressions.

Table A.9 gives the results for the full sample with up to 111 towns and cities. The coefficients in the specifications without controls are now smaller and insignificant. However, once we include the set of controls (which also raises the R^2 substantially), the coefficients are again highly significant and very similar to the baseline.

Table A.9: Including results for towns with less than 5,000 inhabitants

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)
ASSOC measure	all	non-military	military	all	non-military	military
ASSOC	0.212	0.108	0.058	0.414***	0.276**	0.304***
	(1.63)	(1.21)	(0.44)	(4.68)	(2.50)	(3.13)
Share Catholics				-0.321***	-0.372***	-0.352***
				(-3.90)	(-3.79)	(-4.02)
ln(pop)				0.171*	0.252**	0.142*
				(1.95)	(2.58)	(1.83)
Share Blue-collar				-0.245***	-0.279***	-0.244***
				(-3.37)	(-3.18)	(-3.37)
Observations	111	89	105	101	79	95
Adjusted R^2	0.036	0.000	-0.006	0.323	0.262	0.317

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1929-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting all, only non-military, or only military associations, as indicated in the table header.

Including different types of associations simultaneously

Did all types of associations facilitate the rise of the NSDAP? In the paper, we included different types of associations separately. However, the various sub-divisions are highly correlated, e.g., cities with many non-military associations also tend to have dense networks of military clubs (see Figure A.4). In the following, we include the various split subsets simultaneously in order to analyze whether the explanatory power of some outweighs others.[6] Table A.10 reports the results. Columns 1 and 2 show that non-military associations were probably more important for the rise of the Nazi Party than their military counterparts. The same is true for non-worker associations (as opposed to worker-specific

[6] We include these subsets in a pairwise fashion for each corresponding split of overall associations. Including all subsets at the same time is problematic due to multi-collinearity.

ones – see cols 3 and 4). Finally, the difference for bonding vs. bridging associations is less pronounced. While bonding associations have stronger coefficients in the baseline sample (cols 5 and 6), these results are driven by four observations with particularly high bonding association density. When excluding these, the pattern is reversed and bridging associations have stronger coefficient estimates (cols 7 and 8).

Table A.10: Joint Estimation – Different types of associations

Dependent variable: Nazi Party entry rates, 1925-33

	(1)	(2)	(3)	(4)	(5)	(6)	(7)[#]	(8)[#]
$ASSOC_{non\text{-}military}$	0.271**	0.302**						
	(2.38)	(2.39)						
$ASSOC_{military}$	0.013	0.017						
	(0.11)	(0.15)						
$ASSOC_{workers}$			0.007	0.023				
			(0.05)	(0.22)				
$ASSOC_{non\text{-}workers}$			0.282**	0.268**				
			(2.21)	(2.21)				
$ASSOC_{bonding}$					0.297	0.332**	0.099	0.045
					(1.66)	(2.41)	(0.70)	(0.35)
$ASSOC_{bridging}$					0.077	0.105	0.184	0.281**
					(0.61)	(0.80)	(1.33)	(2.03)
Baseline controls	yes	yes	yes	yes	yes	yes	yes	yes
Additional controls	no	yes	no	yes	no	yes	no	yes
Observations	79	77	96	93	94	91	90	87
Adjusted R^2	0.252	0.386	0.283	0.384	0.300	0.444	0.221	0.352

Notes: Dependent variable is the average rate of Nazi Party entry (per 1,000 inhabitants) in each city over the period 1925-33. Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *ASSOC* is the number of associations per 1,000 inhabitants in each city counting those associations indicated in the corresponding subscript. *Baseline controls* include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. *Additional controls* include the full set of political and socioeconomic controls listed in the note to Table 4.

[#] Columns 7 and 8 exclude 4 observations with exceptionally high density of bonding associations.

The Case of Prussia

Table A.11 shows the difference in Nazi Party entry rates, as well as in key control variables, for Prussian vs. non-Prussian territories in Weimar Germany (according to the cities in our sample). Early NSDAP entries (1925-28) were markedly higher lower in Prussia (almost double the rate), while this difference is much less pronounced for later entries (1929-33). A similar pattern holds for election results: the Nazi Party won more than double the votes in non-Prussian territories in 1928, and this difference is much

smaller for later elections. Finally, control variables do not vary in a fashion that would either favor or dampen support for the NSDAP entry in Prussia. For example, while there are more blue collar workers in Prussia (who typically opposed the Nazis), unemployment was also higher (which favored the Nazis).

