

Mobile Internet and the Rise of Communitarian Politics*

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We study the political effects of the diffusion of mobile Internet using administrative data on electoral outcomes and on mobile Internet signal between 2007 and 2017 across the 81,506 municipalities of twenty European countries, which we complement with individual survey data on voters' values and positions. In line with literature in social psychology claiming that social media promote tribalism and make individuals particularly permeable to messages of intolerance that prime the insiders at the expense of the outsiders, we show that this technology made voters more communitarian in their attitudes and that, as a result, this led to an increase in voters' support for parties campaigning on nationalism and dislike of strangers and minorities.

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1. Introduction

The cleavage between communitarian versus universalistic views of the world is increasingly recognized as a fundamental dimension of political conflict in modern democracies. Communitarian points of view emphasize loyalty to traditional communities and distrust of strangers, while universalist positions reflect generalized altruism and openness towards strangers. This cleavage is systematically reflected in opposite political opinions and policy positions about immigration, nationalism, ethnic minorities and the composition of government spending (Bornschier, 2010; Cappelen et al., 2022; Enke, 2020; Enke et al., 2023; Haidt, 2012). Several recent contributions have explored the origins of universalism, showing that it is positively correlated with, among others, weaker kinship ties, exposure to the Church doctrine, market access (Enke, 2019; Schulz et al., 2019). But this literature takes a very long-run approach, trying to explain the origins of universalistic versus communitarian perspectives, rather than their short and medium run fluctuations associated with political change. Yet, in recent decades, the rise of communitarian positions has transformed the political systems of many Western democracies.

In Europe, support for extreme communitarian parties, favoring insiders (the nation, the native-born and those sharing prevalent cultural traits) at the expenses of outsiders (foreigners, migrants and minorities) roughly doubled between the mid-late 2000s and the mid-late 2010s, peaking at around 15 percent at the end of the period. This period also saw a rapid diffusion of 3G and 4G mobile technologies, which allow for access to the Internet via smartphones. This was accompanied by the spread in the use of social media, which are by and large accessed through mobile devices (see the 2021 “Digital Global Report” by the media agency *We are Social*). While in 2007, the year Apple’s iPhone first came on the market, around one third of European citizens were not yet in reach of mobile Internet signal, by the second half of the 2010s, mobile Internet coverage was effectively universal. A natural question is whether increased access to mobile Internet is responsible for the success of communitarian parties and, if so, why.

This paper argues that this is the case and offers an explanation for this. Building on insights from social psychology that social media promote and make users particularly responsive to messages that prime in-group identity and increase derogation of the out-groups, we argue that access to mobile Internet made voters more communitarian in their policy views, increasing their distrust and intolerance of strangers and enhancing nationalist tendencies. By exacerbating communitarian attitudes in the population, and by making voters more responsive to nationalist, anti-immigration and anti-minorities propaganda, this technology contributed to the electoral success of communitarian parties locating on the right of the political spectrum.

A priori, the effect of mobile Internet and social media on views and opinions is ambiguous. By enabling individuals to communicate and be exposed to physically and culturally distant individuals and communities, online technologies have the potential to enhance universalism and the sense of belonging to a wider community (Rheingold, 2000). This

would likely translate into voters adopting more liberal views and increasing their support for universalistic parties. On the other hand, an influential literature in social psychology argues that social media promote in-group bias and out-group animosity, especially when individuals and communities feel under threat. Indeed, there is extensive evidence that online social networks exhibit a large degree of political homophily (González-Bailón et al., 2023; Halberstam and Knight, 2016), especially among conservatives (Barberá et al., 2015), which is likely to strengthen in-group bias. This does not necessarily imply that individuals are unaware of the ideas of others, but undermining opposite points of view is often a feature of the online political discourse (Bright et al., 2020).

In particular, an influential body of work in social psychology shows that social media promote online “tribalism”, i.e., in-group favoritism and out-group animosity. Evidence from this literature shows that content characterized by moral outrage, fear and animosity is particularly effective at capturing users’ attention and creating engagement (Berger and Milkman, 2012; Crockett, 2017; Rathje et al., 2021; Vosoughi et al., 2018), which in turn creates incentives for both users and platforms to produce and spread such content.¹ Online animosity is best directed towards out-group members, both because the return from producing and sharing derogatory content is higher when directed to the out-group relative to the in-group (Rathje et al., 2021), and because the cost is lower, as out-groups pose a lower risk of offline retaliation (Crockett, 2017). In addition, theories of social identity suggest that when the in-group versus out-group distinction becomes hyper-salient, as it is the case in an online environment, individuals have an incentive to subsume their individual identity into the in-group, and adopt its norms and prescriptions, at the expense of the out-group (Tajfel and Turner, 1979).

There is also evidence arguing that in-group bias rises when individuals and communities are under threat, and that ostracism of outsiders and minorities becomes more widespread during economic crises (Gelfand et al., 2011; Jackson et al., 2019; Stephan and Stephan, 2013). This is because, during bad times, people seek someone to blame for their misfortunes, and outsiders are obvious scapegoats. Thus, bad times provide rationales for intolerance of minorities and distrust of strangers, making such behavior socially more acceptable (Allport et al., 1954; Bursztyn et al., 2022).

In light of this evidence, it seems reasonable to speculate that social media might have increased support for nationalistic policy platforms and intolerance towards immigrants and minorities. This might happen because social media exacerbate communitarian tendencies, or because political messages promoting communitarian positions are particularly effective in persuading voters through social media. Moreover, this effect is likely to be stronger when personal economic circumstances deteriorate and individuals feel more insecure.

¹ Emotionally charged Tweets, for example, tend to be re-shared about 20 percent more than neutral Tweets on the same topic (Brady et al., 2017; Stieglitz and Dang-Xuan, 2013), while on Facebook people engage disproportionately with more sensationalist and provocative content (Zuckerberg, 2018). There is also evidence that exposure to counter-attitudinal views that reduce affective polarization is discouraged by the Facebook algorithm (Levy, 2021).

To explore this conjecture, we exploit granular data on mobile signal availability and administrative data on electoral outcomes in national parliamentary elections, combined with data on party platforms, between 2007 and 2017 across twenty major European countries, accounting for around 460 million people and ninety-six percent of the EU27 population. In particular, we focus on several dimensions of party policies and ideologies that subsume the cleavage between universalism and communitarianism, such as support for traditional values, minority rights, multiculturalism and position towards immigration, which we derive from the Chapel Hill Expert Survey (CHES) (Jolly et al., 2022). We define parties as *extreme* communitarian if they locate in the top decile of the continent-wide distribution of parties' positions, where higher values denote stronger communitarian tendencies. We also experiment with different measures, such as a continuous measure of parties' communitarian platforms, the probability of being in the top quartile of the continent-wide distribution (what we define as *moderate* communitarian parties), or the probability of being in the top decile of the national distribution.

The novel data that we have assembled come at the level of municipality, the lowest administrative unit according to the European statistical nomenclature of territorial units. The data cover more than 80,000 municipalities, each accounting for roughly 5,500 individuals on average. We complement the analysis with individual-level survey data that allow us to provide direct evidence on the effect of mobile Internet access on voters' attitudes and policy views.

For identification, we exploit the gradual rollout of mobile Internet signal across municipalities. We first present evidence based on an event-study, which exploits the differential timing of large local increases in mobile Internet coverage across municipalities. We show that greater access to this technology is systematically associated with an increase in the vote share of parties with extreme communitarian positions, such as nationalism, opposition to minority rights and to immigration, and right-leaning ideology. Estimates based on Borusyak et al. (2024), which account for treatment effect heterogeneity, provide similar results. OLS regression estimates, which include all municipalities in the sample and control for a large array of area characteristics, confirm these findings. We also show that these findings are extremely robust to alternative specifications, different measures of the dependent variable or an instrumental variable identification strategy that attempts to circumvent the potential endogeneity of coverage relative to the outcome variable and issues of measurement error in coverage, both of which might lead to biased estimates of impact.

Consistent with the literature on scapegoating, we also find that the effect of mobile Internet on support for communitarian parties is amplified by local economic deprivation, measured in terms of the unemployment rate, income levels, poverty or inequality. Moreover, although stronger for extreme communitarian parties, a positive effect of mobile Internet can also be detected on the support for moderate communitarian parties, while for parties holding universalistic positions the effect is negative or absent.

In sum, this evidence lends strong support to the hypothesis that improved access

to mobile Internet was responsible for the electoral success of communitarian parties in Europe. In particular, our estimates imply that when a municipality is in reach of mobile Internet signal, between 8 and 9 out of 1,000 additional voters - depending on the measure used - shift their vote in favor of extreme communitarian parties, roughly ten percent of the baseline incidence.

Changes in vote shares across parties can be due to changes in party positions, entry of new parties, or changes in voters' demands. The CHES indicators of party positions are very stable over time. Additionally, we find that an effect is present also among parties that already existed at the start of our sample period, implying that party entry cannot be the key driver of our results. Collectively, these results suggest that the effect we detect is due to changes in voters' preferences (directly or by changing the effectiveness of specific types of party propaganda) as opposed to political supply responses. In order to corroborate this claim, we study the effects of mobile Internet coverage on individual policy opinions and voting intentions from the Integrated Value Surveys (IVS) (Gedeshi et al., 2021; Haerpfer et al., 2021). We show that access to mobile Internet made respondents more opposed to immigration, more nationalistic, and more intolerant of minorities, all dimensions that we find being significant predictors of electoral support for communitarian parties. This effect is primarily due to respondents with stronger baseline communitarian attitudes (and more likely to vote for communitarian parties) becoming more extreme in their views. We find similar patterns in terms of voting intentions, with the increase in voters' support for extreme communitarian parties being particularly pronounced among voters with stronger baseline communitarian attitudes. Consistent with the literature in social psychology discussed above, we interpret these findings as suggesting that, by fostering fear, outrage and animosity towards out-group members, mobile Internet and social media exacerbated conservative extremism in voters with communitarian tendencies, increasing their support for policy positions and ideologies in favor of closed rather than open societies and making them more susceptible to conservative political propaganda.

Others before us have shown that mobile Internet can affect electoral outcomes. In particular, Guriev et al. (2021) use data for a large number of low- and high-income countries around the world to show that, by exposing misgovernance and corruption, 3G mobile availability reduces voters' confidence in government and reduces the incumbent's chances of re-election. The authors also provide suggestive evidence for Europe that this mechanism can explain reduced support for traditional parties to the advantage of anti-establishment populist parties. According to standard classifications, populist parties portray themselves as paladins of "the people" against corrupt elites (Guriev and Papaioannou, 2020). Since "the people" is often viewed as a single, homogeneous, group, several (but not all) populist parties also oppose minorities and have extreme nationalistic and communitarian positions. Could our findings be due to a positive effect of mobile Internet on populism, rather than on voters' communitarian tendencies? To show that this is not the case, we exploit the fact that communitarianism and populism are two distinct phenomena. First, while most extreme communitarian parties are also populist, the

reverse is not true: several populist parties are not communitarian, and some even hold extreme universalistic views. Second, there are several moderate communitarian parties that are not populist. We can thus investigate the effect of mobile Internet on different party groups. Our estimates reveal that mobile Internet led to a rise in support for populist parties holding communitarian positions, but to a fall in support for populist parties holding non-communitarian positions. Equally important, we find an increase in support for moderate communitarian parties, irrespective of whether classified as populist or not. These results hold true using three alternative and widely used classifications of populist parties. In sum, while our results confirm the finding in Guriev et al. (2021) that several European populist parties benefitted from mobile Internet, they suggest that it was their communitarian platforms rather than their populist nature to drive these results. Relative to Guriev et al. (2021), we also advance and provide evidence in favor of a mechanism rooted in social psychology, whereby, by prioritizing content that evokes moral outrage, fear, and hostility toward outsiders, social media amplify communitarian tendencies, thereby bolstering electoral support for parties advocating nationalistic policies and intolerance toward minorities. This mechanism differs from the information channel proposed by Guriev et al. (2021), which attributes the political effect of mobile Internet to its ability to expose misgovernance and erode trust in incumbent parties. Our work is also closely related to that of Müller and Schwarz (2021), Bursztyn et al. (2019) and Bursztyn et al. (2020), who argue that exposure to social media may fan the flames of hate towards minorities, both by changing individual attitudes and by increasing individuals' willingness to publicly express previously untenable positions.

We also do not find evidence that mobile Internet favored new parties *per se*. This suggests that the effect that we estimate is not due simply to the circumstance that communitarian parties were newer than other parties, and hence more capable of capitalizing on new technologies or more appealing to voters when exposed to social media. Finally, we show that the effect of mobile Internet on support for communitarian parties cannot be explained exclusively by changes in the composition of those casting their vote.

Our paper is related to several lines of research. First, we contribute to the literature on the political effects of the media and in particular social media - besides the work by Guriev et al. (2021) that we have discussed above, see the extensive literature cited in the surveys by Aridor et al. (2024), Tucker et al. (2018) and Zhuravskaya et al. (2020).² In addition to using granular geographical data and highly saturated econometric specifications, our paper advances this literature by focusing on a novel mechanism of impact and showing

² An established body of literature in economics finds effects of TV on political outcomes, such as reduced turnout and lower political knowledge as voters substitute away from newspapers (Gentzkow, 2006); political persuasion of ideologically biased media (DellaVigna and Kaplan, 2007; Enikolopov et al., 2011); persistent political effects of entertainment TV (Durante et al., 2019). See Strömberg (2015) for a review of this literature. Manacorda and Tesei (2020) show that mobile phones increase political mobilization and protests in Africa but only when sufficient reasons for grievance exist. A large body of research has argued that *fixed* broadband availability has led to a decline in political participation and - via this - reduced government accountability (Falck et al., 2014; Gavazza et al., 2019), although there is also evidence that in the long-term this generates opportunities to reach out to disenfranchised voters (Campante et al., 2018).

that the effect of this technology increased communitarian attitudes and vote shares of communitarian parties.

A separate literature in political science claims that Internet and social media lead to “echo chambers”, i.e., citizens’ tendency to engage in conversation with and draw information from similarly politically-oriented audiences. This has been proposed as an explanation for the increase in political polarization in the USA (Sunstein, 2018). In line with this, Melnikov (2024) finds that gaining access to 3G Internet increased polarization in the USA. Others find mixed support for this hypothesis (Boxell et al., 2017), though, and our evidence also seems to run counter it. Although admittedly our results refer to Europe, with markedly different political institutions and electoral rules compared to the USA, increased polarization would imply a greater mass of voters in both tails of the distribution, while we only find a positive effect of mobile Internet on communitarian parties and a zero or negative effect on universalistic parties.

Our work also relates to a body of literature that points to the emergence of new political cleavages and emphasizes voters’ realignment across dimensions of social identity rather than traditional class conflict (Besley and Persson, 2021; Bonomi et al., 2021; Danieli et al., 2022; Gennaioli and Tabellini, 2024; Grossman and Helpman, 2021; Hooghe and Marks, 2018; Shayo, 2009, 2020). None of this work, though, draws a link between the so-called ICT revolution - arguably the most relevant cultural change of our times - and the rise of identity politics, or focuses on a mechanism working through increased tribalism.

