Civic Associations, Populism, and (Un-)Civic Behavior: Evidence from Germany

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Abstract

Civic associations are often expected to foster civic, pro-social behavior, but this optimistic view is increasingly contested. The political context is crucial for understanding the effects of associations. We argue that populist radical right parties can strategically target and infiltrate civic associations in order to diffuse their anti-establishment rhetoric, spreading anti-democratic attitudes and norms. We illustrate this phenomenon by examining the relationship between civic associations and compliance with government rules during the first Covid lockdown of 2020 in Germany with a difference-in-differences design. Results show that areas with denser sport, nature, and culture clubs recorded higher mobility under lockdown restrictions. To document the infiltration mechanism and the spreading of anti-democratic attitudes within associations, we use survey and election data and qualitative evidence including interviews. In doing so, we shed light on a negative effect of social networks and on an understudied strategy of challenger populist parties.

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1 Summary Statistics

Table A.1: Summary Statistics

Variable	N	Mean	Min	Max	SD
Mobility Changes	21253	-5.510	-61.571	134.286	18.417
All Clubs	389	7.086	1.034	22.230	2.476
Bridging Clubs	389	1.729	0.235	8.236	1.143
Bonding Clubs	389	2.789	0.218	9.162	1.086
Culure Clubs	389	0.334	0.000	1.969	0.243
Nature Clubs	389	0.092	0.000	0.322	0.053
Sport Clubs	389	1.211	0.204	5.919	0.681
Freetime Clubs	389	2.485	0.389	5.799	0.824
Social Clubs	389	1.235	0.047	3.635	0.433
Political Clubs	389	0.952	0.047	5.115	0.555
Interest Clubs	389	0.532	0.050	1.689	0.237
Pct AfD, 2017	400	13.393	4.940	35.465	5.332
Pct AfD, 2013	399	4.708	2.233	8.681	1.089
Change AfD	399	8.698	2.012	27.590	4.741
Lag Covid Cases	21253	37.202	0.000	750.471	69.059
Pct. Turnout	400	75.844	64.083	84.392	3.711
Log Population Total	401	11.982	10.440	15.116	0.660
Log GDP per cap.	401	10.459	9.705	12.058	0.334
Population Density	401	537.014	35.612	4777.039	709.697
Pct. College	396	13.296	5.515	31.774	5.020
Pct. Above 60	401	29.681	20.593	41.105	3.689
Pct. Below 35	400	36.189	25.596	46.820	4.200
Pct. working in Services	401	22.374	9.832	48.304	4.673
Pct. Manufacturing	387	32.585	7.579	63.109	10.605
East Germany	401	0.192	0.000	1.000	0.394
Gender Ratio	401	0.977	0.905	1.053	0.025
Pct. Students	237	4.817	0.010	37.957	6.037
University to Pop. Ratio	401	0.000	0.000	0.000	0.000
Parks to Pop. Ratio	401	0.000	0.000	0.001	0.000
Agreemeent Breaking Law	1494	4.398	1.000	10.000	2.434
Sport Club Member	1500	0.394	0.000	1.000	0.489
Age	1304	3.074	1.000	5.000	1.156
Income	1479	5.128	1.000	9.000	1.356
Education	1376	3.610	1.000	6.000	1.068

2 Data sources

Table A.2: Data Sources

Variable	Description	Year	Source
Mobility Changes	Daily mobility changes compared to 2019, calculated from mobile phone data provided by Telefónica telecommunications company and the private service provider Teralytics AG. The numbers are aggregated as week mean changes. An adjustment is made for public holidays, A value of -20, for example, shows that mobility is 20% lower than in the respective month of 2019. For details see https://www.destatis.de/EN/Service/EXSTAT/Datensaetze/mobility-indicators-mobilephone.html	2020	German Federal Statistical Office
All Clubs	All officially registered clubs and non-profit associations divided by the population and multiplied by 1000. These clubs include social, political, special interest, sport, natue, and freetime clubs.	2008	Frantzen & Botzen 2011
Bridging clubs	Sport, nature, and culture added together divided by the population and multiplied by 1000	2008	Frantzen & Botzen 2011
Bonding clubs	Social, political, and special interest clubs added together divided by the population and multiplied by 1000	2008	Frantzen & Botzen 2011
Culture clubs	Density of culture and art clubs per 1,000 inhabitants	2008	Frantzen & Botzen 2013
Nature clubs	Density of nature clubs per 1,000 inhabitants including those focused on nature, environment, species protection and animal protection	2008	Frantzen & Botzen 2012
Sport clubs	Density of sport clubs per 1,000 inhabitants, e.g. handball, football, athletics, bowling, gymnastics		
Free time clubs	Density of free time clubs per 1,000 inhabitants, e.g. carnval, hunting, chess, gardening, fishing, fan clubs	2008	Frantzen & Botzen 2015
Social clubs	Density of social clubs per 1,000 inhabitants, e.g. the Red Cross, volunteer fire departments, welfare organizations, women's shelters	2008	Frantzen & Botzen 2017
Political clubs	Density of political clubs per 1,000 inhabitants, e.g. professional, trade, and industry associations, unions, political parties	2008	Frantzen & Botzen 2018
Interest clubs	Density of special interest clubs per 1,000 inhabitants, e.g. associations for unemployed, soldiers, retired people, for consumer protection, or citizens movements.	2008	Frantzen & Botzen 2016
Pct. AfD, 2013	Pct. people having voted for AfD in the 2013 election.	2013	National Electoral Bureau
Pct. AfD, 2017	Pct. people having voted for AfD in the 2017 election.	2017	National Electoral Bureau
Change AfD	Pct. change in votes for AfD between the 2017 and 2013 elections.		
GDP per cap	Log Gross domestic product/gross value added for all economic sector in total per year	2017	German Federal Statistical Office
Log pop. total	Log total population measured in 2019.	2019	German Federal Statistical Office
Pop. density	Population density, own calculation from total population divided by area of the county	2019	German Federal Statistical Office

Table A.2: Data Sources - continued

Variable	Description	Year	Source
Pct. college	Percent of inhabitants with a college degree (Fachhoch-/Hochschulabschluss). This is obtained by dividing the total number of people with a college degeree by the total number of people (i.e. people without a professional qualification, people who have professional training of at least one year, and people who graduated from a technical university or university.	2011	German Federal Statistical Office
Pop. above 60	Percent of inhabitants aged 60 or older	2019	German Federal Statistical Office
Pop. below 35	Percent of inhabitants aged 35 or younger	2011	German Federal Statistical Office
Pct. AfD, 2013	Percentage of voters who voted for AfD in last national elections in 2013	2013	Official election statistics
Pct. AfD, 2017	Percentage of voters who voted for AfD in last national elections in 2017	2017	Official election statistics
Pct. change AfD	The difference between the percentage voters in 2017 and percentage voters in 2013.		Authors' calculations
Pct. turnout	Percentage of eligible voters who voted in the 2017 national elections	2017	Official election statistics
Gender Ratio	The ratio of men and women by county.	2019	German Federal Statistical Office
Pct. Students	Percent students out of the total population by county.	2019	German Federal Statistical Office
Agreement Sometimes Okay to Break Law, 2010 and 2016	People's answer to the question "There are times when people have good reasons to break the law". Answers range from 1 to 10.	2010, 2016	LITS
Sport Club	People's answer to the question: "Are you an active/inactive or not a members of 'sport and recreational associations and organizations'." Answers are 1 for active/inactive and 0 otherwise.	2010, 2016	LITS
Age	Respondent's age	2010, 2016	LITS
Income	Repondent's answer to the question "Please imagine a ten-step ladder where on the bottom, the first step, stand the poorest 10% people in our country, and on the highest step, the tenth, stand the richest 10% people in our country. On which step of the ten is your household today?"	2010, 2016	LITS
Education	Respondent's answer to the question "What is the highest education level you have completed". Answers range from 1 - No degree/No education to 8 - Master's degree or PhD	2010, 2016	LITS
Sea Coast	Dummy variables for counties that are located either at the Nordic or Baltic Sea	-	Authors' calculations
Police St. Per Sq. Km	Number of police stations divided by county area		Open Street Map
Lag Covid cases	Number of COVID-19 cases per county based on web-scraping of official statistics from regional and local governments. We sum the provided daily new cases up by week, standardize them by 100,000 inhabitants, and use them with a one-week lag.	2020	Risklayer
University-Population Ratio	The number of universities per county, divided by the population size. Universities were geocoded based on the data from https://www.4icu.org/de/	2023	4icu.org/de
Parks-Population Ratio.	The number of parks per county, divided by the population size. Parks were obtained from Open Street Maps.	2023	Open Street Map

3 Measuring club density

3.1 Data quality

The data for clubs used in this paper is from 2008. This is the most recent available dataset at the county level and is widely used. Here, we describe the reasons that lead us to assume that this measure captures club density in the period up to 2020, which is relevant for this study.

Between 2005 and 2017 "no major changes are apparent" (Breuer *et al.*, 2020, p. 19) in the number of sport clubs (89,870 in 2005 compared to 89,594 in 2017) and sport club members (27.2 million in 2005 vs. 27.4 million in 2017). Another report by Ziviz[1] shows that recently founded associations were rarely in the fields of sport or free time activities (p. 5, see also their text analysis of the names of new associations on p. 11). The low presence of sports clubs among newly founded associations and the overall stability of the number of sports clubs make us confident that the population of sports clubs is relatively stable and that 2008 is an appropriate measure.

Moving beyond sports clubs, we see from the same Ziviz report (p. 3) that the number of all registered associations, regardless of type or activity, has only slightly changed from 570,374 in 2009 to 610,720 in 2019 (p. 3). Another report by Ziviz[2] compares the year of club establishment by type (p. 11). According to this data, associations with a focus on sports (median year of establishment 1970), culture (1991), or nature (1992) are, on average, rather old, which increases our confidence in the measure of bridging clubs. On the other hand, bonding clubs, for example, with a social focus, tend to be more recently established (median establishment between 1996 and 2003), and their measurement from 2008 may be more noisy. In sum, we are highly confident about the stability and validity of data on sports clubs, fairly certain for other bridging clubs and somewhat less certain for other club types.

Another potential concern is that changes since 2008 in the number and density of sports clubs may have differed between rural and urban areas, with clubs increasing significantly in urban areas. We perform separate analyses for urban and rural areas to address this concern. We use two measures to classify counties as urban and rural: (1) the distinction between free cities (Kreisfreie Stadt) and rural counties (Kreis or Landkreis) and (2) counties with above vs. below the mean university-to-population ratio. The results are presented in table A.6 of the appendix.

3.2 Aggregation of Bridging and Bonding Associations

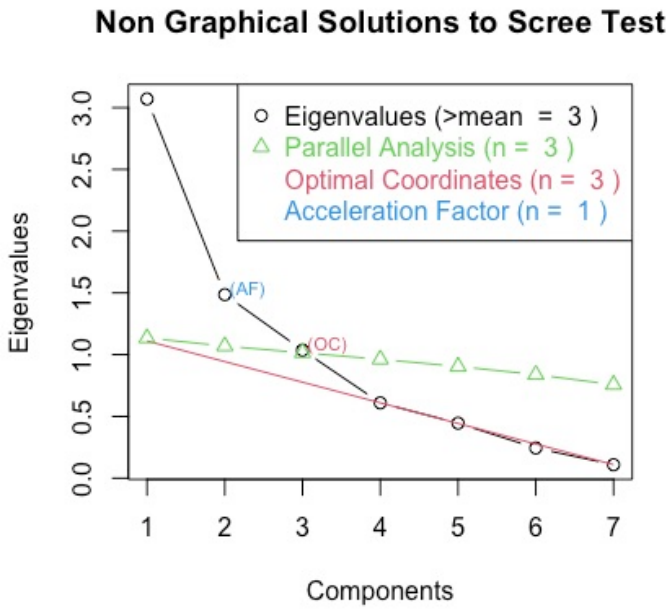
As indicated in the main text, we reduced the seven club categories to three using exploratory factor analysis (varimax rotation). The principal component analysis informed the additive index we created: bridging clubs (consisting of nature, sport, and culture) and bonding clubs (consisting of social, political, and interest). The free-time category represents an entity on its own. All the original clubs (culture, nature, sport, free time, social, political, and interest clubs) are measured at the county level. As indicated in the summary statistics table, there are 389 counties for which we have data.

[1] `https://tinyurl.com/y4crnvnz` (Last checked on October 19, 2023.).

[2] `https://tinyurl.com/4y8rt5va` (Last checked on October 19, 2023.)

To decide on the number of categories, we use `nFactors` package, based on the LRT index for the linear trend in eigenvalues of the covariance matrix described by Bentler & Yuan (n.d.a,n). The results in figure A.1 indicate that the number of factors should be three. The figure compares a few conventional ways to obtain the number of components to retain following a principal components analysis of a correlation matrix, including the Keyser-Guttman rule, parallel analysis, Scree Test Optimal Coordinates, and acceleration factor.

Figure A.1: Determination of factors



Comparison of the determination of the of factors to retain by the optimal coordinates, the acceleration factor, the parallel analysis, and the Keyser-Guttman rule

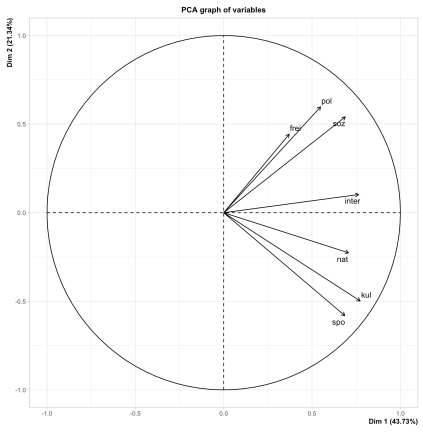
We also interpret each principal component and examine the magnitude and direction of the coefficients for the original variables. These are displayed in table A.3. The first principal component has significant positive associations with Sport, Culture, and Nature clubs. This distinctive category represents what Putnam (2000) calls "bridging networks." To distinguish them from the less institutionalized ways that people develop among themselves, we use the term "associations." These associations bring people from different backgrounds together. For example, a volleyball club is typically a bridging type of club (sport); only enthusiasm for volleyball is necessary. The second component has large positive associations with Social and Political clubs, so this component primarily measures "bonding associations." For example, a Christian-Democratic club would be a bonding association type because it is inward-looking and based on like-minded people's membership. The third component has large positive associations with free-time clubs.

The loading plot in figure A.2 visually shows the results for the first two components. Nature, sport, and culture clubs have large positive loadings on component 1, so this component measures bridging associations. Political, social, and interest clubs have large loadings on component 2, so this component primarily measures bonding clubs.