Table A.11: Balancedness: Prussia vs. the rest of Weimar Germany

		Prussian Territory		
year	variable	Yes	No	t-test
Nazi Party entry and election results				
	Early NSDAP entries	0.035	0.056	(-2.33)
	Late NSDAP entries	0.090	0.115	(-1.61)
	NSDAP votes in 1928	0.021	0.048	(-3.21)
	NSDAP votes in 1930	0.170	0.178	(-0.44)
	NSDAP votes in 1933	0.378	0.417	(-2.05)
Controls				
1912	National Liberal Party (NLP)	0.15	0.16	(-0.55)
	German Conservative Party (DKP)	0.05	0.04	(0.79)
1925	Share Catholics	0.43	0.35	(1.19)
	Population	95,363	83,597	(0.37)
	Share blue collar workers	0.53	0.46	(3.18)
	Share of Jews	0.01	0.01	(-1.68)
1933	Share of unemployed	0.24	0.19	(3.31)
	Welfare recipients per 1000	32.03	25.28	(2.30)
	War participants per 1000	1.24	0.68	(1.43)
	Social insurance pensioners per 1,000	10.06	8.68	(1.55)
	Log(Average income tax payment)	2.34	2.79	(3.64)

Note: * The t-test for the difference between Prussian and non-Prussian territory is reported in the last column of the table.

Table A.12 provides additional results for our analysis of the Prussian case in Section 6.2. Panel A shows that for early Nazi Party entries, the interaction between the Prussia dummy and association density is negative in all, and significant in most specifications. Panel B shows that across the different measures of association density, the interaction effect is never significant (and has inconsistent signs) when focusing on late Nazi Party entries.

Table A.12: Entry rates and association density – the case of Prussia

ASSOC measure	(1) all	(2) non-military	(3) military	(4) all	(5) non-military	(6) military
PANEL A: Early Nazi Party Entries, 1925-28						
ASSOC	0.622***	0.343**	0.695***	0.700***	0.431**	0.793***
	(6.23)	(2.34)	(3.79)	(6.87)	(2.45)	(4.23)
Prussia×*ASSOC*	-0.289**	-0.156	-0.489**	-0.386***	-0.119	-0.712***
	(-2.10)	(-0.80)	(-2.46)	(-2.87)	(-0.54)	(-3.58)
Prussia	0.188	0.104	0.064	2.119**	1.759	2.436**
	(1.59)	(0.57)	(0.57)	(2.13)	(1.63)	(2.46)
Baseline controls				yes	yes	yes
Controls×Prussia				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.267	0.058	0.112	0.345	0.200	0.237
PANEL B: Late Nazi Party Entries, 1929-33						
ASSOC	0.240***	0.164	0.320	0.301***	0.299*	0.321
	(2.97)	(1.11)	(1.15)	(3.27)	(1.67)	(1.17)
Prussia×*ASSOC*	0.133	-0.128	0.078	0.122	-0.113	0.001
	(0.55)	(-0.75)	(0.25)	(0.55)	(-0.52)	(0.00)
Prussia	-0.168	-0.036	-0.155	0.240	1.049	0.681
	(-1.03)	(-0.18)	(-1.04)	(0.25)	(1.01)	(0.73)
Baseline controls				yes	yes	yes
Controls×Prussia				yes	yes	yes
Observations	103	82	97	100	79	94
Adjusted R^2	0.084	0.020	0.141	0.266	0.217	0.284

Notes: Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ is the number of associations per 1,000 inhabitants in each city. *Baseline controls* include: share Catholic, ln(pop '25), and share blue collar. Prussia is a dummy that equals one for cities located in the Prussian state.

APPENDIX E

Relaxing Instrument Exogeneity

In this appendix, we describe our implementation of the generalized IV approach in Conley, Hansen and Rossi (2012), which allows for a direct effect of the instrument on the outcome variable. Since our analysis includes two instruments, we first compute their principal components. This combines our instruments into one variable – note that linear combinations of valid instruments remain valid instruments – c.f. Bai and Ng (2010); Winkelried and Smith (2011).