Finally, we contribute to the line of research on the determinants of universalism versus communitarianism cited above. But unlike in virtually all of that literature, we provide an explanation of why communitarian perspectives have become more extreme in recent decades in several countries.

The rest of the paper is organized as follows. Section 2 discusses the data and trends in electoral outcomes and mobile Internet coverage. Section 3 presents the empirical results on administrative-level voting outcomes. Section 4 presents direct evidence on mechanisms of impact using individual-level data. Section 5 discusses and rules out alternative mechanisms. Section 6 concludes.

2. Data Sources and Descriptive Trends

In this section we introduce data on electoral outcomes and mobile Internet penetration that we use in the rest of the analysis, and we characterize their levels and trends both within and across countries, as well as for the continent as a whole.

2.1. Electoral Outcomes

Starting from information produced by national electoral commissions, we have assembled novel data on the number of votes by party between 2007 (the first year for which we have information on mobile Internet coverage) and 2017 (when coverage was effectively

universal) across the 81,506 municipalities of twenty major European countries, accounting for almost half a billion people. Appendix Table B.1 reports the list of countries in the sample alongside the number of municipalities per country.³ The data refer to voting outcomes in all national lower house parliamentary elections held over the period, with the exception of France, for which the data refer to the first-round Presidential elections, and typically cover three elections per country. For thirteen of these countries, we were also able to collect information on the number of eligible voters by municipality, which allows us to compute measures of local turnout.

In order to characterize trends in support for communitarian parties, we use data from waves 2006, 2010, 2014 and 2017 of the CHES (Jolly et al., 2022), which provides a consistent source across space and time on parties' policy positions and ideologies based on experts' assessment. We focus on measures that, broadly speaking, refer to support for a closed as opposed to an open society. A list of the precise questions in CHES used in the analysis is provided in Appendix Table B.2. In particular, we first consider (1) the variable GAL-TAN (Hooghe et al., 2002; Hooghe and Marks, 2009) - literally, Green, Alternative, Libertarian vs. Traditionalist, Authoritarian, Nationalist - a widely used measure of the cultural cleavage between universalism (support for open borders, individual and minority rights and acceptance of global authorities) and communitarianism (support for traditional values, defense of the national community against competing sources of identity and support for the sovereignty of states). Throughout we refer to this variable as Social Conservatism. Second, we focus on (2) parties' positions on immigration. This is the principal component of three variables in CHES: position in favor of restrictive immigration policies, support for migrants' assimilation as opposed to multiculturalism and position on ethnic minorities' rights. Immigration often features as one of the major sources of concern among European citizens, and it is a central area of disagreement between communitarians and universalists (e.g., Cappelen et al., 2022). There is also evidence that opposition to immigration in Europe is mostly driven by compositional amenities - those who oppose immigrants mostly do so because they want neighbors and co-workers who share their language, ethnicity, culture, and religion - rather than because of economic concerns (Card et al., 2012). Third, we consider the CHES classification of parties in terms of broad ideological leaning, namely (3) a traditional measure of left-right ideological orientation. Although this variable also captures attitudes towards redistribution and economic issues, Enke (2023) shows that it is correlated with how people evaluate more or less universalistic policies. Finally, for some of the analysis we aggregate these three indicators in an overall measure of communitarian party positions (that we call the CHES Synthetic Index) by taking the first principal component of the three above dimensions in CHES (expressed in terms of its standard deviation).

³ Local Administrative Units (LAUs) are the lowest administrative units according to the EU nomenclature of territorial units for statistics and, in most countries, they correspond to municipalities. In the rest of the paper, we refer to LAUs as municipalities. Our original data include 84,564 municipalities. We drop observations for which we have no measure of vote, which account for around 3.6 percent of the sample.

We rescale all variables in CHES so that higher values correspond to more communitarian positions. For each variable, we define extreme communitarian parties as those that feature in the top deciles of the respective continent-wide distribution. The list of communitarian parties according to this definition, and based on the CHES Synthetic Index, is reported in columns (1) and (2) of Appendix Table B.3, alongside an alternative definition corresponding to parties in the top quartile, which we define as moderate communitarian. Specularly, we define extreme universalistic parties as those in the bottom decile of the continent-wide distribution.⁴

Table 1 characterizes continent-wide trends in support for extreme communitarian parties, separately for each dimension in CHES. Each observation is a municipality X election year. The Table reports results from regressions of the vote share of extreme communitarian parties (votes for such parties out of the total number of votes cast) by year of election and municipality on a linear year trend (divided by eleven, i.e., the implied change over the period 2007-2017) and country fixed effects. This also accounts for compositional changes due to elections not being synchronized across countries. Regressions are weighted by municipality population and standard errors are clustered two-way, at the country and year level.

The results show clear evidence of a marked increase in support for extreme communitarian parties, which more than doubled their initial voting share over the period in almost all dimensions. These trends capture the success of well-known extremely conservative parties such as the French *National Rally*, the *Alternative for Germany*, the *Freedom Party of Austria* and the Hungarian *Fidesz*, as well as of less well-known parties such as the Slovak *National Party*, the *Danish People's Party* and the *True Finns*. In contrast, results in Appendix Table A.1 show that, despite a few exceptions, there was only a modest and statistically insignificant increase in support for parties characterized by extreme (i.e. bottom decile) universalistic positions.

These trends mask substantial heterogeneity both across and within countries. Figure 1 presents the shares of votes for extreme communitarian parties across European municipalities in 2010 (the first year in which all countries in the sample had held at least one election since 2007) and 2017. For brevity, we focus on the CHES Synthetic Index. The data refer to the vote share in the closest preceding election. Redder (bluer) areas denote higher (lower) vote shares for communitarian parties.

In 2010 (upper panel), extreme communitarian parties already reached a vote share of about 25 percent or more in several Central and Eastern European countries, such as Austria, Poland and Hungary. In 2017 (lower panel), this support is further consolidated. In addition, extreme communitarian parties witnessed a marked increase in several Euro-

⁴ For each party, we use averages of these measures across all surveys over the period for which this information is available. We do so because data on party platforms are not available in all years when a party was in existence, and because experts' assessment varies discretely over time - an artificial result of the survey being run every three to four years - and the latter might mis-measure position at the time of elections. Ultimately, this makes virtually no difference to our results: a regression of time-varying measures of party positions in CHES on party fixed effects yields an R^2 of 0.95, implying that there is very little within-party variation in positions over time.

pean countries where initially they were absent or negligible, such as France (from 6 to 16 percent), Germany (from 0 to 13 percent), Sweden (from 6 to 13 percent), Greece (from 6 to 13 percent) and the Czech Republic (from 0 to 11 percent). These patterns also exhibit pronounced intra-country variation.

We have also collected data on municipality characteristics, from the European Spatial Planning Observation Network (ESPON). Column (1) of Appendix Table A.2 reports regressions of municipality-level support for extreme communitarian parties on the interaction between a set of baseline municipality characteristics and a linear year trend. Regressions include municipality and country \times year fixed effects and standard errors are clustered at the level of NUTS2 regions. Again, we focus on the CHES Synthetic Index. The results show that, as a whole across Europe, the rise in support for communitarian parties was particularly pronounced in municipalities with high unemployment, low population density and a younger population.

2.2. Mobile Internet Coverage

To investigate the effect of mobile Internet on voting outcomes we use proprietary data on the availability of mobile phone signal across the twenty European countries in our sample. The data are collected by the GSMA (the association representing the interests of the mobile phone industry worldwide) in partnership with Collins Bartholomew (a digital mapping provider) and they come from submissions made directly by mobile operators for the purposes of constructing roaming coverage maps for end users. For all years starting in 2007, the data provide geo-located information on mobile phone coverage at the level of precision of between 1 (for high-quality submissions based on GIS vector format) and 15-23 squared kilometers on the ground (for submissions based on the location of antennas and their corresponding radius of coverage) (GSMA, 2012). We focus on 3G and 4G technologies, which allow for data transfer through mobile devices and hence access to e-mail, Internet content and a variety of social media. We aggregate mobile Internet coverage at the municipality-level. Our measure of coverage is the fraction of the municipality's area in reach of the signal.

Figure 2 reports the spatial distribution of coverage by municipality at the beginning (top panel) and the end (bottom panel) of the period. We also show the boundaries of the 279 NUTS2 European regions. As of 2007, when the Apple iPhone first reached the European market, a large share of municipalities in most Eastern European countries, as well as in large Western European countries, such as France and Spain, was still uncovered. Of course, the Figure does not account for the spatial distribution of the population. Hence, we compute country- and continent-level coverage by taking weighted averages of coverage across municipalities with weights equal to their population. This shows that in 2007 around 32 percent of the overall European population, roughly 144 million individuals, were not yet in reach of the signal. Specifically, this number was over 75 percent for countries in Eastern Europe, and between roughly 15 and 40 percent in Western

Europe, depending on the country. While, for example, 2007 coverage in Germany and Italy was on the order of 86 percent, in countries such as Belgium, France, Denmark and Sweden this stood at 65 percent or less. Yet in other countries like Greece, the fraction of the population in reach of mobile Internet signal was less than 50 percent. By 2017, virtually all of the European population was covered by the signal, with only 3 percent of the population still uncovered.

The Figure also illustrates considerable variation in coverage at baseline, as well as differential trends, across municipalities within the same country. Column (3) of Appendix Table A.2 shows that most of the rise in coverage over the period happened in more densely populated municipalities, with an older population and with higher unemployment. Given that coverage was almost universal by the end of the sample period, this implies that these areas were also under-served at baseline.

3. Regression results

3.1. Event-study Evidence

We now study the effect of mobile Internet availability on electoral outcomes using administrative data. To add transparency to the analysis, we first present an event-study estimating the following equation:

$$y_{mct} = \sum_{k=-k_{min}}^{k_{max}} \beta_k I(t - t_{m0} = k) + f_m + f_{ct} + u_{mct} \quad (1)$$

where y_{mct} denotes electoral outcomes in municipality m in country c at year t . As municipalities experience multiple increases in coverage over the period, we focus on the first year when coverage increases by at least 50 percentage points, although we also experiment below with alternative cutoffs. We denote this year with t_{0m} , while $I(t - t_{m0} = k)$ denote a sets of indicator variables that take value one at each lag $k = \{k_{min}, \dots, -1\}$ and lead $k = \{0, \dots, k_{max}\}$ since t_{0m} .

We include municipality (f_m) and country X year (f_{ct}) fixed effects, hence exploiting for identification within municipality variation net of country specific trends. We restrict to ever-treated units, hence exploiting the timing of the events for identification. As standard in event-studies, we constrain the coefficient at lag -1 (β_{-1}), to zero. As we include municipality fixed effects in the regressions, we are short of one additional degree of freedom for identification, hence we also constrain the coefficients on the longest lag ($\beta_{k_{min}}$) to zero.⁵

Note that in this model, as in all subsequent models, our explanatory variable is mobile Internet coverage, as opposed to actual take up or usage. All our estimates hence should be interpreted as intention to treat (ITT) estimates.⁶

⁵ In practice, as there are very few observations at long lags, and in order to gain precision, we also constrain the coefficients on all lags prior to lag -5 to zero.

⁶ Data on mobile Internet usage at the level of municipality are not typically available. However, signal

Figure 3 presents graphical evidence based on the event-study design. Again, we use as dependent variable the vote share of extreme communitarian parties, defined based on the CHES Synthetic Index. Estimates are reported in the top panel of the Figure. The bottom panel of the Figure presents results for the continuous measure of mobile Internet coverage. Alongside point estimates, we report 95 percent confidence intervals. Regressions are weighted by municipality population and standard errors are clustered at the level of NUTS2 regions.

One can see clear evidence of lack of pre-trends, with estimates at all lags being small in magnitude and individually statistically insignificant. One can also observe an increase in support for communitarian parties occurring precisely at time t_{m0} , with positive and by and large statistically significant effects at all subsequent leads, which magnify over time before stabilizing at a value of around 0.05. The bottom panel of Figure 3 shows an increase in coverage precisely at the time of the event, with an increase of around 90 percentage points that remains stable over time.

Alongside the event-study graphs, in Table 2 we report two-way fixed effect (TWFE) estimates, separately for the vote share of extreme communitarian parties (top panel) and our continuous measure of mobile Internet coverage (bottom panel). These are coefficients on a dummy equal to one for all post-treatment periods from regressions that include municipality plus country X year fixed effects, pooling the pre- and post-treatment coefficients in the event-study analysis and focusing on their difference. In formulas:

$$y_{mct} = \beta I(t - t_{m0} \geq 0) + f_m + f_{ct} + u_{mct} \quad (2)$$

For robustness, we present separate results for the first event associated, respectively, to an increase in coverage of at least 25 (column 1) and 50 (column 2) percentage points. The regressions deliver point estimates on support for extreme communitarian parties of between 0.011 and 0.015, statistically significant at conventional levels. If one rescales these effects by the associated increase in coverage at the bottom of the Table, these estimates imply that an increase from zero to full coverage leads to an approximately 2 percentage points increase in support for extreme communitarian parties.

Given that the magnitude of the effects appears to vary depending on the time since treatment, one concern is that already treated units do not serve as a valid counterfactual for units that change their treatment status and hence that a TWFE estimator fails to identify the causal parameter of interest (for all, see Roth et al., 2023).

Hence, in addition to TWFE model, in the remaining columns of Table 2 we report results based on Borusyak et al. (2024) imputation method which accounts for treatment-effect heterogeneity. This methodology delivers point estimates for the effect on support

availability is strongly correlated with actual subscriptions across countries and time, suggesting that supply-side constraints are significant predictors of take-up. In particular, we use aggregate data at the country-year level from the International Telecommunication Union. We perform a regression of mobile phone subscriptions per capita on mobile Internet coverage plus country and year fixed effects. Regressions are weighted by country population. The estimates imply that a 10 percentage point rise in coverage is associated to a statistically significant 1.1 percentage points increase in take up.

for extreme communitarian parties on the order of between 0.006 and 0.014, similar to the OLS (although results are marginally insignificant when focusing on the 50 percentage point increase). The corresponding graph is in Appendix Figure A.1. Although results are slightly less precise compared to the TWFE estimator, the graphs shows similar patterns to those in Figure 3, top panel, with no evidence of pre-trends and an increase in support for communitarian parties following the time of the event.⁷

In sum, the data lend strong support to the common trend assumption and provide evidence consistent with coverage leading to an increase in support for extreme communitarian parties. Of course, these estimates fail to control for other covariates, they focus only on large discrete increases in coverage, and they are restricted to ever treated units. Hence, in the next section we present regression results that include controls, exploit the entire range of variation in coverage and also include never-treated units.