Table A.3: PCA interpretation

variable	RC1	RC2	RC3
Sport	0.92		0.15
Culture	0.89	0.24	-0.13
Nature	0.69	0.22	0.19
Free time			0.96
Social	0.18	0.65	0.57
Political		0.94	
Interest	0.48	0.67	
SS loadings	2.39	1.87	1.32
Proportion Var	0.34	0.27	0.19
Cumulative Var	0.34	0.61	0.80

Figure A.2: Loading Plot of Bridging and Bonding Clubs



4 Differences-in-differences

4.1 Differences-in-differences extended table

Table A.4 is an extended version of table 1 in the main text. To save space in the main text, we did not include the coefficients for the control variables. We show the coefficients for the main control variables in table A.4. To reiterate some of the insights from table A.4, turnout - a prominent measure of civicness, is only mildly associated with mobility changes, which is consistent with the recent literature (Barrios *et al.*, 2021; Ding *et al.*, 2020; Durante *et al.*, 2021). Total population, GDP per capita, and employment shares in service and manufacturing sectors have somewhat inconsistent effects on mobility changes. East Germany and the lagged number of Covid cases in the previous week are always associated with stronger mobility reduction while a higher gender ratio (more men than women in a county) has a positive effect (less mobility reduction).

As discussed in the main text, we cannot compute the Conley Standard Errors once we include university-population and parks-population ratio, due to the excessive multicollinearity introduced in the model. Thus we also run our models, just with cluster-robust standard errors in table A.5.

One potential concern is that changes since 2008 in the number and density of sports clubs may have differed between rural and urban areas, with clubs increasing significantly in urban areas. We perform separate analyses for urban and rural areas to address this concern. We use two measures to classify counties as urban and rural: (1) the distinction between free cities (Kreisfreie Stadt) and rural counties (Kreis or Landkreis) and (2) counties with above vs. below the mean university-to-population ratio. The results are presented in table A.6. No apparent differences emerge.

Finally, in table A.7 we ask what happens to the bridging/bonding categories if one type of club is included in one category rather than the other. To illustrate, we examine the results where we include culture clubs in bonding and exclude them from bridging in table A.7: the results remain highly similar.

Table A.4: Difference-in-differences - extended

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
Variable	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE
All Networks	-2.073	(1.008)*	[2.027]	1.003	(1.335)	[1.125]												
Bridging							-26.384	(1.271)***	[2.884]***	-2.404	(1.516)	[1.354]						
Bonding													1.499	(0.966)	[1.897]	1.443	(1.345)	[1.15]
Post Week 11 Dummy	-26.201	(2.523)***	[3.169]***	-27.103	(4.02)***	[2.763]***	-25.953	(2.408)***	[3.098]***	-27.096	(3.96)***	[2.585]***	-25.125	(2.235)***	[2.969]***	-25.043	(3.6)***	[2.366]***
Post Week 11 x All Networks	2.035	(1.231)	[0.979]*	0.671	(1.49)	[1.22]												
Post Week 11 x Bridging							5.748	(1.544)***	[1.426]***	5.24	(2.001)**	[1.67]**						
Post Week 11 x Bonding													-2.358	(1.185)*	[0.896]**	-3.796	(1.355)**	[1.073]***
Pct. Turnout				-0.467	(0.227)*	[0.184]*				-0.429	(0.233)	[0.195]*				-0.465	(0.222)*	[0.185]*
Log Pop. Total				-1.145	(0.853)	[0.662]				-1.182	(0.844)	[0.666]				-1.212	(0.868)	[0.665]
Log GDP/capita				-3.902	(1.976)*	[1.603]*				-3.123	(1.939)	[1.62]				-2.967	(1.91)	[1.548]
Pop. Density				-0.001	(0.001)	[0.001]*				-0.001	(0.001)	[0.001]*				-0.002	(0.001)*	[0.001]**
Pct. College				0.216	(0.22)	[0.172]				0.155	(0.221)	[0.175]				0.182	(0.224)	[0.177]
Pct. Pop. above 60				0.218	(0.432)	[0.341]				0.175	(0.426)	[0.346]				0.245	(0.445)	[0.349]
Pct. Pop. below 35				-0.529	(0.344)	[0.267]*				-0.578	(0.337)	[0.266]*				-0.608	(0.332)	[0.254]*
Pct. Empl. Hospitality and Transport				-0.032	(0.104)	[0.078]				-0.065	(0.099)	[0.076]				-0.115	(0.103)	[0.075]
Pct. Empl. Manufacturing				0.066	(0.087)	[0.066]				0.034	(0.082)	[0.064]				0.021	(0.086)	[0.064]
East Germany				-12.88	(4.16)**	[4.404]**				-9.773	(3.946)*	[4.013]*				-12.876	(3.915)**	[4.177]**
Lag Covid per Cap.	-0.016	(0.004)***	[0.004]***	-0.019	(0.006)**	[0.006]***	-0.015	(0.004)***	[0.004]***	-0.017	(0.006)**	[0.006]**	-0.016	(0.004)***	[0.004]***	-0.019	(0.006)**	[0.006]***
Gender Ratio				61.939	(20.177)**	[15.288]***				61.509	(19.691)**	[15.26]***				58.374	(19.75)**	[14.624]***
Pct. Students				-0.117	(0.111)	[0.084]				-0.085	(0.1)	[0.078]				-0.03	(0.092)	[0.071]
Mean Mobility	-5.362			-7.207			-5.362			-7.207			-5.362			-7.207		
SD Mobility	18.402			17.175			18.402			17.175			18.402			17.175		
No. Cross-Sections	389			211			389			211			389			211		
No. Time Units	53			53			53			53			53			53		
County FE	Yes			No			Yes			No			Yes			No		
Week FE	Yes			Yes			Yes			Yes			Yes			Yes		
Week X Land FE	Yes			Yes			Yes			Yes			Yes			Yes		
Adj. R sq.	0.84			0.787			0.842			0.788			0.84			0.789		
Observations	20617			11183			20617			11183			20617			11183		

Note: This table shows the effect of networks on mobility in the post-lockdown period. The dependent variable is mobility as measured by the government. The interactions between the period after week 11 and different types of networks (all networks, bridging, bonding) are the variables of interest. All networks, bridging or bonding take the value of 1 for counties with density of these individual networks above the mean. Similarly, the post-lockdown period is marked with 1. The standard errors are clustered at a county level in round brackets and adjusted for spatial (all networks - 455 km; bridging - 538 km; bonding - 455 km) and serial (10 weeks) correlation in the square brackets. Significant at ∗10%, ∗∗5%, and ∗∗∗1%.

Table A.5: Difference-in-differences - Without Conley SE

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Variable	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE
All Networks	-2.073	(1.008)*	0.845	(1.401)								
Bridging					-25.994	(1.256)***	-2.116	(1.57)				
Bonding									1.499	(0.966)	1.008	(1.396)
Post Week 11 Dummy	-26.201	(2.523)***	-27.168	(4.015)***	-25.954	(2.408)***	-27.18	(3.955)***	-25.125	(2.235)***	-25.084	(3.595)***
Post Week 11 x All Networks	2.035	(1.231)	0.673	(1.49)								
Post Week 11 x Bridging					5.748	(1.544)***	5.249	(2.002)**				
Post Week 11 x Bonding									-2.358	(1.185)*	-3.795	(1.356)**
Pct. Turnout			-0.537	(0.219)*			-0.497	(0.223)*			-0.532	(0.215)*
Log Pop. Total			-1.064	(0.817)			-1.087	(0.798)			-0.988	(0.81)
Log GDP/capita			-4.013	(1.99)*			-3.295	(1.966)			-3.365	(1.939)
Pop. Density			-0.001	(0.001)			-0.001	(0.001)			-0.001	(0.001)
Pct. College			0.305	(0.224)			0.251	(0.22)			0.27	(0.226)
Pct. Pop. above 60			0.417	(0.423)			0.388	(0.409)			0.482	(0.426)
Pct. Pop. below 35			-0.329	(0.376)			-0.358	(0.361)			-0.278	(0.363)
Pct. Empl. Hospitality and Transport			-0.019	(0.11)			-0.045	(0.107)			-0.053	(0.11)
Pct. Empl. Manufacturing			0.069	(0.087)			0.038	(0.085)			0.048	(0.088)
East Germany			-13.367	(4.268)**			-10.589	(4.124)*			-14.073	(4.243)***
Lag Covid per Cap.	-0.016	(0.004)***	-0.017	(0.006)**	-0.015	(0.004)***	-0.015	(0.006)**	-0.016	(0.004)***	-0.019	(0.006)***
Gender Ratio			62.666	(21.083)**			63.279	(20.708)**			57.348	(20.282)**
Pct. Students			-0.188	(0.156)			-0.17	(0.146)			-0.146	(0.134)
University-Population Ratio			141686.802	(97236.874)			155990.78	(94648.972)			143254.007	(94484.047)
Parks-Population Ratio			12766.402	(5655.035)*			13436.798	(5816.312)*			14937.661	(5899.651)*
Mean Mobility	-5.362		-7.207		-5.362		-7.207		-5.362		-7.207	
SD Mobility	18.402		17.175		18.402		17.175		18.402		17.175	
No. Cross-Sections	389		211		389		211		389		211	
No. Time Units	53		53		53		53		53		53	
County FE	Yes		No		Yes		No		Yes		No	
Week FE	Yes		Yes		Yes		Yes		Yes		Yes	
Week X Land FE	Yes		Yes		Yes		Yes		Yes		Yes	
Adj. R sq.	0.84		0.791		0.842		0.793		0.84		0.794	
Observations	20617		11183		20617		11183		20617		11183	

Note: This table shows the effect of networks on mobility in the post-lockdown period. The dependent variable is mobility as measured by the government. The interactions between the period after week 11 and different types of networks (all networks, bridging, bonding) are the variables of interest. All networks, bridging or bonding take the value of 1 for counties with density of these individual networks above the mean. Similarly, the post-lockdown period is marked with 1. The standard errors are clustered at a county level in round brackets. Significant at ∗10%, ∗∗5%, and ∗∗∗1%.

Table A.6: Difference-in-differences - Proxying for Urbanization

	M1: Free Cities (Kreisfreie Stadt)				M2: Counties (Kreis)				M3: Above Mean Uni-Pop. Ratio				M4: Below Mean Uni-Pop. Ratio			
Variable	Estimate	SE	Robust SE	Conley SE	Estimate	SE	Robust SE	Conley SE	Estimate	SE	Robust SE	Conley SE	Estimate	SE	Robust SE	Conley SE
Bridging	-17.312	(1.244)***	(3.313)***	[2.425]***	-23.838	(1.271)***	(1.305)***	[2.165]***	-2.259	(1.285)+	(1.408)+	[1.987]+	-26.252	(1.484)***	(2.69)***	[3.781]***
Post Week 11 Dummy	-38.317	(4)***	(1.765)***	[2.27]***	-21.609	(3.092)***	(1.934)***	[2.548]***	-23.314	(3.262)***	(2.264)***	[3.939]***	-31.45	(4.484)***	(5.217)***	[4.404]***
Post Week 11 x Bridging	6.537	(0.719)***	(4.08)*	[2.488]**	2.633	(0.431)***	(1.583)*	[1.261]*	3.785	(0.466)***	(1.701)*	[1.37]**	6.449	(0.678)***	(3.324)*	[1.889]***
Mean Mobility	-11.385				-3.416				-7.82				-4.198			
SD Mobility	17.364				18.307				19.715				17.629			
No. Cross-Sections	95				294				125				264			
No. Time Units	53				53				53				53			
County FE	Yes				Yes				Yes				Yes			
Week FE	Yes				Yes				Yes				Yes			
Week X Land FE	Yes				Yes				Yes				Yes			
Adj. R sq.	0.894				0.843				0.871				0.829			
Observations	5035				15582				6625				13992			

Note: This table shows the effect of networks on mobility in the post-lockdown period. The dependent variable is mobility as measured by the government. The interactions between the period after week 11 and bridgingg networks. These take the value of 1 for counties with density of these individual networks above the mean. Similarly, the post-lockdown period is marked with 1. The standard errors are clustered at a county level in round brackets and adjusted for spatial (bridging - 538 km) and serial (10 weeks) correlation in the square brackets. Significant at +10%, ∗5%, ∗1%, and ∗0.1%.

Table A.7: Difference-in-differences - Excluding Culture Clubs from Bridging and Including them in Bonding

	Model 1			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7			Model 8		
Variable	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE	Estimate	Robust SE	Conley SE
Bridging	-26.384	(1.271)***	[2.884]***	-2.404	(1.516)	[1.354]																		
Bridging (Excl. Culture)							-27.519	(1.187)***	[2.871]***	-3.848	(1.445)**	[1.239]**												
Bonding													1.499	(0.966)	[1.897]	1.443	(1.345)	[1.15]						
Bonding (Incl. Culture)																			1.844	(0.951)	[1.799]	3.383	(1.328)*	[1.138]**
Post Week 11 Dummy	-25.953	(2.408)***	[3.098]***	-27.096	(3.96)***	[2.585]***	-25.952	(2.408)***	[3.098]***	-27.113	(3.959)***	[2.581]***	-25.125	(2.235)***	[2.969]***	-25.043	(3.6)***	[2.366]***	-24.796	(2.24)***	[2.926]***	-25.039	(3.578)***	[2.223]***
Post Week 11 x Bridging	5.748	(1.544)***	[1.426]***	5.24	(2.001)**	[1.67]**																		
Post Week 11 x Bridging (Excl. Culture)							7.148	(1.448)***	[1.274]***	7.102	(1.761)***	[1.479]***												
Post Week 11 x Bonding													-2.358	(1.185)*	[0.896]**	-3.796	(1.355)**	[1.073]***						
Post Week 11 x Bonding (Incl. Culture)																			-2.783	(1.165)*	[0.944]**	-3.848	(1.322)**	[1.105]***
Pct. Turnout				-0.429	(0.233)	[0.195]*				-0.457	(0.229)*	[0.192]*				-0.465	(0.222)*	[0.185]*				-0.468	(0.226)*	[0.189]*
Log Pop. Total				-1.182	(0.844)	[0.666]				-1.165	(0.839)	[0.661]				-1.212	(0.868)	[0.665]				-1.198	(0.881)	[0.694]
Log GDP/capita				-3.123	(1.939)	[1.62]				-3.31	(1.916)	[1.596]*				-2.967	(1.91)	[1.548]				-3.39	(1.955)	[1.627]*
Pop. Density				-0.001	(0.001)	[0.001]*				-0.001	(0.001)	[0.001]*				-0.002	(0.001)*	[0.001]**				-0.002	(0.001)*	[0.001]**
Pct. College				0.155	(0.221)	[0.175]				0.189	(0.22)	[0.174]				0.182	(0.224)	[0.177]				0.183	(0.218)	[0.173]
Pct. Pop. above 60				0.175	(0.426)	[0.346]				0.187	(0.423)	[0.342]				0.245	(0.445)	[0.349]				0.177	(0.453)	[0.366]
Pct. Pop. below 35				-0.578	(0.337)	[0.266]*				-0.572	(0.334)	[0.264]*				-0.608	(0.332)	[0.254]*				-0.605	(0.341)	[0.268]*
Pct. Empl. Hospitality and Transport				-0.065	(0.099)	[0.076]				-0.068	(0.099)	[0.076]				-0.115	(0.103)	[0.075]				-0.063	(0.106)	[0.081]
Pct. Empl. Manufacturing				0.034	(0.082)	[0.064]				0.038	(0.083)	[0.064]				0.021	(0.086)	[0.064]				0.052	(0.087)	[0.068]
East Germany				-9.773	(3.946)*	[4.013]*				-8.857	(4.035)*	[3.882]*				-12.876	(3.915)**	[4.177]**				-13.199	(4.183)**	[4.644]**
Lag Covid per Cap.	-0.015	(0.004)***	[0.004]***	-0.017	(0.006)**	[0.006]**										-0.019	(0.006)**	[0.006]***				-0.019	(0.006)**	[0.006]**
Gender Ratio				61.509	(19.691)**	[15.26]***				61.821	(20.265)**	[15.612]***				58.374	(19.75)**	[14.624]***				58.931	(19.851)**	[15.537]***
Pct. Students				-0.085	(0.1)	[0.078]				-0.082	(0.099)	[0.077]				-0.03	(0.092)	[0.071]				-0.076	(0.096)	[0.075]
Mean Mobility	-5.362			-7.207			-5.362			-7.207			-5.362			-7.207			-5.362			-7.207		
SD Mobility	18.402			17.175			18.402			17.175			18.402			17.175			18.402			17.175		
No. Cross-Sections	389			211			389			211			389			211			389			211		
No. Time Units	53			53			53			53			53			53			53			53		
County FE	Yes			No			No			No			No			No			No			No		
Week FE	Yes			Yes			Yes			Yes			Yes			Yes			Yes			Yes		
Week X Land FE	Yes			Yes			Yes			Yes			Yes			Yes			Yes			Yes		
Adj. R sq.	0.842			0.788			0.843			0.79			0.84			0.789			0.84			0.787		
Observations	20617			11183			20617			11183			20617			11183			20617			11183		