We first confirm that the IV regressions with the principal component as instrument yield very similar results as those presented in the paper.[7] We then assume, following Conley et al. (2012), that the (potential) direct effect of the instrument on Nazi Party entry, γ, is uniformly distributed in an interval $[0,\delta]$, with $\delta>0$. By varying δ, we identify the threshold at which the second-stage coefficient on (instrumented) association density becomes insignificant at the 10% level. Figure A.9 shows the results for our main specification, using the standard controls and $ASSOC_{all}$ as measure of association density. We identify a threshold of $\hat{\delta} = 0.0076$. That is, as long as the direct effect of our instruments on party entry is smaller than 0.0076, our second stage is still significant at the 10% level.

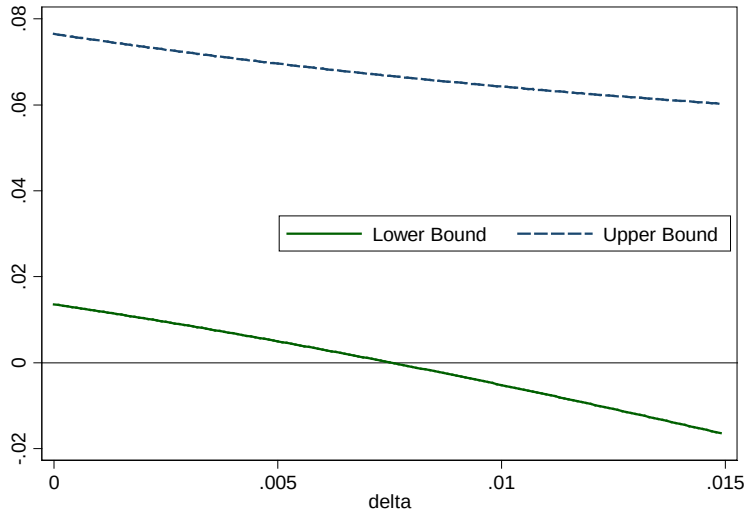

Figure A.9: 90% Confidence interval of main effect

Note: The figure shows the upper and lower bound of the 90% confidence interval of the second-stage coefficient on association density, using our baseline IV specification from column 4 in Table 10 in the paper. The instrument is the first principal component of the two instruments used in Table 10. Following Conley et al. (2012), we allow for a direct effect of the instrument on Nazi Party entry, assuming that this is uniformly distributed over an interval $[0,\delta]$, with $\delta>0$. The interval size δ is plotted on the x-axis. At $\delta=0.0076$, the second-stage coefficient on (instrumented) association density becomes insignificant at the 10% level (i.e., where the lower bound in the graph falls below zero).

To gauge magnitudes, we compare this to the overall reduced-form effect of the principal component instrument on party entry, which is 0.0145 (we also include the baseline controls in this regression; the corresponding beta coefficient is 0.267, and the t-

[7] For example, for the main specification based on all associations (column 4 in Table 10), we obtain a second-stage coefficient on $ASSOC_{all}$ of 1.211 with an Anderson-Rubin p-value of 0.0001, and a first-stage p-value of 0.0186.

statistic is 4.21). Therefore, the direct effect of the instruments on party entry would have to be about one-half of the overall effect to render our IV results insignificant.

APPENDIX F

Altonji-Elder-Taber results

We implement the method proposed by Altonji, Elder, and Taber (2005), and adopted to the continuous case by Bellows and Miguel (2009). The computed ratio compares how much the coefficient on the variables of interest (total association density, density of military and non-military associations) declines as control variables are added.

We run two sets of regressions. First, we estimate (1) without controls and denote the corresponding coefficient $\hat{\beta}^A$. Next, we estimate (1) with different sets of control variables, and denote the coefficient on $ASSOC_i$ by $\hat{\beta}^B$. Then, the Altonji et al. ratio is given by $\hat{\beta}^B/(\hat{\beta}^A - \hat{\beta}^B)$. Intuitively, the larger $\hat{\beta}^B$ the stronger is the effect that is left after controlling for observables – and the more would unoberservables have to explain in order to reduce the coefficient to zero. As for the denominator in the ratio, the smaller is the difference between $\hat{\beta}^A$ and $\hat{\beta}^B$, the less is the estimated coefficient influenced by observables, and the stronger would selection on unobservables have to be relative to selection on observables in order to completely explain away the effect. Importantly, this approach assumes that the variation in Nazi Party entries related to the observables has the same relationship with local association density as the part of the variation reflecting unobservables.