3.2. OLS estimates

We now turn to OLS regression, and report estimates of the following equation:

$$y_{mct} = \beta Cov_{mct} + X'_m \theta_{ct} + f_m + f_{ct} + u_{mct} \quad (3)$$

where Cov_{mct} denotes mobile Internet coverage over the previous three years, since as shown above the full effect of coverage on political outcomes manifests itself with some lag. Like in the event-study model, we include country X year fixed effects, so that we exploit within country variation in coverage for identification. We also include the full interaction between country X time dummies and the following baseline municipality controls, X_m : log population, log area, fraction of the population below age fifteen, above age sixty and foreign born, share of the working age population unemployed; plus a dummy for urban status, as well as dummies for missing values of these variables. Regressions are again weighted by municipality population and standard errors are clustered by NUTS2 regions.

Estimates are reported in Table 3, where we focus again on the probability of voting for extreme communitarian parties (i.e. in the top decile of the distribution), and each column refers to a different dependent variable in CHES. Consistent with the event-study analysis, there is a positive effect of mobile Internet coverage on support for extreme communitarian parties. This is true independently of the measure used, with estimates that are statistically significant at conventional levels and on the order of 0.8 to 0.9 percentage points. This is approximately a 6 to 9 percent increase relative to baseline (see Table 1).

So far we have discussed the effect of mobile Internet on support for extreme communitarian parties. Are we capturing an increase in voters holding extreme positions, i.e.,

⁷ We have also experimented with the estimator in De Chaisemartin and d’Haultfoeuille (2024). This estimator allows to deal with a staggered continuous treatment, like in the case under analysis. Although attractive in theory, this estimator relies on the existence of control units that happen to be untreated for a very long number of periods. Unfortunately, and irrespective of the number of leads and lags or the definition of the threshold, this condition is not met in our data and the estimator (which we implement via the command `did_multiplegt` in Stata) systematically fails to converge.

a fattening of the right tail of the voting distribution, or an overall shift towards more communitarian positions throughout the distribution that is also reflected in a reduction of the mass in the bottom tail? To investigate this, in Appendix Table A.3 we report the effect of mobile Internet on support for extreme universalistic parties, defined as those in the bottom decile of the continental distribution. Estimates are negative, statistically significant and in absolute value roughly half of the size of the estimated effects on support for communitarian parties. Consistent with this, Table A.4 shows a positive effect when we use continuous measures of party communitarian positions and we focus on the effect at the mean. Collectively, these results suggest that access to mobile Internet was associated with a shift of the entire voting distribution towards more communitarian positions, though with a more pronounced increase in the right tail. Moreover, the negative effect on the vote share of extreme universalistic parties, although smaller in absolute value than the (positive) effect on the vote share of extreme communitarian parties, does not support the hypothesis that social media enhanced political polarization in Europe, contrary to what some authors (e.g., Sunstein, 2018) have claimed having happened in the USA.

To probe the robustness of our results, Appendix Table A.5 presents a number of checks. Panel A of the Table shows that point estimates are unchanged relative to Table 3 if we perform unweighted regressions as opposed to weighting by population size.

Second, we have experimented with alternative definitions of the dependent variable. In Panel B of Appendix Table A.5 we define communitarian parties based on the top decile of the own national (as opposed to the continent-wide) distribution of party positions, while in Panel C we define it based on being in the top quartile (as opposed to decile) of the respective continent-wide distributions, which we define as moderate communitarian parties. This makes virtually no difference to our results.

Third, we investigate the robustness of our results to the model specification. We show (Panel D) that our results are very similar if we include NUTS2 region X year effects as opposed to country X year. The former control for unobserved correlated trends in electoral outcomes and coverage within countries. Results are also similar if we include year (instead of country X year) dummies and their interaction with baseline controls (Panel E).

Fourth, we check the robustness of our results to inference in Panel G of Appendix Table A.5. The estimates remain statistically significant at conventional levels if instead of clustering standard errors by NUTS2 region, we use Conley (1999) standard errors to allow for arbitrary spatial correlation, with thresholds of 100, 250 or 500 km or we cluster standard errors at the level of NUTS3 regions. We find marginally insignificant effects (p-value approximately 0.14) if we cluster at the level of country, though results are significant at conventional levels if we focus on the top quartile as opposed to the top decile (Panel C).

In sum, and consistent with the event-study, the OLS estimates strongly support our hypothesis that increased mobile Internet access was associated with a rise in support for communitarian parties in Europe. The results hold true irrespective of the specification,

the weighting scheme and the measure of the dependent variable. Collectively, these results show that, in response to increased mobile Internet coverage, European voters shifted their vote in favor of parties to the right of the communitarian/universalistic dimension, with a notable increase in the mass in the right tail.

3.3. 2SLS Estimates

Although in model (3) we restrict to variation across narrowly defined administrative areas, one may still be concerned about the endogenous location of mobile Internet coverage. If areas with faster growth in coverage over the period also experienced lower (greater) increase in support for communitarian parties, then OLS will provide downward (upward) biased estimates of the parameter β . Coverage is also likely to be measured with error. This is because the data are reported by operators with varying levels of geographical detail and possibly some delay. An additional source of measurement error comes from the data providing no information on the strength of the signal and hence actual signal availability. Both sources of measurement error are likely to be particularly relevant when focusing on very fine geographies such as municipalities, potentially leading to attenuation bias in the OLS estimates.

To address these potential biases, we build on a classical literature in corporate finance rooted in the agency theory of the firm (Jensen, 1986; Jensen and Meckling, 1976), arguing that managers have considerable discretion to engage in projects that yield personal benefits without increasing the value of the firm (see Shleifer and Vishny, 1997, for a review). Evidence for the oil and gas industry in the USA indeed shows that CEOs promote investment in areas very close to their residential properties, a mechanism that the authors precisely ascribe to direct returns from benefitting those areas - e.g., in terms of property value appreciation - or to lower effort (Decaire and Sosyura, 2022). A closely related and influential body of research documents that such agency problem is more acute when managers face loose monitoring. In particular, Bertrand and Mullainathan (2000, 2001) show that managers extract personal rents when the firm or the sector is performing well for reasons beyond the managers' control, due to shareholders' inattention, which creates room for managers' slack.

In light of this literature, one expects managers of Telecommunication (TLC) companies to over-invest in areas they have personal knowledge of or derive personal benefits from, and this effect to be more pronounced in periods of high sectoral growth, and hence greater shareholders' inattention. We proxy such areas with those close to managers' birthplaces, and instrument coverage with the interaction between municipality's log distance from the nearest birthplace of a TLC manager ($\ln D_{mct}$) and the country's annual growth rate in mobile phone coverage ($\Delta \ln Cov_{ct}$), a measure of sectoral demand growth. Of course, in the model we also include the main effect for log distance to a manager's birthplace $\ln D_{mct}$.

In formulas, our first stage equation is:

$$Cov_{mct} = \gamma Z_{mct} + X'_m \lambda_{ct} + f_m + f_{ct} + v_{mct} \quad (4)$$

where $Z_{mct} = \ln D_{mct} \Delta \ln Cov_{ct}$, and γ captures the gradient in coverage as a function of the interaction of the distance to managers' birthplaces and sectoral growth. If proximity to a manager's birthplace matters for investment and this effect is enhanced when the sector is growing rapidly, γ should be negative.

To operationalize this approach, we rely on information on the precise birthplace of the 219 managers of the 69 main European TLC companies operating during the period 2007-2017.⁸

First stage estimates of model (4) are presented in column (1) of Appendix Table A.6. Consistent with the regressions in the previous section, we include municipality and country X year fixed effects plus baseline controls interacted with country X year dummies. Since investment decisions might take time to materialize, we use average log distance to managers in office in the three preceding years. The estimate of the coefficient γ on the instrument is negative and statistically significant at conventional levels. At -0.025, this implies that, as a country moves from high sectoral growth (on average 12 percent, i.e., what is observed in the early years) to zero growth (towards the end of the sample period), the gap in coverage between two municipalities one standard deviation apart in terms of log distance from a manager's birthplace (2.16) reduces by around 6.5 percentage points ($= -0.025 \times 0.12 \times 2.16$). At the bottom of the Table we report the associated F-statistic. At 9.6, the value of the statistics indicates that we can reject that the instrument is weak. In sum, consistent with the corporate finance literature discussed above, the data provide evidence in support of distance to managers' birthplaces being predictive of investment in infrastructures and more so in periods of high vis à vis low sectoral growth.

We turn to the 2SLS estimates of equation (3) in columns (2) to (5) of Appendix Table A.6. These estimates confirm our conclusions based on OLS: we find a positive effect of mobile Internet coverage on support for communitarian parties (panel A), with estimates that are statistically significant at conventional levels and on the order of 0.047 (for right-wing ideology) to 0.069 (for opposition to immigration). Consistent with the OLS estimates, 2SLS estimates of the effect of mobile Internet coverage on support for extreme universalistic parties are negative, with effects that vary between -0.044 for social conservatism to -0.016 for opposition to immigration. In sum, compared to the OLS estimates, 2SLS are qualitatively similar and of the same sign, although less precisely estimated and almost an order of magnitude larger in absolute value. Since the OLS estimates appear

⁸ Information on managers of Telecommunication (TLC) companies come from proprietary data from BoardEx, that collects biographical information on corporate directors and top managers in executive positions in publicly listed firms (and hence all large TLC companies in Europe) since 1999. Collectively over 90 percent of the observations refer to CEOs, CFOs, Presidents, Vice Presidents and Chairmen, as well as top Executive and Managing Directors and Chief Officers in a range of key functions (e.g., marketing, strategy, legal, sales, etc.) The data provide information on these managers' years of entry in and exit from the position, as well as their date of birth. For each of these individuals, we integrate this information with information on their municipality of birth, which we derive from a combination of publicly available sources and proprietary data from the consulting firm Korn Ferry.

to be biased towards zero both when focusing on the top and bottom deciles of the distribution, this is consistent with measurement error in coverage leading to substantially attenuated estimates. A second potential source of bias in the OLS estimates could be unobserved heterogeneity, whereby places on a steeper gradient in terms of support for communitarian parties experienced lower increase in coverage. Evidence based on observable characteristics in column (1) and (3) of Tables A.2, though, is overall inconclusive, as some of these characteristics (e.g., population size) predict equally signed trends in both support for communitarian parties and mobile Internet, while others (e.g., the fraction of older individuals or migrants) predict the opposite. Yet another explanation for the difference between the OLS and the 2SLS estimates rests on the set of municipalities affected by our instrument (i.e., the compliers).

A remaining concern with the 2SLS estimates is that the instrument may not be excludable, i.e., it may capture latent trends in voting outcomes in areas at different distance from managers' birthplaces. Given that managers are not born at random across municipalities, and specifically are more likely to originate from large cities, one might be concerned that the instrument captures the differential increase in support for communitarian parties in municipalities at different distance from large urban centers, and that these municipalities also happened to be on a systematically different trend in coverage during the period.

In an attempt to deal with this criticism, in Panel B of Appendix Table A.6 we augment our baseline specification with the inclusion of controls for deciles of log distance to the largest municipality in the country, in the NUTS2 region and in the NUTS3 province, all interacted with country X year dummies. If distance to large urban centers drives our results, one will expect the estimates to be affected by the inclusion of such controls. Results are essentially unaffected by the inclusion of such measures of proximity to large cities, supporting our claim that distance to large cities is not driving our 2SLS results.

As a complementary test, in Appendix Tables A.7 and A.8 we progressively exclude municipalities whose nearest manager is from the largest, top three, or top five cities in the country. If our instrument simply captures distance to large urban centres, then one will expect 2SLS estimates in these restricted samples to be smaller in magnitude compared to those in Appendix Table A.6. The results in Appendix Table A.7, which focus on communitarian parties, indicate that, if anything, point estimates are larger than in the full sample, though less precisely estimated. The lower precision derives from the substantial reduction in the number of observations, which leads to weaker first-stage estimates compared to those obtained on the full sample. Results for universalistic parties in Appendix Table A.8 confirm those obtained on the full sample, showing a negative or zero effect of mobile Internet on vote shares. Altogether, this provides further evidence in favor of our identification assumption.

3.4. Heterogeneous Effects

Model (3) assumes that the effect of mobile Internet availability is the same across municipalities, irrespective of their characteristics or underlying economic conditions. The literature reviewed in the Introduction, though, emphasizes that tribalism is enhanced when individuals feel under threat or face economic hardship. Hence, a natural conjecture is that economic insecurity, that others have found to be a direct driver of voting patterns (e.g., Algan et al., 2017; Dustmann et al., 2017), amplifies voters' responses to mobile Internet access. In order to investigate this, we augment model (3) to allow for the interaction of mobile Internet coverage with local characteristics that proxy for economic opportunities or for the population socio-demographic structure.

OLS regression results are reported in Table 4, where we interact coverage with a specific local trait. We measure these traits as averages during the period at the level of region, as several of these stratifying variables are only available at that level of aggregation. For ease of interpretation, we standardize each trait to its standard deviation. Again, the dependent variable is the CHES Synthetic Index. Consistent with our conjecture that economic grievances amplify the effect of mobile Internet on support for communitarian parties, the results show that the effects are larger in areas with higher unemployment, lower income per capita, higher poverty and income inequality.

To put these results in context, a one standard deviation increase in the local unemployment to population ratio (approximately 0.021) leads to an additional effect of coverage on support for parties holding extreme communitarian position as measured by the CHES Synthetic Index of 0.9 percentage points. This is effectively a doubling of the effect at the mean (0.008, see Table 3). We find similar gradients in terms of regional GDP, poverty rate and inequality.

We also examine the heterogeneous effects of mobile Internet on support for communitarian parties across four broad regions of Europe (South, North, East, and West), with markedly different levels of unemployment. Point estimates reported in Appendix Table A.9 are positive and significant for countries in high-unemployment regions of Southern and Eastern Europe, while we find no significant effects for countries in Northern and Western Europe. Interestingly, these are also the same groups of countries for which Algan et al. (2017) find an effect of the unemployment rate on support for right-wing non-mainstream parties. The results are consistent with the effect of mobile Internet being stronger in areas with weaker local economic conditions, although admittedly differences across these groups of countries might capture other unobservables (e.g., institutional arrangements or culture).

3.5. Communitarianism versus Populism

Several authors (e.g., Guriev and Papaioannou, 2020; Rodrik, 2018) have documented a rise in support for populist parties in Europe since at least the Great Recession.⁹ Others before us (Guriev et al., 2021) have provided evidence that 3G and 4G technologies have contributed to this rise, a phenomenon that these authors ascribe to voters' disillusionment with traditional parties, as mobile Internet helps inform the public about government misbehavior. We show below that the phenomenon we uncover is of a different nature and in particular that, albeit correlated, communitarianism and populism are two conceptually distinct phenomena.

To distinguish between communitarian vs. populist votes, and because populism is an inherently subjective concept, we rely on three widely used classifications in the literature (Guriev et al., 2021; Norris, 2020; Rooduijn et al., 2019). According to all classifications, the defining traits of populist parties are the distinction between the pure people versus the corrupt elite and the idea that legitimate authority flows directly from the will of the people as defining traits of populist parties. These classifications differ in terms of the specific features they focus on and hence the list of populist parties, however. Rooduijn et al. (2019) classify parties as populist based on their anti-elitist and anti-pluralist stances; Guriev et al. (2021) ignore anti-pluralism and focus instead on parties' anti-elitist and anti-corruption positions, while Norris (2020) focuses on parties' anti-establishment platforms and rhetoric.