Note: This table shows the effect of networks on mobility in the post-lockdown period. The dependent variable is mobility as measured by the government. The interactions between the period after week 11 and different types of networks (all networks, bridging, bonding) are the variables of interest. All networks, bridging or bonding take the value of 1 for counties with density of these individual networks above the mean. Similarly, the post-lockdown period is marked with 1. The standard errors are clustered at a county level in round brackets and adjusted for spatial (all networks - 455 km; bridging - 538 km; bonding - 455 km) and serial (10 weeks) correlation in the square brackets. Significant at *10%, **5%, and ***1%.

4.2 Covid as an Outcome

In this section, we change the outcome from mobility to Covid cases. We thus calculated the changes in the number of Covid cases from week to week and re-ran the analysis. The results presented in figure A.3 suggest that counties with above the mean bridging clubs, which have higher mobility, do not seem to record a higher number of Covid cases. Panel A displays averages for places above and below the mean bridging clubs, while Panel B shows the effects per week. It turns out that places with above the mean bridging clubs have fewer Covid cases. This could be because of more robust testing and contact tracing efforts in place, but fully elucidating the reason goes beyond the scope of this paper. These results are estimated in table A.8.

Figure A.3: Bridging Associations and Covid Cases

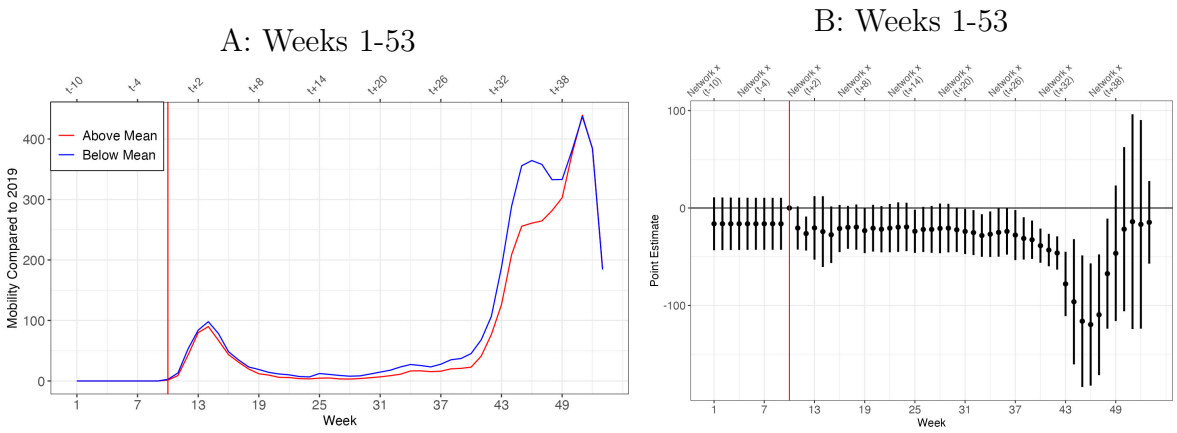


Table A.8: Difference-in-differences - Covid as Outcome

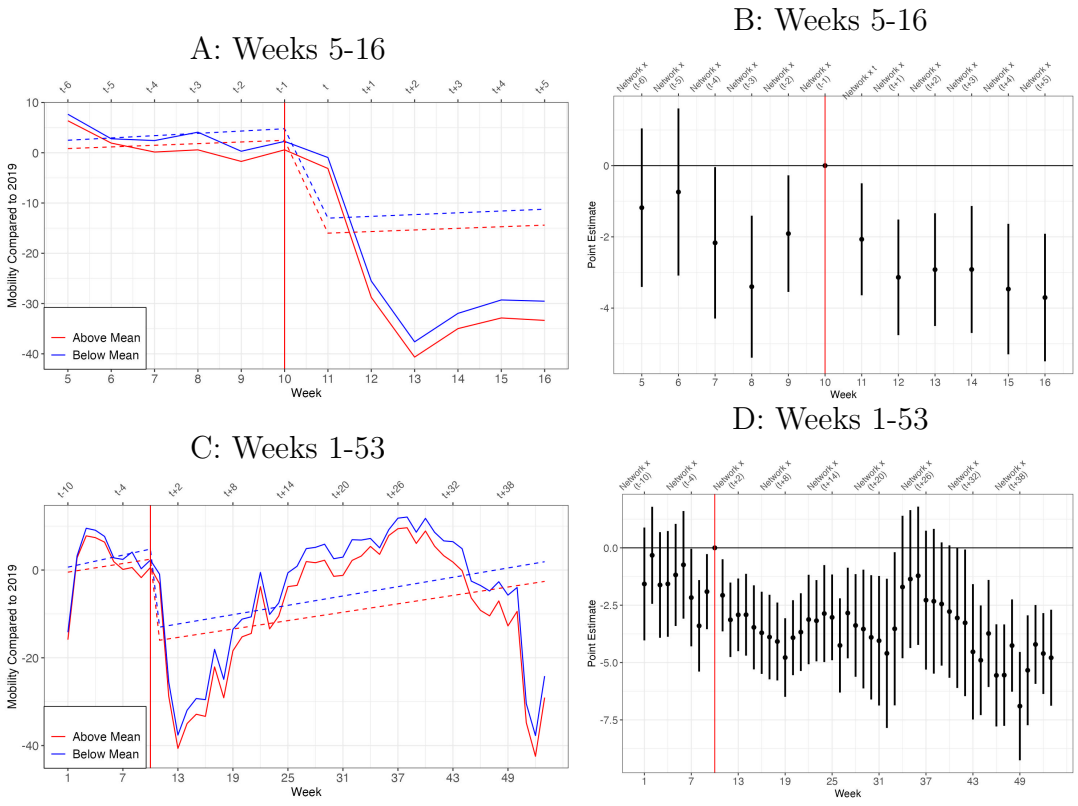
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Variable	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE	Estimate	Robust SE
All Networks	31.048	(6.756)***	21.038	(11.329)								
Bridging					63.841	(7.89)***	48.577	(16.332)**				
Bonding									7.311	(9.51)	-1.927	(11.834)
Post Week 11 Dummy	99.09	(21.445)***	154.043	(39.999)***	96	(21.671)***	150.5	(40.655)***	93.973	(22.298)***	142.784	(43.706)**
Post Week 11 x All Networks	-23.175	(8.327)**	-21.258	(13.895)								
Post Week 11 x Bridging					-39.025	(8.031)***	-52.502	(13.604)***				
Post Week 11 x Bonding									6.082	(11.721)	15.432	(16.617)
Pct. Turnout			-1.317	(1.477)			-1.203	(1.514)			-1.329	(1.478)
Log Pop. Total			115.777	(13.299)***			115.741	(13.224)***			115.98	(13.173)***
Log GDP/capita			34.658	(18.568)			36.6	(18.107)*			33.97	(18.378)
Pop. Density			0.042	(0.019)*			0.042	(0.02)*			0.042	(0.019)*
Pct. College			-1.376	(1.939)			-1.532	(1.853)			-1.491	(1.908)
Pct. Pop. above 60			1.117	(5.432)			1.027	(5.361)			0.766	(5.336)
Pct. Pop. below 35			-5.066	(4.289)			-5.144	(4.342)			-5.182	(4.264)
Pct. Empl. Hospitality and Transport			-0.096	(0.643)			-0.16	(0.622)			0.103	(0.66)
Pct. Empl. Manufacturing			-0.219	(0.784)			-0.302	(0.737)			-0.096	(0.813)
East Germany			46.303	(28.396)			26.021	(32.816)			65.417	(25.164)**
Gender Ratio			-30.304	(208.727)			-28.807	(210.557)			-32.126	(209.01)
Pct. Students			-0.276	(0.808)			-0.231	(0.844)			-0.474	(0.844)
University-Population Ratio			202672.597	(539942.44)			242275.919	(540499.436)			288585.258	(552462.667)
Parks-Population Ratio			30712.618	(59774.024)			32397.007	(57414.664)			30146.524	(59110.388)
Mean Mobility	82.208		99.587		82.208		99.587		82.208		99.587	
SD Mobility	255.914		244.619		255.914		244.619		255.914		244.619	
No. Cross-Sections	389		211		389		211		389		211	
No. Time Units	53		53		53		53		53		53	
County FE	Yes		No		Yes		No		Yes		No	
Week FE	Yes		Yes		Yes		Yes		Yes		Yes	
Week X Land FE	Yes		Yes		Yes		Yes		Yes		Yes	
Adj. R sq.	0.834		0.688		0.834		0.688		0.833		0.688	
Observations	20617		11183		20617		11183		20617		11183	

Note: This table shows the effect of networks on the change in Covid cases in the post-lockdown period. The dependent variable is the change in Covid cases from one week to another. The interactions between the period after week 11 and different types of networks (all networks, bridging, bonding) are the variables of interest. All networks, bridging or bonding take the value of 1 for counties with density of these individual networks above the mean. Similarly, the post-lockdown period is marked with 1. The standard errors are clustered at a county level in round brackets. Significant at ∗10%, ∗∗5%, and ∗∗∗1%.

4.3 Differences-in-differences for other types of clubs

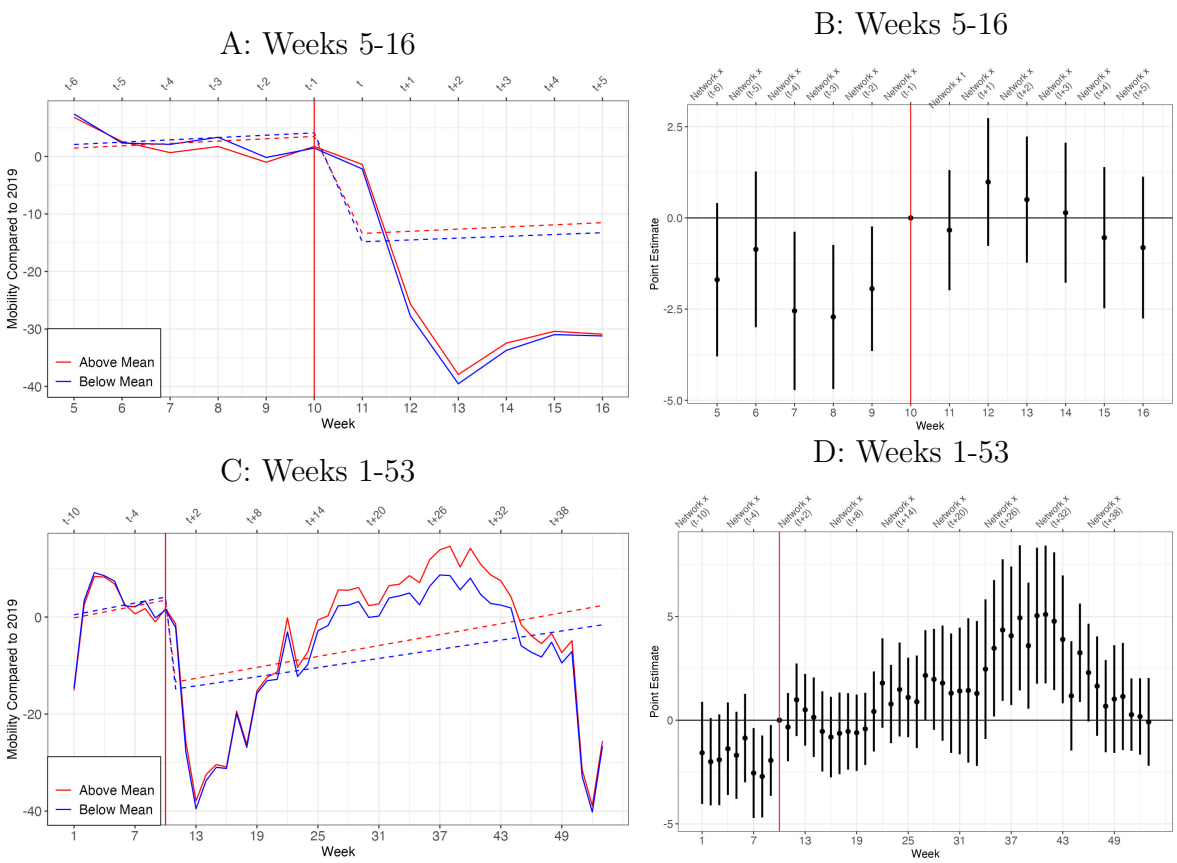
The panels in figure A.4 display the differences in mobility patterns for counties above and below the mean density of bonding clubs. Panels B and D show the event study for bonding associations focusing on weeks between 5 and 16 (panel B) and the entire year of 2020 (panel D). The variable of interest in panels B and D is the interaction between the bonding clubs indicator and the post-lockdown period, which starts in week 11. Similar to previous specifications, the specification includes state-fixed effects for time-invariant heterogeneity at a state level and week-fixed effects. Panels A and B of figure A.4 depict time trends. The results suggest that counties with a higher concentration of bonding clubs have lower mobility patterns due to lockdown measures. Finally, the panels in figure A.5 depict again the differences in mobility patterns for counties above and below the mean density of all clubs. While overall, counties with more clubs display higher mobility patterns, these results are not statistically significant.