We use two sets of controls to estimate how much stronger the effect of omitted variables would have to be, relative to observables, to attribute the entire OLS estimates to selection effects. The first set consists of our three baseline controls, the second set adds a large number of political and socioeconomic variables. Table A.13 presents the results. For our main measure, including all associations, the R^2 increases from 0.17 to 0.34 when adding the baseline controls, and to 0.50 when using the second set of controls. Thus, the observables that we include account for a substantial share of the overall variation, lending confidence to our use of the Altonji et al. method. In three cases, the implied ratios are negative. This occurs when the observable controls are on average negatively correlated with party entry, yielding stronger coefficient estimates than in the basic regression without controls. In these cases, the Altonji-Elder-Taber test suggests that our OLS estimates are

likely to be downward-biased (provided that the unobservables are positively correlated with the observables). When there is positive correlation between party entry and observables, the ratios range from 2.5 to 9.3. This implies that selection on unobservables would have to be substantially stronger than selection on observables for our main result to be overturned. For our baseline specification using all associations, the coefficient is the least affected by adding controls, suggesting that unobservables would have to be nine times stronger in their effect than observables in order to fully account for the observed effect.

Table A.13: Altonji-Elder-Taber Results

Controls in restricted set	Controls in full set	Association density includes		
		All	Non-military	Military
none	*Baseline controls*	[<0]	[<0]	3.3
none	*Baseline controls + socialeconomic controls + political controls*	9.3	[<0]	2.5

Notes: The table reports the relative strength of selection on unobservables that is required to completely explain the effect of each association density measure on Nazi Party entry, using the methodology from Altonji, Elder, and Taber (2005). The entry [<0] indicates that the respective Altonji et al ratio is negative; in these cases, observables are on average negatively correlated with the outcome variable, suggesting a downward bias for our OLS estimates due to unobservables (if these have similar correlation patterns as the included observables). *Baseline controls* include: share Catholic, ln(pop '25), and share blue collar. *Socialeconomic controls* include: unemployment rate, welfare recipients per 1,000 inhabitants, social insurance pensioners per 1,000 inhabitants, war veterans per 1,000, log(avg. income tax), all from the 1933 Statistik des Deutschen Reichs. *Political controls*: number of Hitler speeches in 1932, share of Jews in 1925, vote shares for nationalist parties from the 1912 federal election: National Liberal Party (NLP), German Conservative Party (DKP).

APPENDIX G

Additional Election Results

Table A.14: Associations and NSDAP election results: Reduced form

Dependent variable: Nazi Party vote share in year *y*

	(1)	(2)	(3)	(4)	(5)	(6)
Year (*y*)	1928	1930	1933	1928	1930	1933
$ASSOC_{all}$	0.374***	0.216**	0.170**	0.345***	0.207*	0.124
	(3.55)	(2.12)	(2.01)	(3.10)	(1.81)	(1.58)
Baseline controls	yes	yes	yes	yes	yes	yes
Additional controls				yes	yes	yes
Observations	98	98	98	95	95	95
Adjusted R^2	0.223	0.316	0.477	0.343	0.504	0.573

Notes: Dependent variable is the vote share for the Nazi Party at the city level in year *y* (indicated in the table header). Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ is the number of associations per 1,000 inhabitants in each city. *Baseline controls* include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. *Additional controls* include the full set of political and socioeconomic controls used in Table 4.

