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THE LOGIC OF FEAR - POPULISM AND MEDIA COVERAGE OF IMMIGRANT CRIMES

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Centre for Economic Policy Research
33 Great Sutton Street, London EC1V 0DX, UK
Tel: +44 (0)20 7183 8801
www.cepr.org

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JEL Classification: D72, L82, Z12, K42

Keywords: Violent Crimes, Immigration, Vote, populism

Mathieu Couttenier - mathieu.couttenier@ens-lyon.fr
University of Lyon, ENS Lyon, GATE Lyon/St-Etienne and CEPR

Sophie Hatte - sophie.hatte@ens-lyon.fr
University of Lyon, ENS Lyon and GATE Lyon/St-Etienne

Mathias Thoenig - mathias.thoenig@unil.ch
University of Lausanne and CEPR

Stephanos Vlachos - stephanos.vlachos@univie.ac.at
University of Vienna

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THE LOGIC OF FEAR

Populism and Media Coverage of Immigrant Crimes

Mathieu Couttenier* Sophie Hatte† Mathias Thoenig‡ Stephanos Vlachos§

January 2019

Abstract

We study how news coverage of immigrant criminality impacted municipality-level votes in the November 2009 "minaret ban" referendum in Switzerland. The campaign, successfully led by the populist Swiss People's Party, played aggressively on fears of Muslim immigration and linked Islam with terrorism and violence. We combine an exhaustive violent crime detection dataset with detailed information on crime coverage from 12 newspapers. The data allow us to quantify the extent of pre-vote media bias in the coverage of migrant criminality. We then estimate a theory-based voting equation in the cross-section of municipalities. Exploiting random variations in crime occurrences, we find a first-order, positive effect of news coverage on political support for the minaret ban. Counterfactual simulations show that, under a law forbidding newspapers to disclose a perpetrator's nationality, the vote in favor of the ban would have decreased by 5 percentage points (from 57.6% to 52.6%).

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*University of Lyon, ENS Lyon & GATE Lyon/St-Etienne. E-mail: mathieu.couttenier@ens-lyon.fr
†University of Lyon, ENS Lyon & GATE Lyon/St-Etienne. E-mail: sophie.hatte@ens-lyon.fr
‡Department of Economics, University of Lausanne and CEPR. E-mail: mathias.thoenig@unil.ch.
§Department of Economics, University of Vienna. E-mail: stephanos.vlachos@univie.ac.at

"When Mexico sends its people, they're not sending their best. They're not sending you. They're not sending you. They're sending people that have lots of problems, and they're bringing those problems with us. They're bringing drugs. They're bringing crime. They're rapists. And some, I assume, are good people."

- Donald Trump, presidential announcement speech, June 16, 2015

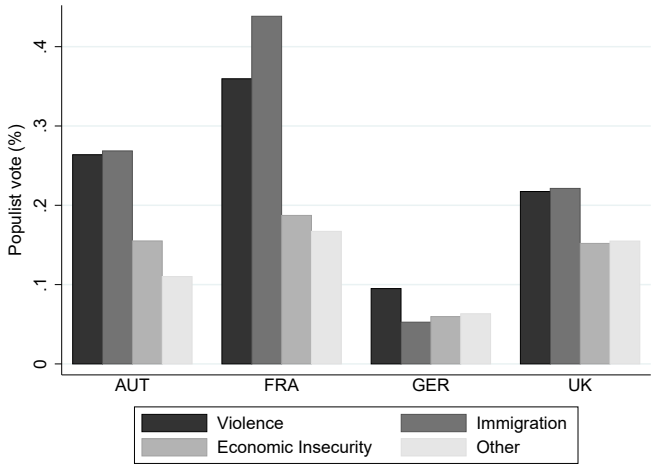
1 Introduction

Right-wing populism is on the rise. Its success rests on a logic of fear and scapegoating. Austria, Brazil, France, Germany, Hungary, Italy, Netherlands, the Philippines, the UK, the US all form part of a long list of countries where political parties campaign on platforms based on real or imaginary threats to the interests of the common people. In fact, voters' concerns on immigration, violence, and economic insecurity are often key predictors of their support for populism (Figure 1). What is the role of media in shaping constituencies' perceptions of such threats and making these concerns salient? Beyond case studies and anecdotes, this question remains overlooked from both a causal and quantitative perspective. The lack of systematic evidence is worrying, as the media is supposed to exert powerful checks-and-balances in the democratic process. In particular, a central element of populist rhetoric is the notion that communities with growing immigrant populations are unsafe, and that immigration policy should be evaluated through this lens. As voters are often not in a position to thoroughly assess the potential over-propensity of immigrants to break the law, their beliefs are fueled by two possibly non-representative samples of crimes: that which they observe in their local communities and that reported in the news. Media coverage of immigrant criminality, and its potential bias, may thus significantly affect political outcomes and support for populism.

In this paper, we study empirically how news coverage of foreigner criminality impacted voting patterns in the November 2009 referendum aimed at banning the construction of minarets on mosques in Switzerland. Initiated by the Swiss People's Party (*SVP/UDC*), the referendum clearly stigmatized Islam, a religion practiced by a recent community of migrants.[1] The campaign was perceived as highly controversial since it played aggressively on the fear of Muslim immigration and linked Islam with terrorism and violence. Although Swiss police forces and consequently newspapers do not report religious affiliations, they do disclose perpetrators' nationalities. Thus, voters were able to update their beliefs on the potential violence of Muslims by reading news on foreigner criminality. The unexpected outcome, which drew attention from around the world, was a clear vote in favor (57.6%) of banning minarets. Our analysis combines detailed information on pre-vote crime coverage in 12 major Swiss newspapers with an exhaustive dataset of violent crime detection. We first quantify media bias in covering foreigner criminality, and then estimate a theory-based voting equation in the cross-section of Swiss municipalities. Finally, we simulate our theoretical model to quantify the political impact of various counterfactual policies regulating media coverage of immigrant criminality.

[1] Over our period of interest, Muslims accounted for 5% of the total population (and roughly one quarter of the non-native population). More than 98% are first-generation migrants.

Figure 1: VOTER CONCERNS PREDICTING POPULIST VOTE



Source: EU 2014 post-election survey (28 countries, 14,781 respondents). *Notes*: The figure displays the share of respondents who voted in favor of a populist party by category of concerns and country. The survey question is: "What is the main concern which makes you vote in the recent European elections?". Of the 11 possible concerns that respondents could select, we pool "economic growth" and "unemployment" into the category "economic insecurity," and "crime" and "terrorism" into the category "violence." "Immigration" stands alone, while the 6 other concerns are pooled into "other." For example, in France, populist votes are over-represented (34%) among respondents who declared that violence is their main concern (contrasting with the 16% of populist votes among those who declared "other"). See Online Appendix Section A1.2 for details and additional empirical evidence when controlling for individual characteristics. In the Online Appendix A1.1, we further assess the importance of violence and immigration in the rhetoric of populist parties, and in the concerns expressed by their electorates.

The identification of a causal impact of media coverage on populist vote is challenging for at least three reasons. First, in most democracies, representatives are elected on multi-dimensional political platforms, which makes it difficult to link voting behavior and media reporting on specific issues. Second, reverse causation is a concern, as xenophobic attitudes of the readership may very well drive both news coverage of crimes perpetrated by immigrants and anti-foreigner vote. Third, the effect of reported migrant criminality (i.e. as covered in the news) must be disentangled from the direct effect of criminality (i.e. its actual level). Switzerland provides an ideal laboratory for tackling these methodological issues. The widespread use of referendum – or so-called direct democracy – is a crucial feature of Swiss political institutions, making possible the observation of political support on very specific issues at a fine grained-level (i.e. municipality level). Moreover, Switzerland is highly heterogeneous from a cultural and linguistic perspective. We can thus exploit spatial variations in voting, violence, and media exposure for the purpose of our identification strategy. Finally, the availability of exhaustive crime detection data that includes information on nationalities allows to compare raw facts and the news, as well as to estimate media bias in crime reporting and to disentangle the impact of real versus reported criminality on voting. Note that we focus on the most violent crimes only, such as murders, homicides, assassinations, and infanticides. These so-called signal crimes are defined by Innes et al. (2002) as "particular types of criminal and disorderly conduct [that] have a disproportionate impact upon fear of crime." We show that such crimes are particularly newsworthy in Switzerland. This characteristic, combined with the fact that newspapers are still widely read (see Appendix

Figure A3.5), make signal crimes likely to impact beliefs, attitudes, and, consequently, voting behavior.

We first document a large upward distortion in media reporting of foreigner criminality over the pre-vote period. Comparing foreign/native crime propensities between the detection data and the news, we find an unconditional distortion that amounts to 243% during the three months preceding the vote. This pattern is even more pronounced once we account for the standard determinants of news coverage, such as the reader share of the journal in the district where the crime occurred. The pre-vote conditional likelihood of appearing in the news is 5 times higher for foreign compared to native crime perpetrators. Yet this differential likelihood vanishes after the vote, indicating that the Swiss People's Party's communication strategy was very efficient in tilting public debate on the minaret ban towards questions of violence and immigration. It also well illustrates the complex interplay between political communication and media agenda-setting – a fascinating but overlooked question that is unfortunately beyond the scope of this paper.

The core of our analysis focuses on assessing the impact of media reporting of foreigner criminality on the minaret ban vote. We begin by building a simple model of crime news and probabilistic voting with the aim of structurally grounding our empirical specifications and counterfactual simulations. The theory highlights how readers can estimate the (over-)propensity of Muslims to commit crimes from a sample of news that mentions perpetrators' nationality but not their religion. Their inference procedure is fundamentally based on the comparison of crime news across nationalities that have different compositions of Muslims. However, with crimes being infrequent and news coverage sparse, nationality-based inference is not precise given the modest size of foreign diasporas in Switzerland. We show that statistical accuracy increases dramatically and satisfies conventional levels of significance when readers pool all the news related to foreign nationalities together and compare the latter to news on natives. Pooling is also cognitively parsimonious from the reader's perspective as it drastically reduces the information set that she has to process. Our main theoretical prediction is thus that the municipality-level share of votes in favor of the minaret ban is positively impacted by Crime News Exposure (`CNE`), a variable averaging the *reported* crime propensity differential between foreigners and natives across newspapers (weighted by market shares). We also derive additional predictions related to the informational processing of news by voters (e.g. selective recall and de-biasing).

Our theory-based voting equation is then empirically tested. The main concern relates to the presence of omitted variables, such as latent xenophobia, which could co-determine `CNE` and voting patterns. For the sake of causality, we thus exploit pre-vote random variations in the occurrence of detected crimes in the respective neighborhoods of newspapers' headquarters (HQs). In fact, our first-stage estimates show that, besides nationality and reader share, a key driver of news coverage is the spatial proximity between the area where a crime is perpetrated and the location where a newspaper is edited. More specifically, we instrument `CNE` with the cross-HQs weighted average of *detected* crime propensity differential between foreigners and natives. Importantly for the identifying variations, we look at newspapers from different regions of Switzerland such that the locations of their respective HQs are found in different places. The OLS and 2SLS estimates show that `CNE` has a positive and statistically significant impact on the vote in favor of the minaret ban at the municipality-level. We also find that readers do not manage to "debias" news

and actually overreact to foreign crime news. Our preferred specification includes fine-grained spatial fixed-effects and a large array of municipality characteristics, including anti-foreign past vote outcomes (a proxy for xenophobia). Our findings are robust to various sensitivity checks such as, for example, the potential presence of stereotyping, alternative options for the pooling of news, the instrumental variables, and the coding of newspaper articles. We also implement a set of falsification exercises that assess the validity of the exclusion restriction. Finally, counterfactual simulations show that, under a law forbidding newspapers to disclose a perpetrator's nationality, the vote in favor of the ban would have decreased by 5 percentage points (from 57.6% to 52.6%).

The Swiss Minaret Referendum We briefly discuss now the main contextual elements related to the referendum; additional details are provided in the Online Appendix A2. The minaret ban referendum was initiated by a group primarily composed of politicians of the far-right Swiss People's Party (*SVP/UDC*).[2] In July 2008, this group collected the mandatory 100,000 signatures required to launch a popular initiative to ban the construction of minarets in Switzerland.[3] The proposition of this referendum was to introduce a single sentence in the constitution: "The construction of minarets is prohibited" (Art. 72. P. 3). The government, both chambers, and all majority parties except the Swiss People's Party opposed the initiative.[4] The proposition was perceived as a threat to peaceful religious co-existence in Switzerland, and potentially harmful to Switzerland's international image.[5]

In reality, the minaret ban was barely policy relevant as in 2009 there were only 4 minarets in Switzerland, none of which performed a prayer call.[6] They were, however, depicted as a symbol of the expansion of Islam in the country. The initiators of the referendum built on the idea that while in 1980 there were just 56,600 Muslims in the country, they would soon reach half a million, mostly recently arrived foreigners of non-European origin.[7] The campaign leading up to the referendum was highly controversial, capitalizing on

[2]The so-called "Egerkinger" committee. Of this committee, 14 out of the 16 participants were members the Swiss People's Party while the remaining 2 were members of the Federal Democratic Union of Switzerland (*EDU/UDF*).

[3]In Switzerland, citizens can launch a federal popular initiative by collecting 100,000 valid signatures of Swiss nationals. These signatures must be collected within 18 months of the official start of a signature collection campaign. Once the 100,000 signature threshold is reached, the signatures are brought to the Federal Chancellery for validation. The popular initiative then becomes an object on which Swiss citizens vote during a "votation." Votations take place 3 to 4 times per year. From 2001 to 2010, 31 votations took place during which Swiss citizens were asked to vote on 94 objects (popular initiatives and referenda). For simplicity, we hereon refer to the popular initiative as a referendum.

[4]The Swiss Parliament votes in support or disapproval of popular initiatives before citizens are consulted. In this case, 171 members of Parliament voted against the minaret ban, 13 abstained, and 54 voted in favor.

[5]The Swiss Constitution guarantees equality in front of the law and prohibits discrimination (Art. 8). Furthermore, all popular initiatives violating the *jus cogens* of international law (i.e. the European Convention of Human Rights (ECHR) and the United Nation's Pact II) must be declared invalid (Art. 139). The "minaret ban" would not, however, be considered contrary to the Swiss constitution as popular initiatives are constitutional amendments. Moreover, despite potentially breaching Articles 9 and 14 of the ECHR, and Articles 2 and 18 of the UN Pact II, it was decided that the ban does not violate the intangible rights guaranteed by the ECHR and the UN Pact II.

[6]The minarets are located respectively in Geneva, Zurich, Winterthur and Wangen bei Olten. The building of a fifth minaret was authorized in Langenthal in July 2009, but was never constructed.

[7]In the year 2000 in Switzerland (the time of the last population census collecting information on religious affiliations), there were 310,807 inhabitants of Muslim faith (representing 4.3% of the total population), 88.7% of whom did not have Swiss citizenship. Of these inhabitants, 87% were from Turkey and the Balkans (Kosovo, Albania, and Bosnia) and 6.3% were Arabic-speaking.

fears of Muslim immigration and linking Islam with terrorism and violence. Islam was presented as a threat to fundamental Swiss values and to this end the main campaign poster depicted minarets as missiles coming out of the Swiss flag (Figure A2.3). The number of Google searches of the words "violence," "murder," "attack," and "killer" rose dramatically in the three months preceding the vote, an indication of the growing anxiety of the population towards violence and crime (Figure A2.4).

The referendum took place on November 29, 2009. Pre-referendum polls had indicated a comfortable, if slowly shrinking, majority against the proposal.[8] The participation rate (53.9%) turned out to be the largest in the past five years. The unexpected win of the "yes" campaign with 57.5% of the ballots came as a shock not only in Switzerland, but around the world. The *New York Times* described the outcome as one that "displayed a widespread anxiety" (NYT, Nov 30, 2009). *The Guardian* spoke of the result as "likely to cause strife [...] and set back efforts to integrate a population of some 400,000 Muslims, most of whom [were] European Muslims – and non-mosque-goers – from the Balkans" (The Guardian, Nov 29, 2009). Approval of the ban was initially perceived as a response to increased fears of Islam and yet the voting patterns reveal that there was a strong anti-foreigner component. For instance, the correlation between the minaret ban outcome and immigration referenda during the 2000-2009 period is positive and significant, ranging from 0.7 to 0.8 (see Figure A.1 in Appendix).

Literature Review This paper contributes to the economic literature on the drivers of populism. The seminal paper of Acemoglu et al. (2013) emphasizes the key role of inequality and weak institutions in explaining *left-wing* populist votes, at a time when Latin America was experiencing a wave of populist success. With the rise instead of *right-wing* populism in the U.S. and many European countries, economists have explored why populist campaigns may also succeed in advanced economies (for simplicity, we hereon refer to this phenomenon as "populism"). A feature that is present in all such populist rhetorics is the premise that minorities, and notably immigrants, put the interests of the common people at risk (Guiso et al., 2017a; Rodrik, 2017). Scholars have consequently mostly studied the role of economic insecurity as a driver of populist vote. This form of insecurity spread after the financial crisis and encompasses unemployment threats, import competition, and negative income shocks combined with an increased labor market exposure to globalization. To this regard, Algan et al. (2017) link the rise in unemployment in Europe caused by the Great Recession to the decline of trust in institutions. Dal Bo et al. (2018) and Guiso et al. (2017a) show how the demand and supply for populist politics is fueled by the threat of economic insecurity. Local labor market exposure to imports from low-wage countries has been found to explain both the success of the Leave option in the Brexit vote (Colantone and Stanig, 2016) and support for nationalist parties in recent elections in Germany (Dippel et al., 2017), as well as the increased polarization of U.S. politics (Autor et al., 2016). The consequences for institution building, and notably currency unions, have been explored by Alesina et al. (2017) and Guiso et al. (2017b). In this paper, we build on this literature by showing that, in addition to

In 2014, Muslim inhabitants represented an estimated 5.1% of the total population, 34.2% of whom were Swiss nationals (94% issued from migration) while 58.6% where first generation immigrants.

[8] In the last survey before the referendum on Nov 11, 2009, only 37% of respondents declared being in favor of the initiative.

economic insecurity, electoral strategies based on stigmatization and scapegoating form a fundamental part of recent waves of populism. In particular, we are able to quantitatively assess the first-order role played by the mass media in this success.

Our paper also adds to a flourishing literature on the economic determinants of media bias and its political consequences.[9] While the ideological bias of news outlets has been extensively documented (Groseclose and Milyo, 2005; Gentzkow and Shapiro, 2010), we explore the filtering of information related to violent crimes, i.e. the fact that a given crime may or may not be reported by a newspaper. Similarly to Snyder and Strömberg (2010) who study media coverage of electoral politics, we find evidence of demand-driven news provision as crimes occurring in high readershare areas tend to be more reported. Moreover, we also document supply-side shifters by showing that geographical proximity between crimes and journalists/newsrooms significantly increases the probability of coverage. The baseline analysis studies how media sampling of immigrant criminality affects support for populism. Our results on the quantitatively large impact of crime news on vote thus speaks to the literature that links media coverage of electoral politics and voter behavior.[10] To the best of our knowledge, we provide the first empirical evidence of the significant role played by media in the success of a populist campaign.

Finally, our findings inform the recent literature on the relation between immigration and anti-foreigner votes and attitudes (Barone et al., 2016; Facchini and Mayda, 2009; Halla et al., 2017; Mayda et al., 2016; Moriconi et al., 2018; Otto and Steinhardt, 2014). We also add to studies on immigration and crime (Bianchi et al., 2012; Bell et al., 2013; Couttenier et al., 2016) by looking at their impact on electoral outcomes. In this respect, our approach relates to the work of Drago et al. (2016), which views criminality as a driver of electoral outcomes.

The paper is organized as follows. Section 2 presents the data and then Section 3 provides a model of media coverage of criminality and populist voting. In Section 4 we analyze the empirical determinants of the media coverage of violent crimes before turning to the estimation of the effect of crime news on populist vote in Section 5. We conclude in Section 6.

2 Data Description

In this section we provide information on the main data sources and variables used throughout the paper. We are primarily interested in collecting data on municipality-level votes, pre-vote criminality, and news coverage for 2009. With the dual objective of comparing pre- and post-vote patterns and of conducting falsification exercises, we also collect information on post-vote news coverage (in 2010). As far as crime data is concerned, we use a longer time period as our instrumental variable strategy is based on short-run deviations of criminality with respect to its medium-run trend over the 2009-2013 period.

[9] See Gentzkow et al. (2016); Puglisi and Snyder (2015) for a survey of, respectively, the theoretical and empirical aspects of media bias in the literature.

[10] See Strömberg (2004); Gentzkow (2006); Oberholzer-Gee and Waldfogel (2009); Snyder and Strömberg (2010); Gentzkow et al. (2011); Drago et al. (2014); DellaVigna and Kaplan (2007); Gerber et al. (2009); Snyder and Strömberg (2010); Enikolopov et al. (2011); Gentzkow et al. (2011); Durante et al. (2015).

Criminality – Data on criminality comes from the Swiss Statistical Office. This exhaustive non-publicly available dataset contains information on all crimes detected by the police in Switzerland between 2009 and 2013. The data were collected by local police services and cover every case where an individual was charged with an infraction(s) to the (federal) Penal Code. Remarkably, this information includes the nationality and residency status of victims and perpetrators of any detected infraction, as well as the place, date, and nature of the crime. We focus on the most violent (and newsworthy) infractions (i.e. murders, assassinations, and infanticides), which leaves us with a sample of 973 murders, 48 assassinations, and 5 infanticides, perpetrated by 1,200 individuals over the 2009-2013 period.[11] With an average frequency of 14 cases and 20 perpetrators per month, such crimes are thus relatively infrequent in Switzerland – a feature that is likely to contribute to their newsworthiness.

Newspaper coverage of violent crime – The sample of crime-related news is constructed using articles published in 2009 and 2010 in 12 major Swiss newspapers (6 German- and 6 French-speaking papers), which represent a total share of 60.4% of the market.[12] We choose a standard set of keywords to identify the articles, such as kill and murder, as well as their variants. We restrict the search window from 2 days prior to the violent crime up to 10 days afterwards. This procedure results in a sample of 4,022 articles. Following this data scrapping procedure, each article is read and cross-checked twice to ensure that our algorithm correctly assigns every article to its relevant crime (with the aim of limiting type I errors). This allows us to match 450 articles corresponding to 138 perpetrators out of the 507 perpetrators recorded in the crime data over the 2009-2010 period (see Online Appendix Section A3.2 for more details).

Religion and nationality – In Switzerland, neither the police forces nor newspapers disclose information on perpetrators' religion.[13] Over the 2009-2010 period none of the 450 articles in our sample mentioned any religious affiliation. Hence, readers must rely on indirect information, such as nationality or immigration status, to assess the relative criminality of different religious groups. Nationality is instead well-documented both in the crime data (75.6% of the cases) and the news articles (43% of our sample) (Figure A3.6 shows how nationality is typically reported in a newspaper article). Based on our theoretical model, we consequently build measures of both detected and reported criminality (i.e. respectively from the crime data and the articles) that contrast foreigner and native crime propensities. We also exploit information provided by the Swiss Statistical Office in order to link nationalities and religious background (see Section 5.3). Finally, it is important to note that nationalities are not reported in 57% of the articles. While we exclude these

[11] More details about the selection of crimes included in our sample are discussed in Online Appendix Section A3.1.