Figure A.4: Difference-in-differences and event study for bonding clubs



Notes: This figure shows the evolution over time of the effect of density of bonding associations over mobility. (A, B) The analysis for weeks 5-16 of 2020. (C, D) The analysis for weeks 1-53 of 2020. Panels A and C report the trends in mobility and the linear fit for such trends by the presence of bonding associations. The comparison is between counties with an above-the-mean density of bonding associations (Above the mean, red line) and counties with below-the-mean density of bonding associations (Below the mean, blue line). The variables Networks $\times$ (t + τ) are interaction terms of Networks - an indicator variable taking the value of 1 for counties that have above-the-mean density of bonding associations - with indicator variables for each week. Period t identifies the starting week of the lockdown, and the red vertical solid line visually separates the pre-lockdown and the post-lockdown periods. The model only includes state fixed effects and week fixed effects. Panels B and D report each point estimate of Networks $\times$ (t + τ) for the effect of bonding association presence in a specific week together with the 95% confidence intervals. Confidence intervals are based on spatially (455 km) and serially (10 weeks) correlated standard errors.

Figure A.5: Difference-in-differences and event study and for all clubs



Notes: This figure shows the evolution over time of the effect of density of all (Vereine) associations over mobility. (A, B) The analysis for weeks 5-16 of 2020. (C, D) The analysis for weeks 1-53 of 2020. Panels A and C report the trends in mobility and the linear fit for such trends by the presence of all associations. The comparison is between counties with an above-the-mean density of all associations (Above the mean, red line) and counties with below-the-mean density of all associations (Below the mean, blue line). Panels B and D report the event study analysis. The dependent variable is mobility compared to 2019. The variables Networks $\times$ (t + τ) are interaction terms of Networks - an indicator variable taking the value of 1 for counties that have an above-the-mean density of all associations - with indicator variables for each week. Period t identifies the starting week of the lockdown, and the red vertical solid line visually separates the pre-lockdown and the post-lockdown periods. The model only includes state fixed effects and week fixed effects. Panels B and D report each point estimate of Networks $\times$ (t + τ) for the effect of all association presence in a specific week together with the 95% confidence intervals. Confidence intervals are based on spatially (455 km) and serially (10 weeks) correlated standard errors.

4.4 Robustness Analysis

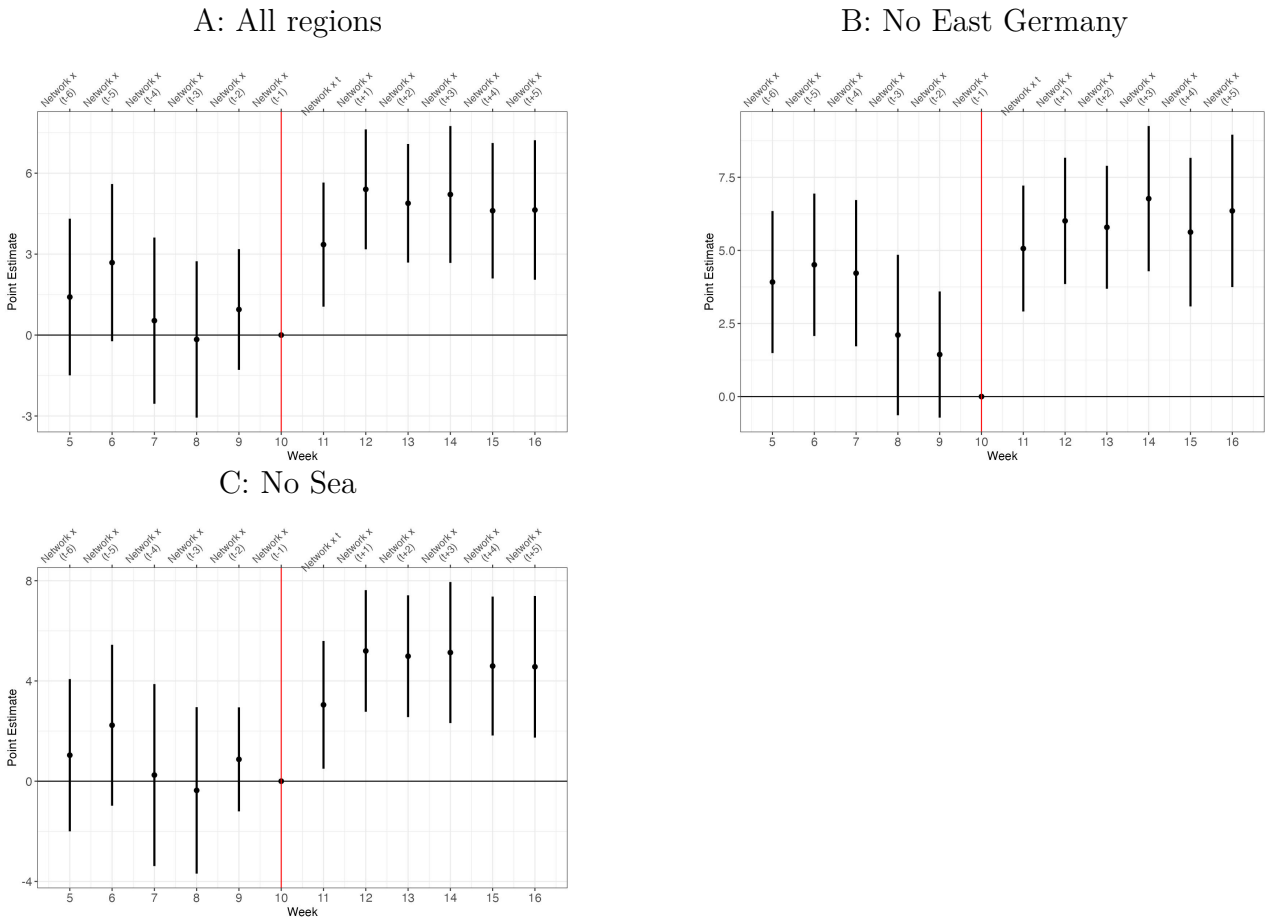
Sample selection

In the paper's baseline, we include all the counties in Germany. In figure A.6, we test whether East Germany could drive the results. Hence, we exclude East Germany entirely from the analysis. As indicated in panel B of figure A.6, the results still hold. We also investigate whether the results could be driven by more people traveling to the northern regions bordering the Baltic coast. The logic is that those areas might have seen an influx of tourists as a result of the recommendation by the government not to travel abroad. The results in panel C of figure A.6 indicate that the main findings still hold once those areas are excluded from the analysis.

Trends for control variables

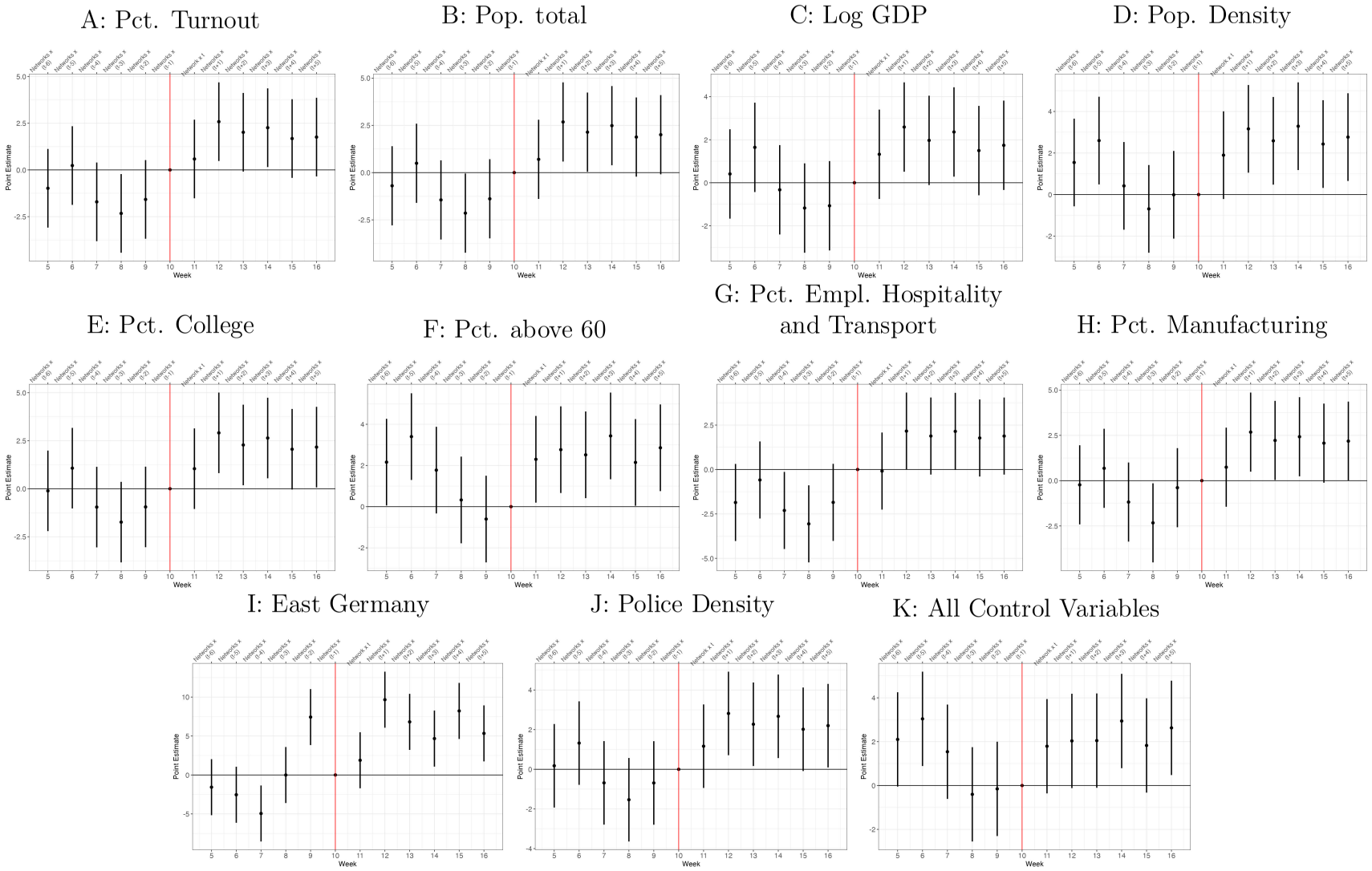
We also test whether our results are affected by heterogeneity in the reaction to the lockdown measure due to different levels in the control variables. To run the test, we interacted every control variable with every week. The control variables we interacted with are turnout, log population total, log GDP per capita, population density, percentage of people with a college degree, percentage of population above 60, percentage of people employed in hospitality and transport, and percentage employment in manufacturing. We then included the interactions on the right-hand side. This is a highly demanding specification, so the results in figure A.7 show smaller magnitudes and statistical power.

Figure A.6: Robustness 1: Removing Different Regions



Notes: This figure shows the evolution over time of the effect of density of bridging associations over mobility. This figure shows the event study for the robustness test for sample selection. The dependent variable is mobility compared to 2019. The variables Networks × (t + τ) are interaction terms of Networks - an indicator variable taking the value of 1 for counties that have an above-the-mean density of bridging networks - with indicator variables for each week. Period t identifies the starting week of the lockdown, and the red vertical solid line visually separates the pre-lockdown and the post-lockdown periods. Panel A includes all German regions. Panel B excludes East Germany. Panel C excludes the counties adjacent to the North and Baltic sea. The model includes state fixed effects, and week fixed effects. The figure reports each point estimate of Networks × (t + τ) for the effect of the presence of bridging networks together with the 95% confidence intervals. Confidence intervals are based on spatially (373 km) and serially (10 weeks) correlated standard errors.

Figure A.7: Robustness 2: Bridging Clubs Effects with Individual Controls interacted with weeks

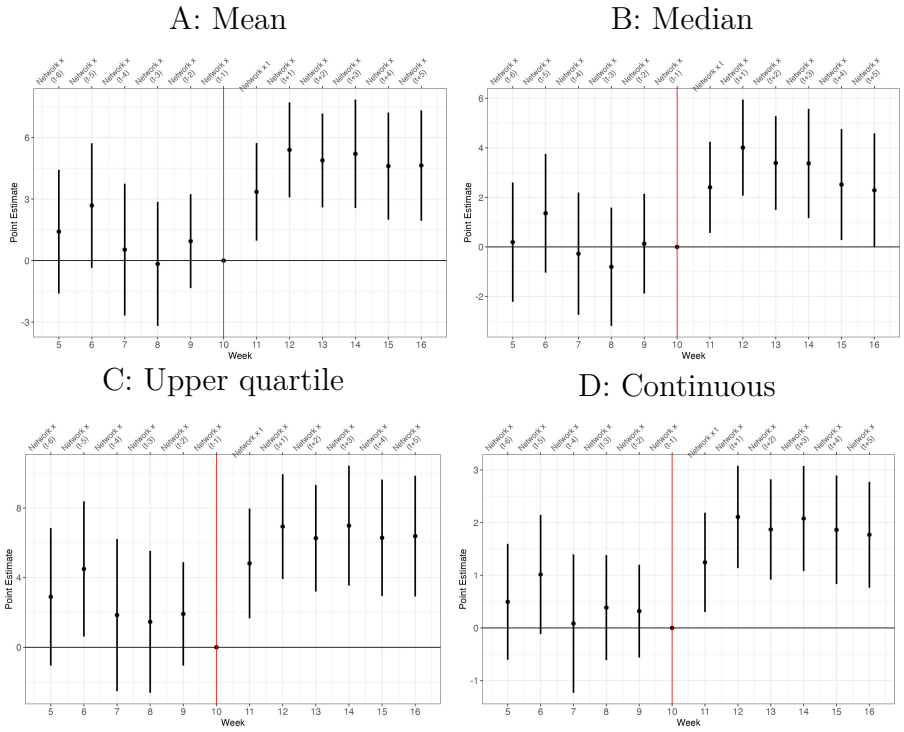


Notes: This figure shows the evolution over time of the effect of density of bridging associations over mobility with the iterative inclusion in the model of trends for individual control variables (panels A-I) and the inclusion of trends for all controls (panel J). The dependent variable is mobility compared to 2019. The variables Networks $\times$ (t + τ) are interaction terms of Networks - an indicator variable taking the value of 1 for counties that have above-the-mean density of bridging associations - with indicator variables for each week. Period t identifies the starting week of the lockdown, and the red vertical solid line visually separates the pre-lockdown and the post-lockdown periods. All models include state fixed effects, week fixed effects, and relevant control variables: turnout, log total population, GDP per capita, population density, population above the age of 60, percentage of people with a college degree, employment shares in hospitality and transport and employment in manufacturing, East Germany dummy, and lagged number of Covid cases. The figure reports each point estimate of Networks $\times$ (t + τ) for the effect of the presence of bridging associations together with the 95% confidence intervals.