Columns (3) to (5) of Appendix Table B.3 list populist parties by country according to the different definitions, while Appendix Table A.10 presents cross-tabulations among these measures in terms of number of parties. Independent of the classification used, around 20 percent of parties are classified as populist. However, the overlap among the three measures is far from perfect. In particular, between roughly 25 and 50 percent of populist parties according to one definition are classified as non-populist in the others.

In order to formally illustrate the distinction between communitarian vs. populist votes, in Table 5 row "Baseline" we report the vote shares of three mutually exclusive groups of parties: communitarian populist, non-communitarian populist and communitarian non-populist parties. To keep the Table compact, we focus on the CHES Synthetic Index of communitarianism. We rely on the two definitions of communitarian: extreme (odd columns) and moderate (even columns), corresponding respectively to the top decile and the top quartile of the continent-wide distribution, as in the previous analysis. While parties that are simultaneously communitarian and populist account for a non-negligible

⁹ A burgeoning literature in economics and political science, reviewed by Guriev and Papaioannou (2020), investigates the economic and cultural determinants of the rise in populism. Key economic drivers range from austerity measures (Fetzer, 2019), technological change (Anelli et al., 2021), exposure to international competition (Autor et al., 2020; Colantone and Stanig, 2018), immigration (Dustmann et al., 2019; Halla et al., 2017), globalization (Rodrik, 2018), unemployment and economic grievances (Algan et al., 2017; Dustmann et al., 2017) and associated economic insecurity (Guiso et al., 2024). An alternative explanation, championed by Norris and Inglehart (2019) suggests that this phenomenon is ascribable to the gradual backlash of previous dominant groups, who felt threatened in their identity by liberal elites embracing universalistic positions.

fraction of votes (between 9 and 20 percent depending on the definitions, see columns 1 and 2), there are also sizeable discrepancies between the two groups. This is true irrespective of the measure of populism used. In particular, several populist parties are not communitarian (with a vote share of between 4 to 23 percent, see columns 3 and 4). These include, in particular, left-wing ("universalistic") populist parties. By converse, several moderate communitarian parties are not classified as populist according to any of the definitions above (with a vote share of between 13 to 17 percent, see column 6). These are in particular conservative parties that, while holding moderately communitarian positions in terms of immigration, nationalism, and individual and minority rights, do not embrace anti-elitist or anti-corruption stances or a populist rhetoric (e.g. *Les Republicains* in France, *Partido Popular* in Spain, or *KDU-CSL* in the Czech Republic), which are in turn defining features of populist parties according to the literature. Remarkably, and consistently across definitions, the combined vote share for non-communitarian populist and communitarian non-populist parties exceeds that of communitarian populist parties. Only the category of non-populist and extreme communitarian is almost empty. These patterns clearly underscore the distinction between populist and communitarian parties and imply that - given the only partial overlap - one can separately identify the effect of mobile Internet on the two. This is what we turn to in the remaining rows of Table 5.

The point estimates of the effect of mobile Internet on the vote share of each party group tell a very consistent story, irrespective of the classification of populism used. Access to mobile Internet significantly increases the vote share of populist parties only when they are also communitarian (columns 1 and 2), while it significantly decreases it when they are not communitarian (columns 3 and 4). The latter in particular is explained by the fall in support for populist parties holding universalistic positions (see Appendix Table A.11). Equally if not more important, consistent with our hypothesis, access to mobile Internet increases the vote share of communitarian parties that are non-populist, although this effect can only be clearly detected among moderate communitarian parties (column 6), because as explained above there is virtually no extreme communitarian party that is non-populist (column 5).

In sum, while we confirm that populist parties gained as a result of mobile Internet, our results indicate that this was due to their communitarian nature. This is confirmed by the evidence that non-communitarian populist lost as a result of voters' exposure to this technology and that non-populist communitarian parties gained.

4. Individual-Level Evidence on Mechanisms: Changes in Voters' Attitudes

In the previous section we have shown that a sizeable fraction of the increase in the vote share of communitarian parties in Europe can be ascribed to the spread of mobile Internet. In principle this could be due to changes in voters' preferences, or changes in

political supply (party platforms and entry of new parties), or both. Indicators of party positions are very stable over time (see footnote 4), however, implying that changes in party positions are not driving our results. We also examine the effect of mobile Internet on votes for party that already existed before 2000 (Panel F of Table A.5). We show that the effects are found also among these parties, implying that compositional effects due to the entry of new parties are not driving our results. We confirm this point with additional analysis reported in subsection 5.1 below.

Consistent with claims in social psychology discussed in the Introduction, therefore, our hypothesis is that voters exposed to mobile Internet and social media became more communitarian in their opinions and policy preferences and/or that these media increased the effectiveness and persuasiveness of political propaganda directed against immigrants and outsiders. In this section we present direct evidence in support of this mechanism.

In particular, we use evidence on how voters' attitudes and their voting preferences respond to the availability of mobile Internet signal. We use survey data from the Integrated Values Surveys (IVS), which combines the European Values Study (EVS) (Gedeshi et al., 2021) and the World Values Survey (WVS) (Haerpfer et al., 2021), for three waves: 2008-2009, 2010-2014 and 2017-2018.

A major advantage of these data is that they report information on respondents' voting intentions alongside their ideological stance on a variety of policy issues, and a wide set of individual socio-demographic characteristics. In particular, for each individual in IVS, we identify the party the individual intends to vote for, matching this information with CHES data to identify supporters of extreme communitarian parties.

We also analyze several dimensions of voters' ideology and attitudes in IVS that proxy for the divide between communitarians and universalists. For consistency with the CHES data, we focus on three variables. (1) A comprehensive indicator of social conservatism, computed as the first principal component of several questions about nationalism and about attitudes towards homosexuality, divorce, abortion, euthanasia and minorities. (2) An indicator of attitudes towards immigrants, computed as the first principal component of several questions about the effects of immigrants on the labor market, the welfare system, crime, one's neighborhood and general concern about immigrants. (3) The answer to a question about self-placement on the left-right ideological scale. We also compute the first principal component of the three above variables in IVS, which we refer to as the IVS Synthetic Index of voters' communitarian attitudes. Like for party platforms, we express all variables so that higher values correspond to higher communitarianism, and we express them in terms of their standard deviation for ease of interpretation. For each variable, we also construct measures of extreme communitarian attitudes, again based on the probability of being in the top deciles of the respective continent-wide distributions. Appendix Table B.4 reports the exact definition of such variables based on the questions in IVS.

The IVS data also provide information on respondents' place of residence, although only at the level of regions (NUTS2 or sometimes NUTS1) as opposed to municipalities. We

define regions consistently across waves. The data allow us to identify respondents across 246 regions in nineteen countries (all countries in the main analysis with the exception of Luxembourg).

4.1. Voting Intentions

As a preliminary exercise, we study whether self-reported voting intentions in IVS mimic patterns in voting outcomes from administrative data, and in particular whether there is evidence that voters respond to mobile Internet availability by increasing their support for communitarian parties. This helps us validate the IVS data. Thus, we regress voting intentions, measured by support for extreme communitarian parties in IVS, on local mobile Internet coverage. We use a similar specification as in model (3), where now the dependent variable varies at the level of individual as opposed to the level of municipality and coverage is measured at the level of region X year.

We present specifications with baseline controls interacted with year dummies, as opposed to the most saturated specification with country X year dummies as in the analysis above. We do so because there is evidence that, once we focus on variation at the regional level rather than municipality, country X year fixed effects (plus the interaction of these fixed effects with baseline controls) absorb virtually all the variation in coverage (R-squared from this regression is 0.99). It is reassuring though that, as shown in Panel E of Table A.5 on administrative data, this more parsimonious specification delivers very similar results to the most saturated model in Table 3.¹⁰

In formulas, we estimate the following model:

$$y_{irct} = \beta Cov_{rct} + X_r'\theta_t + X_i'\psi + f_r + f_t + u_{rct} \quad (5)$$

where the dependent variable is a dummy variable for whether voter i in region r and year t intends to vote for an extreme communitarian (or universalistic) party in the various dimensions described. Individual controls X_i include dummy variables for years of age, marital status, tertiary education, gender, working-class status (based on occupation), full-time employment, residence in a city of less than 100,000 inhabitants. Regional controls X_r are as in the municipality-level regressions (see Table 3), but they are computed at the level of region. We also include dummy variables for whether the data come from the EVS or the WVS, and for missing values of controls. We weight the regressions by sampling weights, and standard errors are clustered at the level of IVS regions.

Regression results in the top Panel of Appendix Table A.12, which refer to the same

¹⁰ We have also regressed individual self-reported support for communitarian parties on the actual vote share of these parties in each region X year (for election years only), plus region and country X year fixed effects. Point estimates are close to one (0.949, s.e. 0.195), suggesting that the two measures are highly correlated and that self reported-voting intentions provide approximately unbiased estimates of actual voting decisions. The R-squared of this regression is low though (0.078), implying that the IVS data are affected by considerable measurement error. This is reasonable given the sample nature of the IVS data and that the party a voter reports intending to vote for in the interview might differ from actual voting decisions.

dimensions of communitarian parties used in the administrative data, confirm the results on vote shares. Once more, coefficients are positive for all dimensions of extreme communitarianism. Results for extreme universalism in the bottom panel of the Table are again negative and marginally significant for two out of the four variables. In sum, results from the IVS confirm that mobile Internet availability increased voters' support for communitarian parties.

4.2. Attitudes

Next, we turn to attitudes. We first study whether voters' preferences are predictive of their voting intentions. This is to confirm that the communitarian dimension of these parties' platforms are salient to voters. To do so, for each individual in IVS we regress their voting intentions on a dummy variable for holding extreme communitarian views. Results are reported in the top Panel of Appendix Table A.13. As expected, there is a strong congruence between voters' preferences and party platforms. For example, column (1) illustrates that supporters of extreme communitarian parties (i.e. located in the top decile of the distribution of social conservatism) are 2.4 percentage points more likely to be in the top decile of the distribution of social conservative attitudes, 3.3 percentage points more likely to be extremely opposed to immigration and 3.9 percentage points more likely to identify as extreme right-wingers. Unsurprisingly, results for extreme universalism display the opposite pattern.

We then investigate the effect of mobile Internet on attitudes. We use the same specification as for voting intentions in Appendix Table A.12, but now the dependent variable is a dummy for being in the top decile of the respective variable's distribution. Regression results reported in Table 6 reveal remarkably strong shifts in opinions among voters experiencing a rise in access to mobile Internet. In particular, as an area gets covered by mobile Internet signal, communitarian attitudes become more extreme, with an increase of around 19 percentage points in the probability of being an extreme communitarian, as measured by the principal component of the different attitudes dimensions in IVS. Results hold for all individual dimensions, except for right-wing ideology - which also refers to economic ideologies that perhaps are less strongly correlated with communitarianism. Evidence in Appendix Table A.14 illustrates that increased coverage also led to a fall in the fraction of voters with extremely universalistic attitudes, although the effect are smaller than at the top of the distribution. Consistent with this, Appendix Table A.15 shows that this shift was accompanied by an increase in the average level of communitarianism among European voters.

The finding that mobile Internet exposure on average made voters more communitarian, by itself, does not imply that increased communitarian attitudes are a mediating channel for the rise in support for communitarian parties. However, if voters whose attitudes became more communitarian also increased their support for communitarian parties, this will be consistent with changes in opinions being a key mediating factor.

To investigate this, we classify individuals based on their predicted baseline level of communitarian attitudes, obtained from a regression of attitudes on observable. Using the first IVS wave available for each country, we regress the Synthetic Index of voters' communitarian attitudes on a rich set of individual characteristics (age, marital status, education, working class status, residence in a small city, foreign born, number of children, religious affiliation, employment status, all interacted with a gender dummy) plus country and year fixed effects. We use the estimated coefficients from this regression to assign to each individual - whether in the first or subsequent survey waves - their baseline level of communitarian attitudes and we group individuals into 25 bins of baseline communitarianism. We finally perform regression of the effect of mobile Internet on both attitudes and voting intentions where we allow the treatment effect to differ for each group. In formulas:

$$y_{irct} = \beta Cov_{rct} X \text{ Baseline Communitarianism}_i + X_r' \theta_{ct} + X_i' \psi + f_r + f_t + u_{rct} \quad (6)$$

Point estimates for each predicted baseline level of communitarianism are reported in Figure 4, where the upper panel refers to the effect of mobile Internet on communitarian attitudes and the lower panel refers to the effect on communitarian vote. We also interpolate across groups using a smoothed kernel regression with weights equal to the inverse of the square of the associated standard errors.

We find that the rise in both communitarian attitudes and in support for communitarian parties is larger the larger the level of voters' baseline communitarianism, with changes in voting outcomes closely mimicking changes in opinions across groups. Results in Appendix Table A.16 show that the effect of exposure to mobile Internet on communitarian attitudes is the largest among poorly educated, working-class, individuals and those residing in cities with population less than 100,000 individuals, all traits that are often found to be predictive of more conservative cultural attitudes (e.g., Golder, 2016). As shown in Appendix Table A.17, these are the same individual traits associated with an increase in communitarian vote.

This evidence is consistent with our claim that changes in opinions induced by the new technology are a key mediating factor in explaining the rise of communitarian vote in response to mobile Internet coverage.¹¹ These results explain why communitarian parties were the main beneficiaries of changes in voters' preferences. Since most of the rise in communitarian attitudes was concentrated at the top of the distribution, with marginally

¹¹ A regression of changes in voting intentions on changes in communitarian attitudes across these 25 groups, with the inclusion of a linear term in the average level of baseline communitarianism (to allow for regression towards the mean) leads to a coefficient of 0.083 (s.e. 0.039). If this was a causal effect, it would imply that changes in voters' attitudes can explain around three fourths of the shift in communitarian voting due to mobile Internet. This is obtained as follows. By column 4 of Appendix Table A.15, the estimated effect of coverage on attitudes is 0.604. Hence, the implied effect of increased coverage on communitarian voting is 0.050 (=0.083 X 0.604). This corresponds to about 75 percent of the effect of increased coverage on voting intentions for communitarian parties (0.066) estimated in column 4 of Appendix Table A.8. Variation is large though, with an estimated contribution based on the 90 per cent confident interval of the estimated coefficient that varies between 15 and more than 100 percent.

communitarian voters embracing more extreme positions, extreme communitarian parties were better positioned than their more moderate rivals to intercept these new extremist tendencies in the electorate.

In sum, the data lend strong support to our hypothesis that, by making voters more communitarian in their views, access to 3G and 4G technologies led to a rise in support for communitarian parties campaigning on platforms of intolerance of the out-group and identification with the in-group.

5. Alternative mechanisms

In this section we briefly consider and rule out alternative interpretations for our findings in Section 3.