[12] The German-speaking outlets include (with average market share in brackets): 20 Minuten D-CH (13.6%), SonntagsZeitung (9%), Tages-Anzeiger (6.1%), NZZ am Sonntag (5.4%), Neue Zuercher Zeitung (3.6%), and St. Galler Tagblatt (1.9%). The French-speaking outlets include: Le Matin dimanche (6.5%), 20 Minutes F-CH (4.4%), Le Matin (lu-sa) (3.7%), 24Heures (2.9%), Tribune de Geneve (1.9%), and Le Temps (1.5%). This newspaper sample covers 8 out the 10 largest Swiss newspapers; the smallest for which we have data ranks 17th. The largest newspaper for which we do not have data is Blick (8.2% of market, ranked 3rd in country). The Blick archives are not available on Lexis/Nexis and the search engine on the Blick site does not allow to restrict to the time frame used, making it impossible to follow the same data collection process used with the other newspapers.

[13] Recording of the perpetrator's religion by the police at the time of the infraction is not compulsory.

from the baseline sample as they provide poor and ambiguous information to readers on foreigner criminality, we explore more inclusive coding choices in our sensitivity analysis (Section 5.4 and Online Appendix Section A4).

Other data – Data on voting outcomes, demography, and municipality characteristics are collected by the Swiss Statistical Office. The municipality-level voting data provide information on the number of voters registered, total ballots, valid ballots, and votes in favor for every referendum since 1960. Population data inform on the native/foreign composition, language, religion, sectoral employment, gender-age distributions, and education. We also add time-invariant municipality characteristics such as elevation and ruggedness (standard deviation of elevation). Newspaper circulation data come from the Research and Studies in Advertising Media Association (*WEMF/REMP*).[14], which conducts two surveys per year, covering approximately 20,000 individuals and collecting information on media consumption. Based on the waves from 2006 to 2008, information on the district of residence of the respondents allows to calculate pre-vote market share for each newspaper in every district.

3 Theoretical Framework

With the aim of structuring our empirical analysis, we start by providing a model of media coverage of criminality and populist voting. The setup is kept simple and builds on the existing theoretical literature on media coverage and political accountability (Strömberg, 2015), with the main departure being our emphasis on how voters extract information about criminality from the news. Given the infrequency of the crimes under observation and the sparseness of the related news, it is particularly important to assess whether the voters' inference procedure is accurate enough to make an informed voting decision. In this respect, we show that statistical accuracy is greatly improved when voters pool all news related to foreigners together and compare them to news on natives. Note that the way we model voters' inference procedure depends on our set of behavioral and informational assumptions; the sensitivity of our baseline results to alternative assumptions is investigated both theoretically and empirically.

Vote and criminality – Starting from a one-period probabilistic voting model (Lindbeck and Weibull, 1987) we assume that a rational voter k living in municipality m endorses the minaret ban if

$$\mathbb{E}_k \left[U_k^{\texttt{YES}} - U_k^{\texttt{NO}} \right] + \texttt{xeno}_k \geq 0 \tag{1}$$

The first term captures the expected difference in utility between the two aggregate outcomes of the vote (adoption or rejection of the ban) where the expectation depends on the information set of k. The second term is an individual taste shock, unobserved by the econometrician, that is uniformly distributed with a

[14] We kindly thank Marc Sele for granting access to the *WEMF/REMP* dataset.

municipality specific mean $\overline{\texttt{xeno}}_m$ and, w.l.o.g., a variance normalized to $1/12$. Hence municipalities with higher $\overline{\texttt{xeno}}_m$ tend to be more supportive of the minaret ban everything else equal.

Crucially, we make the assumption of *crime priming*, namely that voters consider criminality a first-order issue when evaluating the costs and benefits of the minaret ban. Indeed, inducing crime priming among voters was a key aspect of the communication strategy of the populist party that initiated the referendum. Understanding the strategic determinants of priming is, however, beyond the scope of this paper. Here we take priming as given and simply posit that a voter's utility depends negatively on her own assessment of the post-referendum average crime rate. In her view, the referendum outcome is likely to reduce criminality when she believes that Muslims are more violent than non-Muslims. By making Switzerland less Islam-friendly, the minaret ban will ultimately change the religious composition of the pool of migrants.

More precisely, we assume a linear utility $U_k = -\#\texttt{crime}^{\texttt{All}}/\texttt{pop}^{\texttt{All}}$ where the crime rate is defined as the ratio of the total amount of crimes over adult population.[15] We also assume that $0 \leq \omega^{\texttt{YES}} < \omega^{\texttt{NO}} \leq 1$ where ω denotes the outcome-dependent share of Muslims in the total population after the referendum. Based on her reading of the news, the voter holds a belief that the unconditional crime propensity of Muslims $\kappa^{\texttt{M}}$ differs (i.e. is larger) from the unconditional crime propensity of non-Muslims $\kappa^{\texttt{NM}}$. Several rationales can sustain this belief, from the opinion that Islam may lead to a culture of violence and fanaticism, to the view that religious affiliation is not the problem per se but that migrants from Muslim countries are selected along crime-prone characteristics (e.g. young males with a war background). Note that the voting decision is influenced by the unconditional crime propensity because what ultimately matters to the voter is the fact that the Muslim migration inflow is associated with violence, whatever the underlying channels (individual or population-level drivers). These elements lead to the following characterization of the outcome-dependent criminality $\#\texttt{crime}^{\texttt{All}}/\texttt{pop}^{\texttt{All}} = (\omega \cdot \kappa^{\texttt{M}} + (1-\omega) \cdot \kappa^{\texttt{NM}})$. Simple computations yield the expected utility differential:

$$\mathbb{E}_k \left[U_k^{\texttt{YES}} - U_k^{\texttt{NO}} \right] \quad = \quad (\omega^{\texttt{NO}} - \omega^{\texttt{YES}}) \times \mathbb{E}_k \left[\kappa^{\texttt{M}} - \kappa^{\texttt{NM}} \right] \tag{2}$$

A key feature of the previous equation is that voter k makes an imprecise assessment of the (unobserved) crime differential between Muslims/non-Muslims. That is, her expectation of the differential $(\kappa^{\texttt{M}} - \kappa^{\texttt{NM}})$ is based on the sub-sample of crimes covered by newspapers.[16] Assuming that voter k reads one and only one newspaper $j \in \{1, ..., J\}$, we set $\mathbb{E}_k \left[\kappa^{\texttt{M}} - \kappa^{\texttt{NM}} \right] = \hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}}$ where $\hat{\kappa}_j$ stands for the estimator of crime propensities based on the news reported in newspaper j. Combining Equations (1) and (2) we observe that

[15] In the paper we define "crime propensity" as the individual-level probability of perpetrating a crime, while here the "crime rate" measures the average probability for an individual to be victimized.

[16] For the sake of exposition our model ignores other sources of information. In our empirical analysis we nevertheless control for the intensity of local violence at the municipality-level with the idea that direct observation and communication within social networks convey information on the crime differential.

voter k supports the minaret ban with a probability equal to

$$\begin{aligned}\mathbb{P}_k^{\texttt{YES}} &= \mathbb{P}\left[\texttt{xeno}_k \geq -(U_k^{\texttt{YES}} - U_k^{\texttt{NO}})\right] \\ &= \frac{1}{2} + \overline{\texttt{xeno}}_m + (\omega^{\texttt{NO}} - \omega^{\texttt{YES}}) \times (\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}}) \end{aligned} \tag{3}$$

Aggregating at the municipality level across individuals and newspapers yields the share of voters supporting the minaret ban in municipality m

$$\overline{\texttt{YES}}_m = \frac{1}{2} + \overline{\texttt{xeno}}_m + (\omega^{\texttt{NO}} - \omega^{\texttt{YES}}) \times \sum_j \texttt{s}_m(j) \cdot (\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}}) \tag{4}$$

where $\texttt{s}_m(j)$ is the market share of newspaper j in municipality m.[17]

Interpreting news – We now discuss how a rational voter infers the crime differential $(\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}})$ from reading newspaper j. In Switzerland, as explained above, police forces and newspapers do not communicate religious affiliations, but do report nationalities. Hence, the inference procedure is fundamentally based on the comparison of news coverage across nationalities that have different religious compositions (i.e. Muslim and non-Muslim). We consequently model how readers map nationalities to religion. To this regard, stereotyping plays a crucial role, as discussed in Section 5.3. For the moment, let us denote μ_n the perception of the representative Swiss reader of the share of Muslims among nationals from country n living in Switzerland – with the possibility for this figure to be distorted with respect to the real share. Although the nationality/religion mapping is not observed by the econometrician, this limitation has no consequences for our empirical analysis since ultimately, as we show below, our econometric specification does not depend on the exact form of this mapping. Finally, mapping could differ from one reader to another. However, cross-reader variations cancel out when aggregating at the readership level; we can thus save on notation by ignoring them.

The inference problem of the representative reader of newspaper j consists of estimating the parameters $(\kappa^{\texttt{M}}, \kappa^{\texttt{NM}})$ based on her observation of $\#\texttt{news}_{nj}$, the amount of news reported by j for each nationality n. The voter correctly figures out the data generating process of news as the outcome of two nested binomial processes: (Step 1) within the sample of Muslims and non-Muslims of nationality n, of total size $\texttt{pop}_n$, each individual perpetrates a crime with a religion-dependent probability κ; (Step 2) each crime is reported by newspaper j with a nationality-specific probability $\mathbb{P}_{nj}$. Consequently the Data Generating Process (DGP) of news is given by

$$\#\texttt{news}_{nj} = \mathbb{P}_{nj} \times \left[\mu_n \cdot \texttt{pop}_n \cdot \kappa^{\texttt{M}} + (1 - \mu_n) \cdot \texttt{pop}_n \cdot \kappa^{\texttt{NM}}\right] + \nu_{nj} \tag{5}$$

[17] We use market shares (i.e. sales of newspaper j in total sales) in our aggregating procedure as information is available for all municipalities. By contrast, newspaper readership (i.e. share of readers of j in total population) is known only for a sub-sample of municipalities. Figure A3.5 shows, however, that for this sub-sample the propensity to read newspapers is homogeneous and close to 100% in most municipalities. Hence the two measures are, in fact, comparable.

where ν_{nj} is a random noise that captures sampling variations in crime perpetration or news reporting. Sampling variations tend to be large because crimes are rare events. This noise leads to a large dispersion in the distribution of $\#\texttt{news}_{nj}$, making inference based on nationality-level information challenging. To gauge how noisy the news process is, we can compute the coefficient of variation of news $\texttt{cv}_{\texttt{news}}$ (i.e. relative standard deviation).[18] Applying the central limit theorem to the nested binomial process (5) yields

$$\texttt{cv}_{\texttt{news}} \approx \frac{1}{\sqrt{\mathbb{P}_{nj} \cdot \kappa_n \cdot \texttt{pop}_n}} \tag{6}$$

where $\kappa_n \equiv \mu_n \cdot \kappa^{\texttt{M}} + (1-\mu_n) \cdot \kappa^{\texttt{NM}}$ corresponds to the average crime propensity (which is empirically small). Equation (6) shows how sample size ($\texttt{pop}_n$) restores some informativeness when crimes are infrequent (κ_n is low) and/or news coverage is sparse ($\mathbb{P}_{nj}$ is low). Let us compute the minimum sample size required to have a low-variance news process – for example, such that $\texttt{cv}_{\texttt{news}} < 1/1.96 \approx 50\%$. This criterion means that 95% of the distribution of news lies below twice its mean, translating into the following size requirement:

$$\texttt{pop}_n \gtrsim \frac{1.96^2}{\mathbb{P}_{nj} \cdot \hat{\kappa}_n} \tag{7}$$

In the data, the crime propensity attached to the restricted set of extremely violent crimes examined here is very low: we observe 237 crime perpetrators for a total population size of 7.7 million in 2009. Moreover, the average reporting probability is around 0.38. Mapping these figures in relationship (7) we see that the sample size requirement is around 330,000 individuals. Aside from natives (6 million individuals), not a single nationality reaches this level. With a total of 288,000 individuals (0.3% being Muslim), the Italian diaspora represented the largest immigrant community in Switzerland in 2009; Serbia was ranked 4th (115,000 individuals; 40% Muslim) and Turkey 6th (71,000 individuals, 96% Muslim). In sum, the small population size of the foreign diaspora and the low crime frequency lead to a noisy news DGP for all nationalities but the natives.

Rearranging terms in Equation (5) leads to the equation that is at the heart of the inference problem of the reader

$$\frac{\#\texttt{news}_{nj}/\mathbb{P}_{nj}}{\texttt{pop}_n} = \kappa^{\texttt{NM}} + \left[\kappa^{\texttt{M}} - \kappa^{\texttt{NM}}\right] \times \mu_n + \xi_{nj} \tag{8}$$

where $\xi_{nj} \equiv \frac{\nu_{nj}/\mathbb{P}_{nj}}{\texttt{pop}_n}$. Equation (8) suggests a method for inferring the crime differential. Under the assumption that the components of the LHS are observed/known, the reader can run a cross-nationality regression of $\frac{\#\texttt{news}_{nj}/\mathbb{P}_{nj}}{\texttt{pop}_n}$ on the share of Muslim μ_n. The OLS coefficient of μ_n then provides an estimate of the crime differential. Although its simplicity makes it attractive, this method relies on an informational assumption

[18] Formally, the sample is composed of $\texttt{pop}_n$ individuals i. We can define at the individual-level a binary variable $\texttt{news}_{ij}$ that is equal to 1 if i perpetrates a crime that is reported in the newspaper j and zero otherwise. Hence, zero codes for two types of events: no crime or unreported crime. The binomial process $\texttt{news}_{ij}$ is ruled by the compounded probability $\tau \equiv \mathbb{P}_{nj} \times \kappa_n$. Assuming iid draws across individuals, the central limits theorem implies that $\frac{\sum_i \texttt{news}_{ij}}{\texttt{pop}_n} = \frac{\#\texttt{news}_{nj}}{\texttt{pop}_n} \sim \mathcal{N}\left(\tau, \frac{\tau(1-\tau)}{\texttt{pop}_n}\right)$.

that seems very unrealistic: the reader must know μ_n and $\texttt{pop}_n$ for all nationalities of migrants. Moreover, the sampling variations discussed above severely impair the precision of the estimates. These two reasons limit our interest to statistical inference based on nationality-level information. We nevertheless implement this as a sensitivity test in our empirical analysis (Section 5.3).

Our baseline analysis focuses on an inference procedure that is both more accurate and less cognitively demanding from the reader's perspective. Indeed, with two free parameters on the RHS, Equation (8) makes clear that inference can be based on the comparison of news between just two different populations. Hence, all foreign nationalities can be pooled together in one unique sample (denoted by F), that is then compared to the sample of natives (CH). This comparison is natural as we expect Swiss readers to take their co-nationals as a reference point. Moreover, Islam in Switzerland is foremost associated with foreigners since more than 95% of Muslims are first-generation migrants. Pooling nationalities expands the sample size such that criterion (7) is satisfied not only for natives but also for foreigners, with the additional cognitive benefit of the reader having to handle a smaller information set. Note that the robustness of our empirical results to alternative pooling schemes is successfully tested in Section 5.3.

By aggregating news across all foreign nationalities, the reader deals with an equation that only differs from Equation (8) in that the index n is replaced by F (i.e. $\mu_{\texttt{F}}$ measures the share of Muslims among migrants). Then, considering first-differences between F and CH and noticing that $\mathbb{E}\left(\xi_{\texttt{F}j}\right) = \mathbb{E}\left(\xi_{\texttt{CH}j}\right) = 0$ the reader of newspaper j gets the following estimator of the Muslim/non-Muslim crime differential:

$$\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}} = \frac{1}{\mu_{\texttt{F}} - \mu_{\texttt{CH}}} \times \left(\frac{\#\texttt{news}_{\texttt{F}j} / \mathbb{P}_{\texttt{F}j}}{\texttt{pop}_{\texttt{F}}} - \frac{\#\texttt{news}_{\texttt{CH}j} / \mathbb{P}_{\texttt{CH}j}}{\texttt{pop}_{\texttt{CH}}} \right) \tag{9}$$

where the average share of Muslims among natives ($\mu_{\texttt{CH}} = 0.7\%$) is much smaller than the share of Muslims among foreigners ($\mu_{\texttt{F}} = 17.4\%$).

Two well-known informational problems are likely to affect the previous estimator when the reader makes her voting decision. Firstly, reporting probabilities are unobserved and the unsophisticated reader misrepresents the extent of media bias (DellaVigna and Kaplan, 2007). Secondly, there is an imperfect and selective recall of the stock of past news (Gennaioli and Shleifer, 2010; Benabou, 2015; Bordalo et al., 2016), meaning that the reader differentially remembers news related to foreigner/native crimes. In our context, various factors can contribute to this phenomenon including the confirmation of pre-existing stereotypes, the framing of crime news by journalists, and increased coverage of crimes before the votation. With the aim of documenting these empirically, we model sources of misinference in a parsimonious way. Let us denote with $\left(\texttt{P}_{\texttt{F}j}, \texttt{P}_{\texttt{CH}j}\right)$ the reporting probabilities as *perceived* by the reader and $\left(\texttt{R}_{\texttt{F}j}, \texttt{R}_{\texttt{CH}j}\right)$ the recall frequencies (i.e. probability that a given past news content comes to the reader's mind). Equation (9) then becomes

$$\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}} = \frac{1}{\mu_{\texttt{F}} - \mu_{\texttt{CH}}} \times \frac{1}{\texttt{P}_{\texttt{CH}j} / \texttt{R}_{\texttt{CH}j}} \times \left(\texttt{S}_j \cdot \frac{\#\texttt{news}_{\texttt{F}j}}{\texttt{pop}_{\texttt{F}}} - \frac{\#\texttt{news}_{\texttt{CH}j}}{\texttt{pop}_{\texttt{CH}}} \right) \tag{10}$$

where the weighting factor $\texttt{S}_j \equiv \frac{\texttt{R}_{\texttt{F}j} / \texttt{R}_{\texttt{CH}j}}{\texttt{P}_{\texttt{F}j} / \texttt{P}_{\texttt{CH}j}}$ can be interpreted as the relative salience of foreign news in

the estimation procedure. This non-negative factor increases with selective recall of foreign crime news (numerator) and decreases with the reader's perception of a reporting bias in the coverage of foreigner news (denominator). In our empirical analysis we document which of those two effects dominates (i.e. whether $\mathtt{S}_j$ is above or below 1). Everything else equal, a naive reader who ignores the existence of media bias tends to perceive a crime differential that is above its real value. In contrast, a sophisticated reader corrects for this bias by putting more weight on the native crime news and infers a smaller crime differential.

Finally, the reader is also able to gauge the precision of her inference by testing the null hypothesis $\hat{\kappa}_j^{\mathtt{M}} - \hat{\kappa}_j^{\mathtt{NM}} = 0$. We implement this test of news precision in the empirical Section 5.2. We show that, in the data, newspapers constitute a precise (but biased) source of information about the crime propensity differential between Muslims and non-Muslims.

Testable predictions – Combining Equations (4) and (10) we obtain the structural relationship that will be estimated in our empirical analysis

$$\overline{\mathtt{YES}}_m = \frac{1}{2} + \overline{\mathtt{xeno}}_m + \frac{\omega^{\mathtt{NO}} - \omega^{\mathtt{YES}}}{\mu_{\mathtt{F}} - \mu_{\mathtt{CH}}} \times \sum_j \frac{s_m(j)}{\mathtt{P}_{\mathtt{CH}j}/\mathtt{R}_{\mathtt{CH}j}} \times \left(\mathtt{S}_j \cdot \frac{\#\mathtt{news}_{\mathtt{F}j}}{\mathtt{pop}_{\mathtt{F}}} - \frac{\#\mathtt{news}_{\mathtt{CH}j}}{\mathtt{pop}_{\mathtt{CH}}} \right) \tag{11}$$

This equation can be interpreted in light of the basic elements of populist rhetorics. First, populist vote increases with the view that there is a threat of over-migration that must be actively blocked: this channel corresponds to the term $(\omega^{\mathtt{NO}} - \omega^{\mathtt{YES}})$. Secondly, stigmatization matters as support for populism increases with the amount of news covering foreigner criminality (the term $\#\mathtt{news}_{\mathtt{F}j}$). However the theory allows for several layers of sophistication in voters' decision-making: (i) voters look at crime differentials, not absolute levels, as they benchmark foreigner against native crime news (the term $-\#\mathtt{news}_{\mathtt{CH}j}$); (ii) voters take into account representativeness by accounting for population sizes; (iii) voters weight foreign news more when the selective recall effect is strong and when media bias is disregarded (the term $\mathtt{S}_j$). Finally, the previous equation informs on the heterogeneous effects across newspapers. The term $\frac{1}{\mathtt{P}_{\mathtt{CH}j}/\mathtt{R}_{\mathtt{CH}j}}$ implies that crime news have a higher marginal impact on votes when newspaper j tends to cover crimes either in a sparse way, or in a sensational way that facilitates future recall. Hence we expect some ambiguity when comparing the elasticity of voting to crime news between readerships of tabloids and regular newspapers. On the one hand, crime news is usually framed in a memorable way in tabloids and this feature increases their impact on future votes. On the other hand, regular newspapers rarely cover crimes such that, for the inference of the crime differential, the informational value of any news published in such sources is high (and so is their impact on future vote).

While the theoretical relationship (11) features all these elements, we implement various strategies in our econometric analysis in order to gauge their respective empirical relevance. As a preliminary step, in Section 4, we investigate empirically the determinants of news provision in this equation. Section 5 discusses the estimation procedure of Equation (11) and displays the main results. In our baseline specification the salience parameter $\mathtt{S}_j$ is constrained to 1 when estimating Equation (11), but we also consider several flexible versions. Among the main ones, we estimate a specification where the Foreign/Native news components are

separated and have their own regression coefficient, enabling to elicit salience. This result speaks to the discussion in the media literature on the extent to which agents manage to "debias" news. Determining the quantitative magnitude of this phenomenon matters for assessing the consequences of media bias on political behavior.

4 Crime News Provision

This section studies the main determinants of crime news provision. We particularly look at whether newspapers over-report crimes perpetrated by foreigners. Beside its intrinsic interest, this analysis grounds the first stage of our instrumental variable strategy and is crucial for the quantification of counterfactual policy experiments (Section 5).

4.1 Unconditional Evidence

Crimes newsworthiness – In 2009 and 2010, 507 perpetrators of violent crimes were detected by the police forces. Of these, 138 were mentioned in the news. Some newspapers covered crimes extensively, such as *20 Minuten DE-CH,* which reported on 34 different perpetrators, or *20 Minutes F-CH* where 19 different perpetrators were mentioned. These two newspapers are usually classified as tabloids.[19] At the other end of the spectrum, *Le Temps*, a nationwide French-speaking general-audience daily newspaper, covered only 3 perpetrators.

Media bias – In Appendix Table A.1 we document distortion in the media coverage of foreigner criminality. Over the 2009-2010 period, out of the 235 foreign perpetrators, 85 were mentioned in at least one newspaper in our sample; out of the 272 Swiss perpetrators, 53 were mentioned.[20] Disaggregated at the newspaper-level, these figures translate into an unconditional coverage probability of foreign/native criminals that is, on average, equal to $\mathbb{P}_{\mathtt{F}j} = 0.031$ and $\mathbb{P}_{\mathtt{CH}j} = 0.017$ respectively. We now define the reporting bias of newspaper j as $\mathtt{B}_j \equiv (\mathbb{P}_{\mathtt{F}j} - \mathbb{P}_{\mathtt{CH}j})/\mathbb{P}_{\mathtt{CH}j}$. Applying this formula, we get that the unconditional reporting bias of foreign criminals is on average equal to 82% across newspapers. We also observe substantial heterogeneity: while *20 Minutes F-CH* and *24Heures* have a reporting bias of 334% and 154% respectively, *Le Temps* and *Neue Zurcher Zeitung* have almost no reporting bias (16% each).