4.5 Sensitivity to Coding of Bridging Networks

The results in the article's main body are not sensitive to how we code places where bridging associations are present. First, we use different parts in our distribution of bridging associations, including coding counties with one if they are above the median and one if they are above the upper quartile. Second, we relax our indicator variable and rely on a continuous index of the density of bridging associations. The results in figure A.8 are very similar to those in the main body of the text. The effects are vital for the fourth quartile, indicating that this coding choice might better isolate counties with high bridging associations. Therefore, choosing the mean in the main text is a conservative way to show an effect.

Figure A.8: Sensitivity Analysis for Density of Bridging Networks

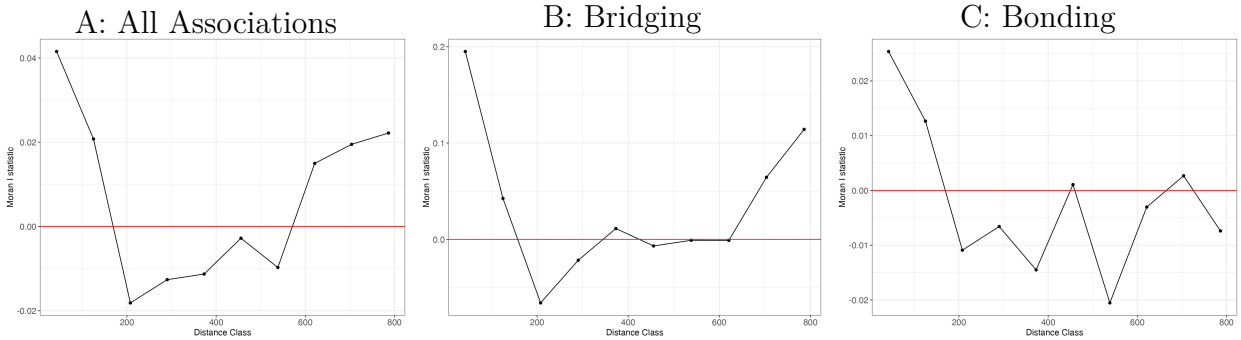


Notes: This figure shows the evolution over time of the effect of density of bridging associations over mobility. The dependent variable is mobility compared to 2019. The variables Networks × (t + τ) are interaction terms of Networks with indicator variables for each week. Bridging networks are defined as: A - an indicator for counties that are above the mean of the distribution; B - an indicator for counties that are above the median; C - an indicator for counties that are in the fourth quartile of the distribution; D - a continuous measure for the density of bridging associations. Period t identifies the starting week of the lockdown, and the red vertical solid line visually separates the pre-lockdown and the post-lockdown periods. The model includes state fixed effects, and week fixed effects. The figure reports each point estimate of Networks × (t + τ) for the effect of the presence of bridging associations together with the 95% confidence intervals. Confidence intervals are based on spatially (538 km) and serially (10 weeks) correlated standard errors.

4.6 Spatial auto-correlation

A critical question behind using Conley standard errors is deciding on the distance cutoff. In this section, we present a correlogram analysis for the density of associations based on Moran I coefficients. As figure A.9 indicates, the appropriate distance cutoff varies depending on the type of association we examine. We selected as a cutoff the distance that minimizes the absolute values of the Moran I statistic.

Figure A.9: Spatial correlogram for associations



Notes: This figure shows the Moran's I spatial correlogram for associations. The figure shows difference consecutive bands up to 800km. Distance is computed from the centroid of the county.

4.7 Mechanical effect and types of mobility

An important alternative explanation to our findings is the mechanical effect of bridging club membership: members of sports or nature clubs go out more simply because their activities occur outdoors. Such an explanation is unlikely to hold, given that at the start of the first lockdown, the government banned any "meetings in clubs [Vereine] and other sport and free time facilities" (DOSB, 2020). There is no evidence of a systematic violation of this ban. The closure of sports clubs and other associations means that any causal mechanism linked to these clubs must have taken effect before the first lockdown. This would support our proposed explanation in which bridging associations spread norms of non-compliance and distrust in the years before the Covid-19 pandemic, as the individual-level, pre-Covid data in figure 2 suggest.

The interviews support this understanding. For example, one interviewee from the sports association Saarland argues: "Communication is the crucial medium for clubs, their currency. This was canceled during Covid. [...] But this also means for the AfD that there was no communication network anymore for them to build on. [...] [Clubs] had no more grasp over their members." Another interviewee from the sports association, Sachsen, clearly says regarding the lockdown period: "Sport did not occur and people did not meet. But that also means they did not discuss these issues [Covid policies, lockdowns, vaccines, etc.]." This suggests that it was unlikely for attitudes and behavior to spread through civic associations *during* the COVID-19 pandemic.

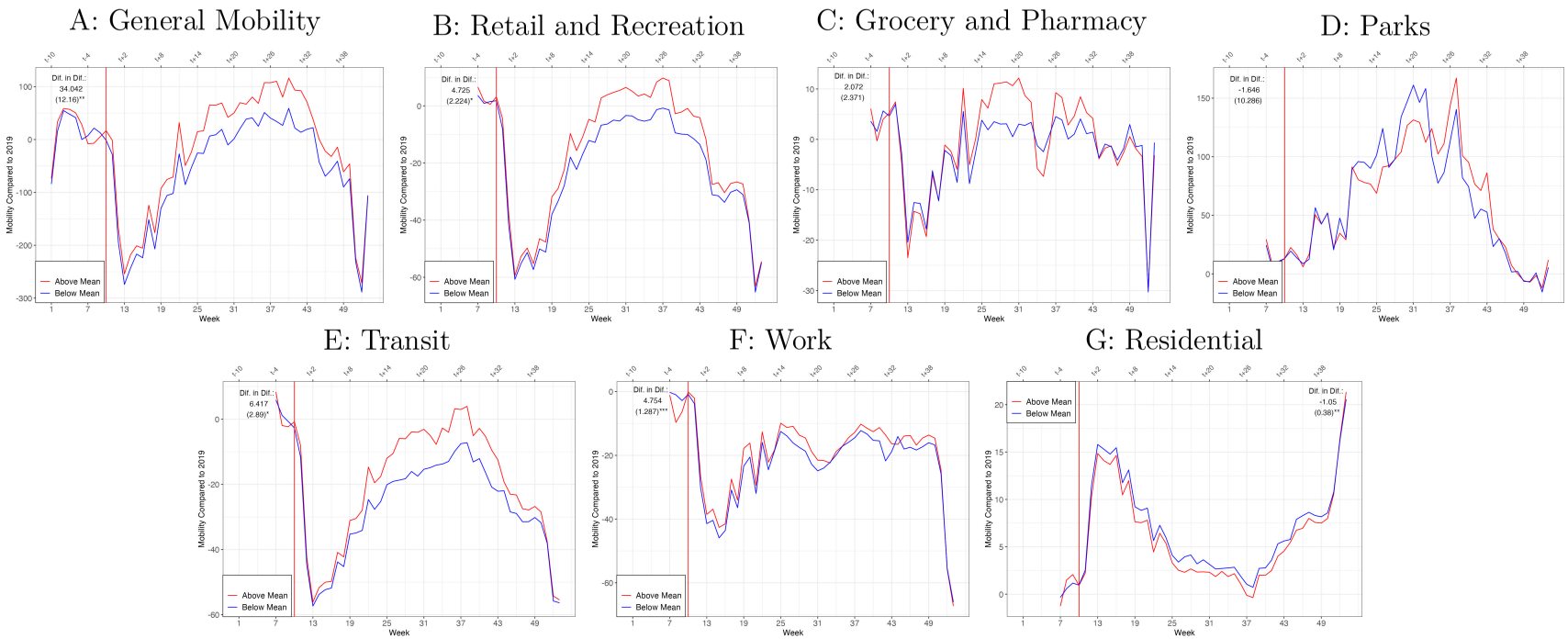
To demonstrate more systematically that no mechanical effect is associated with bridging clubs, we repeat our main specifications using Google Mobility Data, which offers six daily mobility measures for 135 countries starting mid-February 2020 or week 7 of 2020. In some

cases, Google collected data at a regional level; in others, it collected mobility at a granular level, such as US counties or Turkish districts. For Germany, Google only collected data at the state (*Land*) level. Therefore, unlike the previous analyses, the number of cross-sections is reduced from over 400 (counties) to 16 (states).

The indices are based on location data from users of Android phones or people logged into their Google accounts with location reported activated. Such data was anonymized and aggregated at the relevant jurisdictional unit. Google creates six types of locations: groceries and pharmacies (essential retail), parks, retail and recreation (nonessential hospitality and recreation), transit places, residential, and workplaces. To measure mobility, Google compares the amount of activity to a baseline pre-Covid day in that location.

Panels B to G in figure A.10 display mobility patterns in these places. Panel A displays overall mobility based on the data from the Federal Statistical Office we used for the previous primary analysis but is now aggregated at the state level. Every panel also includes the difference-in-differences estimate and the standard errors in parantheses. The results indicate that differences in mobility in regions with dense bridging associations stem from differences in mobility to retail and recreation centers, transit stations, and workplaces. This suggests that higher mobility in areas with denser bridging associations is spread across different types of places and activities: it is not limited to work activities, and it is unrelated to activities in parks, which may have pointed at a mechanical mechanism where members of sport and nature clubs continue their club activities outdoors, as suggested by Bai *et al.* (2020).

Figure A.10: Bridging Associations and Types of Mobility



Notes: This figure shows the evolution over time of the effect of density of bridging associations over different kinds of mobility. Unlike previous analyses, the unit of analysis here is the state (*Land*)." All panels focus on all the weeks of 2020. The comparison is between states which have an above-the-mean density of bridging associations (red line) and states which have below-the-mean density of bridging associations (blue line). Panel A displays mobility data from government sources aggregated at a state level. Panels B:G present analyses based on data from Google Mobility Reports which do not cover the period prior to week 7. The two groups which are compared here are the counties with an above-the-mean density of bridging associations and counties with below-the-mean density of bridging associations. The outcomes of interest are: A - Overall mobility; B - Average mobility to retail and recreation spaces; C - Grocery stores and pharmacies; D - Parks; E - Mobility to transit stations; F - Mobility to work; G - Mobility in residential areas. These are all compared to 2019. Every panel also contains the differences-in-differences coefficients to demonstrate whether the effect of bridging clubs is statistically significant. The specifications are similar to the ones presented in table A.4. The difference here is that only week fixed effects are added to the right-hand side in addition to the lagged number of Covid cases.

5 Expert interviews with association representatives

5.1 Interviewee selection

Between February and April 2022, we interviewed eight association representatives in the fields classified as bridging associations. To identify interviewees, we conducted an online search of the umbrella organizations and peak associations in which individual sport, nature, and culture clubs are organized in Germany. Several of these mentioned projects or goals on their websites are related to preventing or addressing (right-wing) extremism and promoting democratic values. We contacted one peak association in the field of environment and one in the field of culture. In sports, we contacted several *Landessportverbände* (state sports associations) to ensure geographic diversity in the interview sample. We focused on these umbrella or peak associations because they have a better overview of the variety of experiences than representatives of individual sports, nature, or culture clubs in one place. Another respondent was recruited through snowballing. Here is the complete list of interviews:

- 22 February 2022: Two representatives of *Landessportverband für das Saarland*
- 22 February 2022: Representative of *Landessportbund Niedersachsen*
- 9 March 2022: Representative of *Landessportbund Sachsen-Anhalt*
- 16 March 2022: Representative of *Netzwerk Sport & Politik für Fairness, Respekt und Menschlichkeit*
- 24 March 2022: Two representatives of *Landessportbund Sachsen*
- 25 April 2022: Representative of *Fachstelle Radikalisierungsprävention und Engagement im Naturschutz*

5.2 Consent and confidentiality

Because we interviewed experts, who are not a particularly vulnerable group, we did not need to submit a protocol for ethical review. With respect to the specific principles outlined in the 2020 APSA Principles and Guidance for Human Subjects Research, we obtained interviewees' written and oral consent prior to the interview. All respondents agreed to audio-recording. Our research involved no harm or deception. We do not expect interviewees' reputations to be negatively affected, also because we keep their identities confidential and only mention the associations for which they work.

5.3 Interview format and analysis

The interviews were held via Zoom and were audio-recorded. They lasted 64 minutes on average. Interviews were semi-structured. They started with an open question about the background and motivation behind the respondent's organization's work against extremism. This was followed by more specific questions on the forms and scope of problems related to extremism and populism in their respective clubs. Finally, the interviewees were asked how clubs reacted to the Covid-19 pandemic and related restrictions. For the analysis, one author

transcribed and hand-coded relevant sections using descriptive coding (Saldaña, 2014). Below, we include additional longer-form quotes from our expert interviews categorized into the two steps of our causal argument.

5.4 Selected quotes on the infiltration of civic associations

"There was exactly this issue, where right-wing extremists tried on purpose to become socially acceptable through this sport." - *Representative of Landessportbund Sachsen-Anhalt.*

"So is it now the AfD that is perceived as problematic? Yes, definitely, I would say that. There's probably millions of local chapters for whom it's not a problem, then they don't call us, right? But there are associations that call us and tell us they have a problem with the AfD. Or with the Junge Alternative [the AfD youth organization], that's even more particular. Right, what else is featured? […] conspiracy theories, antisemitism. Right and now with Covid this blends with Covid deniers and vaccination opposition." - *Representative of Fachstelle Radikalisierungsprävention und Engagement im Naturschutz*

"There is also a case I became aware of […] of a youth coach who tried to spread and did spread his ideology regarding 'no masks and vaccines' and conspiracy theories in Whatsapp groups [of the sport club], things like that. Then there was kind of a process in the club to part with the coach. So these things all happened there and I think it also needs a reappraisal." - *Representative of Netzwerk Sport & Politik für Fairness, Respekt und Menschlichkeit*

"There's a study by diversu e.V. that addresses the DNR [German nature council] member associations and right-wing extremism. It illustrates nicely how many associations have already had contact with right-wing extremism, and right-wing populism. It's about one third of associations that say they've been in touch with it already. And then roughly an additional ten percent that say, 'We've also noticed something in our own ranks.' […] And we can also confirm what they have noticed." - *Representative of Fachstelle Radikalisierungsprävention und Engagement im Naturschutz*

"Sure, we had or we still have the issue of Nazis, I'm speaking very roughly. That is, extremism especially from the right wing. We don't need to sugarcoat. And of course they also have the plan to join structures that are, let's say, in the middle of society." - *Representative of Landessportbund Sachsen*

"Then there were of course these individual cases in which coaches and instructors attracted attention for example because they represented some inhuman worldviews, because in their free time they parade for the NPD [right-wing extremist, nationalist party] or are active in other right-wing extremist structures. […]" – MJ/interviewer: "You can count these cases on one hand?" – "Well those that reach us, right?" - *Representative of Landessportbund Niedersachsen*

"The basis for the foundation of the network [sport and politics for fairness, respect and humanity] was the insight that there are also right-wing extremist attitudes and actions in sport, partly perhaps also attempts of infiltration, but partly also in the normal everyday sport life.