5.1. New Parties

A frequent explanation for the systemic change in European politics over the last decade is that voters disillusioned with traditional parties turned to new and untested parties (e.g., Hobolt and Tilley, 2016). Newer parties may be better equipped at communicating on the Internet and on social media, compared to traditional parties. This could explain the effect of mobile Internet on the success of communitarian parties, as on average they are younger than traditional parties (by between 12 and 21 years, depending on the measure used).

However, we find little evidence in support of this mechanism. Appendix Table A.18 presents results from regressions where the dependent variable is now the vote share of non-traditional parties, defined as parties founded in 2000 or later, which collectively account for 28 percent of parties' baseline vote share. We revert to the same specification as in Table 3. Column (1) refers to the vote share of parties simultaneously classified as new and communitarian, while columns (2) and (3) distinguish between the share of votes received by new parties which are not classified as communitarian and communitarian parties which are not new, respectively. The estimates imply that coverage increased the vote share of communitarian parties, whether traditional or new (see columns 1 and 3). In contrast, new parties only gained support if they were also communitarian. If anything, new parties with non-communitarian platforms lost votes in response to this technology (column 2).

In sum, the results suggest that it was not their being new, but rather the values they promoted, that made communitarian parties benefit from the introduction of mobile Internet.

5.2. Voters' Turnout

One additional possibility is that our estimates are driven by selection into voting as a result of exposure to mobile Internet, rather than to a change in how people voted. To

analyze this, we focus on the thirteen out of the twenty countries for which we have municipality-level information on number of eligible voters. This allows us to compute measures of turnout at the local level and to express the number of votes for communitarian parties as a fraction of eligible voters, rather than as a fraction of total votes cast.

Regression results are reported in Appendix Table A.19. For comparison, Panel A of the Table reports results from regressions where the dependent variable is the fraction of communitarian votes out of total votes cast (as in Table 3) but the sample is restricted to the thirteen countries for which information on turnout at the municipal level is available. The estimated coefficients are similar to those on the entire sample but slightly larger in magnitude and still significant at conventional levels, implying that this sample restriction does not affect significantly our conclusions.

Moving to the main results, estimates in Panel B show that mobile Internet is associated with a modest fall in turnout (-0.018, column 1). This is consistent with evidence that Internet reduces turnout (Falck et al., 2014; Gavazza et al., 2019), although existing evidence refers to fixed broadband before the widespread availability of social media. This raises the possibility that our results are driven by de-mobilization of non-communitarian voters. We investigate this directly in the remaining columns of Table A.19, Panel B, where we express communitarian votes as a fraction of eligible voters rather than of total votes cast. If the effects on vote shares in Panel A is due to selection of non-communitarian votes out of voting, then one should find no effect of treatment on this outcome variable. But this is not the case: the effect on support for communitarian parties in columns (2) to (5) remains positive and significant - although less than 40 percent of what found in Panel A in terms of magnitude. In sum, even if selection may be at play, regression results suggest that this *per se* is unable to fully account for the positive result on communitarian vote documented in this paper.

6. Conclusions

Mobile Internet has transformed social interactions, contributing to the diffusion of social media and changing the mode and content of political communication. In this paper we have shown that an important political effect of these new technologies has been to increase support for parties with extreme right-wing and communitarian positions on social and cultural issues, a shift that we trace back to changes in voters' attitudes towards extreme positions when exposed to mobile Internet and social media. This is consistent with a large body of evidence in social psychology, showing that social media strengthen in-group bias and animosity against out-groups. It is therefore not surprising that the diffusion of these media has exacerbated communitarian perspectives and enhanced the effectiveness of protectionist and nationalist propaganda by right-wing politically extremist parties.

We close with a few words of caution about the generalizability of our results. Our analysis refers to a period of very rapid growth in the availability of mobile Internet and the associated use of social media. It is possible that the effects we uncover are

associated with the very fast transition to these technologies and that such effects will not persist over time. Online platforms' moderation of content in particular might offset the tendency of these technologies to promote communitarian attitudes. In addition, the decade 2007-2017 is special in many respects, and not just because of the rise of social media. Many other phenomena, such as pressure from immigration, globalization and labor-saving technologies fueled discontent and appear to have contributed to changes in voting patterns (Autor et al., 2020; Guriev and Papaioannou, 2020). Consistent with our findings that the effect of mobile Internet and social media is larger in more economically and socially deprived areas, it is possible that our results capture the effect of these new technologies at this specific economic juncture and that their impact would have been different in the absence of such major economic transformations.

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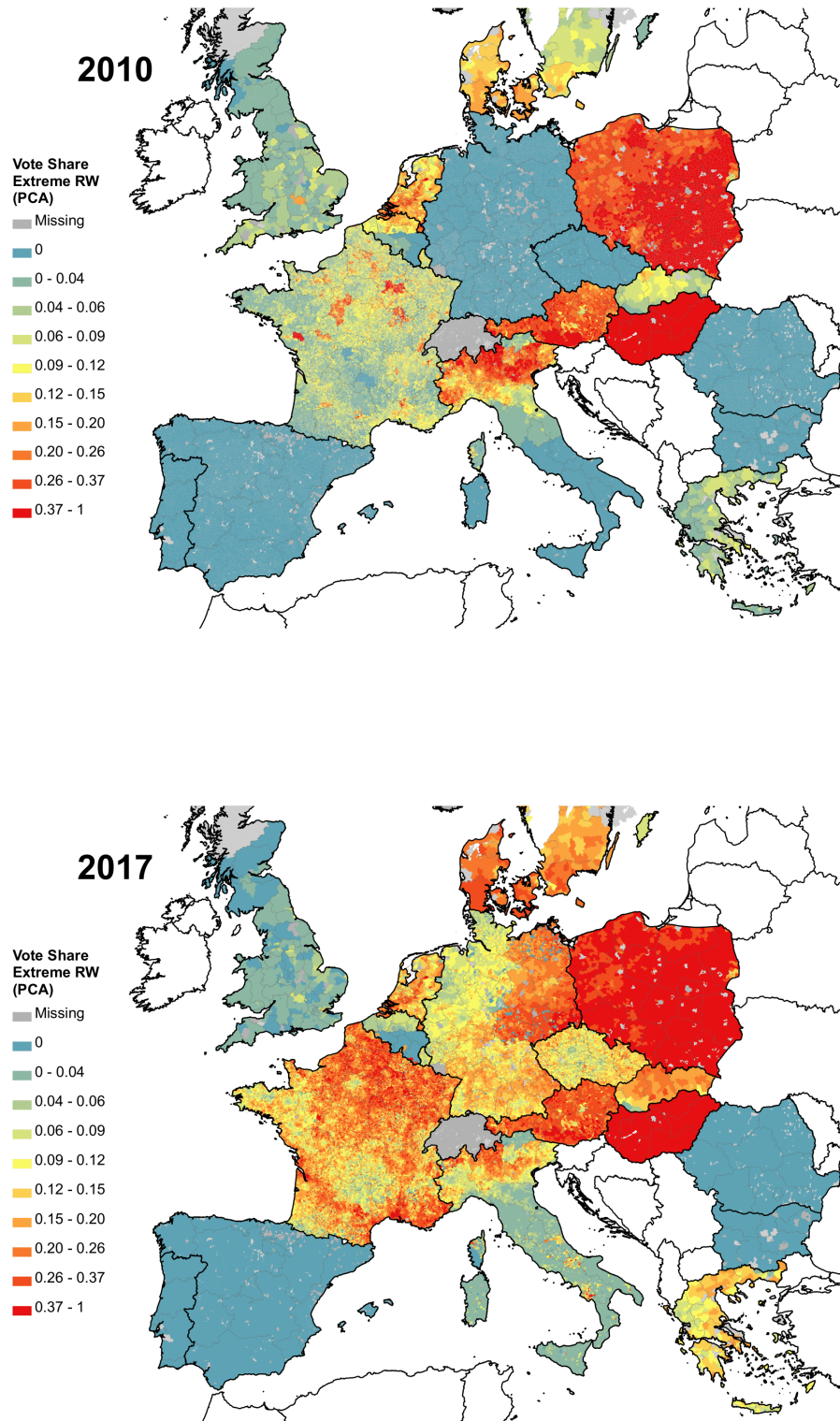
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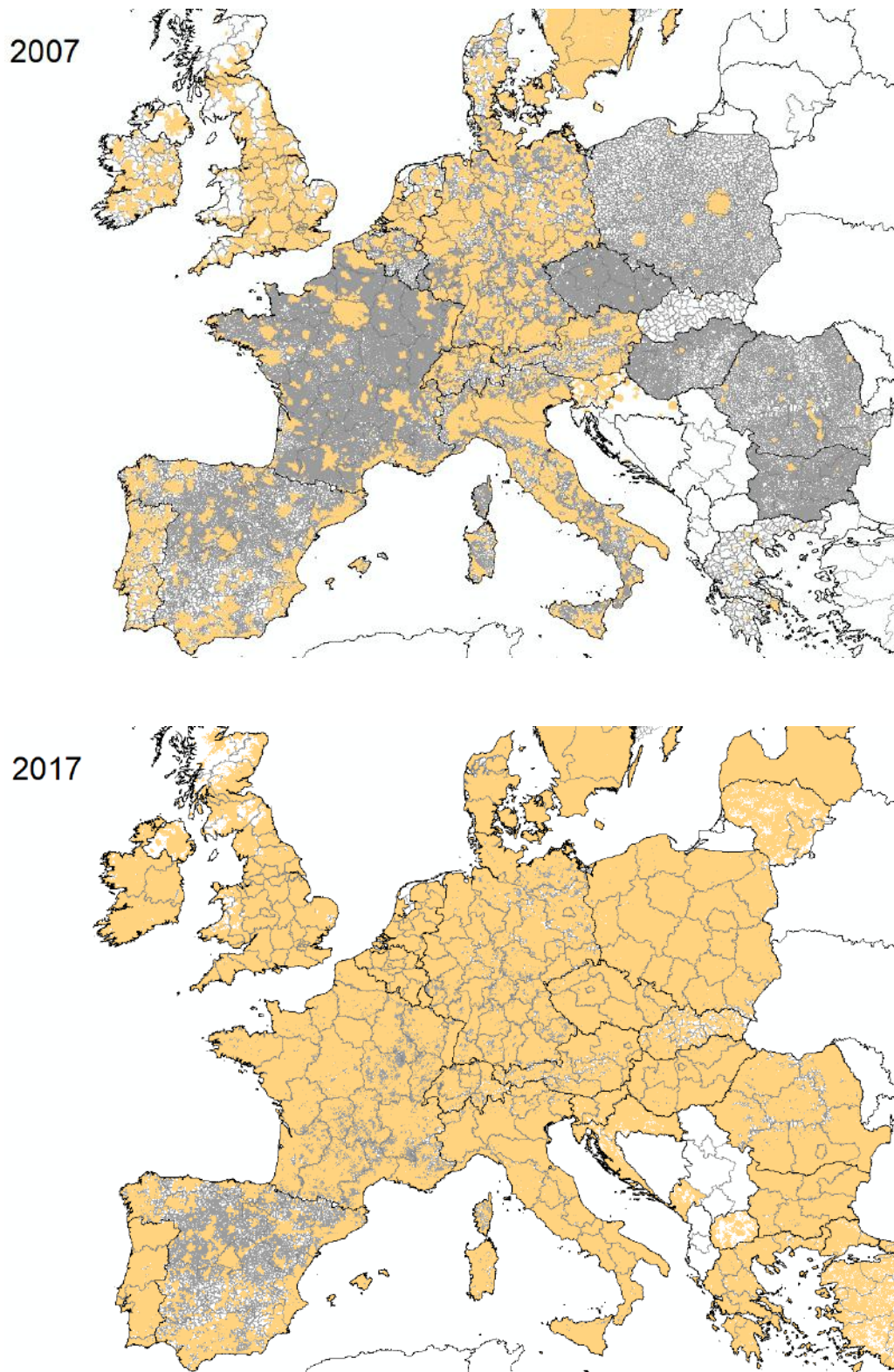
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Figure 1 Trends in Vote Share of Extreme Communitarian Parties across European Municipalities



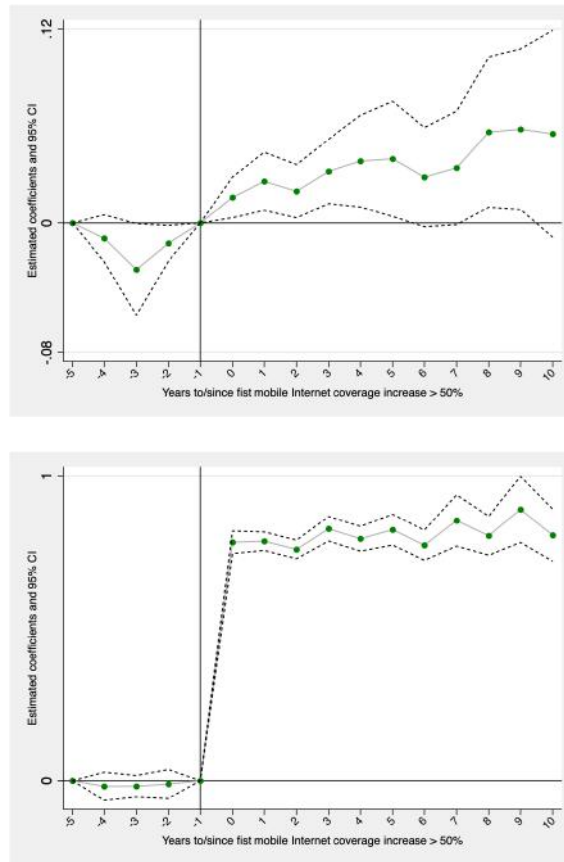
Notes. The Figure reports the vote share of extreme communitarian parties, defined as parties in the top decile of the continent-wide distribution of the CHES Synthetic Index. The data refer to the closest preceding election at two points in time: 2010 and 2017.