Pre- and post-vote patterns – We examine the time evolution of media coverage in greater detail in Appendix Table A.2. First, the pre-vote coverage probability of foreign criminals is on average larger than its post-vote counterpart ($\mathbb{P}_{\mathtt{F}j} = 0.045$ and $\mathbb{P}_{\mathtt{F}j} = 0.020$, respectively), with a dramatic increase 3 months before the vote ($\mathbb{P}_{\mathtt{F}j} = 0.079$). Similarly, the reporting bias reaches 248% just before the vote, and then afterwards drops to 160%. This evolution could potentially mirror a change in detection policy,

[19] See our discussion of newspaper classification at the end of section 5.2.

[20] In the detection data, the crime propensity is equal to 6.9 crimes per 100,000 inhabitants for foreigners residing in Switzerland, and 2.2 per 100,000 inhabitants for Swiss nationals. Explaining the sources of this discrepancy is beyond the scope of this paper.

with police forces prompted to target foreigners before the vote. The crime data do not, however, support this hypothesis. With 212 perpetrators (a monthly average of 19.27), 47% of whom being foreigners, pre-vote characteristics of detected crimes are comparable to their post-vote counterparts. More comprehensive balancing tests are implemented in Appendix Table A.3. The absence of statistically significant effects suggests that endogenous detection is unlikely to be a concern in our data.

4.2 Determinants of News Coverage

We now assess the main determinants of the probability that a given perpetrator i is mentioned in newspaper j. This is made possible by the exhaustive information on both the raw facts (i.e. the detected crimes) and their news coverage. The following Linear Probability Model (LPM) is estimated on the full sample of 507 perpetrators $\times$ 12 newspapers over the 2009-2010 period[21]

$$\mathbb{P}(\texttt{news}_{ij} = 1) = \rho \cdot \texttt{foreign}_i + \alpha \cdot \texttt{readershare}_{ij} + \beta \cdot \texttt{newspaperHQ}_{ij} + \mathbf{X}_i'\boldsymbol{\gamma} + \mathbf{X}_j'\boldsymbol{\lambda} \qquad (12)$$

where the outcome variable $\texttt{news}_{ij}$ takes the value of 1 when perpetrator i is reported in newspaper j (and her nationality is mentioned), and 0 otherwise. Crime news without a nationality are coded as zero. This coding choice stems from our theoretical analysis where only news mentioning nationalities are informative for the reader, other crime news being discarded (Equation 10).

In the previous LPM, our main variable of interest is $\texttt{foreign}_i$, a dummy equal to 1 when perpetrator i is a foreigner (0 otherwise). Its coefficient (ρ) captures whether newspapers cover foreign perpetrators more than natives, conditioning on the standard determinants of news coverage. We control for the reader share of newspaper j in the municipality where the crime perpetrated by i has occurred, $\texttt{readershare}_{ij}$, since newspaper j is more likely to provide information on events occurring in areas where a large share of its readership is located (Snyder and Strömberg, 2010). Arguably, controlling for the readership effect, some areas may still be more extensively covered than others, notably for cost-related reasons. In fact, one could argue that the cost of journalist investigations is likely to decrease with geographical proximity. We control for the potential effect of the geographical proximity to newspaper headquarters (HQs) by including $\texttt{newspaperHQ}_{ij}$, a binary variable that takes the value 1 if newspaper j has a headquarter in the area where the crime of perpetrator i was perpetrated.[22] Note that we are also interested in its coefficient β, since our instrumental variable strategy in Section 5 relies on the geographical proximity between crimes and HQs.

The richness of our dataset enables us to control for a large array of covariates and fixed effects ($\mathbf{X}_i$ and $\mathbf{X}_j$). First, we include a set of fixed effects related to the nature, timing and location of the crime: i) calendar

[21] Including a large array of fixed effects leads us to estimate a LPM in order to alleviate any concern over perfect predictors. For non-linear estimates, see Online Appendix Section A4. Note also that the Lexis/Nexis data for *St. Galler Tagblatt* is only available in 2010.

[22] What we call HQs throughout this paper are essentially editorial rooms. Some newspapers have headquarters in more than one municipality. *Le Temps,* for example, has headquarters in Lausanne, Geneva, Zurich, Bern, and Neuchâtel. The editing of newspapers in our sample takes place primarily in large cities: Zurich (6 newspapers), Lausanne (5), Bern (3), Geneva (3), St. Gallen (2), Basel (1), Luzern (1), and Neuchâtel (1).

Table 1: CRIME NEWS PROVISION

Dependent Variable	News coverage			
	(1)	(2)	(3)	(4)
Foreign perpetrator	0.022[a]	0.022[a]	0.022[a]	0.022[a]
	(0.008)	(0.008)	(0.008)	(0.008)
Readershare		0.240[a]		0.073
		(0.067)		(0.094)
Newspaper HQ area			0.049[a]	0.039[b]
			(0.012)	(0.018)
Observations	5847	5847	5847	5847
R^2	0.237	0.242	0.243	0.243
Sample mean (News coverage)	0.024	0.024	0.024	0.024

Notes: The unit of observation is a perpatetrator × newspaper dyad. Standard errors clustered at crime event level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Linear probability model estimations. Individual characteristics of the perpetrator are included: age, age squared, gender, connection to the victim, and whether the perpetrator is a recidivist. Calendar day, year-week, crime subcategory, municipality, and newspaper fixed effects are included.

day and year-week fixed effects to control for seasonality of crimes; ii) crime subcategory fixed effects to control for potential differences in newsworthiness across different types of crimes;[23] iii) municipality fixed effects to account for potential asymmetric coverage across municipalities (e.g. potential higher coverage in large urban centers). Second, we add perpetrator characteristics such as age, age squared, gender, connection to the victim, and an indicator for recidivism. Third, we include newspaper fixed effects that capture time-invariant newspaper-specific characteristics, such as political orientation and readership composition. Finally, standard errors are clustered at the level of the crime.

Baseline results – Table 1 displays the results. The main coefficient of interest is positive and statistically significant (column 1). In terms of magnitude, the coverage probability of crimes perpetrated by foreigners is 92% larger than the baseline probability (0.024). This result is robust to controlling for the reader share (column 2). We also see that the coverage probability increases with readershare, in line with findings in Snyder and Strömberg (2010). The point-estimate of 0.24 implies that a 10 percentage point rise in the reader share increases the reporting probability by 2.4 percentage points (i.e. it doubles the baseline probability). Interestingly, there is also a large over-reporting of crimes that occur in areas where HQs are located (column 3). This effect is precisely estimated even when controlling for the reader share, which is expected to be large in municipalities where a newspaper is edited (column 4). The magnitude of the point

[23] Crime subcategories are based on the criminal code. These subcategories are: murder/homicide, assassination, passion crime, infanticide, and negligence.

estimate is substantial (0.039) and comparable to the impact of a 16 percentage point increase in reader share. This finding substantiates the first-stage of our instrumental variable strategy in Section 5.

Further results – In Online Appendix Section A4 we further investigate the determinants of news coverage. First, In Table A4.1, we define whether the perpetrator comes from: i) one of the top-10 countries of asylum seekers in Switzerland; ii) a predominantly Muslim country; iii) a country that benefits from a free circulation agreement with Switzerland; and iv) a neighboring country. We do not detect any heterogeneous effects of $\texttt{foreign}_i$ along these different dimensions, except for perpetrators from neighboring countries (i.e., Austria, France, Germany, and Italy) for which the reporting bias is no longer statistically significant. Second, we estimate a more flexible specification where the coefficient of $\texttt{foreign}_i$ is now newspaper-specific (Figure A4.7). All newspapers are more inclined to report foreigner crimes but we find substantial differences across newspapers, with a coefficient of interest spanning from 0.5 (*Le Temps*) to 5.4 percentage points (*20 Minutes F-CH*). These differences drive the identifying variations in Section 5. Finally, we confirm the unconditional evidence by showing that proximity to the date of the referendum increases the coverage probability (Table A4.2).

5 News and Voting

In this section, we turn to the core of our empirical analysis and estimate the impact of news coverage of crime on populist vote. To this end we express our main theoretical Equation (11) into its econometric counterpart. We start by imposing some structure on the parameters. We first account for out-of-theory determinants of vote by asserting that the municipality-level average utility shock can be decomposed into an observable (to the econometrician) and an unobservable component, $\overline{\texttt{xeno}}_m \equiv \bar{\mathbf{X}}_m\beta + \varepsilon_m$, where $\bar{\mathbf{X}}'_m$ is a vector of covariates presented below and ε_m is a white noise. In our baseline specification we assume that voters process information indiscriminately, i.e. the salience parameter is constrained $\texttt{S}_j = 1$. Moreover, the perceived reporting probabilities and the recall frequencies, $\texttt{P}_{\texttt{CH}}$ and $\texttt{R}_{\texttt{CH}}$, are assumed to be constant across readerships j. Thus, our baseline econometric specification is defined as

$$\overline{\texttt{YES}}_m = \alpha \times \texttt{CNE}_m + \bar{\mathbf{X}}'_m\beta + \varepsilon_m \tag{13}$$

where $\overline{\texttt{YES}}_m$, the dependent variable, stands for the share of voters in favor of the minaret ban in municipality m. Visual inspection of the previous equation reveals that all the theoretical parameters that are unobserved by the econometrician are conveniently absorbed by the regression coefficient $\alpha = \frac{\omega^{\texttt{NO}} - \omega^{\texttt{YES}}}{\texttt{P}_{\texttt{CH}} \cdot (\mu_{\texttt{F}} - \mu_{\texttt{CH}})/\texttt{R}_{\texttt{CH}}}$. Our main variable of interest, Crime News Exposure ($\texttt{CNE}_m$), is built under the theoretical guidance of Equation (11):

$$\texttt{CNE}_m \equiv \sum_j s_m(j) \cdot \left(\frac{\#\texttt{news}_{\texttt{F}j}}{\texttt{pop}_{\texttt{F}}} - \frac{\#\texttt{news}_{\texttt{CH}j}}{\texttt{pop}_{\texttt{CH}}} \right) \tag{14}$$

$\texttt{CNE}_m$ averages over-reporting of foreigner crimes across newspapers, using market shares as weights. It

captures, for a randomly selected voter in municipality m, her news-based inference of the crime differential between foreigners and natives. In our baseline specifications, the news-related elements of $\texttt{CNE}_m$ are measured over the pre-vote period (Jan 1, 2009 to Nov 29, 2009). Shorter time frames are investigated in our sensitivity analysis. To circumvent potential endogeneity issues, market shares $s_m(j)$ are calculated using the pre-2009 shares (2006-2008).

We estimate Equation (13) in a cross-section of 1,980 municipalities in 2009. Standard errors are clustered at the district level.[24] Summary statistics on the various covariates are provided in Appendix Table A.4. Note that Italian- and Romansh-speaking municipalities are excluded from our sample as we only collected German- and French-speaking newspapers.[25] Moreover, municipalities in districts where HQs are located are also excluded (159 municipalities in total) because: (i) we exclude towns where a single newspaper has a dominant position (Gentzkow et al., 2014) and (ii) we exploit local crime in areas where newspapers have an headquarter as an exogenous source of variation of news coverage (see below).

5.1 Identification Issues

Our main empirical challenge pertains to the newspapers' tendency to publish information that confirms readers' ideology and beliefs (Gentzkow and Shapiro, 2010). Demand-driven news provision implies that market shares of newspapers which over-report foreign criminality tend to be larger in municipalities with a positive political bias in favor of the minaret ban; this feature potentially leads to a non-zero correlation between ε_m and $\texttt{CNE}_m$ in the econometric equation (13).

Control variables – A first step in alleviating endogeneity concerns is to control for first-order co-determinants of $\texttt{CNE}_m$ and political preferences. We include a measure of the local Crime Propensity Differential, i.e. the municipality-level pre-vote difference between foreign and native crime propensity $\texttt{CPD}_m \equiv \frac{\#\texttt{crime}_{\texttt{F}m}}{\texttt{pop}_{\texttt{F}m}} - \frac{\#\texttt{crime}_{\texttt{CH}_m}}{\texttt{pop}_{\texttt{CH}m}}$. Indeed, criminality and readership are both spatially clustered, as individuals tend to read local newspapers and the latter tend to report on local criminality. We also include a measure of past anti-foreigner vote outcomes at the municipality level.[26] The inclusion of past voting outcomes makes our econometric

[24] Districts in Switzerland are an intermediate administrative unit between the (26) cantons and municipalities. In 2015 there were 148 districts; an average district comprises 16 municipalities (min=1, max=85).

[25] In Switzerland there are four official languages: German, French, Italian, and Romansh (a descendant of the Latin spoken in the Roman Empire). The linguistic partition of the country in 2000 was: German 74%, French 21%, Italian 4%, Romansh 0.6%. According to the Swiss Statistical Office, among the 2,324 Swiss municipalities, 152 municipalities are Italian- and 28 Romansh-speaking (on January 1, 2015). Five municipalities in the Bern canton do not have their own electoral office (Hellsau, Meienried, Niederösch, Oberösch, and Rüti bei Lyssach). These municipalities are treated as absorbed by the municipalities in which their electoral office is located.

[26] This variable is constructed as the mean of the vote share in favor of anti-foreigner referenda in the 2000-2008 period: "For a regulation of immigration" (September 24, 2000), "Against abuses in asylum rights" (November 24, 2002), "Federal decision on facilitated naturalization of second generation immigrants" (September 26, 2004), "Federal law on foreigners" (September 24, 2006), and "For democratic naturalization" (June 1, 2008). Appendix Figure A.1 displays correlations between historical anti-foreign votes and the minaret ban referendum. Moreover, to capture partisanship, two referenda with party recommendations identical to the minaret ban are included: "For the imprescriptibility of acts of child pornography" (March 1, 2006), and "For taking into account complementary medicines" (May 17, 2009). The use of a principal component with the outcome of these referenda leaves our result unchanged.

model akin to a first difference specification; we essentially correlate deviations from past anti-foreign votes to the level of crime news exposure over the 11 month period preceding the vote.[27] Moreover, we also include the following municipality characteristics: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (age 15-35), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Finally, a set of agglomeration fixed effects is included.[28]

Instrumental variables – We instrument the news provision component of $\texttt{CNE}_m$ in a 2SLS version of equation (13).[29] The key insight comes from our finding in the previous section that proximity to newspaper headquarters is a powerful predictor of the news coverage of a crime. Hence, for each newspaper j, we compute HQ's Crime Propensity Differential, i.e. the difference between foreigner and native crime propensity in its headquarter municipality.[30]

$$\texttt{CPD}_j^{\texttt{HQ}} \equiv \frac{\#\texttt{crime}_{\texttt{F}j}^{\texttt{HQ}}}{\texttt{pop}_{\texttt{F}}^{\texttt{HQ}}} - \frac{\#\texttt{crime}_{\texttt{CH}j}^{\texttt{HQ}}}{\texttt{pop}_{\texttt{CH}}^{\texttt{HQ}}} \tag{15}$$

We then aggregate across newspapers at the municipality-level to get a variable comparable to $\texttt{CNE}_m$. This yields a first version of our instrumental variable that we label Headquarters Crime exposure

$$\texttt{HQC}_m \equiv \sum_j s_m(j) \cdot \texttt{CPD}_j^{\texttt{HQ}} \tag{16}$$

Appendix Table A.5 reports some summary statistics on $\texttt{CPD}_j^{\texttt{HQ}}$. We see that it ranges from -5.04 (*Le Matin* and *24Heures* with HQs located in Lausanne) to 19.51 (*Tribune de Geneve* located in Geneva), with a cross-newspaper average equal to 4.13. As for the instrumental variable $\texttt{HQC}_m$, the identifying variations stem from the combination of cross-newspaper variations in $\texttt{CPD}_j^{\texttt{HQ}}$ and cross-municipality heterogeneity in market shares $s_m(j)$. Our instrumental variable strategy exploits cross-newspaper exogenous variations in crime news provision that originate from the fact that (i) newspaper headquarters are located in different

[27] Expressing crime news in level rather than difference makes sense given the short-lived dimension of priming effects and memory (i.e. imperfect news recall).

[28] The Swiss Statistical Office defines agglomerations according to three criteria: worker flows, population density, and overnight hotel stays. The purpose of this purely statistical unit is to overcome historic institutional borders. Agglomerations are determined according to the intensity of worker flows; this designates the potential agglomeration center and the municipalities that belong to it. Every potential agglomeration then has to have a minimum number of inhabitants and overnight hotel stays to qualify as such. Note that the FSO defines as rural municipalities those not belonging to an agglomeration. Here we create a separate, canton-specific category, i.e. rural municipalities in a specific canton. In 2015 there were 79 agglomerations; an average agglomeration comprises 29 municipalities (min=1, max=271).

[29] Although instrumenting the news provision is sufficient, we embrace a more comprehensive approach in our robustness analysis by instrumenting the two components of $\texttt{CNE}_m$, namely news provision $\left(\frac{\#\texttt{news}_{\texttt{F}j}}{\texttt{pop}_{\texttt{F}}} - \frac{\#\texttt{news}_{\texttt{CH}j}}{\texttt{pop}_{\texttt{CH}}}\right)$ and market shares $s_m(j)$ (Online Appendix Table A6.9).

[30] As for the scaling, $\texttt{CPD}_j^{\texttt{HQ}}$ is expressed in terms of the number of crimes per 100,000 individuals. For multi-headquarter newspapers we aggregate both crime and population across headquarter municipalities.

municipalities, and (ii) spatial proximity of a crime to a headquarter drives news coverage, for cost-related reasons that are unconnected to the nationality of the perpetrator.

To be a valid instrument $\texttt{HQC}_m$ must be orthogonal to the error term ε_m, after conditioning on the set of co-variates in Equation (13). To this regard, note that we control for the local Crime Propensity Differential in order to factor in spatial clustering of criminality (i.e. non-zero correlation between $\texttt{CPD}_m$ and $\texttt{CPD}_j^{\texttt{HQ}}$). However, conditional exogeneity of the instrument is still at risk because of potential spatial correlation between the unobserved co-determinants of political preferences. For example, in the case of a metropolitan area where foreigners are discriminated against on the labor market, discontent relative to migrants in the surrounding municipalities could simultaneously increase with foreigner criminality. This means that municipalities close to newspaper headquarters technically belong to the same "xenophobic cluster," implying $\mathbb{E}[\varepsilon_m \varepsilon_j^{\texttt{HQ}}] \neq 0$, which in turn questions the exclusion restriction as political preferences and criminality may correlate in HQs $\mathbb{E}[\texttt{CPD}_j^{\texttt{HQ}} \varepsilon_j^{\texttt{HQ}}] \neq 0$. To overcome this problem, we compute the deviation between $\texttt{CPD}_j^{\texttt{HQ}}$ (computed over the pre-vote period in 2009) and its long-run counterpart $\overline{\texttt{CPD}}_j^{\texttt{HQ}}$ (computed over the post-vote period 2010-2013).[31] The rationale for exploiting short-run deviations is that they can be viewed as pure sampling errors.[32] While the long-run crime propensity of foreigners may correlate with headquarter characteristics and political preferences, the short-run deviation should not, i.e. $\mathbb{E}[(\texttt{CPD}_j^{\texttt{HQ}} - \overline{\texttt{CPD}}_j^{\texttt{HQ}})\varepsilon_j^{\texttt{HQ}}] = 0$.

Aggregating across newspapers, we obtain the second version of our instrumental variable

$$\Delta\texttt{HQC}_m \equiv \sum_j s_m(j) \cdot \left(\texttt{CPD}_j^{\texttt{HQ}} - \overline{\texttt{CPD}}_j^{\texttt{HQ}}\right) \tag{17}$$

In our baseline analysis we retain the more elaborate version of the instrument, namely that based on short-run deviations. In our robustness analysis (Section 5.4) the version in level (equation 15) is used and leads to comparable quantitative results. There we also implement an alternative approach by instrumenting with the differentials of criminality in municipalities where newspapers have a large audience. Conceptually this approach is similar to the instrumental strategy developed in Snyder and Strömberg (2010).

5.2 Baseline Results

Inference of crime differentials – Before turning to our main estimation, we first assess the preciseness of the news-based inference of crime differential. We thus test the null-hypothesis $\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}} = 0$ in Equation (10). Table A.6 reports both the measured differential and the result of the test for each newspaper. Crucially, we see that the t-stats are large for all newspapers reporting on at least one crime, confirming that the null-hypothesis is rejected. The absolute values of the t-stats range from 5.52 (*Tages-Anzeiger*) to 16.48

[31] The long-run HQ's Crime Propensity Differential is defined as $\overline{\texttt{CPD}}_j^{\texttt{HQ}} \equiv \frac{\#\overline{\texttt{crime}}_{\texttt{F}j}^{\texttt{HQ}}}{\texttt{pop}_{\texttt{F}j}^{\texttt{HQ}}} - \frac{\#\overline{\texttt{crime}}_{\texttt{CH}j}^{\texttt{HQ}}}{\texttt{pop}_{\texttt{CH}j}^{\texttt{HQ}}}$ where the post-vote long-run amounts of foreigner and native crimes, $\#\overline{\texttt{crime}}_{\texttt{F}j}^{\texttt{HQ,LR}}$ and $\#\overline{\texttt{crime}}_{\texttt{CH}j}^{\texttt{HQ,LR}}$, are computed from December 1, 2009 to December 31, 2013. Results are quantitatively similar if the pre-vote period is included.

[32] This assumption is tested on a set of observable characteristics for the sub-sample of cities experiencing violent crimes during the 2009-2013 period. Long-run and short-run foreigner criminality do indeed correlate with city characteristics; by contrast, short-run deviations in criminality do not correlate with observable city characteristics (Figures **??**, **??**, and **??** in Appendix).

Table 2: NEWS AND MINARET BAN VOTE - BASELINE RESULTS

Specification			Instrument: Short-run deviation of HQ Crime Propensity Differential (ΔHQC)		
	OLS		Reduced Form	2SLS 1st Stage	2SLS 2nd Stage
Dependent Variable	%Yes	%Yes	%Yes	CNE	%Yes
	(1)	(2)	(3)	(4)	(5)
Crime News Exposure (CNE)	2.458[a]	1.717[a]			2.474[a]
	(0.840)	(0.366)			(0.874)
Local Crime Propensity Differential (CPD)		0.269	0.301	0.017	0.259
		(0.188)	(0.207)	(0.019)	(0.172)
Past Vote Outcomes		1.001[a]	1.006[a]	0.003[c]	0.999[a]
		(0.040)	(0.040)	(0.002)	(0.041)
HQ Crime Propensity Differential : Deviation (ΔHQC)			1.077[b]	0.436[a]	
			(0.427)	(0.133)	
Observations	1980	1980	1980	1980	1980
Adjusted R^2	0.687	0.851	0.850	0.950	0.851
First-stage F-statistic				10.79	

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Columns (1) and (2) show the OLS estimates. Columns (3) to (5) present the estimates of our preferred specification, the 2SLS estimation based on the ΔHQC_m instrument computed as the short-run Crime Propensity Differential in newspaper headquarter areas (HQC_m) in deviation from its long-run counterpart (HQC_m^{LR}). Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

(*20 Minuten*). In sum, in our data, comparing crime news between foreigners and natives provides the reader with a precise, but biased, estimate of the crime propensity differential between Muslims and non-Muslims.