Because sport clubs are simply a part of society and the phenomena we find in society we also find, to a certain degree and depending on the social environment, in sport clubs. […] Right-wing extremism as an organizationally rooted, structural ideology. Then there are for example parties that have formulated the infiltration of civil society as an explicit goal. But on the other hand, we believe this was not successful so far. […] Most certainly, there are isolated cases but the sport landscape, the way it is in Germany, is extremely heterogeneous." - *Representative of Netzwerk Sport & Politik für Fairness, Respekt und Menschlichkeit*

5.5 Selected quotes on the nature of civic associations and spreading

"[The idea of associations as] the cradle of democracy, which I'd sign, is not so obvious to the people. You always have to distinguish. People don't go the the sport club to learn better democracy but they go to the sport club to do sports together, to have a beer together in the locker room, or whatever, to complain about the mayor." - *Representative of Landessportbund Sachsen*

"First of all, sport clubs operate a bit like villages. So that means that many people who are active in sport clubs, they have known each other sometimes for decades and then of course they ignore a thing or two, perhaps. Well … it's a bit like a family celebration. When the aunt suddenly makes a racist joke, then perhaps you think twice if you react vehemently or if you say, 'Well, I know how she ticks and actually she's a good person.' Right? Something like that happens, I think, also in sport clubs. Having grown communities that back each other. And then the one who makes a racist joke now, perhaps he's the one who is somehow very valuable for the club because he - I don't know - has been the greenkeeper for 30 years or … well I'm making this up now. But then it's difficult, I think, to call things as they are because next week you still want to stand together with these people on the training ground. It's not like on public transport where I can stand up and say, 'This is inappropriate, this is somehow racist and think again what you're causing with it!' Instead, [in the sport club] one has to find a tone, ideally by speaking clearly and at the same time giving the other person the opportunity to save face, so that you can still play handball together next week, for example. And that's why sport clubs have difficulties to openly discuss conflictual topics. And often party-political neutrality [required for non-profit tax status] is confused with 'we don't say anything about anything.'" - *Representative of Landessportbund Niedersachsen*

"And then you ask like club presidents or chairpersons or ask a team captain or so, 'By which values do you all here play soccer or live together?' Right? They eat together, for instance, or they drink together. Or, 'How political is this really? Do you address issues in the locker room?' And then [they say], 'Yes, but …', for example, or, 'Yes, but this and that issue is excluded.'" - *Representative of Landessportbund Sachsen-Anhalt*

"This spreading is not a force of nature, but it's always the question what can be spread, how receptive the others are. […] I believe a minority is powerless against a majority's attitude. That doesn't exclude that some people are receptive and that they show solidarity with the person although they may not agree with their ideology. That's a classic case that also occurs with right-wing extremism, that they say, 'But he's a good coach, he's a Nazi, but above

all, a good coach. If we don't have him anymore, who do we have? Last time he saved our senior team etc.' […] This argumentation, to ignore this and focus on the practical club life, has always existed, I would say. That approach hasn't started with Covid but probably it's the exact same thing now. Now there are clubs where such an attitude prevails and then it's ignored. And there are clubs where the majority shares the youth coach's attitude, then there's no expulsion [of the coach] of course but rather some that say, 'Okay, then I dis-enroll my child from this sport club because I don't want it to stay there.' And probably there was a third variety with those who say, 'Okay, that's beyond the threshold, he's gone too far. He may say something like that occasionally but indoctrinating our children is a no-go. The red line has been crossed and this will have consequences.' I cannot say in which ratio these three different phenomena or approaches in clubs exist across Germany." - *Representative of Netzwerk Sport & Politik für Fairness, Respekt und Menschlichkeit*

"Your hypothesis [of associations as networks that spread ideas] I would say, I would subscribe to that with regards to the associations of the 60s, 70s. […] In the 80s it strongly declined, one can show that with various points: with recruitment for volunteer positions, also with attendance of members' meetings. […] But you'd need this togetherness for this mechanism that you just described to work. Yes, it [associations as networks that spread ideas] can exist, I don't want to deny that, indeed there are still clubs that function that way. And it works all the more when external pressure is added." - *Representative of Landessportverband für das Saarland*

"I also want to repeat that some roles in clubs are of course more sensitive than others. […] It's a different quality whether the person [with extremist views] has a function in the sport club or not. […] Coaches and instructors have a responsibility for minors, for example, and that responsibility is different than towards adults. […] It's also responsibility because the people are role models, because they also educate and then the question is on which values and attitudes that's based. […] And regarding board members, they have a key role, speaking to the outside world, leading and steering the club. And steering also refers to: 'How do we position ourselves? How do we deal with topics that come up that may be described as antidemocratic or problematic in some other way? Do we ignore them, do we tolerate them?' - *Representative of Netzwerk Sport & Politik für Fairness, Respekt und Menschlichkeit*

"Of course, Covid has done something with the associations. Well, a lot of the counseling we're asked to do since 2019 or since 2020 is based on the insight like: 'These people have always been with us with these [extremist] opinions and these ideologies. We've just not seen them and now we suddenly see them.' And then there's often great horror: 'Why haven't we seen this before? Why are they with us anyway? Have we done something wrong?'" - *Representative of Fachstelle Radikalisierungsprävention und Engagement im Naturschutz*

6 Mediation analysis

To further illustrate the importance of the change in votes for AfD as a linking factor connecting bridging clubs and compliance with mobility restrictions during the lockdown, we perform two additional analyses: one in which we investigate the interaction between AfD votes and post-lockdown mobility and another one in which we perform a mediation analysis following the procedure proposed by Tingley *et al.* (2014).

Figure A.11 shows the interaction between AfD vote change as a continuous measure and an indicator variable for each week - Panel A; and the interaction between AfD vote change as a binary measure and an indicator variable for each week in 2020 over mobility in an event-study format - Panel B. Panel C and D zoom into the weeks 5 to 16 period. The positive results suggest that bridging associations and the change in votes for AfD are almost interchangeable, indicating that the change in votes links clubs and compliance.

The second method that we utilize to demonstrate the importance of votes for AfD is mediation analysis - a method that is based on non-parametric identification that leads to a general algorithm for computing the ACME (average causal mediation effect) and ADE (average direct effect), which applies to any statistical model under the assumption of sequential ignorability.[3] The algorithm consists of two steps: first, we model the mediator (percentage change in votes for the AfD) as a function of the treatment (presence of bridging clubs - a proxy for the supply-side intervention); second, we model the outcome (mobility) as a function of both the mediator and the treatment. In figure A.12, we estimate the week-by-week average causal mediation effect (ACME) accompanied by confidence intervals based on the non-parametric bootstrap with 1000 resamples.

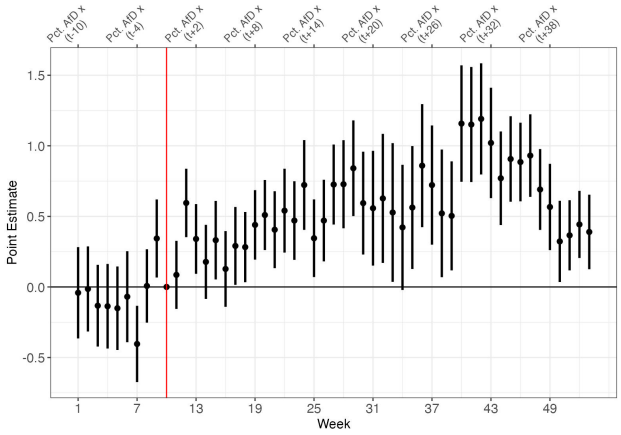
Our estimates for the ACME represent the average change in the mobility (outcome) that is due to the change in votes for AfD (mediator) induced by the presence of bridging clubs (treatment). For example, the results in figure A.12 indicate that, on average, bridging clubs increased mobility by 1.307 in week 12 (with a 95% confidence interval of [0.716, 1.969]) and by 0.675 in week 13 (with a 95% confidence interval of [0.292, 1.130]) because of the increase in AfD support between 2013 and 2017. Because the total causal effect of the presence of bridging club treatment was 4.612 ([3.187, 6.013]) in week 12 and 4.074 ([3.187, 6.013]) in week 13 ([2.505, 5.448]), we can conclude that about 28.34% for week 12 and 16.57% for week 13 of the total effect in mobility was mediated through the change in votes for right-wing parties. The negative impact of sports, nature, and culture clubs on compliance is more significant than the associated increase in AfD votes. This suggests that these clubs spread anti-establishment views beyond what we can measure through votes.

Given that the mediation analysis implies an assumption of no omitted variables bias, it is

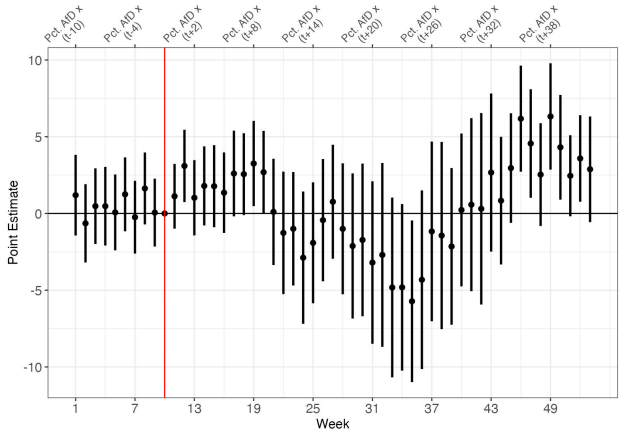
[3] Imai *et al.* (2011) argue that such an assumption is called sequential ignorability because two ignorability assumptions are made sequentially. First, given the observed pre-treatment confounders, the treatment assignment is assumed to be ignorable — statistically independent of potential outcomes and potential mediators. This means that there is no omitted variable bias. The second part of the sequential ignorability assumption implies that the observed mediator is ignorable, given the actual treatment status and pre-treatment confounders.

Figure A.11: Δ vote share change for AfD

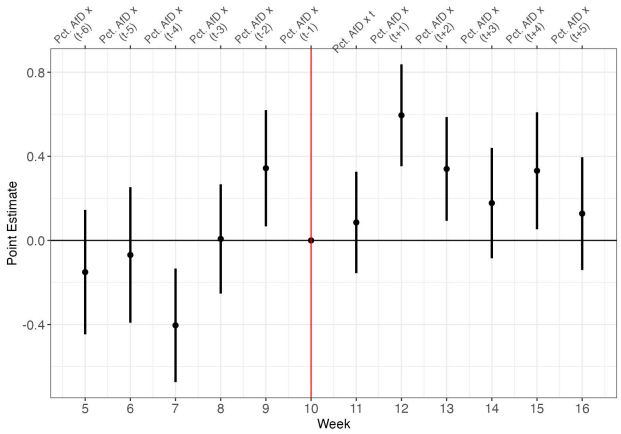
A: AfD Change - Continuous



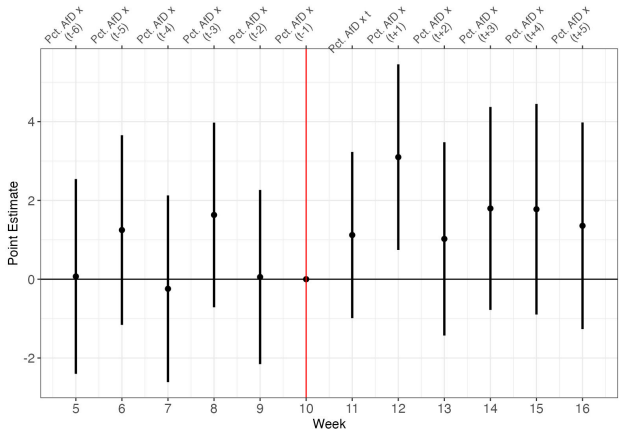
B: AfD Change - Binary (above the Mean - 1; below the Mean - 0)



C: AfD Change - Continuous - Weeks 5 - 16



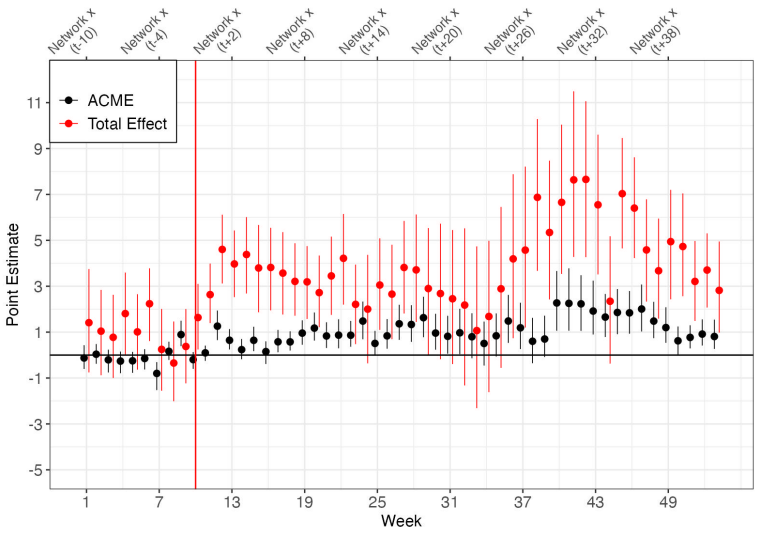
D: AfD Change - Binary (above the Mean - 1; below the Mean - 0) - Weeks 5 - 16



Notes: This figure shows the change in votes for AfD between 2013 and 2017. The figure displays the evolution over time of the effect of the change in the vote for AfD over mobility in an event-study format. The dependent variable is mobility compared to 2019. The variables Pct. AfD $\times$ (t + τ) are interaction terms of percentage change in votes for AfD - with indicator variables for each week. Panels B and D examines the effects of AfD vote change in a binary format - 1 if it is above the mean and 0 if it is below the mean. Period t identifies the starting week of the lockdown, and the red vertical solid line visually separates the pre-lockdown and the post-lockdown periods. The model only includes state fixed effects and week fixed effects.

essential to understand whether there might be important variables (especially on the demand side of populism) that might be correlated with the density of bridging clubs. We examine such a possibility in section 4 of the appendix.

Figure A.12: Estimated average causal mediation effect (ACME) and total effect of bridging clubs on weekly mobility



Notes: This figure shows the average causal mediation effect (ACME) and the total effect of bridging clubs on weekly mobility. The black coefficients are the ACME of bridging clubs on weekly mobility mediated by the vote change for AfD (the difference between the percentage votes for AfD in 2017 and 2013). The red coefficients are the total effect of bridging clubs on mobility. The vertical lines are 95% nonparametric bootstrap confidence intervals with 1000 resamples.