Figure 2 Trends in Mobile Internet Coverage across European Municipalities



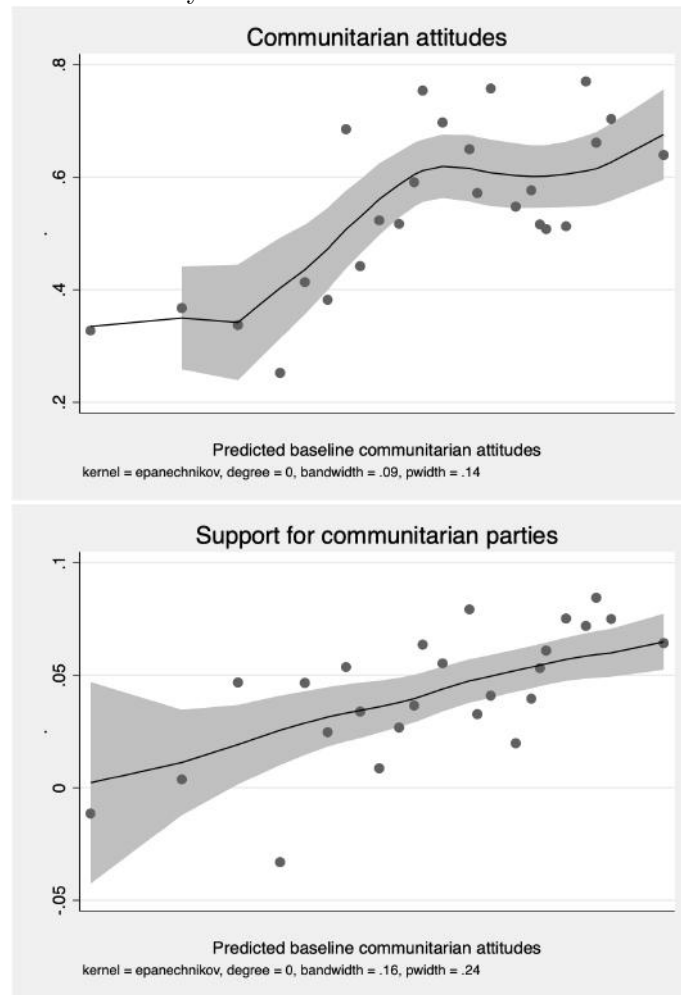
Notes. The Figure reports the area of each municipality covered by 3G or 4G signal in 2007 and 2017.

Figure 3 Event-Study Analysis: Change in Vote Share of Extreme Communitarian Parties in Response to a Large Increase in Mobile Internet Coverage



Notes. The Figure reports event-study graphs for the vote share of extreme communitarian parties, defined as parties with a value of the CHES Synthetic Index in the top decile of the continent-wide distribution (top panel), and for mobile Internet coverage (bottom panel). The event is defined as the first year during the period when a municipality experienced an increase in coverage of at least 50 percentage points over two consecutive years. Estimates at different leads and lags are derived from regressions that include municipality and country X year fixed effects and are weighted by municipality population. Coefficients at lags -1 and all lags prior to lag -5 are constrained to zero. 95 percent confidence intervals based on clustering at the NUTS2 level region reported alongside estimates.

Figure 4 The effect of Mobile Internet on Individual Extreme Communitarian Attitudes and Support for Extreme Communitarian Parties - Heterogeneous Effects by Individual Level of Communitarianism



Notes. The figure reports OLS estimates of the effect of mobile Internet on extreme communitarian attitudes (measured by a dummy for the respondent being in the top decile of the IVS Synthetic Index of voters' communitarian attitudes, top panel), and on support for extreme communitarian parties (measured by a dummy for the respondent intending to vote for a party in the top decile of the continent-wide distribution of the CHES Synthetic Index, bottom panel), separately by 25 equally sized groups of percentiles of individuals' baseline predicted levels of communitarianism. The latter is obtained based on a regression of the IVS Synthetic Index of voters' communitarian attitudes on dummies for age, unmarried, low education, working class status, residence in a small city, foreign born, number of children, religious affiliation, employment status, all interacted with a gender dummy plus country and year fixed effects. Regressions are performed on the first available year for each country and predictions exclude country and year fixed effects. A smoothed kernel regression, where each observation is weighted by the inverse of the square of the coefficient standard error, is superimposed to the data.

Table 1 Trends in Vote Share of Extreme Communitarian Parties across Europe, 2007-2017

	(1) Social Conservatism	(2) Opposition to Immigration	(3) Right-wing Ideology	(4) CHES Synthetic Index
Trend	0.057* [0.029]	0.087*** [0.021]	0.085*** [0.020]	0.085*** [0.019]
Baseline value	0.096	0.073	0.073	0.073

Notes. The Table reports estimated coefficients from regressions of the municipality-level vote share of parties in the top decile of the continent-wide distribution of each dimension of party communitarian positions in CHES and the CHES Synthetic Index on a linear year trend (divided by 11). All regressions include country fixed effects and are weighted by population. Two-way clustered standard errors at the country and year level in brackets. ***, **, *: statistically significant at 1, 5 and 10 percent level, respectively.

Table 2 Mobile Internet and Vote Share of Extreme Communitarian Parties - Discrete treatment

	(1)	(2)	(3)	(4)
	<u>TWFE</u>		<u>Borusyak et al. (2024)</u>	
	Threshold 25 p.p.	Threshold 50 p.p.	Threshold 25 p.p.	Threshold 50 p.p.
<u>Communitarian Parties</u>				
Δ Mobile Internet \geq threshold	0.011*** [0.002]	0.015*** [0.003]	0.006** [0.003]	0.014 [0.008]
<u>Mobile Internet</u>				
Δ Mobile Internet \geq treshold	0.571*** [0.021]	0.770*** [0.015]	0.496*** [0.016]	0.752*** [0.012]
Munic. FE	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓
Observations	139,917	105,477	28,885	13,343

Notes. The Table reports estimated coefficients from regressions on a dummy equal to one for all years following the first increase in mobile Internet coverage in a municipality by 25 (odd-numbered columns) or 50 (even-numbered columns) percentage points. The first two columns report Two-Way Fixed Effects estimates while the remaining two columns reports estimates based on Borusyak et al. (2024). Dependent variables are the vote share of extreme communitarian parties, defined as parties in the top decile of the continent-wide distribution of the CHES Synthetic Index (top panel), and the fraction of the municipality area covered by mobile Internet (bottom panel). All regression control for municipality fixed effects and country X year fixed effects and are weighted by municipality population. Clustered standard errors at the NUTS2 region level in brackets. ***, **, *: statistically significant at 1, 5 and 10 percent level, respectively.

Table 3 Mobile Internet and Vote Share of Extreme Communitarian Parties

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
Mobile Internet	0.009*** [0.003]	0.008*** [0.003]	0.008*** [0.003]	0.008*** [0.003]
Munic. FE	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓
Observations	196,160	196,160	196,160	196,160

Notes. The Table reports OLS estimates of equation (3). The dependent variable is the fraction of municipality votes accruing to parties holding extreme communitarian positions, defined as parties in the top decile of the continent-wide distribution of each CHES variable. Each column refers to a separate variable. All regressions include municipality, country X year fixed effects and the interaction of the latter with baseline municipality controls. Baseline municipality controls are: deciles for baseline log population, log area, the fraction of the population below age 15, above age 60 and foreign born, plus a dummy for urban status (plus dummies for missing values of all these variables). All regressions are weighted by municipality population. Clustered standard errors at the NUTS2 region level in brackets: ***, **, *: statistically significant at 1, 5 and 10 percent level, respectively.

Table 4 Mobile Internet and Vote Share of Extreme Communitarian Parties -
Heterogeneous Effects by Regional Characteristics

	(1)	(2)	(3)	(4)	(5)
	Unemployment rate	ln GPD per capita	Income Inequality	Poverty rate	Share Population Low Education
Mobile Internet	0.007*** [0.003]	0.001 [0.003]	0.008 [0.006]	0.003 [0.003]	0.008*** [0.003]
X trait	0.009** [0.004]	-0.012*** [0.004]	0.024* [0.014]	0.014*** [0.005]	0.003 [0.005]
Munic. FE	✓	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓	✓
Observations	195,480	127,468	71,239	119,351	196,140

Notes. The Table reports regression results from the same specification as in column (4) of Table 3, where mobile Internet coverage is interacted in turn with different baseline regional characteristics and the dependent variable is the vote share of parties in the top decile of the continent-wide distribution of the CHES Synthetic Index. Column (1) refers to the unemployment rate (Eurostat), column (2) to log GPD per capita (OECD), column (3) to Income Inequality (disposable income quintile ratio, OECD), column (4) to the poverty rate after tax and transfers (OECD) and column (5) to the share of the population with at most lower secondary education (Eurostat). See also notes to Table 3.

Table 5 Mobile Internet and Vote Share of Communitarian and Populist Parties

	(1)	(2)	(3)	(4)	(5)	(6)
	Communitarian & Populist		Non-Communitarian & Populist		Communitarian & Non-Populist	
	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate
	<u>Norris (2020)</u>					
Mobile Internet	0.008*** [0.003]	0.009*** [0.002]	-0.008** [0.004]	-0.010*** [0.003]	-0.000 [0.000]	0.003 [0.002]
Baseline	0.087	0.199	0.227	0.116	0.008	0.128
	<u>Rooduijn et al. (2019)</u>					
Mobile Internet	0.007*** [0.003]	0.009*** [0.003]	-0.005* [0.003]	-0.006*** [0.002]	0.001** [0.000]	0.004** [0.002]
Baseline	0.088	0.159	0.107	0.036	0.008	0.168
	<u>Guriev et al. (2021)</u>					
Mobile Internet	0.008*** [0.003]	0.009*** [0.003]	-0.007** [0.003]	-0.008*** [0.003]	-0.000 [0.000]	0.004** [0.002]
Baseline	0.089	0.160	0.125	0.054	0.006	0.167
Munic. FE	✓	✓	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓	✓	✓
Observations	196,160	196,160	196,160	196,160	196,160	196,160

Notes. The Table reports regression results from the same specification as in Table 3. Odd (even) columns refer to extreme (moderate) communitarian parties, defined as parties in the top decile (quartile) of the continent-wide distribution of the CHES Synthetic Index. The dependent variable in columns (1) and (2) is the vote share of parties simultaneously classified as communitarian and populists, according to different definitions of populism. The dependent variable in columns (3) and (4) is the vote share of parties classified as non-communitarian but populist. The dependent variable in columns (5) and (6) refers to parties classified as communitarian but non-populist. See also notes to Table 3.

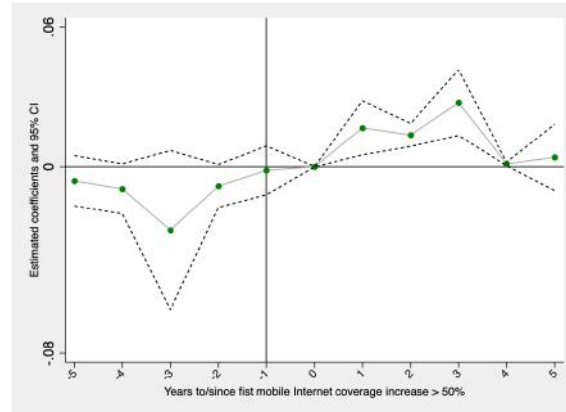
Table 6 Mobile Internet and Extreme Communitarian Attitudes (IVS Data)

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	IVS Synthetic Index
Mobile Internet	0.129*** [0.040]	0.154*** [0.041]	0.027 [0.031]	0.188*** [0.044]
Region FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Individual controls	✓	✓	✓	✓
Observations	50,508	59,470	54,810	42,889

Notes. The Table reports OLS estimates of equation (5) based on individual-level data from the Integrated Value Survey. The dependent variables in columns (1) to (4) are voters' communitarian attitudes, measured by a dummy for being in the top decile of the respective variable's distribution. Column (1) refers to the summary measure of social conservatism, column (2) to attitudes towards immigration and column (3) to voters' position on the left-right ideological scale. Column (4) is the IVS Synthetic Index of voters' communitarian attitudes based on the principal component of all previous measures. See text for details. Regressions include region fixed effects plus year fixed effects interacted with regional baseline controls. Baseline regional controls are: deciles for baseline region's log population, log area, the fraction of the population below age 15, above age 60 and foreign born, plus a dummy for urban status. Additionally, regressions include the following individual level controls: dummies for age in years, a dummy for married, low education, gender, working-class status (defined based on occupation), employment status and a dummy for residence in a city with population of less than 100,000, plus dummies for missing values of all controls. Regressions additionally include a dummy for whether the data come from the EVS or the WVS. All regressions weighted by IVS sampling weights. Standard error clustered at the level of IVS regions in brackets. See also notes to Table 3.

A. Appendix

Figure A.1 Event-Study Analysis: Changes in Vote Share of Extreme Communitarian Parties in Response to a Large Increase in Mobile Internet Coverage - (Borusyak et al., 2024)



Notes. The Figure reports event-study graph for the vote share of extreme communitarian parties using the methodology by Borusyak et al. (2024). See also notes to Figure 3.

Table A.1 Trends in Vote Share of Extreme Universalistic Parties across Europe, 2007-2017

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
Trend	0.031 [0.032]	0.032 [0.039]	0.055 [0.039]	0.060 [0.036]
Baseline value	0.055	0.057	0.065	0.055

Notes. The Table reports estimated coefficients from regressions of the municipality-level vote share of parties in the bottom decile of the continent-wide distribution of each dimension of party communitarian positions in CHES and the CHES Synthetic Index on a linear year trend (divided by 11). All regressions include country fixed effects and are weighted by population. Two-way clustered standard errors at the country and year level in brackets. ***, **, *: statistically significant at 1, 5 and 10 percent level, respectively.

Table A.2 Correlates of Trends in Vote Share of Extreme Communitarian Parties, Extreme Universalistic Parties and Mobile Internet Coverage

	Vote Share of Extreme Communitarian Parties	Vote Share of Extreme Universalistic Parties	Mobile Internet Coverage
Log Population	0.001 (0.002)	-0.006** (0.002)	0.086*** (0.013)
Log Area	-0.000** (0.000)	-0.000* (0.000)	0.000 (0.000)
Fraction Population Age 0-15	0.073* (0.040)	0.038 (0.040)	0.122 (0.226)
Fraction Population Age 60+	-0.016 (0.029)	0.016 (0.033)	0.715*** (0.234)
Share Unemployed	0.978*** (0.199)	0.048 (0.128)	1.235** (0.534)
Share Foreign Born	-0.120* (0.067)	-0.020 (0.024)	0.100 (0.149)
Munic. FE	✓	✓	✓
Country X Year FE	✓	✓	✓
Observations	196,322	196,322	206,546

Notes. The Table reports coefficients from a regression of the municipality-level vote share of parties holding extreme communitarian positions (column 1), extreme universalistic (column 2) positions, and mobile Internet coverage (column 3) on baseline municipality controls interacted with a linear year trend. Extreme communitarian (universalistic) parties are defined as parties in the top (bottom) decile of the continent-wide distribution of the CHES Synthetic Index. All regressions include country X year and municipality fixed effects and are weighted by municipality population. Clustered standard errors at the NUTS2 region level in brackets. ***, **, *: statistically significant at 1, 5 and 10 percent level, respectively.

Table A.3 Mobile Internet and Vote Share of Extreme Universalistic Parties

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
Mobile Internet	-0.003* [0.002]	-0.003* [0.002]	-0.004** [0.002]	-0.003* [0.002]
Munic. FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓
Observations	196,160	196,160	196,160	196,160

Notes. The Table reports OLS estimates of equation (3). The dependent variable is the fraction of municipality votes accruing to parties holding extreme universalistic positions defined as those in the bottom decile of the continent-wide distribution. See also notes to Tables A.1 and 3.