Table A.15: Associations and other election results: Reduced form

Dependent variable: KPD / DNVP vote share in year *y*

	(1)	(2)	(3)	(4)	(5)	(6)
	German Communist Party (KPD)			German National People Party (DNVP)		
Year (*y*)	1928	1930	1933	1928	1930	1933
$ASSOC_{all}$	-0.148**	-0.096	-0.212***	0.171	0.010	0.040
	(-2.19)	(-1.18)	(-2.79)	(1.56)	(0.09)	(0.32)
Baseline controls	yes	yes	yes	yes	yes	yes
Additional controls	yes	yes	yes	yes	yes	yes
Observations	95	95	95	95	95	95
Adjusted R^2	0.579	0.586	0.674	0.341	0.235	0.359

Notes: Dependent variable is the vote share for the German Communist Party (KPD) in cols 1-3, and for the German National People Party (DNVP) in cols 4-6, at the city level in year *y* (indicated in the table header). Standardized beta coefficients; t-statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $ASSOC_{all}$ is the number of associations per 1,000 inhabitants in each city. *Baseline controls* include the share of Catholics, ln(city population), and the share of blue collar workers, all in 1925. Additional controls include the full set of political and socioeconomic controls used in Table 4.

APPENDIX H

Cities and Associations in the Sample

Table A.16: Towns and cities in the sample

1. Ahaus	38. Ettlingen	75. Passau
2. Ahrweiler	39. Euskirchen	76. Menden
3. Altona	40. Freiburg	77. Moers
4. Amberg	41. Gelsenkirchen	78. Moessingen
5. Apolda	42. Gera	79. Muehlheim (Ruhr)
6. Backnang	43. Gifhorn	80. Muenchen
7. Bad Langensalza	44. Gladbeck	81. Muenster
8. Baden Baden	45. Godesberg	82. Neckarsulm
9. Bayreuth	46. Goettingen	83. Neuss
10. Beckum	47. Gotha	84. Neustadt an der Haardt
11. Bernau	48. Guben	85. Northeim
12. Biberach	49. Hannover	86. Pforzheim
13. Bietigheim	50. Heilbronn	87. Plauen
14. Bingen	51. Heiligenstadt	88. Potsdam
15. Bochum	52. Herford	89. Ravensburg
16. Bonn	53. Herne	90. Recklinghausen
17. Borken	54. Hohenlimburg	91. Rendsburg
18. Bretten	55. Ilmenau	92. Rottenburg a. N.
19. Buchen	56. Ingolstadt	93. Rudolstadt
20. Buer	57. Iserlohn	94. Schwaebisch Hall
21. Calau	58. Jena	95. Schweinfurt
22. Castrop-Rauxel	59. Kiel	96. Senftenberg
23. Celle	60. Kleve	97. Singen
24. Chemnitz	61. Konstanz	98. Speyer
25. Coburg	62. Krefeld	99. Steinfurt
26. Cottbus	63. Lahnstein	100. Tailfingen
27. Delmenhorst	64. Lehrte	101. Tuebingen
28. Detmold	65. Luckau	102. Tuttlingen
29. Duerrmenz-Muehlacker	66. Ludwigsburg	103. Uelzen
30. Duesseldorf	67. Luebbenau	104. Villingen
31. Duisburg	68. Luebeck	105. Wanne-Eickel
32. Ebingen	69. Mainz	106. Wattenscheid
33. Eisenach	70. Mannheim	107. Weimar
34. Erfurt	71. Memmingen	108. Weissenfels
35. Essen	72. Nuernberg	109. Westerstede
36. Hagen	73. Oberhausen	110. Wiesbaden
37. Hamburg	74. Paderborn	111. Worms

Table A.17: Associations in the sample

English category	German category	total number	percentage of total
sports clubs	Sportvereine	1,663	19.2%
choirs	Chöre	1,397	16.1%
military associations	Militärclubs	1,240	14.3%
animal breeders	Kleintierzüchter	598	6.9%
gymnastics associations	Turnvereine	567	6.5%
student associations	Burschenschaften	445	5.1%
homeland clubs	Heimatvereine	385	4.4%
rifle clubs	Schützenvereine	263	3.0%
music associations	Musikvereine	256	3.0%
freemasons	Logen	147	1.7%
citizens associations	Bürgervereine	132	1.5%
women's clubs	Frauenvereine	118	1.4%
youth clubs	Jugendvereine	107	1.2%
alpine clubs	Alpenvereine	92	1.1%
"Old boys" club	Altherren	75	0.9%
chess clubs	Schachclubs	43	0.5%
hunters association	Jäger	42	0.5%
Steel Helmet (veteran's association)	Stahlhelm	20	0.2%
gentlemen's club	Herrenclubs	18	0.2%
others	andere	1,048	12.1%
	Total	8,661	100%

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