6.1 Matching

Given that the treatment of interest is the density of bridging associations (counties with an above-the-mean density of bridging clubs), it is essential to understand if any covariates correlate with the treatment. Bridging clubs might be associated with a variety of characteristics that also drive compliance behavior. As the results in column 1 of table A.9 indicate, counties that have above-the-mean bridging associations have more people with a college degree, a higher percentage of people who are above the age of 60, fewer people who work in hospitality and transport, and more people who work in manufacturing. The results in column 2 show the correlation between those factors and bridging associations, which are no longer statistically significant thanks to the matching procedure.

Table A.9: Whole sample and Matched Sample

	Dependent variable: Bridging Networks	
	(1)	(2)
Pct. Turnout	0.010	0.004
	(0.009)	(0.013)
Log GDP per Capita	−0.084	−0.092
	(0.116)	(0.191)
Pop. Den.	−0.00001	−0.00004
	(0.0001)	(0.0002)
Pct. College	0.016*	0.015
	(0.009)	(0.014)
Pct. Pop. above 60	0.064***	0.032
	(0.022)	(0.037)
Pct. Pop. under 35	0.029	0.014
	(0.019)	(0.034)
Pct. Empl. Hospitality and Transport	−0.013*	−0.00001
	(0.007)	(0.011)
Pct. Manufacturing	0.010**	0.007
	(0.004)	(0.006)
Gender Ratio	1.743	0.963
	(1.274)	(1.820)
University-Population Ratio	725.990	−688.416
	(5,234.353)	(7,908.139)
Parks-Population Ratio	234.347	59.314
	(324.938)	(477.785)
Observations	369	238
Adjusted R^2	0.154	−0.022

Notes: Coefficients and standard errors in parentheses from OLS regression. *p<0.1; **p<0.05; ***p<0.01. The unit of analysis is kreis.

We use mediation analysis to demonstrate the mediating role of the change in votes for

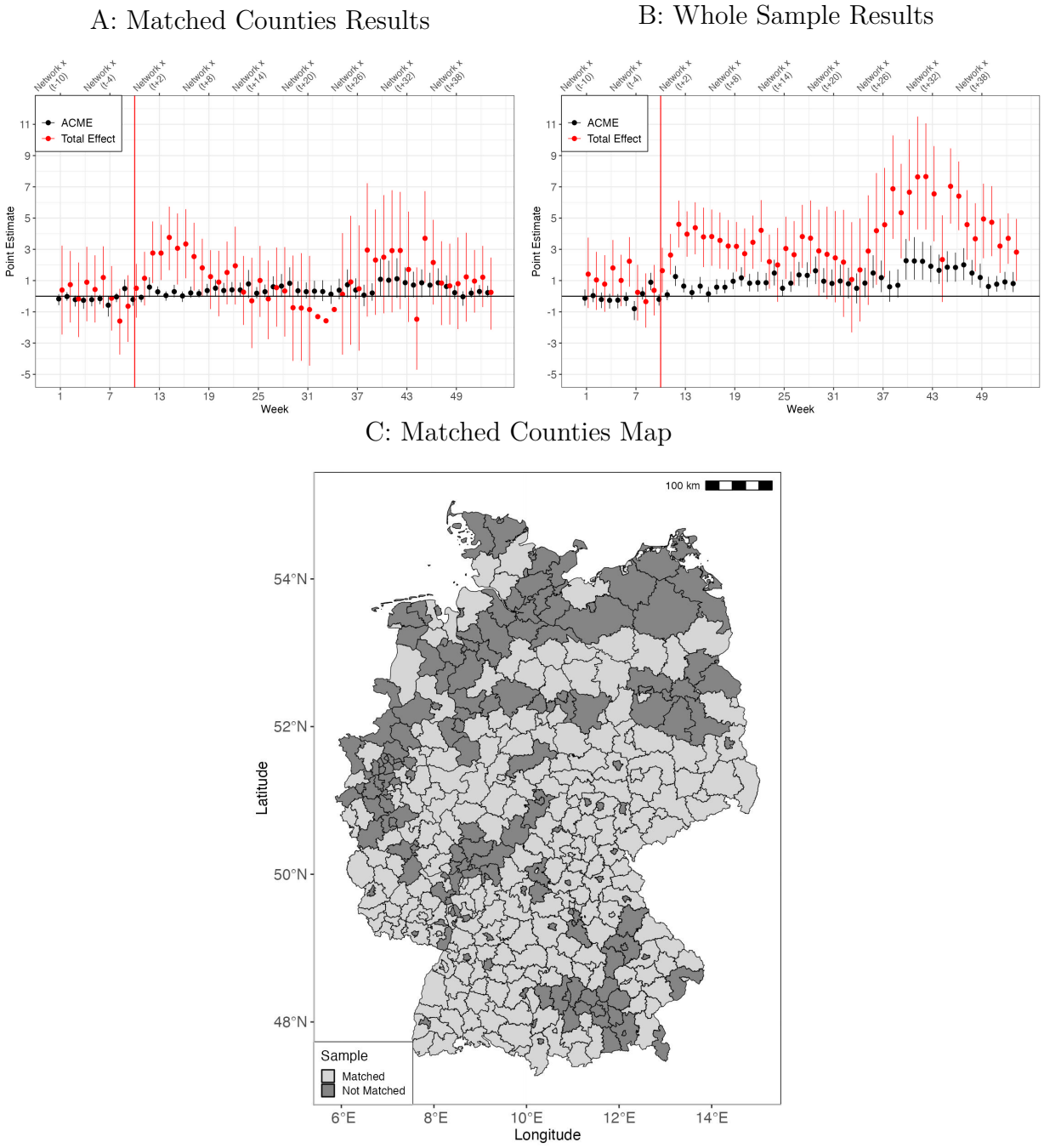
the right-wing party in the relationship between bridging associations and mobility, following the procedure proposed by Tingley *et al.* (2014). Given the correlation between bridging clubs and the percentage of people with a college degree, the percentage of people above the age of 60, the percentage of people employed in hospitality and transport, and the percentage of people working in manufacturing, we also match the counties so that these variables are no longer statistically significant. We subsequently performed mediation analysis on the matched sample. This also helps us deal with the assumption of sequential ignorability, which pertains to mediation analysis and implies accounting for any confounders that might affect both the mediator and the outcome.

The mediation analysis consists of two steps: first, we model the mediator (percentage change in votes for the AfD) as a function of the treatment (presence of bridging clubs); second, we model the outcome (mobility) as a function of both the mediator and the treatment. Given that we verified the balance of critical pre-treatment variables in the matched sample, we no longer included them on the right-hand side of the mediation analysis. The results in figure A.13 show the week-by-week average causal mediation effect (ACME) accompanied by confidence intervals based on the nonparametric bootstrap with 1000 resamples.

Our estimates for the ACME represent the average change in the mobility (outcome) that is due to the shift in votes for AfD (mediator) induced by the presence of bridging clubs (treatment). For example, the results in panel A of figure A.13 indicate that, on average, bridging clubs increased mobility by 0.65 in week 12 and by 0.3 in week 13 because of the increase in votes for the AfD between 2013 and 2017. Because the total causal effect of the presence of bridging club treatment was 2.77 in week 12 and 2.6 in week 13, we can conclude that about 23.4% for week 12 and 11.54% for week 13 of the total effect in mobility was mediated by the change in votes for right-wing parties.

An even more substantial (expected) effect emerges from the unbalanced samples in panel B of figure A.13. On average, bridging clubs increased mobility by 1.25 in week 12 and by 0.64 in week 13 because of the increase in votes for the AfD between 2013 and 2017. Because the total causal effect of the presence of bridging club treatment was 4.58 in week 12 and 3.97 in week 13, we can conclude that about 27% for week 12 and 16% for week 13 of the total effect in mobility was mediated through the change in votes for right-wing parties.

Figure A.13: Mediation analysis



Notes: This figure shows the average causal mediation effect (ACME) and the total effect of bridging clubs on weekly mobility. The black coefficients are the ACME of bridging clubs on weekly mobility mediated by the vote change for AfD (the difference between the percentage votes for AfD in 2017 and 2013). The red coefficients are the total effect of bridging clubs on mobility. The vertical lines are 95% nonparametric bootstrap confidence intervals with 1000 resamples. Panel A displays the coefficients for the matched counties, while Panel B displays the coefficients for the whole sample. Panel C displays the counties which were matched based on the variables described in the text.

7 Mobility Data

Lockdown restrictions were uniform throughout Germany despite the country's federal structure. The uniformity of restrictions is evident in the mobility patterns that exhibit a diminished impact after week 11. These effects are visible both on a state-by-state and county-by-country level. Figure A.14 displays mobility patterns state by state, and figure A.15 shows mobility country by county. We also included daily data in figure A.14. These are, however, more difficult to read, which is why weekly averages are more appropriate. All states and counties display a substantial drop around week 10. These patterns demonstrate that regulations were implemented simultaneously throughout Germany and that a differences-in-differences approach (as opposed to a staggered differences-in-differences) is an appropriate modeling strategy.