Table A.4 Mobile Internet and Vote Share of Communitarian Parties - Continuous measure

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
Mobile Internet	0.009*** [0.002]	0.002*** [0.001]	0.002 [0.002]	0.002*** [0.001]
Munic. FE	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓
Observations	196,160	196,160	196,160	196,160

Notes. The Table reports OLS estimates of equation (3), where the dependent is the vote-weighted average level of the continuous measure of parties' communitarianism in CHES. See also notes to Table 3.

Table A.5 Mobile Internet and Vote Share of Communitarian Parties - Robustness checks

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
<u>A: Top decile (extreme) - Unweighted</u>				
Mobile Internet	0.005** [0.002]	0.006** [0.002]	0.006** [0.002]	0.005** [0.002]
<u>B: Top within-country decile (extreme)</u>				
Mobile Internet	0.011*** [0.003]	0.010*** [0.003]	-0.002 [0.004]	0.006** [0.003]
<u>C: Top quartile (moderate)</u>				
Mobile Internet	0.015	0.014	0.012	0.013
NUTS2	[0.002]****	[0.001]***	[0.003]***	[0.003]***
Country	[0.008]*	[0.005]**	[0.006]*	[0.006]*
<u>D: Top decile (extreme) - NUTS2 X Year controls</u>				
Mobile Internet	0.006*** [0.002]	0.005*** [0.002]	0.005*** [0.001]	0.005*** [0.001]
<u>E: Top decile (extreme) - Parsimonious Specification</u>				
Mobile Internet	0.013*** [0.004]	0.011*** [0.004]	0.015*** [0.004]	0.014*** [0.004]
<u>F: Top decile (extreme) - Parties Founded Prior to 2000</u>				
Mobile Internet	0.004** [0.002]	0.003* [0.002]	0.003* [0.002]	0.003* [0.002]
<u>Panel G: Top decile (extreme) - Alternative clustering</u>				
Mobile Internet	0.009	0.008	0.008	0.008
Conley 100 km	[0.002]***	[0.002]***	[0.002]***	[0.002]***
Conley 250 km	[0.002]***	[0.002]***	[0.002]***	[0.002]***
Conley 500 km	[0.003]***	[0.003]**	[0.003]**	[0.003]**
NUTS3	[0.002]***	[0.002]***	[0.002]***	[0.002]***
Country	[0.005]	[0.005]	[0.005]	[0.005]

Notes. The Table reports regressions of vote share of communitarian parties, separately for each dimension in CHES, on mobile Internet coverage. Unless otherwise specified all regressions use the same specification as in Table 3. Panel A presents unweighted regression as opposed to weighting by population size. Panel B defines communitarian parties if they are in the top decile of the respective national (as opposed to continent-wide) distribution. Panel C defines communitarian parties if they are in the top quartile (as opposed to decile) of the continent-wide distribution. For these regressions, clustered standard errors at the level of Country (in addition to NUTS2) are also reported in parenthesis. Panel D reports the same regressions as in Table 3 with the addition of NUTS2 X year fixed effects. Panel E refers to a specification with year (as opposed to country X year) fixed effects and their interaction with baseline controls. Panel F restricts to parties founded prior to the year 2000. Panel G reports the same regressions as in Table 3 with clustered standard errors at the level of NUTS3 and Country (as opposed to NUTS2) and Conley standard errors with varying distance (100, 250 and 500 km). See also notes to Table 3.

Table A.6 Mobile Internet and Vote Share of Extreme Communitarian/Universalistic Parties - 2SLS

	(1)	(2)	(3)	(4)	(5)
	Mobile Internet	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
<u>A: Main specification</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.025*** [0.006]				
F-statistic	9.843				
<u>Extreme Communitarian Parties</u>					
Mobile Internet		0.064** [0.026]	0.069** [0.031]	0.047* [0.025]	0.062** [0.025]
<u>Extreme Universalistic Parties</u>					
Mobile Internet		-0.044** [0.017]	-0.017 [0.013]	-0.016 [0.010]	-0.017 [0.013]
<u>B: Controlling for distance to large municipalities</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.028*** [0.006]				
F-statistic	9.579				
<u>Extreme Communitarian Parties</u>					
Mobile Internet		0.065*** [0.022]	0.067*** [0.025]	0.050** [0.021]	0.063*** [0.021]
<u>Extreme Universalistic Parties</u>					
Mobile Internet		-0.041*** [0.014]	-0.015 [0.012]	-0.011 [0.009]	-0.015 [0.011]
Munic. FE	✓	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓	✓
Observations	196,160	196,160	196,160	196,160	196,160

Notes. Panel A of the Table reports 2SLS estimates of equation (3) using the same specification as in Table 3. Column (1) reports the first stage coefficient from OLS estimates of equation (4) and the associated F-test. Panel B reports regressions with further controls for decile of log distance to the largest municipality in the country, in the NUTS3 region and in the NUTS2 region interacted with county X year fixed effects. See also notes to Tables 3 and A.3.

Table A.7 Mobile Internet and Vote for Communitarian Parties (2SLS) - Excluding Large Birthplaces

	(1)	(2)	(3)	(4)	(5)
	Mobile Internet	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
<u>Exclude top 1 municipalities</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.015*** [0.005]				
F-statistic	4.100				
Observations	139,745				
Mobile Internet		0.174* [0.088]	0.145* [0.084]	0.143* [0.078]	0.165** [0.083]
<u>Exclude top 3 municipalities</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.012*** [0.004]				
F-statistic	5.443				
Observations	110,503				
Mobile Internet		0.196* [0.101]	0.124 [0.096]	0.157* [0.094]	0.172* [0.094]
<u>Exclude top 5 municipalities</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.011*** [0.004]				
F-statistic	4.668				
Observations	103,754				
Mobile Internet		0.097* [0.058]	0.016 [0.054]	0.053 [0.049]	0.070 [0.049]

Notes. The Table reports results from specifications similar to those in Panel B of Table A.6, where we exclude municipalities gravitating around managers' birthplaces that are in the top 1, 3 or top 5 of the country's municipality population distribution. See also notes to Tables A.6. ***, **, *: statistically significant at 1%, 5% and 10%, respectively.

Table A.8 Mobile Internet and Vote for Universalistic Parties (2SLS) - Excluding Large Birthplaces

	(1)	(2)	(3)	(4)	(5)
	Mobile Internet	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
<u>Exclude top 1 municipalities</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.015*** [0.005]				
F-statistic	4.100				
Observations	139,745				
Mobile Internet		-0.031 [0.034]	-0.041 [0.039]	-0.022 [0.027]	-0.023 [0.036]
<u>Exclude top 3 municipalities</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.012*** [0.004]				
F-statistic	5.443				
Observations	110,503				
Mobile Internet		-0.048 [0.034]	-0.056 [0.038]	0.034 [0.039]	-0.017 [0.034]
<u>Exclude top 5 municipalities</u>					
Log distance X $\Delta \ln Cov_{ct}$	-0.011*** [0.004]				
F-statistic	4.668				
Observations	103,754				
Mobile Internet		-0.057** [0.028]	-0.065** [0.032]	0.038 [0.028]	-0.025 [0.025]

Notes. The Table reports results from specifications similar to those in Panel B of Table A.6, where we exclude municipalities gravitating around managers' birthplaces that are in the top 1, 3 or top 5 of the country's municipality population distribution. See also notes to Tables A.6. ***, **, *: statistically significant at 1%, 5% and 10%, respectively.

Table A.9 Mobile Internet and Vote Share of Extreme Communitarian Parties -
Heterogenous Effects across Groups of Countries

	(1) Southern	(2) Eastern	(3) Northern	(4) Western
Mobile Internet	0.019* [0.010]	0.013*** [0.004]	-0.034 [0.029]	0.001 [0.003]
Munic. FE	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓
Observations	48,208	38,503	1,625	107,824

Notes. The Table reports OLS estimates of equation (3) separately for countries in different regions of Europe. The dependent variable is the CHES Synthetic Index, as in column (4) of Table 3. See also notes to Table 3.

Table A.10 Cross-Tabulations Between Different Measures of Populism

		<u>Rooduijn et al. (2019)</u>		<u>Guriev et al. (2021)</u>	
		0	1	0	1
<u>Norris (2020)</u>	0	72%	9%	71%	10%
	1	9%	10%	9%	10%
<u>Rooduijn et al. (2019)</u>	0			75%	6%
	1			5%	14%

Notes. The table reports information about number of parties classified as populist according to three measures: Rooduijn et al. (2019), Norris (2020), and Guriev et al. (2021). The cells report the relative frequency of each combination.

Table A.11 Mobile Internet and Vote Share of Universalistic and Populist Parties

	(1)	(2)	(3)	(4)	(5)	(6)
	Universalistic & Populist		Non-Universalistic & Populist		Universalistic & Non-Populist	
	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate
	<u>Norris (2020)</u>					
Mobile Internet	-0.003*** [0.001]	-0.003*** [0.001]	0.002 [0.004]	0.003 [0.004]	-0.000 [0.001]	-0.004 [0.003]
Baseline	0.002	0.031	0.312	0.284	0.056	0.218
	<u>Rooduijn et al. (2019)</u>					
Mobile Internet	-0.003*** [0.001]	-0.004*** [0.001]	0.005** [0.003]	0.006** [0.003]	-0.000 [0.001]	-0.004 [0.003]
Baseline	0.001	0.027	0.193	0.168	0.057	0.222
	<u>Guriev et al. (2021)</u>					
Mobile Internet	-0.004*** [0.001]	-0.005*** [0.002]	0.004 [0.003]	0.005* [0.003]	0.001 [0.001]	-0.003 [0.002]
Baseline	0.011	0.037	0.203	0.177	0.047	0.212
Munic. FE	✓	✓	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓	✓	✓
Observations	196,160	196,160	196,160	196,160	196,160	196,160

Notes. The Table reports regression results from the same specification as in Table 3. Odd (even) columns refer to extreme (moderate) universalistic parties, defined as parties in the bottom decile (quartile) of the continent-wide distribution of the CHES Synthetic Index. The dependent variable in columns (1) and (2) is the vote share of parties simultaneously classified as universalistic and populists, according to different definitions of populism. The dependent variable in columns (3) and (4) is the vote share of parties classified as non-universalistic but populist. The dependent variable in columns (5) and (6) refers to parties classified as universalistic but non-populist. See also notes to Table 3.

Table A.12 Mobile Internet and Individual Voting Intentions (IVS data)

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
<u>Extreme Communitarian Parties</u>				
Mobile Internet	0.054 [0.041]	0.068* [0.038]	0.066 [0.041]	0.066* [0.039]
<u>Extreme Universalistic Parties</u>				
Mobile Internet	-0.054* [0.030]	-0.081** [0.034]	-0.010 [0.037]	-0.047 [0.033]
Region FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Regional controls X Year FE	✓	✓	✓	✓
Individual controls	✓	✓	✓	✓
Observations	50,823	50,823	50,823	50,823

Notes. The Table reports OLS estimates of equation (5) based on individual-level data from the Integrated Value Survey. The dependent variable in each column is a dummy for whether an individual reports the intention to vote for an extreme communitarian (top panel) or extreme universalistic (bottom panel) party, i.e., respectively, in the top or bottom decile of the continent-wide distribution of the respective variable. Regressions include region fixed effects plus year fixed effects interacted with regional baseline controls. Baseline regional controls are: deciles for baseline log population, log area, the fraction of the population below age 15, above age 60 and foreign born, plus a dummy for urban status. Additionally, regressions include the following individual level controls: dummies for age, married, employment status, low education, gender, working-class status, and residence in a small city, plus a dummy for whether the data come from the EVS or the WVS. Regressions weighted by IVS sampling weights. Standard error clustered at the level of IVS regions in brackets. ***, **, *: statistically significant at 1, 5 and 10 percent level, respectively.

Table A.13 Individual Voting Intentions and Attitudes (IVS data)

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
<u>Attitudes</u>				
<u>Extreme Communitarian Parties</u>				
Social Conservatism	0.024*** [0.004]	0.015*** [0.004]	0.009*** [0.003]	0.019*** [0.004]
Opposition to Immigration	0.033*** [0.004]	0.041*** [0.004]	0.028*** [0.004]	0.036*** [0.004]
Right-wing Ideology	0.039*** [0.006]	0.040*** [0.006]	0.041*** [0.005]	0.039*** [0.006]
<u>Extreme Universalistic Parties</u>				
Social Conservatism	-0.038*** [0.004]	-0.029*** [0.003]	-0.012*** [0.002]	-0.022*** [0.003]
Opposition to Immigration	-0.019*** [0.003]	-0.021*** [0.003]	-0.001 [0.002]	-0.018*** [0.003]
Right-wing Ideology	-0.025*** [0.004]	-0.039*** [0.004]	-0.048*** [0.004]	-0.037*** [0.004]
Region FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Regional controls X Year FE	✓	✓	✓	✓
Individual controls	✓	✓	✓	✓
Observations	34,639	34,639	34,639	34,639

Notes. The Table reports OLS estimates of voting intentions on individual attitudes based on IVS data. The dependent variables in each column is a dummy for the respondent intending to vote for a party in the top decile of the continent-wide distribution of each CHES variable. Regressors are continuous measures of voters' communitarian attitudes in IVS based on the PCA of underlying variables, all expressed in term of their standard deviation (see text for details). Regressions include region fixed effects plus year fixed effects interacted with regional baseline controls. Baseline regional controls are: deciles for baseline log population, log area, the fraction of the population below age 15, above age 60 and foreign born, plus a dummy for urban status. Additionally, regressions include the following individual level controls: dummies for age, married, employment status, low education, gender, working-class status, and residence in a small city, plus a dummy for whether the data come from the EVS or the WVS. Regressions weighted by IVS sampling weights. Standard error clustered at the level of IVS regions in brackets. ***, **, *: statistically significant at 1, 5 and 10 percent level, respectively.

Table A.14 Mobile Internet and Extreme Universalistic Attitudes (IVS Data)

	(1)	(2)	(3)	(4)
	Social Conservatism	Opposition to Immigration	Right-wing Ideology	IVS Synthetic Index
Mobile Internet	-0.107*** [0.036]	-0.091** [0.043]	0.027 [0.037]	-0.086** [0.037]
Region FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Regional controls X Year FE	✓	✓	✓	✓
Individual controls	✓	✓	✓	✓
Observations	50,508	59,470	54,810	42,889

Notes. The Table reports OLS estimates of equation (5) based on individual-level data from the Integrated Value Survey. The dependent variables in each column is voters' universalistic attitudes, measured by a dummy for being in the bottom decile of the respective continent-wide distribution. See also notes to Table 6.

Table A.15 Mobile Internet and Communitarian Attitudes - Continuous measure (IVS Data)

	(1) Social Conservatism	(2) Opposition to Immigration	(3) Right-wing Ideology	(4) IVS Synthetic Index
Mobile Internet	0.629*** [0.124]	0.693*** [0.157]	0.059 [0.102]	0.604*** [0.157]
Region FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Regional controls X Year FE	✓	✓	✓	✓
Individual controls	✓	✓	✓	✓
Observations	50,508	59,470	54,810	42,889

Notes. The Table reports OLS estimates of equation (5) based on individual-level data from the Integrated Value Survey. The dependent variables in each column is voters' communitarian attitudes, measured by the principal component (standardized to its standard deviation) of each dimension in IVS. See also notes to Table 6.