Main results – Table 2 displays the baseline estimation results of Equation (13). Only the (standardized) coefficients of the main variables of interest are reported. Columns (1) and (2) show OLS estimates. Columns (3) to (5) correspond to our preferred specification, namely the 2SLS estimator with ΔHQC_m as exogenous instrument.[33]

In column (1) we estimate a parsimonious specification in which we do not include our two most important control variables, namely past anti-foreign vote outcomes and local CPD_m. The two controls are included in column (2). We see that Crime News Exposure has a positive and statistically significant effect

[33]Estimations results based on the instrument in level, HQC_m, are presented in Table A6.7, columns (1) to (3).

in both specifications, with the inclusion of controls leading to an improvement in precision. Effects are sizable: a one-standard deviation increase in $\texttt{CNE}_m$ translates into a 22% standard-deviation increase in the vote share in favor of the minaret ban (column 2). We interpret the positive coefficient of $\texttt{CPD}_m$ as direct evidence supporting our theoretical assumption of *crime priming*. This result must, however, be viewed with reservation as the parameter is not precisely estimated (p-value is 0.16). Furthermore, we see that past anti-foreign vote outcome is a powerful control with a point estimate close to 1, illustrating the high level of persistence in anti-foreigner attitudes at the municipality-level. This precisely estimated unitary coefficient makes our econometric model akin to a first difference specification (i.e. change in political attitudes regressed on crime news). It also confirms the unconditional evidence depicted on Figure A.1 showing that the minaret ban vote had a strong anti-foreigner and populist component. Overall, the precision and sign of the estimated coefficients on the control variables are encouraging for the quality of our data.

We now turn to our instrumental variable approach in the remaining columns of Table 2. Column (3) presents the reduced-form estimates, and columns (4) and (5) report the first and second-stage regression results. Reduced-form estimates show that the instrument has a positive and significant effect on the pro-ban vote. In the first-stage estimation, the sign of the estimated coefficient of the instrument and the magnitude of the Kleibergen-Paap (KP) F-statistics confirm that criminality in the neighborhood of a newspaper's headquarters is a powerful predictor of crime news provision. Moreover, past vote is a poor predictor of news provision. This is reassuring as it suggests that our concern relative to demand-driven news provision is in fact limited (see the above discussion on endogeneity). The second stage estimated coefficient of $\texttt{CNE}_m$ is precisely estimated and close to its OLS counterpart. Column (5) is our preferred specification in the remainder of the paper, upon which our sensitivity analysis rests.

Other theoretical predictions – In Table A.7 we look at more flexible versions of our econometric model. We aim at documenting additional theoretical channels related to sophistication in voters' information processing (see our theoretical discussion at the end of Section 3).

We start with the elicitation of the salience parameter to gauge whether readers differently value the informational content of foreigner/native crime news. For the econometric implementation of this exercise, we retain the same restrictions on the structural parameters as in our baseline model except for the salience parameter $\texttt{S}$, which we now let unconstrained (but still constant across newspapers j). We then consider a model identical to the baseline one, now splitting our main explanatory variable $\texttt{CNE}_m$ into its foreigner ($\texttt{F}$) and native ($\texttt{N}$) news components, each with its own regression coefficient. Visual inspection of our structural Equation (11) shows that (i) these two coefficients must have opposite signs and (ii) (the absolute value of) their ratio yields an estimate of the salience parameter. In columns (1) and (2) we estimate OLS and 2SLS models respectively – note that our instrumental variable $\Delta\texttt{HQC}_m$ is now also split into its foreigner and native crime components. In both models, results show that the coefficients exhibit the expected sign pattern, positive for foreigner crime news and negative for native crime news. This finding supports our key theoretical argument, namely that voters care about the crime *differential* between natives and foreigners. Hence, news coverage of native crimes tends to reduce the populist vote. That said, however, the magnitudes

are different and voters react more to foreigner crime news: in the 2SLS specification, the implied value of the salience parameter is equal to 1.84 ($= 5.26/2.86$). In comparison, the salience parameter of a sophisticated reader, namely an agent without selective recall and perfect knowledge of the extent of the media bias, should be equal to 0.55.[34] In other words, in our data the average voter weights foreigner crime news 84% more than native news, in stark contrast with the sophisticated voter who weights them (about) half less. According to our theoretical discussion, this result can be interpreted in two non-excludable ways: readers more selectively recall foreigner crime news and/or they underestimate the extent of media bias. As a consequence, readers do not manage to "debias" news and actually overreact to foreigner crime news.

In columns (3) and (4) we investigate the heterogeneous effects of crime news on votes across newspaper types. Estimating newspaper-specific coefficients is too demanding given the data, in particular because eleven instrumental variables would need to be included (one per newspaper). We therefore implement a less ambitious and more realistic approach by considering only two categories – tabloids and regular newspapers – and split our main explanatory ($\texttt{CNE}_m$) and instrumental variable ($\Delta\texttt{HQC}_m$) accordingly. The classification of newspapers into tabloid/regular is based on that of *Medienqualitatsrating Schweiz*, an organization that rates the quality of media in Switzerland.[35] In column (3) we replicate the baseline OLS specification with a coefficient of $\texttt{CNE}_m$ that is specific to each category; in column (4) we estimate the 2SLS version. 2SLS coefficients are precisely estimated and are not significantly different from each other. Hence, the quantitative effect of crime news on voting behavior is comparable for readerships of tabloids and regular newspapers. This surprising result is nonetheless in line with our theoretical model: tabloids tend to frame news in a more memorable way, but the informational value of news is higher in regular newspapers. Our empirical result suggests that these two channels have the same quantitative impact and compensate one another.

5.3 Sensitivity Analysis: Alternative Pooling Schemes

Our baseline analysis assumes that voters contrast crime news between two pools of perpetrators, Swiss and foreigners. Indeed, pooling enables voters to process the informational content of news in a way that is both accurate and cognitively simple. Although the Swiss/foreigner divide sounds natural and relevant in our context, the pooling scheme used by voters is in fact unobservable to the econometrician. In what follows, we successfully test the robustness of our results to alternative schemes.

Pooling rule – Let us posit that voters assign nationalities reported in the crime news to two pools based on the share of Muslims (small/large) among their citizens living in Switzerland – the threshold being set

[34] Let us assume that a sophisticated reader exerts no selective recall and has a perfect knowledge of the extent of the media bias. In terms of parameter values, this means that her recall frequencies are identical $\texttt{R}_\texttt{F}/\texttt{R}_\texttt{CH} = 1$ and her perception of the media bias corresponds to the actual bias (see Section 4) such that $\texttt{P}_\texttt{F}/\texttt{P}_\texttt{CH} = 0.031/0.017$. We obtain a value of the salience parameter equal to $\texttt{S} \equiv \frac{\texttt{R}_\texttt{F}/\texttt{R}_\texttt{CH}}{\texttt{P}_\texttt{F}/\texttt{P}_\texttt{CH}} = 0.55$.

[35] In our sample, three newspapers are classified as tabloids by *Medienqualitatsrating Schweiz*: *20 Minuten*, *20 Minutes*, and *Le Matin*. Tabloids are standardly defined as popular newspapers with many pictures and short, simple reports. They tend to publish sensational stories and contain images of large shock value. They are usually viewed as big providers of crime news, a feature that is borne out in our data.

at the median of the distribution of Muslim shares in Switzerland (2.7%). Equipped with this alternative pooling rule, Equation (13) is now estimated with the following, slightly modified, version of $\texttt{CNE}_m$

$$\texttt{CNE}'_m \equiv \sum_j s_m(j) \cdot \left(\frac{\texttt{\#news}_{\overline{\texttt{M}}j}}{\texttt{pop}_{\overline{\texttt{M}}}} - \frac{\texttt{\#news}_{\underline{\texttt{M}}j}}{\texttt{pop}_{\underline{\texttt{M}}}} \right) \tag{18}$$

where $\overline{M}$ ($\underline{M}$) corresponds to the pool of nationalities with a Muslim share in Switzerland above (below) 2.7%. Note that, in the data, the size of $\overline{M}$ is large enough (495,688 individuals and condition (7) is satisfied) for the news-based inference procedure of the crime propensity differential to be accurate. Indeed, under this alternative pooling, the null-hypothesis $\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}} = 0$ is rejected for all newspapers but one (unreported results).

Stereotypes – The previous pooling rule raises concerns about its plausibility. Indeed, voters, in their vast majority, have an incomplete and stereotyped view of the distribution of Muslim shares across nationalities.[36] Rooted in social psychology (Schneider, 2004), a recent strand of the literature proposes practical tools for taking into account individuals' tendency to save on cognitive resources. It is in this spirit that we apply to our setting the representativeness-based discounting approach developed by Bordalo et al. (2016) and compute the following measure of the *stereotyped* Muslim share (μ_n^s)

$$\mu_n^s = \mu_n \times \frac{(\mu_n/\mu_{\texttt{CH}})^\theta}{\mu_n \cdot (\mu_n/\mu_{\texttt{CH}})^\theta + (1-\mu_n) \cdot ((1-\mu_n)/(1-\mu_{\texttt{CH}}))^\theta} \tag{19}$$

where the stereotyping parameter θ is a non-negative that captures the extent to which representativeness of the Muslim trait for nationality n (i.e. $\mu_n/\mu_{\texttt{CH}}$) distorts voters' beliefs – their reference point being the Muslim share among Swiss nationals. An increase in θ leads to more stereotyping and a perceived distribution of Muslim shares that becomes more polarized. At the extreme, $\theta = 0$ corresponds to the no-stereotyping case while $\theta = +\infty$ leads to perceived shares equal to 0 or 1. In Figure A.3, we apply this approach to our data to show how θ affects the distribution of perceived Muslim shares. We consider six scenarios, ranging from $\theta = 0$ (no-stereotype) to $\theta = 10$. As shown in the figure, increasing θ has a significant impact on the polarization of the distribution of perceived shares (in red), with a drastic expansion of the number of nationalities perceived as highly Muslim. Finally, for a given θ we use the stereotyped shares μ_n^s in order to re-compute the pools ($\underline{\texttt{M}}$,$\overline{\texttt{M}}$) according to the rule described above, and then use Equation (18) to re-compute $\texttt{CNE}'_m$.[37]

[36] Some cases are relatively unambiguous: Peruvian migrants are mostly non-Muslim, while 99% of Tunisian migrants are Muslim. Other cases are, however, less clear in part due to ethnic and religious selection to migration. For example, while half of the population in Nigeria is Muslim, this is true of only 6% of the Nigerians in Switzerland. Similarly, Azerbaijan is 97% Muslim, but only 25 % of the migrants from this country practice Islam in Switzerland. Religious fragmentation is another factor. One in five migrants in Switzerland come from the Balkans, where disparity in terms of religious affiliation is very large (e.g. Muslims represent less than 5% of the population in Croatia and Serbia versus 59% in Albania and 96% in Kosovo).

[37] Unreported results show that, if anything, a larger θ improves the accuracy of the news-based inference procedure, e.g. for $\theta \geq 1$, the absolute values of the t-stats stand above 3 across all newspapers (under the null-hypothesis $\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}} = 0$).

Results – Table A.8 displays the estimates of the 2SLS regressions when we include $\texttt{CNE}'_m$ instead of $\texttt{CNE}_m$ in Equation (13). The coding of the instrumental variable $\Delta\texttt{HQC}_m$ is also adjusted, such that crimes in headquarters areas are now assigned to the pools $(\underline{\texttt{M}},\overline{\texttt{M}})$.[38] Each column corresponds to a particular value of θ. When assuming that voters pool the nationalities according to the real Muslim shares (column (1), $\theta = 0$), or that belief distortion is weak (column (2), $\theta = 1$), the effect is positive but not precisely estimated. Moreover, the first-stage KP-stats are low (below 8). When beliefs on the Muslim shares are more distorted ($\theta \in \{2, 3, 5, 10\}$), the $\texttt{CNE}_m$ estimates are positive and statistically significant (columns (3) to (6)), and the KP-stats above 10. Given the issue with weak instruments when $\theta \leq 1$, we also perform OLS estimations (Table A.9), observing that the effect of $\texttt{CNE}_m$ on vote is positive and statistically significant in all six scenarios, even for low θs.

No pooling – We now depart from the pooling assumption by allowing voters to infer the crime differential of Muslims by directly estimating equation (8) across nationalities. Beyond the theoretical caveats discussed in Section 3, this approach suffers from two empirical limitations. First, with many nationalities experiencing no crime, the crime differential $(\kappa_j^{\texttt{M}} - \kappa_j^{\texttt{NM}})$ is not precisely estimated (i.e. a large p-value of the coefficient of μ_n in equation (8)). Second, our instrumental variable strategy is not suited to this setup. Nevertheless, we can still estimate a OLS version of Equation (13) where our main explanatory variable $\texttt{CNE}_m$ is now equal to $\sum_j s_m(j) \cdot \left(\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}}\right)$. The estimation results are reported in column (1) of Table A.10. We clearly see that the coefficient of interest is not precisely estimated. In columns (2) to (6), we assess the impact of stereotyping in this setup by using the stereotyped Muslim shares μ_n^s in equation (8). Statistical significance is restored when stereotyping becomes large ($\theta \geq 5$).

5.4 Other Sensitivity Checks and Alternative Instruments.

We report here a brief summary of various sensitivity exercises. All tables and figures and further discussion can be found in the Online Appendix Section A5. The baseline results (column (5) in Table 2) are robust to i) alternative definitions of the pre-vote time window, from two to eleven months (Appendix Figure A.4); ii) controlling for criminality in municipalities where people work (Table A5.3); iii) alternative coding rules of news that do not report on nationalities (Figure A5.8 and Table A5.4); iv) correcting for cross-sectional spatial correlation, applying the method developed by Conley (1999) and Colella et al. (2018) (Table A5.6); v) weighting by the precision of news-based inference (Table A.6); (vi) adding out-of-sample newspapers (Figure A5.5).

In the Online Appendix Section A6 we scrutinize the following alternative constructions of the instrumental variable: i) instrument in level, $\texttt{HQC}_m$ as defined in Equation (16), (Table A6.7); (ii) instrument in difference, $\Delta\texttt{HQC}_m$, where long-run crime is filtered out in a flexible way (Table A6.7); iii) instrument based

[38] Note that our alternative pooling rule leads to endogenous and instrumental variables that differ significantly from the baseline. Pearson's correlation coefficients between the endogenous variable in the baseline and in the six alternative scenarios range from 0.72 to 0.74. Pearson's correlation coefficients between the instrument in the baseline and in the six alternative scenarios range from 0.01 (column 6) to 0.73 (column 1).

on crime differential in municipalities with large readerships (Table A6.8); iv) extra instrument for market shares of newspapers based on spatial proximity to headquarters (Table A6.9); and v) instrument based on news pressure on crime days (Table A6.9). All in all, the baseline results are qualitatively unchanged.

5.5 Falsification Exercises

In this sub-section we undertake a set of falsification exercises to assess the validity of the exclusion restriction.

Post-referendum news – We first evaluate the impact of post-vote crime news on the minaret ban vote. The estimates are depicted in Figure A.4. Reassuringly, crime news released after the minaret ban vote have no impact on its outcome.

Placebo outcome – A second test exploits voting outcomes that are unrelated to immigration issues. On the same day as the minaret ban referendum (November 29, 2009), Swiss citizens also voted on: the "Creation of special funding for tasks in the area of air traffic".[39] The first two columns of Table A.11 present the results when using vote in favor of the Air Traffic Funding instead of the minaret ban as the outcome. First, we estimate the reduced-form regression from Table 2, column (3); reassuringly, neither crime in newspapers' headquarters nor local crime has an effect on the outcome of the Air Traffic Funding vote (column 1). Second, we estimate the full two-stage least squares estimation. Not surprisingly, given the results of column (1), the coefficient of crime coverage is not statistically significant (column 2).

Unread newspapers – In the last four columns of Table A.11 we turn to falsification of the instrument. Our instrumental strategy rests on the fact that newspapers are more likely to report on crimes occurring in the vicinity of their headquarters. If the exclusion restriction holds, the voting behavior of individuals should not be impacted by crimes that occur in the vicinity of headquarters of the newspapers that they *do not* read.

To implement this exercise, we rely on a modified version of the baseline reduced-form regression (column 3, Table 2). Indeed, since municipality-level market shares are by definition zero for unread newspapers, we replace market share by one of its powerful (negative) predictors, namely spatial distance to HQs. In column (3), as a way of benchmarking, we estimate this modified version, focusing on the set of newspapers that are actually read in the municipality (non-zero market shares). Reassuringly, the coefficient of interest is statistically significant; it is negative given that distance to HQs negatively predicts market-share. This finding confirms the baseline result. In column (4) we replicate this specification by focusing on the set of newspapers that are not read. We see that the coefficient is small in magnitude, not statistically significant, and has the wrong sign. In other words, crimes close to the HQs of unread newspapers do not affect vote in favor of the minaret ban; only crimes occurring near HQs of read newspapers have an impact. In this same

[39] In French, the *Arrêté fédéral du 03.10.2008 sur la création d'un financement spécial en faveur de tâches dans le domaine du trafic aérien*. For simplicity, we hereon refer to this object as "Air Traffic Funding."

vein, in columns (5) and (6) we exploit the fact that several languages are spoken in Switzerland. We start by restricting to outlets edited in the language spoken in the municipality. As in column (3), the reduced-form estimates are negative and statistically significant. In column (6) we then focus on newspapers that are written in a language not spoken in the municipality. Here again, we see a loss of statistical significance.

5.6 Quantification and Policy Experiments

We now simulate two counterfactual experiments in order to quantify the impact of crime news on the minaret ban vote. We first look at an experiment where newspapers are forced to report on criminality in an unbiased way. Second, and more closely linked to a debated policy option, we consider a law preventing newspapers from disclosing perpetrators' nationalities.[40]

Counterfactual #1: Unbiased news – The quantification procedure exploits the full structure of the model. In a first step, we compute the counterfactual coverage probabilities in a world without media bias. To this aim, we use the media coverage model of Section 4. Let $\mathbb{P}^u_{ij}$ denote the "unbiased" probability of perpetrator i being covered by newspaper j. We predict $\mathbb{P}^u_{ij}$ from the estimation of Equation (12) after setting the coefficient of $\texttt{foreign}_i$ to zero.[41] In a second step, we sum $\mathbb{P}^u_{ij}$ across foreign/native perpetrators to get $\#\texttt{news}^u_{\texttt{F}j}$ and $\#\texttt{news}^u_{\texttt{CH}j}$, namely the counterfactual crime news reported in newspaper j. In a third step, we calculate municipality-level crime news exposure, $\texttt{CNE}^u_m$ according to equation (14). In a fourth step, we predict the counterfactual municipality-level vote outcome by replacing $\texttt{CNE}_m$ with $\texttt{CNE}^u_m$ in the baseline estimates of Table 2, column (5). All in all, we find that the pro-ban vote would decrease on average by 4.1 percentage points in the absence of any media bias.

Counterfactual #2: No reporting of nationality – The previous thought experiment suffers from an important limitation: the practical implementation of a policy aiming to suppress media bias is rather unfeasible, in part because the latter may be unintentional. We consequently turn to a more plausible policy option by studying the impact of a law forbidding journalists from releasing details on criminals' nationalities. Technically, this is equivalent to setting $\#\texttt{news}_{\texttt{F}}$ and $\#\texttt{news}_{\texttt{CH}}$ to zero. We can then recompute the corresponding counterfactual crime news exposure $\texttt{CNE}^c_m$ and predict the counterfactual municipality-level vote outcome by using $\texttt{CNE}^c_m$ in the baseline estimates of Table 2, column (5). Our quantification shows that the pro-ban vote shares in this scenario would have decreased by 4.5 percentage points on average across municipalities. At the national level, this translates into a 5 percentage point decrease (from 57.6% to 52.6%). By comparison, the share of highly educated people at the municipality level should increase by 72% to generate an effect of this magnitude.

[40] Relative to debate on nationality reporting in Switzerland, see "*La police de Zurich pourra taire la nationalité de personnes interpellées*" (RTS, November 7, 2017, in French) for Zurich and "*Taire la nationalité des délinquants*" (Le Courrier, December 5, 2017, in French) for Geneva.

[41] We take into account the dramatic increase in media bias observed in the pre-vote period (Table A4.2) by considering a scenario where the offender's nationality has on average no effect *and* no extra-effect in the three-month period before the referendum.

Quantitatively, forbidding newspapers from reporting on perpetrators' nationality generates very similar effects as targeting unbiased news. Such a policy is, in fact, already in place in other European countries, notably Germany and Sweden, and has similarly been implemented in the canton of Zurich.[42] While it has the virtue of being easily enforceable, the policy comes as at the expense of exerting control over media.

6 Conclusion

This paper studies the impact of news coverage of immigrant criminality on populist vote. Switzerland, with its direct democracy and cultural heterogeneity is an ideal laboratory for assessing the complex interaction between news provision and voting decisions. We scrutinize one of the most controversial referenda in recent years: the 2009 vote on banning the construction of minarets. We first document an over-reporting of immigrant criminality that is not driven by standard determinants of coverage (e.g. reader share), and then estimate a theory-based voting equation in the cross-section of municipalities. Our instrumentation strategy uses spatial proximity to newspapers' headquarters as a source of exogenous variations in the coverage of a crime. Counterfactual simulations show that, under a law forbidding newspapers to disclose a perpetrator's nationality, the vote in favor of the ban would have decreased by 5 percentage points (from 57.6% to 52.6%).

Our study sheds light on the crucial role of media coverage in electoral dynamics involving right-wing populist rhetoric. The success of populism often rests on a logic of fear and scapegoatism, with political programs denouncing real or imaginary threats against the interests of the common people. The findings in this paper show how newspapers contribute to shaping the perception of such threats by constituencies. A similar logic has, in fact, recently been observed in several other advanced economies where immigration and criminality were salient topics during electoral campaigns. The refugee crisis was, for example, at the center of public debate in the 2018 legislative campaign in Italy, in the 2017 legislative election in Austria, and in the 2017 German Federal election. In his 2016 presidential campaign, Donald Trump frequently referred to the dangerousness of immigrants and Islam and those allegations were relayed by many media. Over the last three decades, concerns about the violence of second-generation immigrants in the French suburbs have overwhelmed public and political debate in the country's media. Such unease contributed to making the populist National Front party the foremost political force in France in 2014. To this regard, an unaddressed question in this paper relates to the complex interplay between media agenda-setting and the communication strategies of political parties. Understanding why and how populist rhetoric is relayed by the mass media is a fascinating and overlooked question that begs further research.

[42] In Germany until 2017 non-binding guidelines stated that the ethnicity or religion of a criminal in a police investigation should only be reported when it "can be justified as being relevant to the reader's understanding of the incident". New rules were then adopted in that same year, after German outlets' credibility was called into question in the aftermath of the Cologne sexual assaults and newspapers' failure to report on the events until several days had passed. The new guidelines state that "the journalist should be careful when reporting on criminality that the mentioning of the suspect's ethnic or religious identity does not lead to a general discrimination based on one individual's actions", and that "in general ethnicity should not be mentioned unless there is a plausible public interest in doing so". Similarly, the "Code of Ethics for Press, Radio and Television" in Sweden recommend that media "do not emphasize ethnic origin, [...] nationality [...] in the case of the persons concerned if this is not important in the specific context or is demeaning". In both cases, these measures also provide broad guidelines on what type of information should be reported by the police to the press.