Figure A.14: Mobility by State

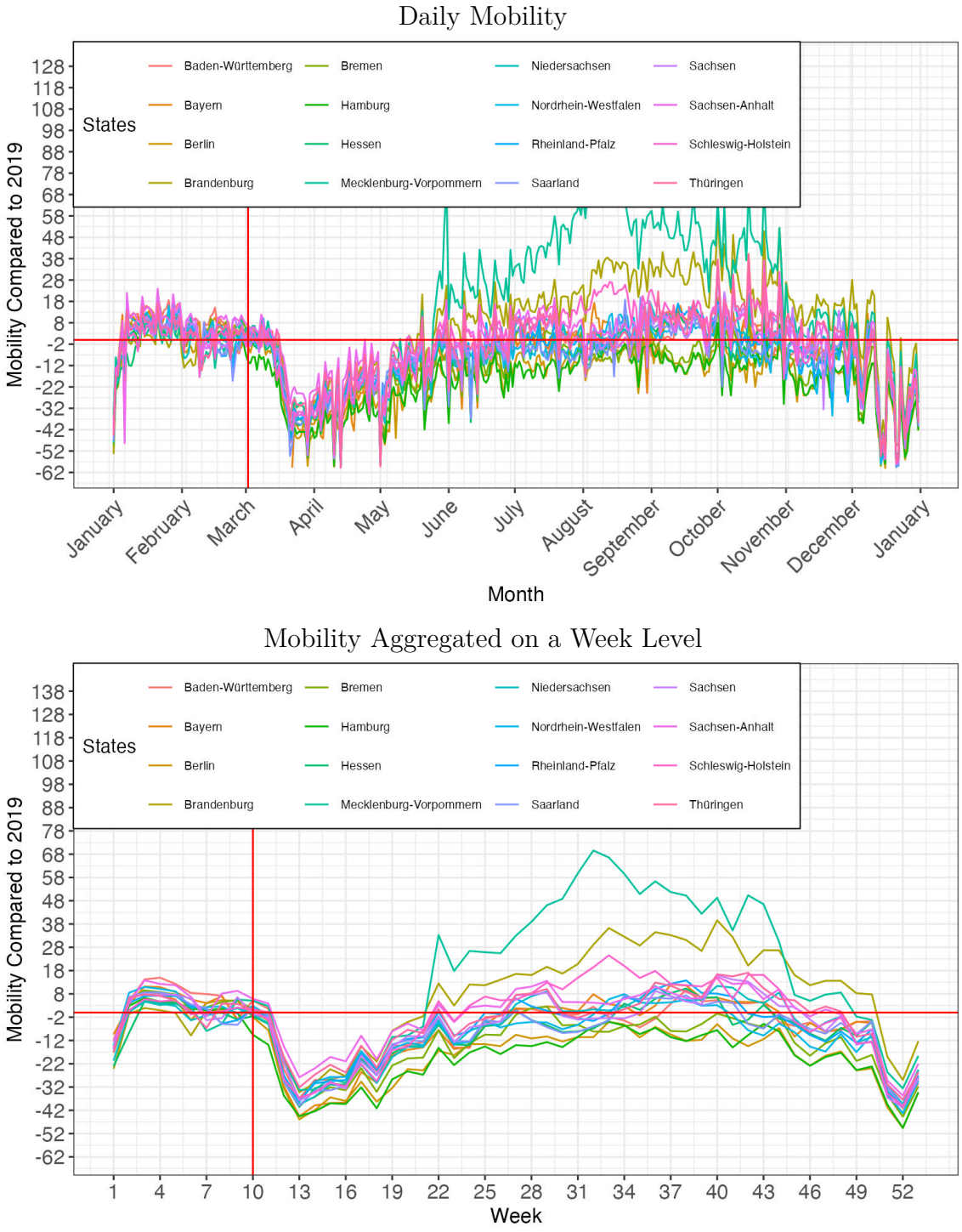


Figure A.15: Mobility by County

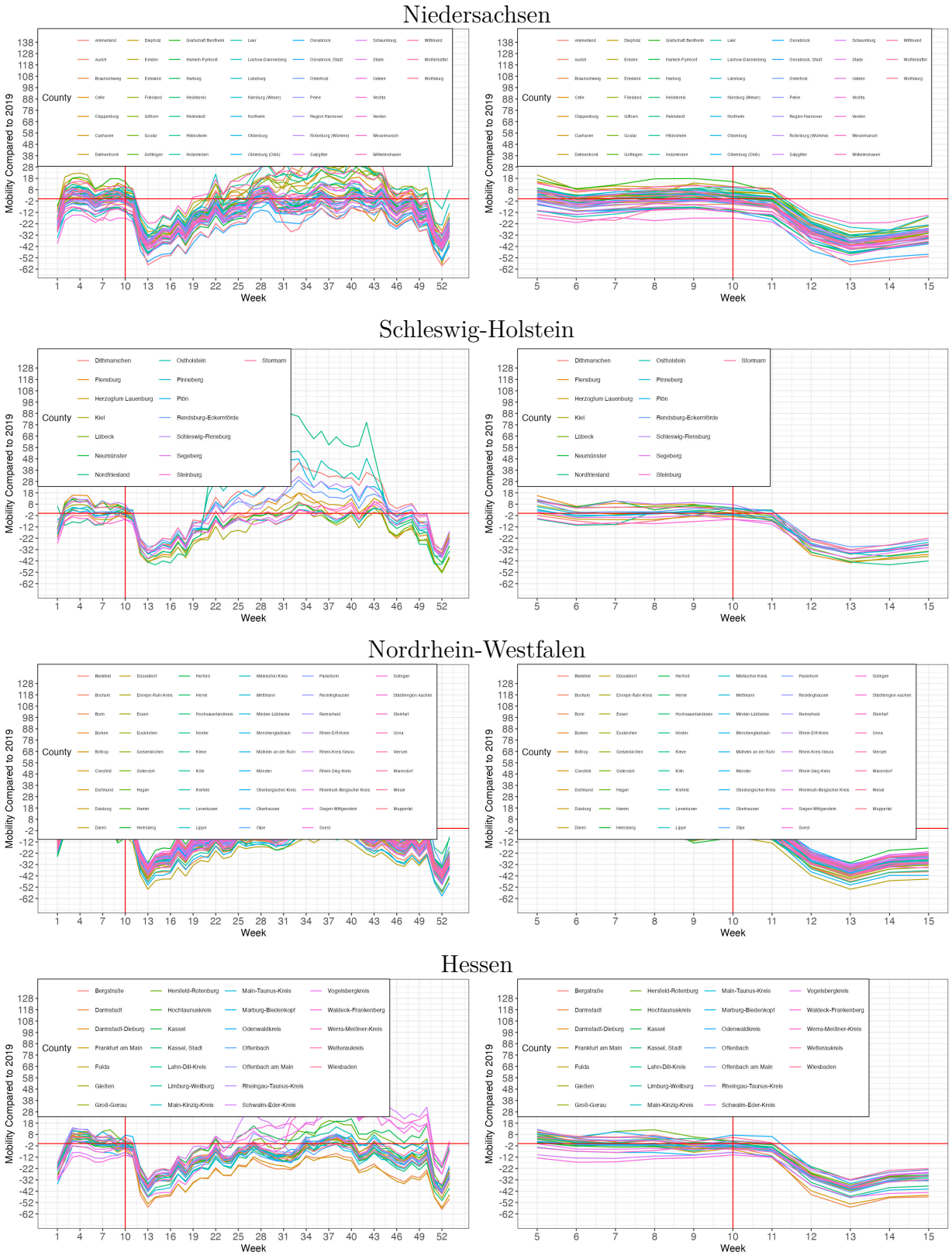
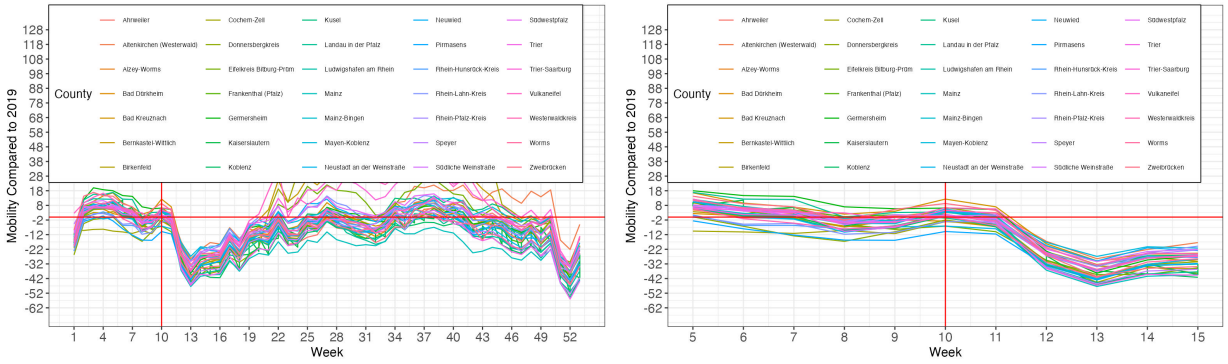
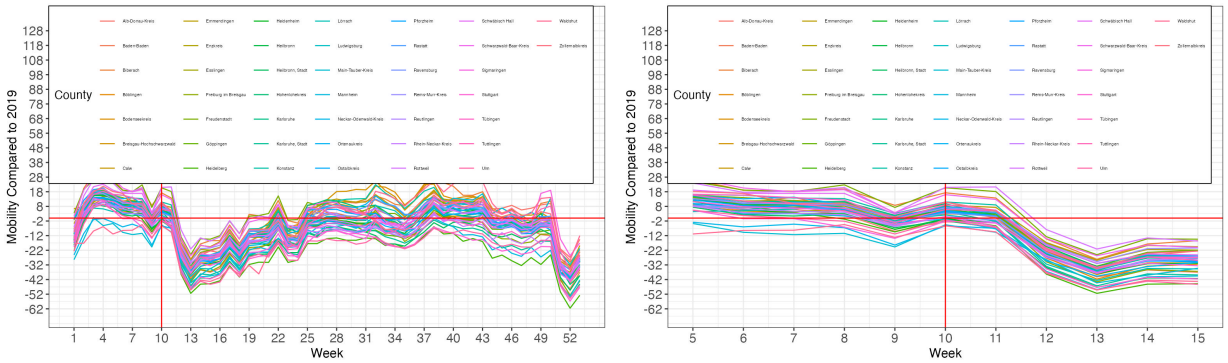


Figure A.15: Mobility by County

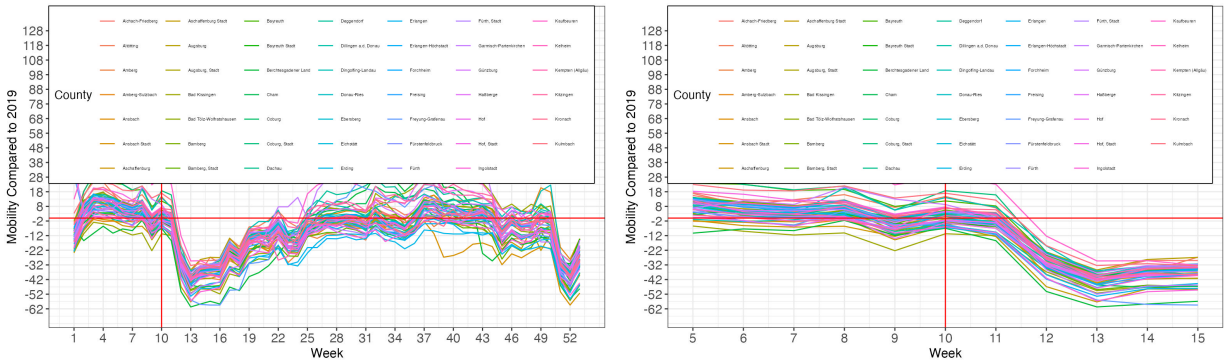
Rheinland-Pfalz



Baden-Württemberg



Bayern (Counties: Aichach-Friedberg - Kulmbach)



Bayern (Counties: Landsberg am Lech - Würzburg)

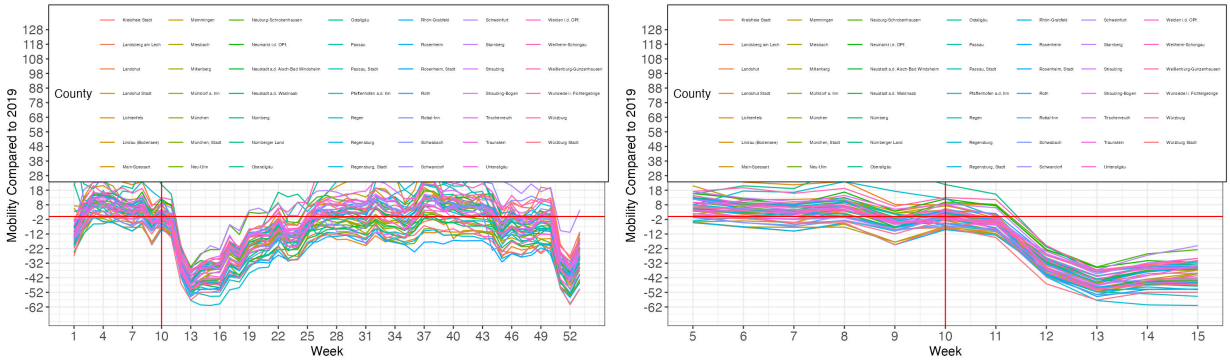


Figure A.15: Mobility by County

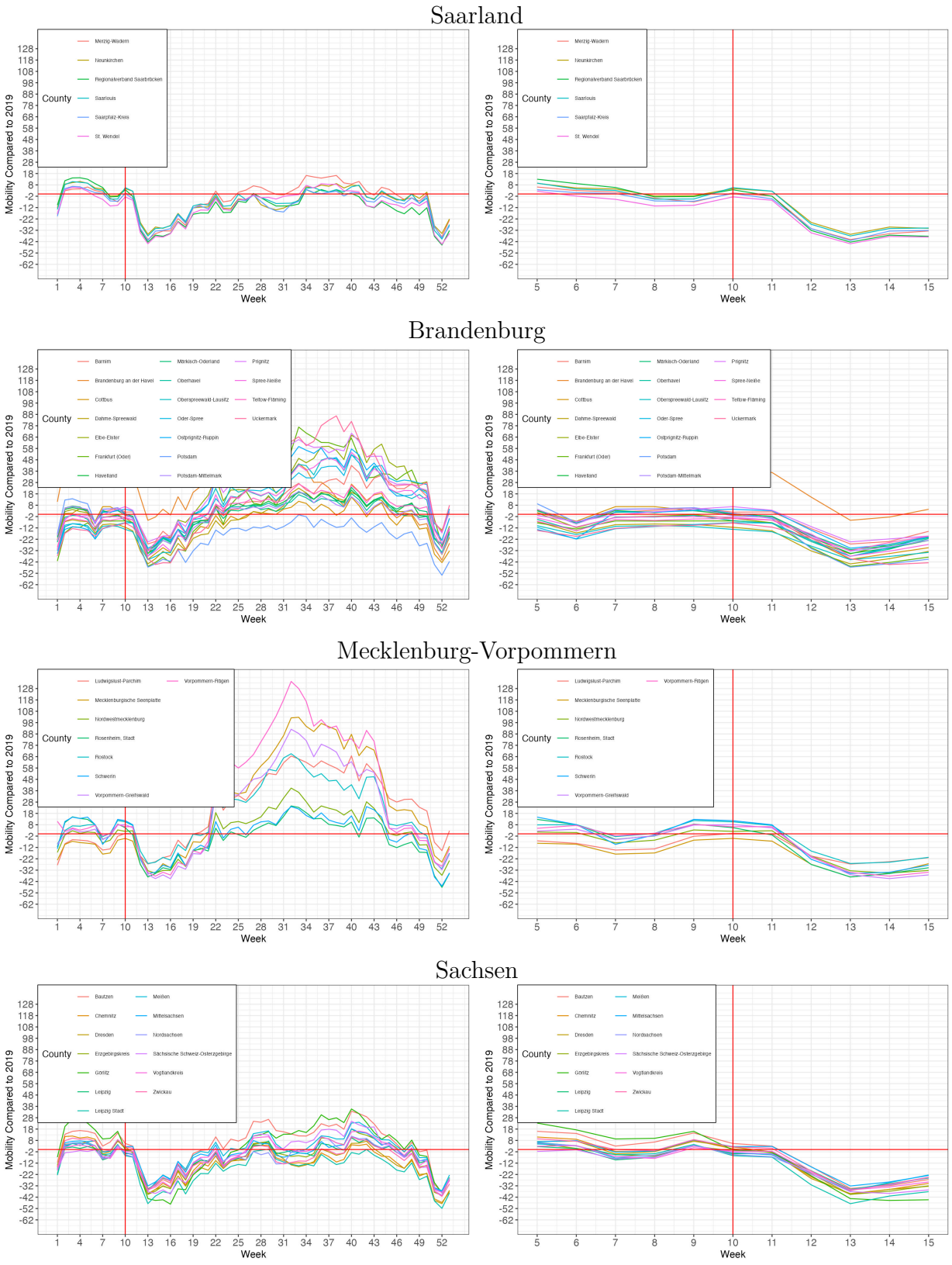
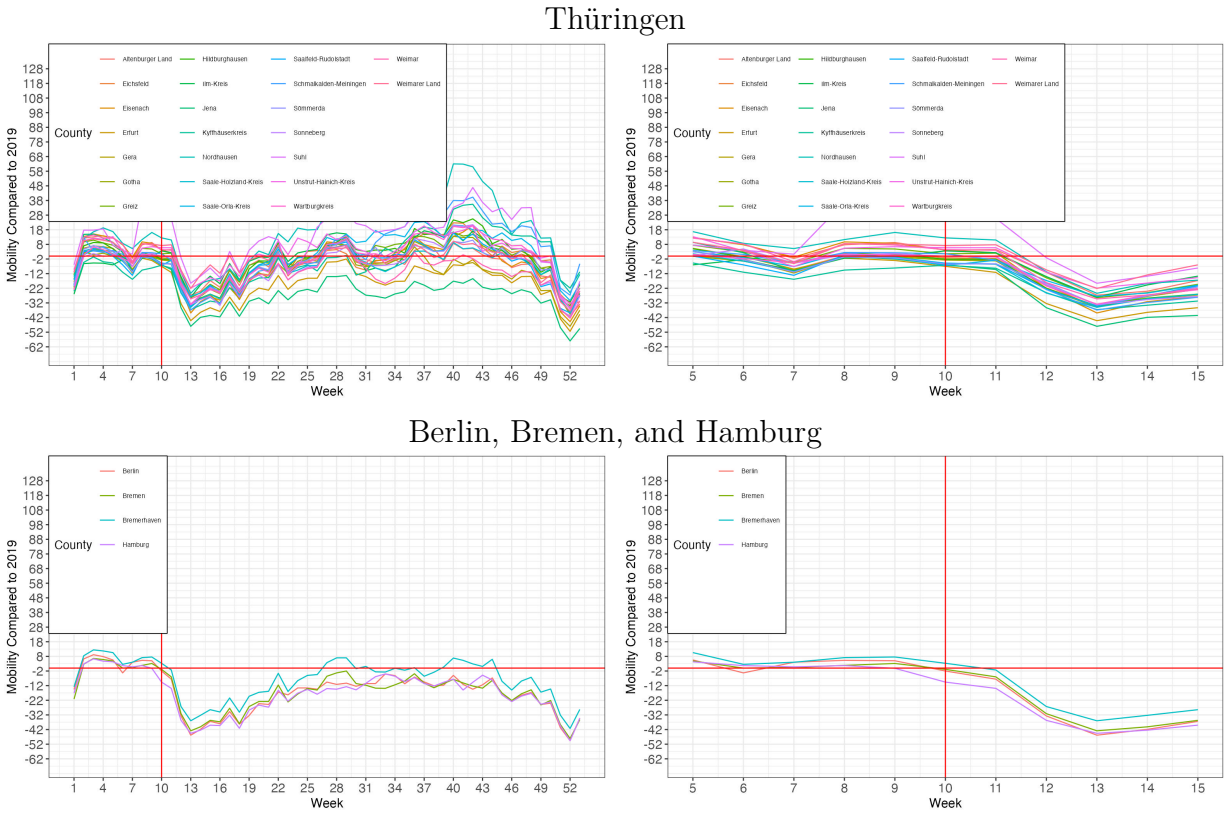


Figure A.15: Mobility by County



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