Table A.16 Mobile Internet and Extreme Communitarian Attitudes (IVS Data) - Heterogeneous Effects by Socioeconomic Characteristics

	(1) Low Education	(2) Working Class	(3) Small City	(4) Male	(5) Unmarried
Mobile Internet	0.161*** [0.047]	0.162*** [0.042]	0.187*** [0.044]	0.183*** [0.045]	0.194*** [0.044]
X trait	0.023 [0.016]	0.024** [0.011]	0.008** [0.004]	0.008 [0.011]	-0.012 [0.011]
Region FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Regional controls X Year FE	✓	✓	✓	✓	✓
Individual controls	✓	✓	✓	✓	✓
Observations	42,614	40,837	42,889	42,889	42,889

Notes. The dependent variable in all columns is a dummy for holding extreme communitarian attitudes (based on the IVS Synthetic Index of voters' communitarian attitudes). The Table reports similar specifications to those in Table 6 where coverage is interacted in turn with dummies for different individual characteristics. Column (1) refers to low education (below college), column (2) to working-class status, column (3) to residence in a small city, column (4) to male and column (5) to unmarried. See also notes to Table 6.

Table A.17 Mobile Internet and Extreme Communitarian Voting Intentions (IVS Data)
- Heterogeneous Effects by Socioeconomic Characteristics

	Low Education (1)	Working Class (2)	Small City (3)	Male (4)	Unmarried (5)
Mobile Internet	0.024 [0.040]	0.061 [0.039]	0.066* [0.039]	0.056 [0.040]	0.059 [0.039]
X trait	0.051*** [0.012]	0.035*** [0.011]	0.008* [0.005]	0.022** [0.010]	0.013 [0.009]
Region FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Regional controls X Year FE	✓	✓	✓	✓	✓
Individual controls	✓	✓	✓	✓	✓
Observations	50,439	41,791	50,823	50,823	50,823

Notes. The dependent variable in all columns is a dummy for voting for extreme communitarian parties (based on the CHES synthetic index). The Table reports similar specifications to those in Tables A.12 where coverage is interacted in turn with dummies for different individual characteristics. Column (1) refers to low education (below college), column (2) to working-class status, column (3) to residence in a small city, column (4) to male and column (5) to unmarried. See also notes to Table A.12.

Table A.18 Mobile Internet and Vote Share of New and Extreme Communitarian Parties

	(1) Extreme Communitarian & New	(2) Non-extreme Communitarian & New	(3) Extreme Communitarian & Non-New
Mobile Internet	0.005** [0.002]	-0.010** [0.004]	0.003* [0.002]
Baseline	0.040	0.241	0.056
Munic. FE	✓	✓	✓
Country X Year FE	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓
Observations	196,160	196,160	196,160

Notes. The Table reports regression results from the same specification as in Table 3, with municipality fixed effects, country X year fixed effects and their interaction with baseline municipality characteristics. The dependent variable in column (1) is the vote share of parties simultaneously classified as extreme communitarian (based on the CHES Synthetic Index) and new. The dependent variable in column (2) is the vote share of parties classified as new but not extreme communitarian. The dependent variable in column (3) is the vote share of parties classified as extreme communitarian but not new. New is defined as year of foundation greater than or equal to 2000. See also notes to Table 3.

Table A.19 Mobile Internet and Vote Share of Extreme Communitarian Parties - Countries with Data on Municipality-Level Fraction of Eligible Voters

	(1)	(2)	(3)	(4)	(5)
	Turnout	Social Conservatism	Opposition to Immigration	Right-wing Ideology	CHES Synthetic Index
<u>As a fraction of votes cast</u>					
Mobile Internet		0.014*** [0.004]	0.013*** [0.004]	0.013*** [0.004]	0.013*** [0.004]
<u>As a fraction of eligible voters</u>					
Mobile Internet	-0.018*** [0.005]	0.005** [0.002]	0.005** [0.002]	0.005** [0.002]	0.005** [0.002]
Munic. FE	✓	✓	✓	✓	✓
Country X Year FE	✓	✓	✓	✓	✓
Munic. Controls X Country X Year FE	✓	✓	✓	✓	✓
Observations	161,671	161,671	161,671	161,671	161,671

Notes. Columns (2) to (5) of the Table report OLS estimates of equation (3) using the same specification as in Table 3, where the sample is restricted to countries for which municipality level turnout is available. The dependent variables in the top panel are expressed as a function of total votes cast, while those in the bottom panel are expressed as a function of the number of eligible voters. Column (1) presents estimates of the effect of mobile Internet on turnout. See also notes to Table 3.

B. Data Baseline

Table B.1 List of Countries and Number of Municipalities

Countries	No. Municipalities
Austria	2,096
Belgium	208
Bulgaria	265
Czech Republic	5,878
Denmark	90
Finland	389
France	35,280
Germany	11,246
Greece	323
Hungary	3,139
Italy	8,079
Luxembourg	116
Netherlands	458
Poland	2,426
Portugal	304
Romania	3,121
Slovakia	77
Spain	7,996
Sweden	227
United Kingdom	376

Table B.2 List of Variables in CHES

GAL-TAN: position of the party in terms of a cultural dimension with Green, Alternative, Libertarian (GAL) at one extreme and Traditionalist, Nationalist, Authoritarian (TAN) at the other extreme. 0= Green, Alternative, Libertarian (GAL)...10= Traditional, Authoritarian, Nationalist (TAN).

IMMIGRATE POLICY: position on immigration policy. 0= Fully opposed to a restrictive policy on immigration...10= Fully favor of a restrictive policy on immigration.

ETHNIC MINORITIES: position towards ethnic minorities. 0= Strongly supports more rights for ethnic minorities...10= Strongly opposes more rights for ethnic minorities.

MULTICULTURALISM: position on integration of immigrants and asylum seekers (multiculturalism vs. assimilation). 0= Strongly favors multiculturalism...10= Strongly favors assimilation.

LRGEN: position of the party in terms of its overall ideological stance. 0= Extreme left...5= Center...10= Extreme right.

Table B.3 List of Communitarian and Populist Parties according to alternative definitions

Country	Party Acronym	Extreme Communitarian	Moderate Communitarian	Populist (Norris, 2020)	Populist (Rooduijn et al., 2019)	Populist (Guriev et al., 2021)
Austria	BZO	1	1	0	1	1
Austria	FPO	1	1	1	1	1
Austria	MARTIN	0	0	0	1	0
Austria	OVP	0	1	1	0	0
Austria	TeamStronach	0	1	0	1	1
Belgium	CD&V	0	1	0	0	0
Belgium	FN	1	1	0	0	0
Belgium	LDD	1	1	0	1	0
Belgium	MR	0	1	0	0	0
Belgium	NVA	0	1	1	0	0
Belgium	PP	0	1	0	1	1
Belgium	PVDA	0	0	1	0	0
Belgium	VB	1	1	1	1	1
Belgium	VLD	0	1	0	0	0
Bulgaria	ATAKA	1	1	0	0	0
Bulgaria	BBT	0	1	0	1	0
Bulgaria	DPS	0	1	0	0	0
Bulgaria	DSB	1	1	0	0	0
Bulgaria	GERB	0	0	1	1	0
Bulgaria	KzB	0	0	1	0	1
Bulgaria	L	0	1	0	0	0
Bulgaria	NDSV	0	0	0	1	1
Bulgaria	NFSB	1	1	0	1	1
Bulgaria	NOA	0	0	0	1	1
Bulgaria	ODS	0	1	0	0	0
Bulgaria	RZS	0	1	0	1	1
Bulgaria	VMRO-BND	1	1	0	1	0
Czech Republic	ANO2011	0	1	1	1	1
Czech Republic	KDU-CSL	0	1	0	0	0
Czech Republic	KSCM	0	1	1	0	0
Czech Republic	ODS	0	1	0	0	0
Czech Republic	SVOBODNI	1	1	0	0	0
Czech Republic	SPD	1	1	0	1	1
Czech Republic	TOP09	0	1	0	0	0
Czech Republic	USVIT	1	1	0	0	1
Czech Republic	VV	0	0	0	1	1
Denmark	DF	1	1	1	1	1
Denmark	EL	0	0	1	0	0
Denmark	KF	0	1	0	0	0
Denmark	LA	1	1	1	0	0
Denmark	SD	0	0	1	0	0
Denmark	V	0	1	0	0	0
Finland	KD	1	1	0	0	0
Finland	KOK	0	1	0	0	0
Finland	PS	1	1	1	1	1
Finland	RKP/SFP	0	1	0	0	0

Table B.3 List of Populist and Communitarian Parties according to alternative definitions (continued)

Country	Party Acronym	Extreme Communitarian	Moderate Communitarian	Populist (Norris, 2020)	Populist (Rooduijn et al., 2019)	Populist (Guriev et al., 2021)
France	DLF	1	1	0	1	0
France	FN	1	1	1	1	1
France	Insoumis	0	0	1	1	1
France	LR	0	1	0	0	0
France	MPF	1	1	0	0	0
Germany	AfD	1	1	1	1	1
Germany	BLAU	1	1	0	0	0
Germany	CSU	0	1	1	0	0
Germany	CDU	0	1	0	0	0
Germany	LKR	1	1	0	0	0
Germany	Linkspartei/PDS	0	0	1	1	1
Germany	NPD	1	1	0	0	0
Greece	ANEL	1	1	1	1	1
Greece	DIKKI	0	0	0	1	0
Greece	EK	0	1	1	0	0
Greece	KKE	0	0	1	0	0
Greece	LAOS	1	1	0	0	1
Greece	ND	0	1	0	0	0
Greece	SYRIZA	0	0	1	1	1
Greece	XA	1	1	1	0	1
Hungary	Fidesz-M	1	1	1	1	1
Hungary	JOBBIK	1	1	1	1	1
Hungary	KDNP	0	1	0	0	0
Italy	AN	1	1	0	0	0
Italy	FdI	1	1	1	1	1
Italy	IdV	0	0	0	0	1
Italy	LN	1	1	1	1	1
Italy	M5S	0	0	1	1	1
Italy	MPA	0	1	0	0	0
Italy	NCD	0	1	0	0	0
Italy	PDL	0	1	1	1	1
Italy	PP	0	1	0	0	0
Italy	SVP	0	1	0	0	0
Italy	UDC	0	1	0	0	0
Italy	UDEUR	0	1	0	0	0
Luxembourg	ADR	1	1	1	1	1
Luxembourg	CSV	0	1	0	0	0
Luxembourg	DL	0	0	1	0	0
Netherlands	50PLUS	0	0	0	0	1
Netherlands	CDA	0	1	0	0	0
Netherlands	CU	0	1	0	0	0
Netherlands	FvD	1	1	0	1	1
Netherlands	PVV	1	1	1	0	0
Netherlands	SP	0	0	1	1	1
Netherlands	SGP	1	1	0	0	0
Netherlands	VVD	0	1	0	1	1

Table B.3 List of Populist and Communitarian Parties according to alternative definitions (continued)

Country	Party Acronym	Extreme Communitarian	Moderate Communitarian	Populist (Norris, 2020)	Populist (Rooduijn et al., 2019)	Populist (Guriev et al., 2021)
Poland	KNP	1	1	0	0	0
Poland	Korwin	1	1	0	0	0
Poland	Kukiz	1	1	0	1	0
Poland	LPR	1	1	0	1	1
Poland	PiS	1	1	1	1	1
Poland	PR	0	1	0	0	0
Poland	PSL	0	1	0	0	0
Poland	RP	0	1	0	0	1
Poland	S	0	1	0	1	1
Poland	SP	1	1	0	0	0
Portugal	BE/O Bloco	0	0	0	0	1
Portugal	CDS-PP	1	1	0	0	1
Portugal	MPT	0	1	0	0	0
Portugal	PAN	0	0	1	0	0
Portugal	PDR	0	0	0	0	1
Romania	PC	0	1	0	0	0
Romania	PMP	0	0	1	0	0
Romania	PNL	0	0	1	0	0
Romania	PP-DD	0	1	0	1	1
Romania	PRM	1	1	0	1	0
Romania	PSD	0	1	1	0	0
Romania	UNPR	0	1	0	0	0
Slovakia	KDH	1	1	0	0	0
Slovakia	Kotleba LSNS	1	1	1	0	1
Slovakia	LS-HZDS	0	1	0	0	0
Slovakia	NOVA	0	1	0	0	0
Slovakia	OLaNO-NOVA	0	1	1	1	0
Slovakia	SaS	0	1	0	0	0
Slovakia	SDKU-DS	0	1	0	0	0
Slovakia	Siet	0	1	0	0	0
Slovakia	Sme Rodina	1	0	1	1	1
Slovakia	Smer-SD	0	1	1	1	0
Slovakia	SMK	0	1	0	0	0
Slovakia	SNS	1	1	1	1	1
Spain	C's	0	1	0	0	1
Spain	CiU	0	0	0	0	1
Spain	ERC	0	0	1	0	0
Spain	Podemos	0	0	1	1	1
Spain	PP	0	1	0	0	0
Sweden	C	0	1	0	0	0
Sweden	FP	0	1	0	0	0
Sweden	KD	0	1	1	0	0
Sweden	M	0	1	0	0	0
Sweden	SD	1	1	1	1	1
United Kingdom	BNP	1	1	0	0	0
United Kingdom	CONS	0	1	1	0	0
United Kingdom	DUP	1	1	0	0	1
United Kingdom	LAB	0	0	1	0	0
United Kingdom	SF	0	0	0	1	0
United Kingdom	UKIP	1	1	0	1	1

Table B.4 List of variables in IVS

Social Conservatism. PCA of the following variables: How proud are you to be a [country] citizen. 1= Very proud... 10= Not at all proud; How important to have been born in [country]. 1= very important...10= not at all important; How important to have [country nationality] ancestry. 1= very important...10= not at all important; How important to respect [country nationality] political institutions and laws. 1= very important...10= not at all important; How important to be able to speak [country language]. 1= very important...10= not at all important; How justifiable is: Homosexuality; Abortion; Divorce; Euthanasia. 1= never justifiable...10= always justifiable; Which ones of the following groups you would not like to have as neighbors: Homosexuals; people of a different race; gypsies; Muslims. 0= not mentioned, 1= mentioned.

Opposition to Immigration. PCA of the following variables: How would you place your views on these scales? (labor market) Immigrants take away jobs from nationals. 1= take away... 10= do not take away; (Crime) Immigrants increase crime problem, 1= make it worse... 10= do not make it worse; (Welfare) Immigrants are a strain on welfare system. 1= are a strain... 10= are not a strain; (Concerned) Concerned with immigrants. 0= not at all... 5= very much; Which ones of the following groups you would not like to have as neighbors: Immigrants. 0= not mentioned, 1= mentioned.

Right-wing - Ideology. In political matters, people talk of 'the left' and the 'the right'. How would you place your views on this scale, generally speaking? 1= left... 10= right.