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A Appendix - Tables & Figures

Table A.1: CRIME NEWS PROVISION: MEDIA BIAS

Newspaper (j)	Foreign		Native		Bias
	$\mathbb{P}_j^{\mathtt{F}}$	News	$\mathbb{P}_j^{\mathtt{CH}}$	News	$\mathtt{B}_j$
20 Minuten D-CH	0.081	30	0.055	17	0.466
20 Minutes F-CH	0.064	22	0.015	4	3.340
24 Heures	0.047	16	0.018	5	1.546
Matin dimanche, Le	0.000	0	0.004	1	-1.000
Matin, Le (lu - sa)	0.038	11	0.015	4	1.604
NZZ am Sonntag	0.000	0	0.000	0	.
Neue Zuercher Zeitung	0.060	17	0.051	16	0.157
SonntagsZeitung	0.000	0	0.000	0	.
St. Galler Tagblatt	0.008	2	0.007	1	0.177
Tages-Anzeiger	0.038	10	0.022	7	0.736
Temps, Le	0.004	2	0.004	1	0.157
Tribune de Geneve	0.026	9	0.007	2	2.472

Notes: The unit of observation is a crime perpetrator. Crime data comes from the Swiss Statistical Office (FSO). News data collected by the authors. Statistics for 2009 and 2010. Over the 507 aggressors, 235 of them are foreigners. $\mathbb{P}_{\mathtt{F}j}(\mathbb{P}_{\mathtt{CH}j})$ represents the newspaper-specific unconditional probablity of news coverage of a crime commited by a foreign (native) aggressor. News is the total number of news related to foreign (native) aggressor. $\mathtt{B}_j \equiv (\mathbb{P}_{\mathtt{F}j} - \mathbb{P}_{\mathtt{CH}j})/\mathbb{P}_{\mathtt{CH}j}$.

Table A.2: CRIME NEWS PROVISION: PRE- AND POST-VOTE PATTERNS

Newspaper (j)	Foreign		Native		Bias
	$\mathbb{P}^{\mathtt{F}}$	News	$\mathbb{P}^{\mathtt{CH}}$	News	$\mathtt{B}_j$
2009 and 2010	0.031	119	0.017	58	0.858
2009: Full year	0.045	74	0.025	37	0.836
2010: Full year	0.020	45	0.011	21	0.859
2009: Before vote	0.045	68	0.025	34	0.806
3 months before vote	0.079	31	0.023	5	2.478
3 months after vote	0.022	13	0.008	6	1.598

Notes: The unit of observation is a crime perpetrator. Crime data comes from the Swiss Statistical Office (FSO). News data collected by the authors. $\mathbb{P}_{\mathtt{F}j}(\mathbb{P}_{\mathtt{CH}j})$ represents the newspaper-specific unconditional probablity of news coverage of a crime commited by a foreign (native) aggressor. News is the total number news related to foreign (native) aggressor. $\mathtt{B}_j \equiv (\mathbb{P}_{\mathtt{F}j} - \mathbb{P}_{\mathtt{CH}j})/\mathbb{P}_{\mathtt{CH}j}$.

Table A.3: CRIME NEWS PROVISION: EFFECT OF VOTE ON VIOLENT CRIME

Dep Variable: Crime	All		Foreign		Swiss		% Foreign	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Vote_{m}	–0.352	–0.273	–0.394	–0.362	–0.274	–0.131	–0.031	–0.062
	(0.283)	(0.307)	(0.309)	(0.333)	(0.340)	(0.370)	(0.195)	(0.212)
$\text{Vote}_{m,m-1}$		–0.065		–0.012		0.113		–0.107
		(0.362)		(0.393)		(0.436)		(0.249)
$\text{Vote}_{m-1,m-2}$		0.419		0.381		0.421		–0.090
		(0.301)		(0.326)		(0.362)		(0.207)
$\text{Vote}_{m-2,m-3}$		0.250		–0.058		0.437		–0.135
		(0.286)		(0.310)		(0.344)		(0.197)
$\text{Vote}_{m,m+1}$		0.102		0.032		0.255		–0.039
		(0.337)		(0.366)		(0.406)		(0.232)
$\text{Vote}_{m+1,m+2}$		0.109		0.559		–0.194		0.357
		(0.434)		(0.471)		(0.522)		(0.299)
$\text{Vote}_{m+2,m+3}$		–0.252		–0.579		–0.004		–0.354
		(0.363)		(0.394)		(0.437)		(0.250)
Observations	102	102	102	102	102	102	102	102
R^2	0.101	0.132	0.133	0.174	0.089	0.116	0.181	0.208
F-Test equality coeff.		0.10		0.00		0.65		0.45
F-Stat p-value		0.76		0.97		0.42		0.50

Notes: The unit of observation is a week-year. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. Linear probability model estimations. Year and month fixed effects fixed effects are included.

Table A.4: NEWS AND MINARET BAN VOTE - SUMMARY STATISTICS

	Obs.	Mean	Std.Dev.	Min	Max
Minaret Ban "Yes" Vote (%)	1980	63.27	10.48	32.43	96.00
Crime News Exposure (CNE)	1980	0.07	0.87	–1.72	1.93
HQ Crime Propensity Differential : Deviation (ΔHQC)	1980	–0.12	0.90	–2.79	1.12
Past Vote Outcomes	1980	49.39	9.86	14.94	76.44
Local Crime Propensity Differential (CPD)	1980	0.03	1.04	–1.31	7.28
German-speaking (%)	1980	68.94	43.21	0.00	100.00
Log population	1980	7.22	1.22	3.30	11.51
Immigrants (%)	1980	13.27	8.92	0.00	59.67
Net Immigration (%)	1980	0.63	0.78	–4.90	5.87
High-skilled (%)	1980	31.33	8.14	6.38	64.40
Secondary Employment (%)	1980	23.88	7.46	0.00	52.89
Tertiary Employment (%)	1980	53.90	8.85	16.18	82.59
Log Net Income (ChF)	1980	11.01	0.25	9.93	12.98
Log Net Income Squared	1980	121.18	5.53	98.66	168.50
Elevation (km)	1980	0.77	0.46	0.26	3.02
Ruggedness	1980	138.60	167.68	2.54	848.60
Active (%)	1980	49.60	5.83	25.54	100.00
Young (%)	1980	23.83	3.44	10.47	49.29
Protestants (%)	1980	47.69	29.16	0.00	99.43
Muslim (%)	1980	2.84	3.18	0.00	20.44
Newspaper Market Shares	1980	0.57	0.25	0.12	1.00
Local Property Crime	1980	4.61	16.01	0.00	344.00

Notes: The unit of observation is a municipality. Vote data comes from the Swiss Statistical Office (FSO). News data collected by the authors. Crime data comes from the Swiss Statistical Office (FSO). Newspaper circulation data comes from the Research and Studies in Advertising Media Association (*WEMF/REMP*). Other municipality characteristics data comes from the Swiss Statistical Office (FSO). CNE constructed using articles published in from Jan 1, 2009 to Nov 29, 2009. ΔHQC, Local Crime Propensity Differential, Local Property Crime constructed using crime data from Jan 1, 2009 to Nov 29, 2009. Newspaper Market Shares constructed for the 2006-2008 period. All other variables are constructed for the year 2009 with the exception of sectoral employment, language, religion, and skills level that are constructed using data from 2000.

Table A.5: NEWS AND MINARET BAN VOTE - IDENTIFYING VARIATIONS

Newspaper	Crimes (#) Short-Run		Crime Propensity Differential Short-Run	Crime Propensity Differential Deviation
	F	CH	HQC	$\texttt{HQC} - \texttt{HQC}^{\texttt{LR}}$
20 Minuten D-CH	23	25	5.87	1.27
20 Minutes F-CH	23	13	10.41	9.68
24 Heures	1	5	-5.04	-8.86
Matin dimanche, Le	1	5	-5.04	-8.86
Matin, Le (lu - sa)	1	5	-5.04	-8.86
NZZ am Sonntag	9	12	3.67	-0.18
Neue Zuercher Zeitung	9	12	3.67	-0.18
SonntagsZeitung	11	13	4.46	1.32
Tages-Anzeiger	9	12	3.67	-0.18
Temps, Le	39	28	9.24	6.63
Tribune de Geneve	22	8	19.51	21.26
Average newspaper	13.45	12.55	4.13	1.18

Notes: Population and crime calculated at newspaper level, i.e. summing local populations and local crimes in municipalities hosting a headquarter. Crime data comes from the Swiss Statistical Office (FSO). The crime propensity differential short run, $\texttt{HQC} \equiv \frac{\#\texttt{crime}_{\texttt{F}}^{\texttt{HQ}}}{\texttt{pop}_{\texttt{F}}^{\texttt{HQ}}} - \frac{\#\texttt{crime}_{\texttt{CH}}^{\texttt{HQ}}}{\texttt{pop}_{\texttt{CH}}^{\texttt{HQ}}}$, is computed over the period Jan 1, 2009 to Nov 30, 2009. $\texttt{HQC}^{\texttt{LR}}$ is calculated over the period Dec 1, 2009 to Dec 31, 2013.

Table A.6: DESCRIPTIVE STATISTICS: ACCURACY OF CRIME PROPENSITY DIFFERENTIAL INFERENCE

Newspaper (j)	Pre-Vote News	
	$\hat{\kappa}_j^{\texttt{M}} - \hat{\kappa}_j^{\texttt{NM}}$	t-stat
20 Minuten D-CH	32.55	16.48
20 Minutes F-CH	24.28	15.12
24 Heures	11.88	10.45
Matin dimanche, Le	-0.52	-8.14
Matin, Le (lu - sa)	10.04	9.53
NZZ am Sonntag	0.00	.
Neue Zuercher Zeitung	10.63	8.68
SonntagsZeitung	0.00	.
Tages-Anzeiger	4.80	5.52
Temps, Le	3.69	6.09
Tribune de Geneve	10.56	10.04

Notes: Crime and population data comes from the Swiss Statistical Office (FSO). News data collected by the authors. News-based crime propensity differentials (CPD) and accuracy test (i.e. two-sample t-test for equal mean performed on the Foreign and Native subsamples of news). Test statistic (t-stat) reported. News-based CPD and t-stat are calculated on the pre-vote period. News-based CPD is computed as $\frac{1}{\texttt{P}_{\texttt{CH}j}/\texttt{R}_{\texttt{CH}j}} \times \left(\texttt{S}_j \cdot \frac{\#\texttt{news}_{\texttt{F}j}}{\texttt{pop}_{\texttt{F}}} - \frac{\#\texttt{news}_{\texttt{CH}j}}{\texttt{pop}_{\texttt{CH}}}\right)$ for each newspaper. CPD calculated per 100,000 inhabitants. Foreign and Native populations are 1,701,912 and 6,071,802 respectively. Probability of coverage ($\texttt{P}_{\texttt{CH}j}$ and $\texttt{P}_{\texttt{F}j}$) set at the mean (0.037). Recall frequencies ($\texttt{R}_{\texttt{CH}j}$ and $\texttt{R}_{\texttt{F}j}$) set to 1.

Table A.7: NEWS AND MINARET BAN VOTE - OTHER TESTABLE PREDICTIONS

Specification	Swiss versus Foreign News		Tabloids versus Non-Tabloids	
	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)
Crime News Exposure : Swiss Crimes	–2.481^{c}	–2.858^{c}		
	(1.430)	(1.697)		
Crime News Exposure : Foreign Crimes	3.949^{a}	5.255^{b}		
	(1.408)	(2.028)		
Crime News Exposure : Tabloids			1.164^{b}	2.391^{a}
			(0.447)	(0.754)
Crime News Exposure : Non-Tabloids			–0.272	3.656^{c}
			(1.039)	(2.008)
Past Vote Outcomes	0.999^{a}	0.997^{a}	1.000^{a}	1.002^{a}
	(0.040)	(0.041)	(0.039)	(0.042)
Local Crime Propensity Differential (CPD)	0.275	0.262	0.274	0.254
	(0.189)	(0.170)	(0.189)	(0.184)
Observations	1980	1980	1980	1980
Adjusted R^2	0.851	0.851	0.851	0.850
First-stage F-statistic		9.74		10.70

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. Columns (1) and (3) show OLS estimates. Columns (2) to (4) present the second-stage estimates of 2SLS regressions. Columns (1) and (2) show estimates where news-based CPD is computed for Native and Foreigners separately. Columns (2) and (3) present estimates where CPD is computed for tabloids and non-tabloids separately. The tabloid versus non-tabloid classification comes from Medienqualitatsrating Schweiz (see www.mqr-schweiz.ch). Newspapers classified as tabloid in our sample are *20 Minuten*, *20 Minutes*, and *Le Matin*. The other newspapers in our sample are classified as non-tabloid . Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A.8: NEWS AND MINARET BAN VOTE : ALTERNATIVE POOLING (2SLS)

Dependent Variable	%Yes					
Stereotype parameter	$\theta = 0$	$\theta = 1$	$\theta = 2$	$\theta = 3$	$\theta = 5$	$\theta = 10$
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)	0.890	1.848	1.603^{b}	1.581^{b}	1.533^{b}	1.445^{c}
	(1.278)	(1.143)	(0.779)	(0.776)	(0.768)	(0.762)
Past Vote Outcomes	1.001^{a}	0.999^{a}	0.999^{a}	1.000^{a}	1.000^{a}	1.000^{a}
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
Local Crime Propensity Differential (CPD)	0.263	0.262^{c}	0.261^{c}	0.262^{c}	0.274^{c}	0.278^{c}
	(0.177)	(0.153)	(0.155)	(0.155)	(0.153)	(0.152)
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.851	0.851	0.851	0.851	0.851	0.851
First-stage F-statistic	6.42	7.48	11.37	11.61	12.05	13.06

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. Alternative pooling scheme described in details in Section 5.3. 2SLS estimations in all specifications. News and crimes are pooled in two groups based on the nationality of the perpetrators: low (below 2.7%) versus large (above 2.7%) share of Muslims. Applying the representativeness-based discounting approach developed by Bordalo et al. (2016), we assume that voters distort beliefs on the shares of Muslims accordingly. θ is a parameter that captures the extent to which representativeness distorts beliefs. At the extreme, $\theta = 0$ corresponds to the no-stereotyping case while $\theta = +\infty$ leads to perceived shares equal to 0 or 1. Columns (1) to (6) present six pecifications based on alternative levels of stereotyping, ranging from $\theta = 0$ to $\theta = 10$. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A.9: NEWS AND MINARET BAN VOTE : ALTERNATIVE POOLING (OLS)

Dependent Variable	%Yes					
Stereotype parameter	$\theta = 0$	$\theta = 1$	$\theta = 2$	$\theta = 3$	$\theta = 5$	$\theta = 10$
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)	1.631[a]	1.655[a]	1.562[a]	1.564[a]	1.565[a]	1.571[a]
	(0.337)	(0.340)	(0.325)	(0.325)	(0.327)	(0.326)
Past Vote Outcomes	1.000[a]	1.000[a]	1.000[a]	1.000[a]	1.000[a]	1.000[a]
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
Local Crime Propensity Differential (CPD)	0.258	0.263[c]	0.262[c]	0.262[c]	0.274[c]	0.278[c]
	(0.169)	(0.157)	(0.157)	(0.156)	(0.153)	(0.150)
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.851	0.851	0.851	0.851	0.851	0.851

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Alternative pooling scheme described in details in Section 5.3. OLS estimations in all specifications. News and crimes are pooled in two groups based on the nationality of the perpetrators: low (below 2.7%) versus large (above 2.7%) share of Muslims. Applying the representativeness-based discounting approach developed by Bordalo et al. (2016), we assume that voters distort beliefs on the shares of Muslims accordingly. θ is a parameter that captures the extent to which representativeness distorts beliefs. At the extreme, $\theta = 0$ corresponds to the no-stereotyping case while $\theta = +\infty$ leads to perceived shares equal to 0 or 1. Columns (1) to (6) present six pecifications based on alternative levels of stereotyping, ranging from $\theta = 0$ to $\theta = 10$. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A.10: NEWS AND MINARET BAN VOTE - NO POOLING ACROSS PERPETRATORS' NATIONALITIES

Dependent Variable	%Yes					
Stereotype parameter	$\theta = 0$	$\theta = 1$	$\theta = 2$	$\theta = 3$	$\theta = 5$	$\theta = 10$
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure : No Pooling	–0.572	–0.646	–0.680	–0.254	1.242^b	1.192^b
	(0.539)	(0.551)	(0.560)	(0.700)	(0.478)	(0.482)
Past Vote Outcomes	1.003^a	1.003^a	1.003^a	1.004^a	1.001^a	1.001^a
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
Local Crime Propensity Differential (CPD)	0.293	0.293	0.293	0.293	0.290	0.290
	(0.213)	(0.212)	(0.212)	(0.212)	(0.208)	(0.209)
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.850	0.850	0.850	0.850	0.850	0.850

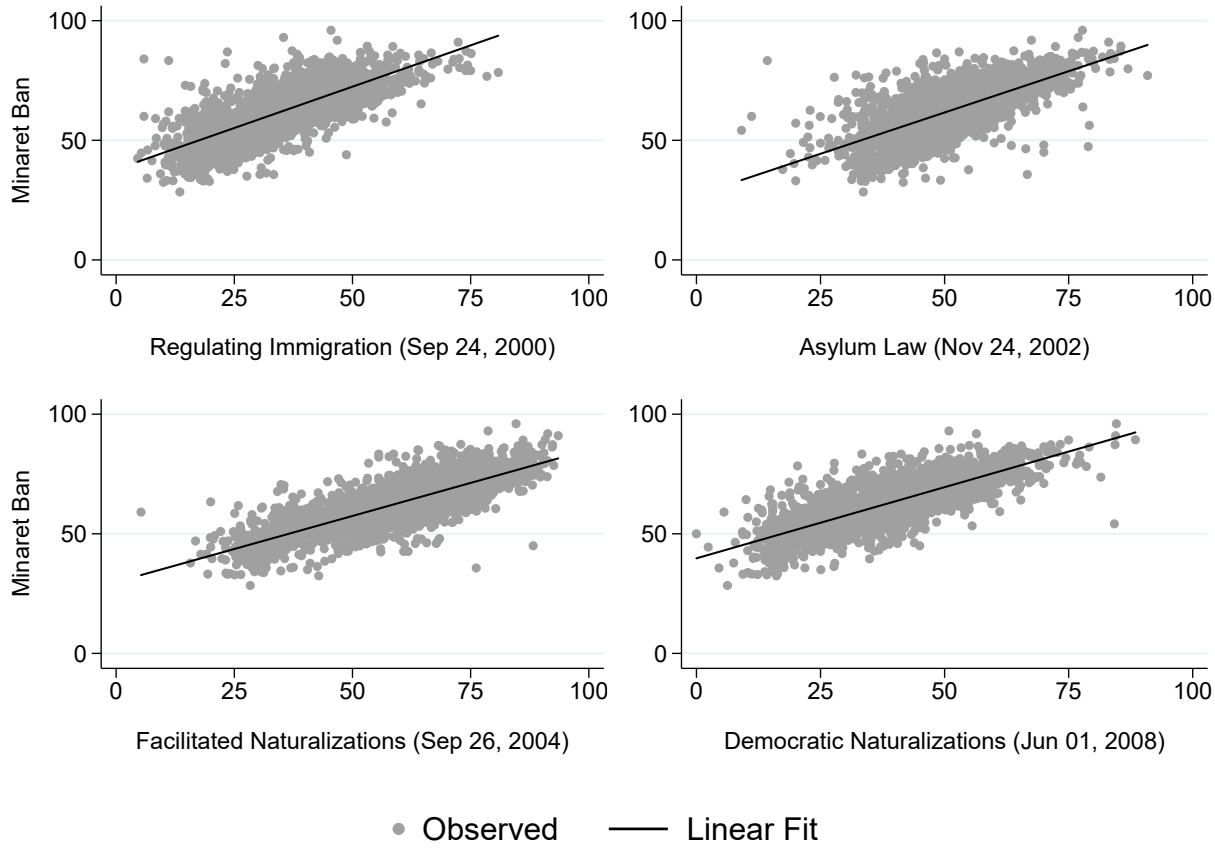
Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. OLS estimations. Crime News Exposure is computed with an estimate of $\kappa_j^{\mathtt{M}} - \kappa_j^{\mathtt{NM}}$ (based on Equation (8). This estimation relies on the share of Muslims across nationalities. Applying the representativeness-based discounting approach developed by Bordalo et al. (2016), we assume that voters distort beliefs on the shares of Muslims accordingly. θ is a parameter that captures the extent to which representativeness distorts beliefs. At the extreme, $\theta = 0$ corresponds to the no-stereotyping case while $\theta = +\infty$ leads to perceived shares equal to 0 or 1. Columns (1) to (6) present six pecifications based on alternative levels of stereotyping, ranging from $\theta = 0$ to $\theta = 10$. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A.11: NEWS AND VOTING: FALSIFICATION EXERCISES

Falsification	Outcome		Readership		Language	
	%Yes Air Traffic Fund		True	False	True	False
	Reduced Form	2SLS 2nd Stage	Reduced Form	Reduced Form	Reduced Form	Reduced Form
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)		–1.757				
		(1.644)				
Local Crime Propensity	–0.193	–0.164	0.317	0.319	0.289	0.315
Differential (CPD)	(0.128)	(0.122)	(0.213)	(0.211)	(0.207)	(0.221)
Past Votes Outcome	–0.249[a]	–0.244[a]	1.003[a]	1.002[a]	1.007[a]	1.005[a]
	(0.074)	(0.073)	(0.039)	(0.040)	(0.039)	(0.040)
HQ Crime Propensity Differential :	–0.765					
Deviation (ΔHQC)	(0.760)					
Deviation of $\texttt{HQC}_j$			–0.401[a]	0.214	–0.860[c]	1.054
× Relative Distance			(0.142)	(0.136)	(0.458)	(1.273)
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.523	0.518	0.850	0.850	0.850	0.850
First-stage F-statistic		10.79				

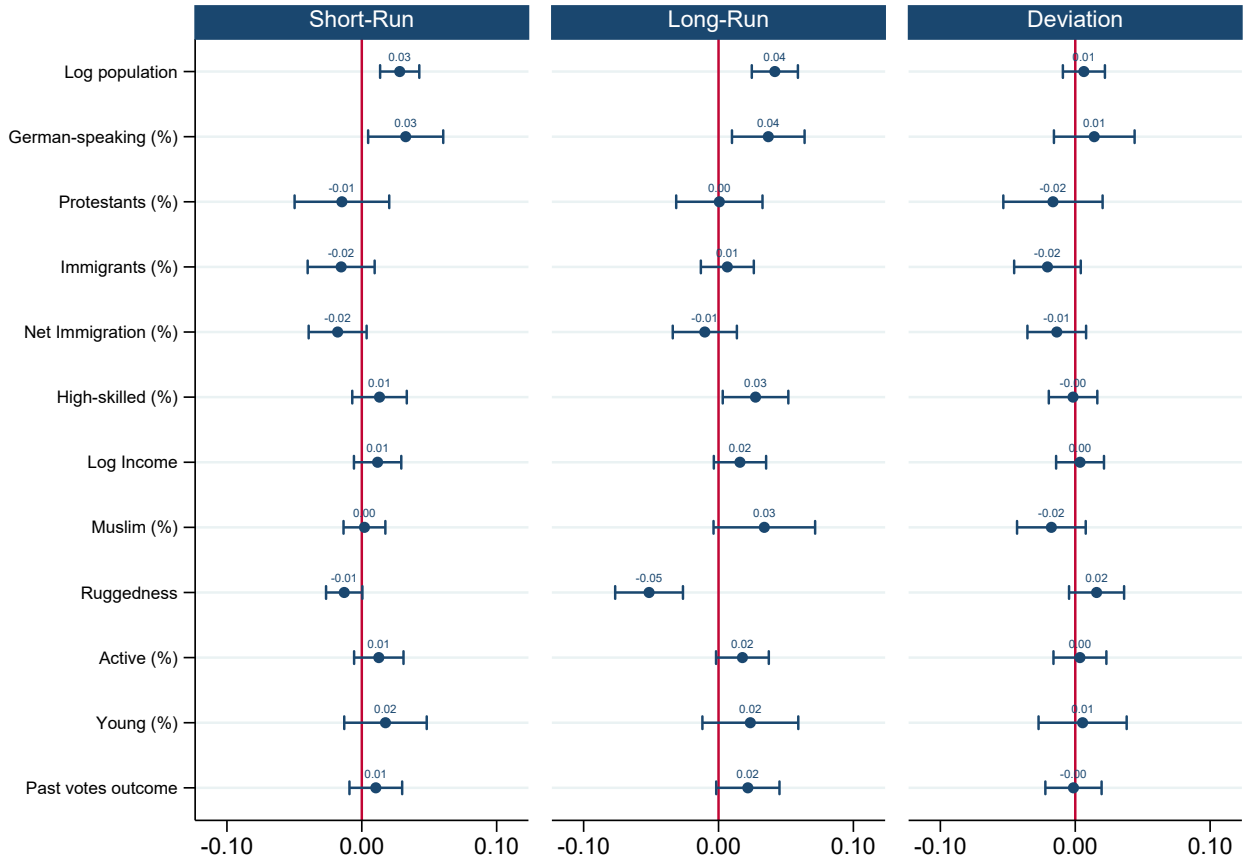
Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Columns (1) and (2) show the 2SLS estimates of an estimation where the outcome is the vote share in favor of the *Creation of a special fund in favor of tasks in the air traffic domain* that took place on the same day (Nov 29, 2009) as the Minaret Ban vote. Columns (3) to (6) present the estimates of the readership and language reduced-form falsifications. In Column (3) we replicate the reduced-form estimation of Table 2 focusing on the newspapers that are read in the municipality; in Column (4) we keep only newspapers not read in a municipality. In Column (5) we only keep outlets edited in the language spoken in the municipality; in Column (4) we focus on newspapers that are written in a language not spoken in the municipality. Since the instrument takes the value 0 once a newspaper is not read, we also instrument for market shares by weighting each outlet by the relative distance between the (voting) municipality and the nearest headquarter municipality of that newspaper. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Figure A.1: MINARET BAN AND PREVIOUS IMMIGRATION REFERENDA



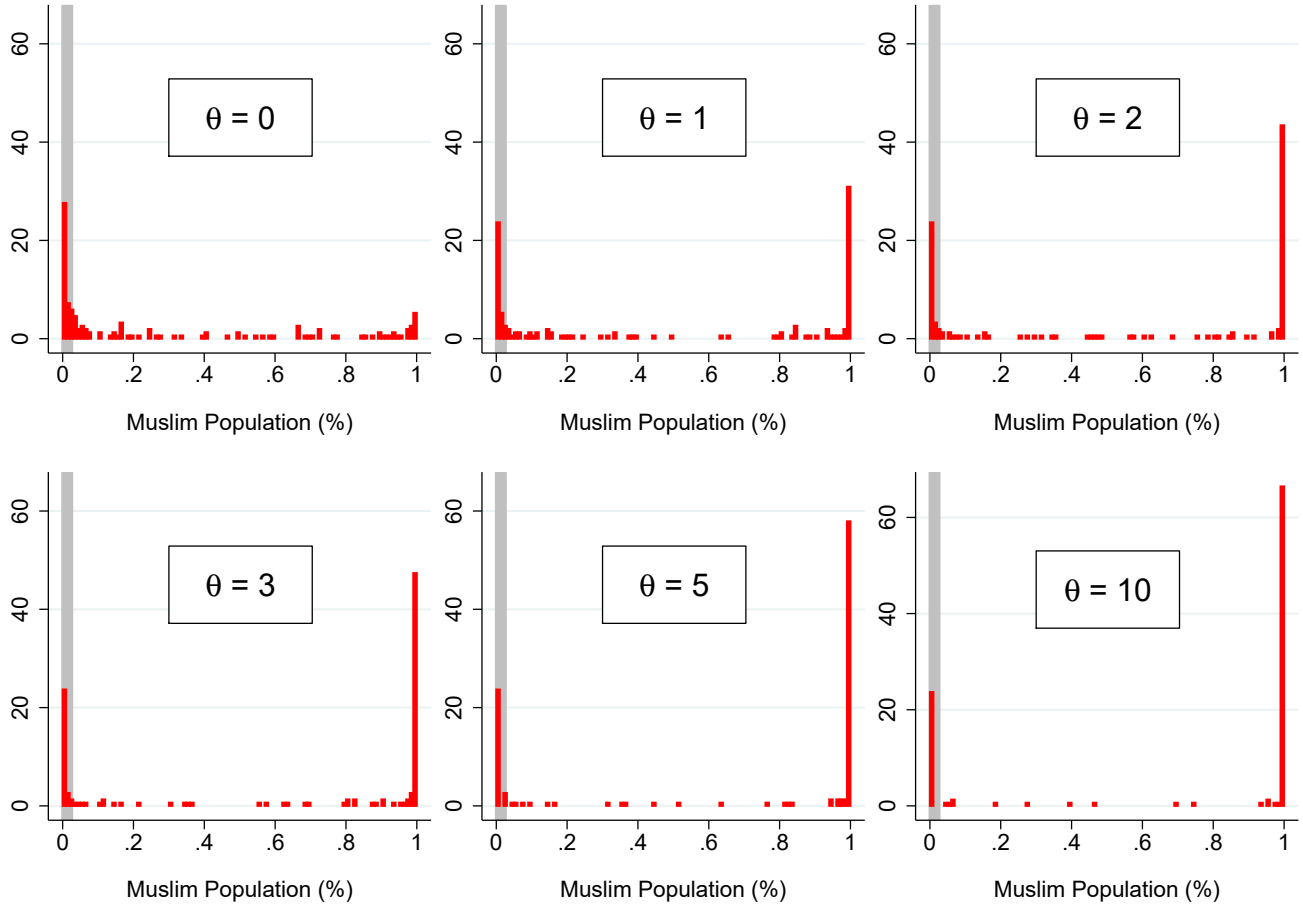
Note: Correlation between Minaret Ban referendum (Nov 29, 2009), and past immigration referenda. The unit of observation is a municipality. The y axis is the fraction of vote share in favor of the Minaret Ban. The x axis is the vote share in favor of the corresponding immigration referendum. Top-left: "For the regulation of immigration" (36.2% in favor); top-right: "Against abuses in the asylum law" (49.9% in favor); bottom-left: "Facilitated naturalization of second-generation immigrants" (43.2% in favor); bottom-right: "For democratic naturalizations" (36.2% in favor).

Figure A.2: NEWS AND VOTING: CRIME AND OBSERVABLE CHARACTERISTICS



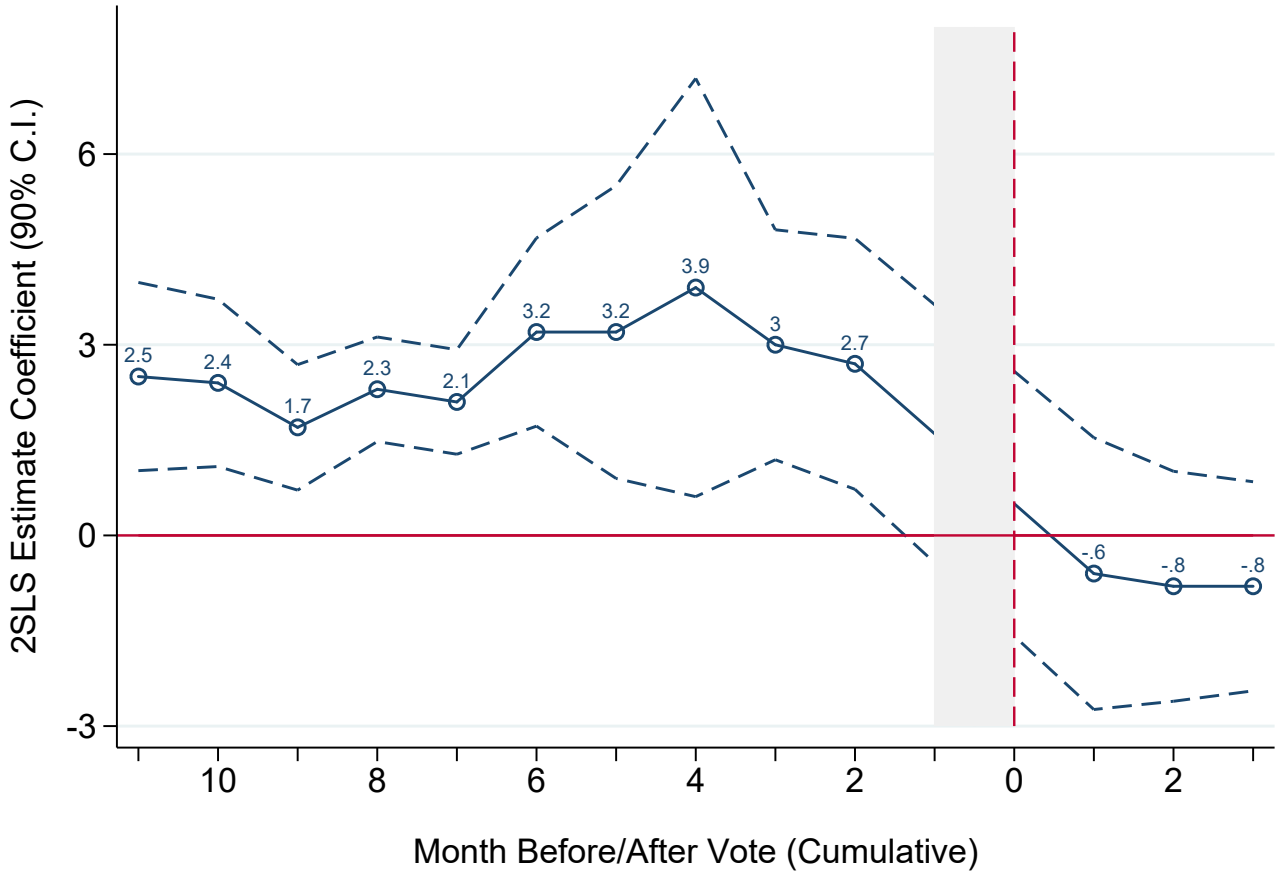
Note: Correlation between observable municipality characteristics and crime propensity differential in municipalities with at least 1 violent crime in the 2009-2013 period. The unit of observation is a municipality. Standard errors clustered at agglomeration level. OLS estimations. Left graph presents the correlation between observable municipality characteristics and short-run crime propensity ($\texttt{HQC}_m$); center graph the correlation with long-run crime propensity ($\overline{\texttt{HQC}}_m$); the right graph the correlation with the deviation between short- and long-run crime propensity differential ($\Delta\texttt{HQC}_m$). All variables are constructed using data for the year of the aggression with the exception of language, religion, and skills level that are constructed using data from 2000, and past voting outcomes that refer to the 2000-2008 period.

Figure A.3: MUSLIM COMMUNITIES : EFFECT OF STEREOTYPES



Note: Distribution of Muslim shares in Switzerland at nationality-level for six levels of stereotype. Stereotyped Muslim shares computed as defined in Equation (19), i.e. applying the representativeness-based discounting approach developed by Bordalo et al. (2016). θ is a parameter that captures the extent to which representativeness distorts beliefs. At the extreme, $\theta = 0$ corresponds to the no-stereotyping case while $\theta = +\infty$ leads to perceived shares equal to 0 or 1. Six distributions of Muslims shares are presented, based on alternative levels of stereotyping, ranging from $\theta = 0$ (top-left graph) to $\theta = 10$ (bottom-right graph). The grey area represents the portion of the distribution below the median Muslim (0.027) of the raw distribution (i.e. when $\theta = 0$). Calculations based on religious affiliation by nationality (188 nationalities) in year 2000 at national-level. Data come from the Swiss Statistical Office.

Figure A.4: NEWS AND VOTING: ALTERNATIVE TIME FRAMES



Note: The unit of observation is a municipality. The outcome is the Minaret Ban "yes" vote share. Standard errors clustered at agglomeration level in parentheses. 2SLS estimations. Only second stage point estimates and confidence intervals for the `CNE` variable are reported. The crime and news-related variables are calculated over different time windows before and after the vote: from one month up to eleven months *before* the vote (sensitivity analysis), and from one month up to three months *after* the vote (placebo specifications). First stage F-statistics of the 11 to 2 months estimates reported range from 10.07 to 38.71. Second stage point estimate and confidence interval of the one month pre-vote period are not reported since the first stage F-statistics is very low (0.31). Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

THE LOGIC OF FEAR
Populism and Media Coverage of Immigrant Crimes –

– Online Appendix –

Mathieu Couttenier* Sophie Hatte† Mathias Thoenig‡ Stephanos Vlachos§

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*University of Lyon, ENS Lyon & GATE Lyon/St-Etienne. E-mail: mathieu.couttenier@ens-lyon.fr
†University of Lyon, ENS Lyon & GATE Lyon/St-Etienne. E-mail: sophie.hatte@ens-lyon.fr
‡Department of Economics, University of Lausanne and CEPR. E-mail: mathias.thoenig@unil.ch.
§Department of Economics, University of Vienna. E-mail: stephanos.vlachos@univie.ac.at

Contents

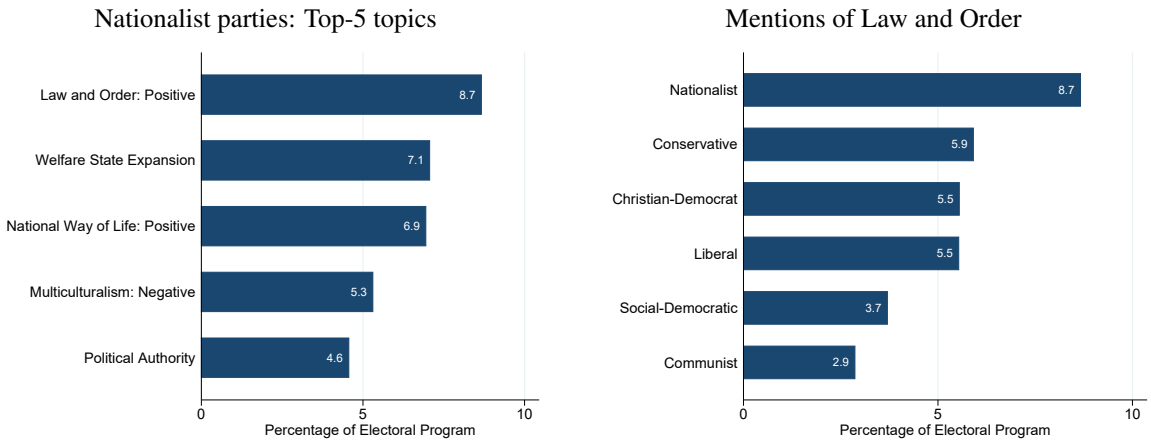
A1 Rhetoric of the populist parties and predictors of far-right vote

In this section, we assess the importance of crime and immigration in the rhetoric of the populist parties, and in the concerns expressed by individuals who vote for these parties. First, we present descriptive statistics on the political parties' policy positions across EU member countries, comparing the type of policies supported by populist and non-populist parties. Second, we estimate the predictive power of different types of concerns, including crime and immigration, in the vote for populist parties at the 2014 European elections.

A1.1 Rhetoric of the European populist parties and predictors of far-right vote

The Manifesto Project Dataset (Volkens et al., 2015a) contains information on policy positions of parties that have gained at least one seat in the parliamentary lower house elections; it covers 56 countries, and 988 parties, for the period 1945-2014. Parties are classified into 11 broad categories: Ecological, Socialist, Social democratic, Liberal, Christian democratic, Conservative, Nationalist, Agrarian, Ethnic and regional, Special issue, and Electoral alliances. This content analytic data contains the share of quasi-sentences spent by major parties on 7 domains: external relations, freedom and democracy, the political system, the economy, welfare and quality of life, the fabric of society, and social groups. Each domain contains several categories. The Political System domain, for example, contains the the share of quasi-sentences spent on the following categories: Decentralization, Centralization, Governmental and Administrative Efficiency, Political Corruption, and Political Authority.

Figure A1.1: CRIME CONCERN IN EUROPEAN POPULIST PARTIES' RHETORIC



Source: Volkens et al. (2015a). EU countries 2005-2015. Share of quasi-sentences (% of total words count) spent by major parties on different topics. *Notes*: LHS: Most prominent topics in the political manifestos of parties classified as Nationalist. RHS: Mentions of "Law and Order" in political manifestos across the five largest party types.

Figure A1.1 presents the data for 25 of the 28 European Union (EU) member states in recent elections

(2005-2015). The left-hand-side graph presents the five most prominent topics of parties classified as Nationalist. Positive mentions of "Law and Order" is the most discussed topic; on average, 8.7% of the political manifesto of parties classified as Nationalist is spent on this topic. This category, described in the dataset as *"Favorable mentions of strict law enforcement, and tougher actions against domestic crime"* captures the central role of crime in this type of parties. The second most popular topic, "Welfare State Expansion", captures the turn towards public social policies of these parties in recent years. The third and fourth most popular topics, positive mentions of "National Way of Life" and negative mentions of "Multiculturalism", are directly related to immigration; jointly these immigration topics capture 12.2% of the discourse of Nationalist parties. The right-hand-side graph of Figure A1.1 presents the importance of "Law and Order" in the discourse of the five largest party categories in the EU during the same period. Parties classified as Nationalist are the ones spending a larger fraction of their discourse on "Law and Order". This feature, also known as *Issue ownership* in the political science literature, is directly related to the notion that questions related to security are associated to this type of parties.

A1.2 Predictors of far-right voting in 2014 European elections

The aim of this subsection is to quantify the predictive power of crime and immigration concerns in the vote for populist parties in Europe. We focus on the 2014 European elections, and thus explore drivers of populist voting beyond country-specific cases. Data comes from the post-election survey of the *Eurobarometer (European Elections Studies)*.[1] The survey covers 30,064 individuals in the 28 EU member countries. We restrict the sample to respondents who voted for the 2014 European elections (17,217 individuals) and for which information on the party they voted for, main concerns, as well as socio-demographic characteristics is available. This leaves us with 14,779 individuals in our baseline sample.

Figure 1 displays a first piece of (unconditional) evidence that voters' concerns on immigration, violence and economic insecurity are key predictors of their support for populism.

This individual-level dataset allows us to go a step further and to estimate the effect of different types of concerns (including crime and immigration-related worries) on the probability of voting for a populist party, conditioning on the standard determinants of vote. To this purpose, we estimate the following LPM model of populist vote:

$$\texttt{Populist}_i = \sum_{c=1}^{10} \beta_c \mathbf{1}_i^c + \mathbf{X}_i'\delta + \mu_i \tag{A1.1}$$

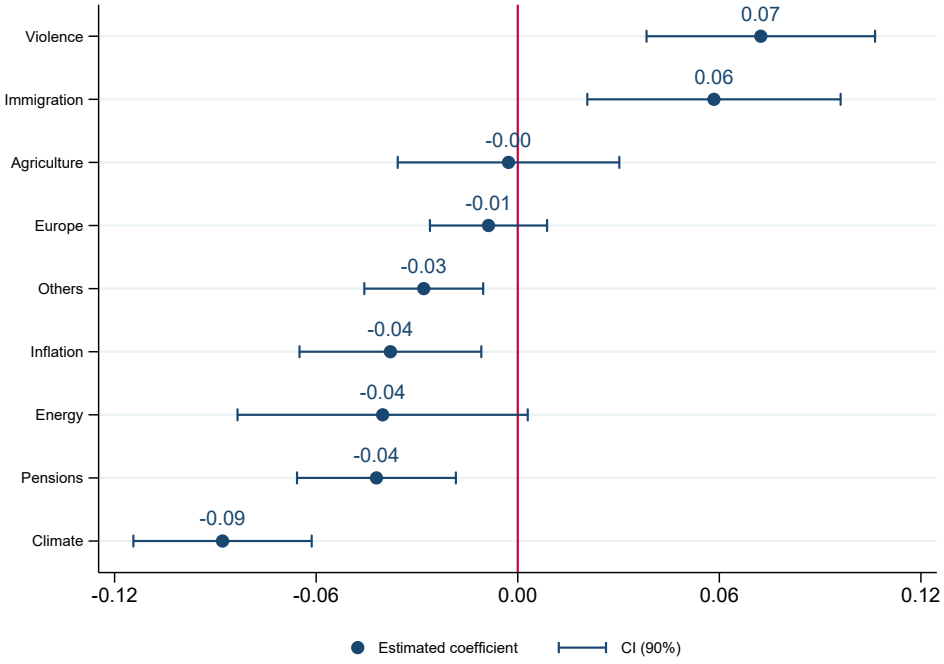
where the binary variable $\texttt{Populist}_i = 1$ when individual i voted for a populist party (0 otherwise), and $\mathbf{1}_i^c = 1$ when individual i declares that concern c is her main concern (0 otherwise). The main concerns expressed by respondents are grouped into 10 categories in this analysis: "economic insecurity" (economic growth and unemployment), "crime" (including terrorism), "pensions", "immigration", "agriculture" (including food security), "climate", "energy", "inflation", "Europe" and "others". The "Europe" item includes concerns related to euro currency, competencies of Europe, European values and identity, and European

[1] Data can be found here: http://europeanelectionstudies.net/european-election-studies/ees-2014-study/voter-study-2014

diplomacy. $\mathbf{X}_i'$ is a set of individual specific co-determinants of populist voting. It includes region (NUTS 2), age group, occupation type, municipality size, religion, gender, household size, and date of interview fixed effects. Standard errors are clustered at region level.

Figure A1.2 displays the estimates of equation (A1.1). The control group consists of the individuals who declare that their main concern is "economic insecurity". Both concerns "crime" and "immigration" are significantly more important than "economic insecurity" for individuals that voted for a populist party on the 2014 European elections.

Figure A1.2: PREDICTORS OF POPULIST VOTE



Notes: The unit of observation is a survey respondent. Standard errors clustered at NUTS 2 regional level. Linear probability model estimates of the explanatory variables of interest in Equation A1.1. The dependent variable of this regression is coded 1 if the respondent voted for a populist party, and 0 otherwise. The explanatory variables of interest are the main concerns expressed by the respondents. These concerns are grouped into 10 categories: "economic insecurity" (economic growth and unemployment), "crime" (including terrorism), "pensions", "immigration", "agriculture" (including food security), "climate", "energy", "inflation", "Europe" and "others". The "Europe" item includes concerns related to euro currency, competencies of Europe, European values and identity, and European diplomacy. Baseline category consists of the individuals who declare that their main concern is"economic insecurity". All regressions include: region (NUTS 2), age group, occupation type, municipality size, religion, gender, household size, and date of interview fixed effects.

A2 The Swiss Minaret Referendum

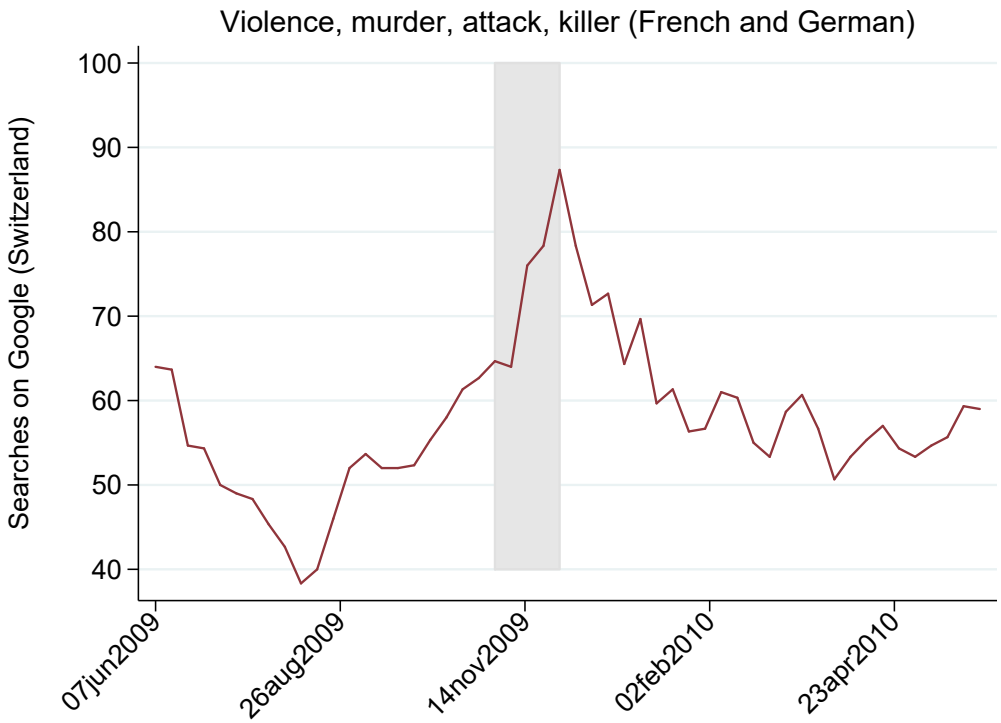
Figure A2.3 is a representation of the official poster during the campaign, playing aggressively on the fear of Muslim immigration and linked Islam with terrorism and violence. The poster was eventually banned in a number of Swiss cities, namely Basel, Lausanne, Fribourg, Neuchâtel, and Yverdon. A second poster,

in French, reads “Censorship, one more reason to say yes to the minaret ban”.

Figure A2.3: MINARET BAN CAMPAIGN POSTERS

Note: LHS: Official poster (in German) of the initiators of the Minaret Ban referendum (2009). RHS: Official poster (in french) of the initiators of the Minaret Ban referendum in reaction to the ban of the LHS poster in some cities.

Figure A2.4: GOOGLE SEARCHES BEFORE THE VOTATION



Note: Google searches of the words ”violence”, ”murder”, ”attack”, ”killer” in the period preceding the Minaret Ban referendum. The shaded area are the 3 weeks preceding the Minaret Ban referendum.

A3 Data on crime and news coverage

A3.1 Crime data

The Federal Statistical Office provides us with non-publicly available exhaustive data on all crimes detected by the local police services in Switzerland between 2009 and 2013. The dataset covers all cases when somebody was charged with infractions to the Swiss federal Penal Code. From 2009 to 2013, it represents on average around 290,000 offenses by year.[2] The offenses against life and limb represent 6.7% of all offenses (Swiss penal code Title 1); the offenses against property represent the major part with 83.12% (Swiss penal code Title 2); the offenses against personal honor and in breach of secrecy or privacy represent 3.26% (Swiss penal code Title 3); the felonies and misdemeanors against liberty represent 19.28% (Swiss penal code Title 4); the offenses against sexual integrity represent 1.51% (Swiss penal code Title 5); offenses that go under Titles 6 to 20 represent 9.87% of the offenses. Note that a crime may be recorded under more than one Title of the Swiss penal code. We focus on most violent crimes only (the newsworthy ones), also including attempts. These crimes correspond to murders, homicides, assassinations and infanticides (articles 111, 112, 113, 116 and 117), and correspond to approximately 2% of the offenses under Title 1. Over the 2009-2013, we get 1367 cases, including solved cases (1241) and unsolved cases (126). We then focus on cases for which we have information both on the location of the crime (i.e. name of the municipality) and the nationality of the perpetrator(s). This leaves us with our baseline sample of 847 cases over the 2009-2013 period (including respectively 167 and 185 cases in 2009 and 2010). Note that each case may encompasses many infractions to Swiss penal code Title 1. In our baseline sample, the 847 cases represent a total of of 973 murders, 48 assassinations and 5 infanticides, perpetrated by 1200 aggressors.

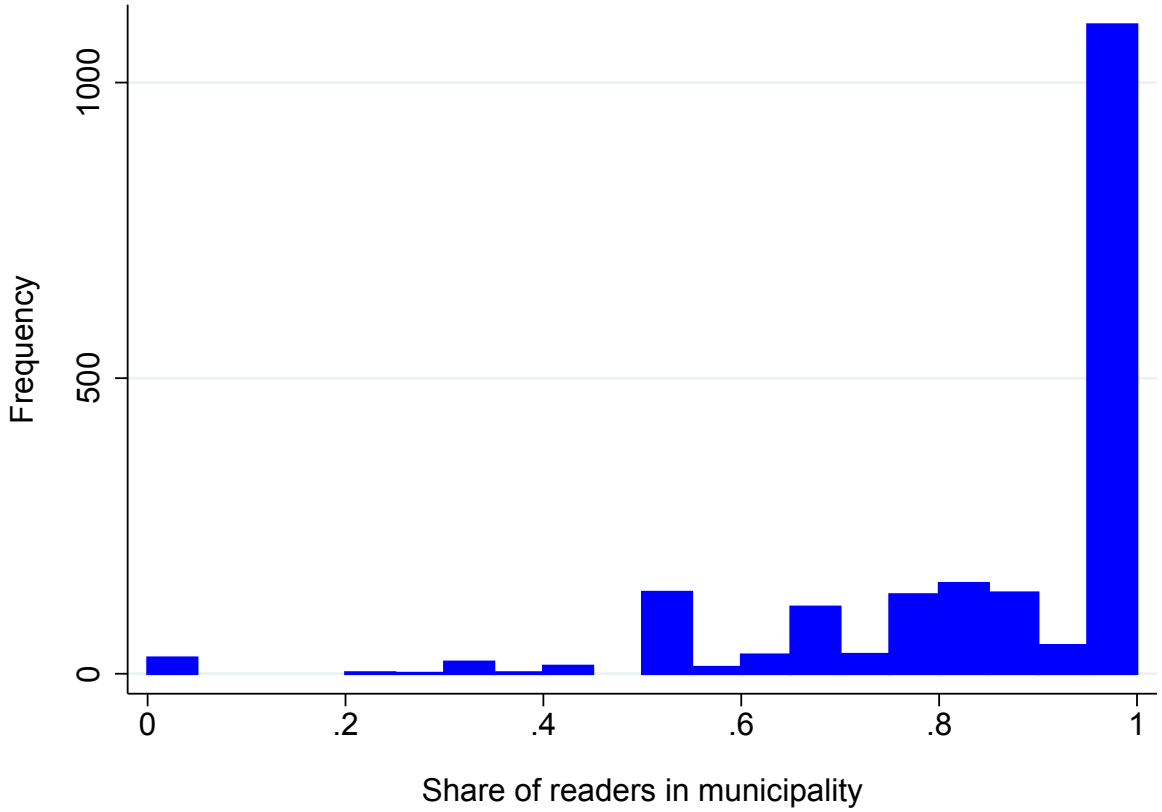
A3.2 News coverage

The newspaper sample consists of 12 major Swiss newspapers, 6 German- and 6 French-speaking ones, that represent a total share of 60.4% of the newspapers market for the 2006-2008 period. The choice of the outlets is based on two criteria: the market share of the newspaper and data availability. Our newspaper sample covers 8 out the 10 largest Swiss newspapers, and 12 out of the 17 largest. The German-speaking outlets are (average market share in brackets): 20 Minuten D-CH (13.6%), SonntagsZeitung (9%), Tages-Anzeiger (6.1%), NZZ am Sonntag (5.4%), Neue Zuercher Zeitung (3.6%), and St. Galler Tagblatt (1.9%); the French-speaking ones are: Le Matin dimanche (6.5%), 20 Minutes F-CH (4.4%), Le Matin (lu-sa) (3.7%), 24Heures (2.9%), Tribune de Geneve (1.9%), and Le Temps (1.5%). We search the on-line archives of these newspapers for mentions of the 352 aggressions over the 2009-2010 period. Data for 8 newspapers are available on Lexis/Nexis. Data for Neue Zuercher Zeitung, and NZZ am Sonntag, are collected on the on-line archives of the newspaper (https://nzz.genios.de/dosearch), while data for the 20 Minuten D-CH and 20 Minutes F-CH is scrapped directly from the webpage of the newspapers (https://m.20min.ch/search). We restrict the search window from 2 days prior to the event up to 10 days after. We choose a standard set

[2] In 2009, 277,880 offenses; in 2010, 267,609 ; in 2011, 295,280; in 2012, 316,291; and in 2013, 296,313.

of keywords related to these aggressions to identify the articles, such as kill, murder etc, as well as their variants in German or French according to the newspaper.[3] Thanks to this procedure, we identify 4,022 articles. The articles are then double-checked to evaluate whether they refer to the specific aggression.[4] Information on which of the nationalities of perpetrators and victims are mentioned in the newspaper article are also coded. Interestingly, the information that found in these articles is very precise, with more than 43% reporting the nationality of the perpetrators and 42% the nationality of the victim. This allow us to match 450 articles corresponding to 138 perpetrators (53 Swiss, and 85 non-Swiss) out of the 507 perpetrators over the 2009-2010 period. Not surprisingly, some crimes appear in more than one newspaper, or more than once in the same newspaper (in different dates).

Figure A3.5: PROPENSITY TO READ NEWSPAPERS



Note: Unit of observation is municipality. Fraction of people reading one newspaper per municipality. Data comes from the *Swiss Household Panel*.

[3]The German keywords are: tote, umbringen, morder, totschlag, mord, gestorben, verstorben, ersitck, erschlagen, erschlug, gekopft, erstechen, erstochen, abstechen, abgestochen, vergift, erstick, erwurg, exekutier, hinricht, erschiessen, erschoss, erschossen, steinigen, gesteinigt, steinigung, lynchen, gelyncht, massaker, beschiessen, beschossen, ertrinken, ertrunken, ertranken, erhang, erstechen, erstach, erstochen. The French keywords are: tue, assassin, homicide, mort, decede, abat, asphyxie, assomme, decapite, egorge, empoisonne, etouffe, etrangle, execute, fusille, lapide, lynch, massacre, mitraille, noye, pendre, pendu.

[4]Special thanks to Kate Dassesse, Felix Deimer, Noëmi Jacober, Nils Hossli, Adrien Schneeberger, Aurore Vallez, Raphaël Wirth, and Pascal Zumbühl that have provided an excellent research assistance.

Figure A3.6: MEDIA COVERAGE OF VIOLENT CRIMES: 24 HEURES, SEP 4, 2009

«Ils l'ont poignardé en plein cœur, comme de vrais professionnels»

Poignardé en plein cœur pour un simple regard

Qui remettra François Marthaler sur les rails?

Note: Media coverage of aggression taking place in Lausanne on Sep 01, 2009 in *24 Heures* (Sep 04, 2009). The title translates into "Stabbed in the middle of the heart for a simple look". The title in the extensive coverage translates into "They stabbed him in the middle of the heart, like real professionals". The perpetrators are described as a 17 year-old Ukrainian holding a B residence permit, and a 15 year-old Armenian asylum seeker (encircled by the authors).

A4 Further results on crime news provision

In this section we study heterogenous effect with respect i) to the country of origin the perpetrators; ii) to newspapers' characteristics and iii) to the political cycle.

Perpetrators' origins. We make use of a unique feature of our dataset on criminality in Switzerland, namely information on the nationalities of the perpetrators, to estimate whether the heterogeneity in the country of origin of the perpetrator may affect the likelihood of news coverage. Table A4.1 displays the results. In column (1), we interact the variable *Foreign perpetrator* with a dummy variable that takes the value 1 whether the perpetrator comes from a country that are in the 10 most represented nations of asylum seekers in Switzerland, and 0 otherwise.[5] In column (2), we interact the variable *Foreign perpetrator* with a dummy variable takes a value of 1 for countries where the share of Muslims is above 90%. Early in the 90s, Swiss authorities have developed an immigration policy based on three different "circles". Countries

[5]The 10 most represented nations of asylum seekers in Switzerland are: Afghanistan, Eritrea, Iraq, Sri Lanka, Nigeria, Somalia, Serbia, Syria, Tunisia, and Turkey. Source: Foreign Resident Population Statistics.

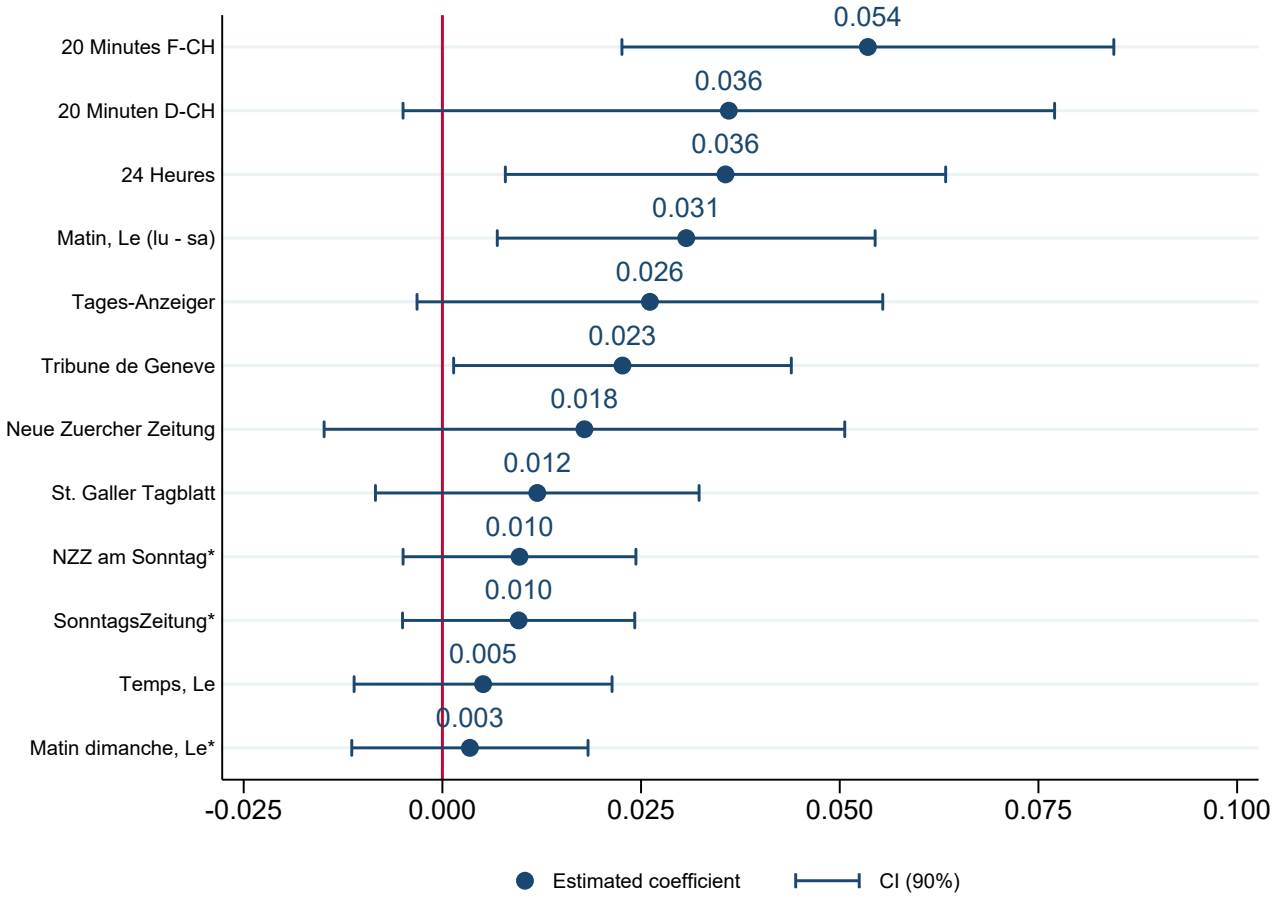
in the first circle have a simpler access than countries in the last.[6] We make use of this former immigration policy as a ranking for the countries. We interact the variable *foreign perpetrator* with a dummy variable that takes the value 1 whether the perpetrator comes from a country in circle 1 or 2 (column 3). Last, we interact the variable *foreign perpetrator* with a dummy variable that takes the value 1 whether the perpetrator comes from a neighboring country (Austria, France, Germany, Italy) (column 4). At the notable exception of perpetrators from neighboring countries, that are less likely to be reported, we fail to detect any differences across the nationalities.

Across newspapers. Is the over-sampling of crimes perpetrated by foreigners in the news the same for all newspapers? We replicate column (3) of Table 1 but splitting the variable *foreign perpetrator* across the different newspapers. For the for ease of interpretation results by newspaper are presented in Figure A4.7. All newspapers are more likely to report foreign aggressions. The effect ranges form 0.5% (*Le Temps*) to 5.8% (*20 Minutes F-CH*). The effect is statistically significant for 4 newspapers (*20 Minutes F-CH*, *Le Matin (lu-sa)*, *24 Heures*, and *Tribune de Geneve*). Turning to magnitudes, this implies that an individual only reading the *20 Minutes F-CH* would have the impression that foreigners are four times more likely to commit crimes than one only reading the *St. Galler Tagblatt*.

Across time periods. Another salient question is whether the coverage is influenced by the political cycle, e.g whether the proximity to the vote affects the likelihood of coverage. Table A4.2 displays the results. First, we interact the variable *foreign perpetrator* with a dichotomous variable that takes the value 1 if the crime is committed in the months in 2009 before the referendum (*vote [t, t-330)*). The estimate of the interaction term is positive and significant, e.g the over-sampling of crimes perpetrated by foreigners in the news is higher in the period preceding the referendum, than in the period following it (column 1). Second, we split the variable *vote [t, t-330)* in two different variables: 3 months before the vote (*vote [t, t-90)*) and 4 to 11 months before the vote (*vote [t-90, t-330)*). The estimate of the interaction term for the three months preceding the referendum is positive and significant, implying an increase in the bias (column 2). Third, we estimate simultaneously the effect 3 months before the vote (*vote [t, t-90)*), 4 to 6 months before the vote (*vote [t-90, t-180)*), and 7 to 11 months before the vote (*vote [t-180, t-330)*). The interactions both for 3 months before the vote and between 4 to 6 months are positiveand significant (*Foreign perpetrator* $\times$ *vote [t-90, t-180)* with a p-value equals to 10.6%) but not for the period between 7 to 11 months. In terms of magnitude, the effect in the last 3 months is significantly higher than the impact between for 4 to 6 months before the vote. Lastly, we interact *foreign perpetrator* with a dichotomous variable that takes the value 1 if the crime is committed in the three month following the vote (*vote [t, t+90)*). Interestingly, there is a bias in favor of foreigners in the period immediately after the vote (column 4).

[6] In 1991, first circle: Germany, Austria, Finland, Island, France, Belgium, Italy, Luxembourg, Netherlands, U.K., Ireland, Denmark, Greece, Spain, Portugal, Liechtenstein, Norway and Sweden. In the second circle: USA, Canada, Japan, Australia and New-Zealand and in the third circle all the other countries.

Figure A4.7: CRIME NEWS PROVISION: ACROSS NEWSPAPERS



Note: The unit of observation is a perpatetrator × newspaper dyad. Standard errors clustered at crime event level. Linear probability model estimations. Individual characteristics of the perpetrator are included: age, age squared, gender, connection to the victim, and whether the perpetrator is a recidivist. Calendar day, year-week, crime subcategory, municipality, and newspaper fixed effects are included. * for Sunday newspapers.

Table A4.1: CRIME NEWS PROVISION: PERPETRATORS' ORIGINS

Dependent Variable	News coverage			
	(1)	(2)	(3)	(4)
Foreign perpetrator	0.025[a]	0.026[b]	0.020[b]	0.023[a]
	(0.008)	(0.011)	(0.009)	(0.008)
× Asylum Seeker Country	–0.005			
	(0.011)			
× Muslim (>90%) Country		–0.009		
		(0.010)		
× Circle 1-2 Country			0.013	
			(0.018)	
× Neighbouring Country				–0.006
				(0.013)
Observations	5847	5847	5847	5847
R^2	0.243	0.244	0.244	0.243
F-Test equality coeff.	3.26	7.99	3.99	1.82
F-Stat p-value	0.07	0.00	0.05	0.18

Notes: LPM estimations. The unit of observation is a perpatetrator × newspaper dyad. Standard errors clustered at crime event level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Linear probability model estimations. Individual characteristics of the perpetrator are included: age, age squared, gender, connection to the victim, and whether the perpetrator is a recidivist. Calendar day, year-week, crime subcategory, municipality, and newspaper fixed effects are included.

A5 Other sensitivity analysis

Our identification strategy embeds several strengths: (i) the inclusion of past vote outcomes leads to an estimation strategy that is close to a first-difference and we also control for the fact that individuals might obtain direct information by observing local crime; (ii) in the 2SLS estimation, we exploit cross-municipality exogenous variations in exposure to different sampling of crimes. In this section, we present the sensitivity analysis exercizes on our baseline estimate of Table 2, column (5).

Alternative time frames – In the baseline estimates, we focus on the eleven-month period preceding the vote (Jan 1st, 2009 to Nov 29, 2009) to calculate the crime and news-related variables. Figure A.4 in the main text presents the coefficients from the 2SLS estimation of Equation (13) for alternative time frames. The point estimate is very stable and statistically significant for all time windows ranging from two to eleven months before the vote. The first-stage remains valid in all specifications.

Table A4.2: CRIME NEWS PROVISION: ACROSS TIME PERIODS

Dependent Variable	News coverage			
	(1)	(2)	(3)	(4)
Foreign perpetrator	0.007	0.009	0.009	0.019^{b}
	(0.006)	(0.006)	(0.006)	(0.009)
× Vote [t, t-330)	0.033^{c}			
	(0.019)			
× Vote [t, t-90)		0.112^{a}	0.112^{a}	0.102^{a}
		(0.037)	(0.037)	(0.038)
× Vote [t-90, t-330)		0.019		
		(0.017)		
× Vote [t-90, t-180)			0.032	0.021
			(0.020)	(0.021)
× Vote [t-180, t-330)			0.014	0.004
			(0.024)	(0.025)
× Vote (t, t+90]				–0.021^{b}
				(0.010)
Readershare	0.073	0.073	0.073	0.073
	(0.094)	(0.094)	(0.094)	(0.094)
Newspaper HQ area	0.039^{b}	0.039^{b}	0.039^{b}	0.039^{b}
	(0.018)	(0.018)	(0.018)	(0.018)
Observations	5847	5847	5847	5847
R^2	0.244	0.246	0.246	0.247
Sample Average	0.024	0.024	0.024	0.024

Notes: The unit of observation is a perpatetrator × newspaper dyad. Standard errors clustered at crime event level in parentheses. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. Linear probability model estimations. Individual characteristics of the perpetrator are included: age, age squared, gender, connection to the victim, and whether the perpetrator is a recidivist. Calendar day, year-week, crime subcategory, municipality, and newspaper fixed effects are included.

Control for crime where people work (commuting) – Our identification strategy relies on the fact that voters can update their belief about immigrants' criminality from two sources: crime news exposure and local crime. For local criminality to fully capture the directly observable part of crime, we may like to add a measure of criminality in places where people work, and not only in places where they live and vote. This issue is particularly crucial if people work in municipalities where newspapers have a headquarter, since it would violate the exclusion restriction. We thus construct a co-variate, based on the share of foreign crimes

perpetrated in each of the places w where individuals from municipality m work. We then aggregate this variable at the municipality m level, by weighting workplace w crime by the share of the population in m that works in this municipality w. The inclusion of this co-variate leaves our results unchanged (Table A5.3).

Alternative coding rules for news without nationality – In our baseline estimates, we exclude from the CNE variable the news that do not report the perpetrators' nationalities. We can nevertheless suspect that readers draw some conclusions from the absence of nationality. They may assume for example that newspapers mention the nationality of the perpetrator more frequently when the offender is not a Swiss citizen, or the other way around. For this reason, we compute a CNE variable that includes the sub-sample of no-nationality news, and attribute to each news story a probability that the perpetrators is foreign. Figure A5.8 presents the 2SLS estimates of Equation (13) for the full spectrum of probabilities one can attribute to the no-nationality news, i.e. from a probability equal to 0 (Swiss when no nationality mentioned) to a probability of 1 (foreign when no nationality). This scenario bears a crucial assumption: news do not convey any signal on the potential nationality of the perpetrator when the nationality is not reported. In Table A5.4 we challenge this assumption and test two alternative scenarios. In columns (1) to (3), we assume that readers can successfully infer the true nationality of the perpetrators and re-compute the CNE variable by including the true (i.e. police-based) nationalities when those are not reported in the newspaper articles. In columns (4) to (6), we assume that the reader conditions the probability that the perpetrator is a foreigner on the share of foreigners in the municipality where the crime took place. In all three approaches the estimates remain positive and statistically significant.

Reduced-form estimates when adding newspapers – The newspapers for which we have collected data represent 60.4% of the market. There are some large newspapers for which we were unable to collect data, notably *Blick* that is the third largest in the country and represents 8.1% of the market. While we do not have the news data to estimate the full 2SLS specification, we can nevertheless estimate the reduced-form. Figure A5.5 presents the reduced-form estimates when sequentially adding the 8 largest newspapers that are not in our baseline dataset. The reduced-form estimates are in line with the theoretical model.

Spatial clustering – Given the spatial resolution of the data it is important to carefully consider the spatial correlation of the error term. As a robustness, we replicate Table 2, column 5, with standard errors estimated with a spatial HAC correction that allows for cross-sectional spatial correlation, applying the method developed by Conley (1999).[7] Through the different spatial kernels, the parameters are still precisely estimated (Table A5.6).

Accuracy of crime differential inference – In Section 5.2, we show that news-based inference of CPD is accurate when readers of newspapers pool perpetrators into two categories : the foreigners (F) and the Swiss

[7] We make use of the new STATA routine created by Colella et al. (2018) that enables 2SLS estimations.

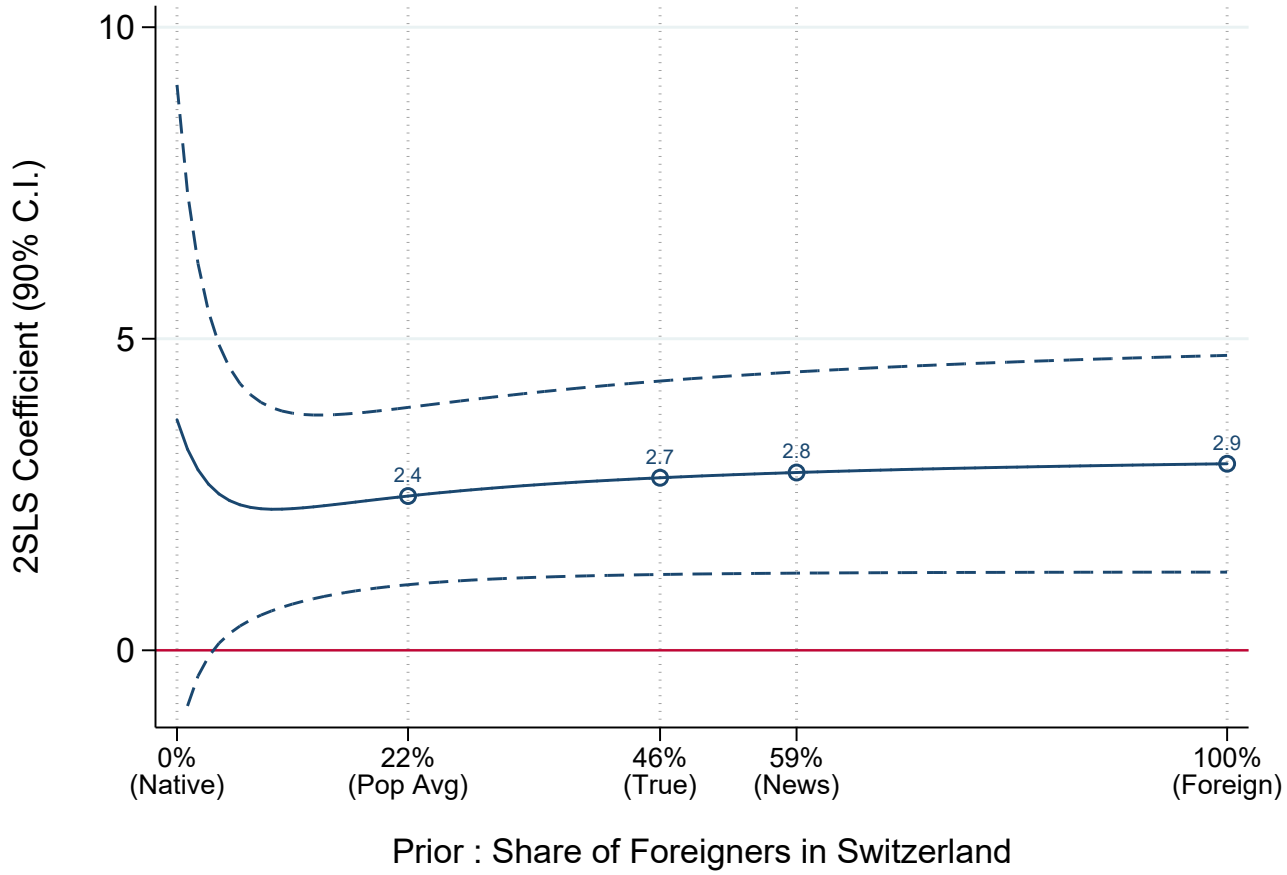
citizens (CH) (Table A.6 in the main text). Since accuracy is large in all newspapers (except the two that convey no crime news over the pre-vote period), differences in precision of CPD inference are not likely to affect our estimates. Nevertheless, we test this hypothesis by weighting each newspaper in the CNE variable by a function of the Z-statistics presented in Table A.6 in the main text: $f(z) = \frac{1}{1+|z|}$. In accordance with our expectation, estimates of CNE's effect are not significantly affected.

Table A5.3: NEWS AND VOTING: CONTROL FOR WORKPLACE CRIME PROPENSITY DIFFERENTIAL

Specification	Control for Workplace Crime Propensity Differential			Control for Workplace Crime Propensity Differential + Local Crime Propensity Differential		
	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage
Dependent Variable	%Yes	CNE	%Yes	%Yes	CNE	%Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)			2.321[a]			2.479[a]
			(0.827)			(0.932)
Workplace Crime Propensity Differential	0.322	0.018	0.279	–0.013	0.000	–0.014
	(0.362)	(0.019)	(0.325)	(0.536)	(0.042)	(0.505)
Local Crime Propensity Differential (CPD)				0.308	0.017	0.267
				(0.292)	(0.038)	(0.250)
Past Vote Outcomes	1.006[a]	0.003[c]	0.999[a]	1.006[a]	0.003[c]	0.999[a]
	(0.040)	(0.002)	(0.040)	(0.040)	(0.002)	(0.039)
HQ Crime Propensity Differential : Deviation (ΔHQC)	1.001[b]	0.431[a]		1.080[b]	0.436[a]	
	(0.427)	(0.135)		(0.453)	(0.134)	
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.850	0.950	0.690	0.850	0.950	0.690
First-stage F-statistic		10.14			10.63	

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Columns (1) to (3) present 2SLS estimation when controlling for workplace Crime Propensity Differential instead of the local one; Columns (4) to (6) when simultaneously controlling for workplace and local Crime Propensity Differential. Columns (1) and (4) present the reduced form estimation; Columns (2) and (5) the first-stage; Columns (3) and (6) the second-stage estimates. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Figure A5.8: NEWS AND VOTING: ALTERNATIVE CODING RULES FOR NEWS W/O NATIONALITY



Note: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. 2SLS estimates of Equation (13) for the full spectrum of probabilities one can attribute to the no-nationality news. `CNE` variable constructed including the sub-sample of no-nationality news, where we attribute to each news story a probability that the perpetrators is foreign, i.e. from a probability equal to 0 (Swiss when no nationality mentioned) to a probability of 1 (foreign when no nationality). Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A5.4: NEWS AND VOTING: ALTERNATIVE CODING RULES FOR NEWS W/O NATIONALITY

Specification	Exogenous Instrument: ΔHQC					
	True nationality			Locality distribution		
	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage
Dependent Variable	%Yes	CNE	%Yes	%Yes	CNE	%Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)			5.654^{b}			3.997^{a}
			(2.641)			(1.442)
Local Crime Propensity Differential (CPD)	0.301	0.010	0.246	0.301	0.014	0.243
	(0.207)	(0.012)	(0.157)	(0.207)	(0.016)	(0.158)
Past Vote Outcomes	1.006^{a}	0.002^{b}	0.993^{a}	1.006^{a}	0.003^{c}	0.996^{a}
	(0.040)	(0.001)	(0.041)	(0.040)	(0.001)	(0.041)
HQ Crime Propensity Differential : Deviation (ΔHQC)	1.077^{b}	0.191^{a}		1.077^{b}	0.270^{a}	
	(0.427)	(0.037)		(0.427)	(0.043)	
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.850	0.973	0.849	0.850	0.964	0.850
First-stage F-statistic		27.08			39.73	

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. Columns (1) to (3) present 2SLS estimation when the true (reported) nationality of aggressor is imputed for news that do not report the perpetrators' nationalities; Columns (4) to (6) when the share of foreigners in the municipality where the crime took place is imputed. Columns (1) and (4) present the reduced form estimation; Columns (2) and (5) the first-stage; Columns (3) and (6) the second-stage estimates. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A5.5: NEWS AND VOTING - REDUCED-FORM ESTIMATES WHEN ADDING NEWSPAPERS

Specification	Reduced-Form Estimation				
Newspaper added	Base sample	Blick	Mittelland Zeitung	Neue Luzerner Zeitung	Sudost-schweiz
Dependent Variable	%Yes	%Yes	%Yes	%Yes	%Yes
	(1)	(2)	(3)	(4)	(5)
HQ Crime Propensity Differential : Deviation (ΔHQC)	1.077[b]	1.159[b]	0.810[a]	0.918[c]	0.616[a]
	(0.427)	(0.445)	(0.295)	(0.466)	(0.211)
Local Crime Propensity Differential (CPD)	0.301	0.300	0.280	0.299	0.306
	(0.207)	(0.205)	(0.191)	(0.210)	(0.207)
Past Vote Outcomes	1.006[a]	1.005[a]	1.004[a]	1.006[a]	1.005[a]
	(0.040)	(0.040)	(0.042)	(0.040)	(0.040)
Observations	1980	1968	1821	1980	1975
Adjusted R^2	0.850	0.850	0.848	0.850	0.850

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Columns (1) presents the baseline reduced-form estimation. Columns (2) to (5) display reduced-form estimates when adding the 4 largest newspapers that are not in our baseline dataset. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A5.6: NEWS AND VOTING: ALTERNATIVE CLUSTERING

Specification	Instrument: HQ Crime Propensity Differential : Deviation (ΔHQC)						
	2SLS 2nd Stage	2SLS 2nd Stage	2SLS 2nd Stage	2SLS 2nd Stage	2SLS 2nd Stage	2SLS 2nd Stage	2SLS 2nd Stage
Dependent Variable	%Yes	%Yes	%Yes	%Yes	%Yes	%Yes	%Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crime News Exposure (CNE)	2.474^{b}	2.474^{a}	2.474^{b}	2.474^{a}	2.474^{b}	2.474^{b}	2.474^{b}
	(1.137)	(0.794)	(0.998)	(0.677)	(1.123)	(1.056)	(1.054)
Local Crime Propensity Differential (CPD)	0.259^{b}	0.259^{b}	0.259^{b}	0.259^{c}	0.259^{a}	0.259^{a}	0.259^{b}
	(0.119)	(0.124)	(0.123)	(0.138)	(0.085)	(0.074)	(0.128)
Past Votes Outcome	0.999^{a}	0.999^{a}	0.999^{a}	0.999^{a}	0.999^{a}	0.999^{a}	0.999^{a}
	(0.038)	(0.039)	(0.049)	(0.037)	(0.034)	(0.054)	(0.040)
Observations	1976	1976	1976	1976	1976	1976	1980
Spatial cluster	10km	25km	50km	75km	100km	125km	District

Notes: The unit of observation is a municipality. Spatially clustered standard errors in parentheses in Columns (1) to (6). Standard errors clustered at district level in parentheses in Column (7). ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. All columns present the second-stage of the 2SLS estimation based on the instrument computed as the short-run Crime Propensity Differential (CPD) in newspaper headquarter areas in deviation from its long-run counterpart (ΔHQC_m). Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

A6 Alternative instruments

This section proposes alternative ways to construct the instrument.

Instrumenting with residuals – When instrumenting crime news exposure, we build the short-run CPD in newspaper headquarter municipalities in deviation from its long-run counterpart. A complementary approach consists of using the estimated residual $\hat{\eta}_{mt}$ of a regression of the short-run crime-rate differential on its long-run counterpart instead.

$$\texttt{CR}_{mt} = \gamma \times \texttt{CR}_{m}^{\texttt{LR}} + \eta_{mt}$$

where $\texttt{CR}_{mt} \equiv \frac{\#\texttt{crime}_{\texttt{F}mt}}{\texttt{pop}_{\texttt{F}m}} - \frac{\#\texttt{crime}_{\texttt{CH}mt}}{\texttt{pop}_{\texttt{CH}m}}$, and $\texttt{CR}_{m}^{\texttt{LR}} \equiv \frac{\#\texttt{LRcrime}_{\texttt{F}m}}{\texttt{pop}_{\texttt{F}m}} - \frac{\#\texttt{LRcrime}_{\texttt{CH}m}}{\texttt{pop}_{\texttt{CH}m}}$. t defines a 11-month period ending on November 29th of a given year and starting eleven months before that date. This model is estimated on the subsample of 355 municipalities experiencing at least one violent crime over the 2009-2013. We find that $\hat{\gamma}$ = 0.795 (0.040). Moreover the long-run crime-rate differential can explain by itself 18% of the variation in the short-run crime-rate differential.

In Columns (4) to (6) of Table A6.7 we replicate our preferred specification using $\hat{\eta}_m \equiv \sum_j s_m(j) \cdot \hat{\eta}_j^{\texttt{HQ}}$ as instrument. These specifications yield results similar to the baseline estimates. This goes without surprise as $\hat{\gamma}$ is close to 1 implying that residuals and first-differences are in fact quantitatively comparable.

Instrument with crime in places with large readershare – As mentioned in Section 5.1, our instrument exploits cross-newspaper exogenous variations in the sampling of crimes. This sampling is driven by cost-related reasons, e.g. it is less costly for journalists to report on events that occur nearby. A very similar approach would have been to use cross-newspaper variations in crime-sampling demand-related reasons. We build on empirical evidence from Section 4 showing that newspapers are more likely to cover events that occur in areas where their readership is high. In the context of crime news exposure, we can use an instrument based on the deviation between the short- and long-run crime propensity differentials in municipalities with the largest readership for each of the newspapers. Table A6.8 presents the results when instrumenting CNE with the aggregate measure of the share of foreign crimes in the five municipalities that have the largest readershare of newspaper j, using the market share of j in municipality m as weights. Results are qualitatively unchanged, with a positive and significant effect of crime news exposure on vote.

Instrument readership with relative distance – For causal identification purposes, in the baseline we use the pre-2009 period to calculate market shares. It is still however plausible that long-run readership of a newspaper in a municipality correlates with xenophobia. We tackle this issue by instrumenting the market share of newspaper j in municipality m by the geographical distance between newspaper j's headquarter and municipality m.[8] More precisely, we consider the relative distance to the total distances to newspaper j's headquarter to account for the fact that municipality m might be far away from all newspapers (i.e. isolated).

[8] In the case of newspapers with multiple headquarters (i.e. editorial rooms), we use the distance between the closest headquarter and the municipality.

Results are qualitatively unchanged, with a positive and significant effect of crime news exposure on vote (Table A6.9).

Instrument with news pressure in crime days – As the daily competition among issues is very intense in the media, the occurrence of newsworthy events may crowd out media coverage of less newsworthy ones (George and Waldfogel, 2006; Couttenier and Hatte, 2016). Transposed in our context, this means that some violent crimes may take place in days where news pressure is high and thus be less likely to appear in the news. To exploit this source of variation we construct the crime rate differential as in Equation (16), this time however weighting the events (crimes) by the news space (i.e. the remaining news time) on the crime day. The exogenous instrument thus becomes

$$\texttt{HQNP}_m \equiv \sum_j s_m(j) \cdot \sum_t (1 - NP_t) \cdot \left(\frac{\texttt{\#crime}^{\texttt{HQ}}_{\texttt{F}jt}}{\texttt{pop}^{\texttt{HQ}}_{\texttt{F}j}} - \frac{\texttt{\#crime}^{\texttt{HQ}}_{\texttt{CH}jt}}{\texttt{pop}^{\texttt{HQ}}_{\texttt{CH}j}} \right)$$

where NP_t stands for news pressure on day t measured as the fraction of total news time spent on the top-3 topics on day t. We make use of US data on news pressure from Eisensee and Strömberg (2007) as proxy of international tightness to mitigate the potential threat of endogenous news pressure, i.e. the fact that violent crimes might alter the local news. Results are quantitatively unchanged. Moreover, the first-stage F-statistic is higher than our baseline specification, indicating that news pressure indeed plays a important role on which crimes end up in the news (Table A6.9, columns (4) to (6)).

Table A6.7: NEWS AND VOTING: INSTRUMENTING WITH RESIDUALS

Specification	Instrument: HQC			Instrument: $\hat{\eta}$		
	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage
Dependent Variable	%Yes	CNE	%Yes	%Yes	CNE	%Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)			2.054^{a}			2.375^{a}
			(0.693)			(0.826)
Local Crime Propensity Differential (CPD)	0.299	0.016	0.265	0.300	0.017	0.261
	(0.205)	(0.017)	(0.179)	(0.207)	(0.018)	(0.174)
Past Vote Outcomes	1.006^{a}	0.003^{c}	1.000^{a}	1.006^{a}	0.003^{c}	0.999^{a}
	(0.040)	(0.002)	(0.041)	(0.040)	(0.002)	(0.041)
HQ Crime Propensity Differential : Level (HQC)	1.065^{b}	0.518^{a}				
	(0.427)	(0.130)				
HQ Crime Propensity Residual ($\hat{\eta}$)				1.062^{b}	0.447^{a}	
				(0.420)	(0.132)	
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.850	0.954	0.851	0.850	0.951	0.851
First-stage F-statistic		15.83			11.46	

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. Columns (1) to (3) present 2SLS estimation based on the instrument computed as the short-run Crime Propensity Differential in newspaper headquarter areas ($\texttt{HQC}_m$); Columns (4) to (6) using using the estimated residual $\hat{\eta}_m$ of a regression of the short-run crime-rate differential on its long-run counterpart. Columns (1) and (4) present the reduced form estimation; Columns (2) and (5) the first-stage; Columns (3) and (6) the second-stage estimates. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A6.8: NEWS AND VOTING: INSTRUMENT WITH CRIME IN PLACES W/ LARGE READERSHARE

Specification	One instrument: short-run deviation of Crime Propensity Differential in top readershare areas			Two instruments: short-run deviation of Crime Propensity Differential in top readershare areas + in newspaper HQ areas		
	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage
Dependent Variable	%Yes	CNE	%Yes	%Yes	CNE	%Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)			3.080[a]			1.984[b]
			(1.177)			(0.843)
Local Crime Propensity Differential (CPD)	0.316	0.009	0.287[c]	0.320	0.012	0.295
	(0.212)	(0.017)	(0.172)	(0.210)	(0.015)	(0.189)
Past Vote Outcomes	1.015[a]	0.002	1.009[a]	1.015[a]	0.002	1.011[a]
	(0.037)	(0.002)	(0.037)	(0.037)	(0.002)	(0.036)
Top Readershare Crime Propensity Differential : Deviation	0.877[b]	0.285[a]		–1.577	–1.321[c]	
	(0.377)	(0.075)		(2.116)	(0.692)	
HQ Crime Propensity Differential : Deviation (ΔHQC)				2.935	1.921[b]	
				(2.441)	(0.848)	
Observations	2073	2073	2073	2073	2073	2073
Adjusted R^2	0.852	0.945	0.694	0.852	0.955	0.696
First-stage F-statistic		14.27			14.91	

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. [c] significant at 10%; [b] significant at 5%; [a] significant at 1%. Columns (1) to (3) show estimates with the instrument for CNE computed as short-run deviation of CPD in the top-5 readership municipalities of each newspaper (instead of the headquarter municipalites of each newspaper in our baseline specification). Columns (4) to (6) present estimates where CNE is instrumented by both our baseline instrument (ΔHQC) and the instrument computed on the top-5 readership municipalities of each newspaper. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

Table A6.9: NEWS AND VOTING: ALTERNATIVE INSTRUMENTS

Specification	Instrument: Relative Distance $\times$ΔHQC			Instrument: News pressure on $\texttt{HQC}_j$ days		
	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage	Reduced Form	2SLS 1st Stage	2SLS 2nd Stage
Dependent Variable	%Yes	CNE	%Yes	%Yes	CNE	%Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Crime News Exposure (CNE)			6.288^{a}			1.808^{b}
			(1.839)			(0.916)
Local Crime Propensity Differential (CPD)	0.270	0.010	0.207	0.297	0.016	0.268
	(0.194)	(0.017)	(0.132)	(0.209)	(0.019)	(0.178)
Past Vote Outcomes	1.008^{a}	0.003	0.992^{a}	1.006^{a}	0.003^{c}	1.001^{a}
	(0.039)	(0.002)	(0.042)	(0.040)	(0.002)	(0.040)
Relative Distance $\times$ΔHQC	–0.900^{c}	–0.143^{b}				
	(0.512)	(0.057)				
News pressure on $\texttt{HQC}_j$ days				0.788^{c}	0.436^{a}	
				(0.429)	(0.101)	
Observations	1980	1980	1980	1980	1980	1980
Adjusted R^2	0.850	0.943	0.673	0.850	0.950	0.691
First-stage F-statistic		6.37			18.78	

Notes: The unit of observation is a municipality. Standard errors clustered at agglomeration level in parentheses. ^{c} significant at 10%; ^{b} significant at 5%; ^{a} significant at 1%. Columns (1) to (3) show estimates with the instrument for CNE computed as short-run deviation of CPD in headquarter areas aggregated at municipality level by weighting each outlet by the relative distance between the (voting) municipality and the nearest headquarter municipality of that newspaper. Columns (4) to (6) present estimates where CNE is instrumented by news pressure on HQ crime days. i.e. by weighting the events (crimes) by the news space (i.e. the remaining news time) on the crime day for each of the newspapers. Municipality characteristics are included in all specifications: population size, share of German-speaking population, share of immigrants, net immigration, sectoral employment, average income, squared average income, elevation, ruggedness, share of active population, share of young population (15-35 population), share of Protestants, share of Muslims, property crimes, and total market shares of the eleven newspapers included in this analysis. Agglomeration fixed effects are included in all specifications.

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