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## Trust in government in times of crisis

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## Journal of Comparative Economics

journal homepage: [www.elsevier.com/locate/jce](http://www.elsevier.com/locate/jce)Trust in government in times of crisis: A quasi-experiment during the two world wars<sup>☆</sup>Ahmed Skali<sup>a</sup>, David Stadelmann<sup>b,d</sup>, Benno Torgler<sup>c,d,\*</sup><sup>a</sup> Department of Global Economics and Management, University of Groningen, Groningen, The Netherlands<sup>b</sup> University of Bayreuth, Bayreuth, Germany<sup>c</sup> Queensland University of Technology<sup>d</sup> CREMA – Center for Research in Economics, Management and the Arts, Zurich, Switzerland

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## ABSTRACT

Do crises erode trust in government? To answer this question, we leverage the quasi-experimental setting of the sharply increased military threat to the neutral country of Switzerland during the two world wars as an exogenous shock. In doing so, we exploit a unique feature of Swiss politics: government issuance of pre-referenda voting recommendations. We use constituent adherence to government recommendations as a behavioral proxy for trust in government, measured in real time prior to, during, and after the crisis. Our empirical estimates provide strong evidence that constituents are significantly less likely to follow governmental voting recommendations during wartime.

## 1. Introduction

In addition to being an important factor for myriad economic, political, and social outcomes – including economic growth, tax compliance, infrastructure quality, better governance, voluntary activities, and altruistic actions (e.g., [Knack and Keefer 1997](#); [Putnam 2000](#); [Uslaner 2002](#)) – trust<sup>1</sup> is an essential condition for government delivery of effective public policy. It is closely linked to regime legitimacy ([Bakke et al., 2014](#)) in that citizens are less likely to comply with the demands of an untrustworthy government ([Tyler 1990](#); [Levi and Stoker 2000](#); [Torgler 2007](#)), so their trust depends upon how well the government functions ([Uslaner 2002](#)). In recent years, trust in government has been on the decline in many countries,<sup>2</sup> a drop that recent studies (including [Dyck et al., 2018](#), [Griffin 2017](#),

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<sup>1</sup> Trust can be defined as “holding a positive perception about the actions of an individual or an organisation” or as the expectation that a party with whom one shares a contractual relationship will in fact behave as set out in the contract ([Organization for Economic Cooperation and Development 2017](#), p. 16).

<sup>2</sup> For earlier discussions on the effects of declining trust in government, see, e.g., [Chanley et al. \(2000\)](#), [Putnam \(2000\)](#), and [Uslaner \(2002\)](#) for the U.S.

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and Abrams and Travaglino 2018), as well as media reports, link to such major political events as Brexit and the election of Donald Trump to the U.S. presidency.<sup>3</sup> This mistrust of national governance has strengthened support for populist platforms (Inglehart and Norris 2016).

According to the research, organizations are at particular risk of losing public trust in times of crisis, when feelings of insecurity and perceived lack of safety provoke an accounting of the ways in which, and reasons why, people cannot trust their leaders (Galford and Drapeau 2003). For example, several studies examine the decrease of trust in government in the aftermath of the 2008 global financial crisis (Earle 2009; van Erkel and van der Meer 2016; Armingeon and Ceka 2013; Gillespie et al., 2012). This damage to trust may not be due to the crisis itself but rather because of how the crisis is handled (Galford and Drapeau 2003). It is therefore related to the quality of governance, which, when characterized by weak institutional effectiveness, can erode trust (Rothstein and Stolle 2008). Nevertheless, because the quality of political institutions affects both trust in government and the likelihood of a crisis, identifying the effect of crises on trust is a major empirical challenge in that real-world crises are seldom randomly assigned.

To investigate this issue, we adopt a broad dictionary definition of crisis as ‘a time of great disagreement, confusion, or suffering’ or ‘an extremely difficult or dangerous point in a situation’.<sup>4</sup> To exemplify such a time, we use the sudden increase of military threat to Switzerland during the two world wars, which being completely outside the control of Swiss institutions and unrelated to pre-war conditions in the country,<sup>5</sup> constitutes a series of exogenous events that can be seen as a quasi-experimental setting.

Although Switzerland maintained its long-held neutrality during the two world wars, the Swiss were justifiably fearful of being dragged into the conflict. Hence, on August 1, 1914, three days after the start of World War I, Switzerland mobilized its army and subsequently deployed troops in many areas – particularly to its border regions with Germany. The Swiss army and Federal Council held deliberations over which alliances they ought to pursue should Switzerland be attacked (Historisches Lexikon der Schweiz 2015). Likewise, when World War II broke out, the Swiss army was again mobilized within three days under the leadership of General Henri Guisan (Hale and Waite 2015, p. 126) and during peak operations comprised up to 850,000 soldiers – just over one in five of Switzerland’s then approximately 4.2 million inhabitants (Schrepfer 1989, p. 53). Hitler despised Switzerland as ‘a pimple on the face of Europe’ (Wylie 2003, p. 165) whose people were ‘the mortal enemies of the new Germany’ (Leitz 2000, p. 14) and a ‘wayward branch of the German people’ (Leitz 2000, p. 14); hence, the Nazis devised Operation Tannenbaum, a comprehensive plan to invade Switzerland to be implemented after Hitler’s armies consolidated their control over continental Europe. The Nazis even feigned an attack between Basel and Schaffhausen in May 1940 (Church and Head 2013, p. 213). Although the invasion never materialized, the threat to Switzerland was real, so Switzerland’s maintenance of its neutrality through two world wars, rather than being an inevitability, could better be described as an accident of history.

To explore how such crises affect citizen trust in a nation’s institutions, we exploit not only the exogenous wartime threats but a unique feature of Swiss politics – the issuance of referenda voting recommendations by the Swiss government. By examining the actual voting behavior of Swiss constituents relative to these voting recommendations, we generate a *behavioral* proxy of trust in government that is observable over time. We thus make a useful contribution to a trust literature that otherwise relies heavily on survey and cross-sectional data, with their inherent empirical problems for exploring trust across time (Keele 2007). In particular, our estimates show that constituents are significantly less likely to follow governmental voting recommendations during wartime, suggesting that crises do have a negative effect on trust in national institutions. Our results are in line with experimental evidence on attribution error: Weber et al. (2001) show that group leaders are likely to be blamed for adverse outcomes, even when those outcomes are in fact independent of the leader’s actions.

The remainder of the paper is organized as follows: Section 2 provides stylized facts and theoretical considerations about the relation between crises and trust in national institutions and explains our empirical contribution’s place in the existing literature. Section 3 introduces the institutional context, after which Section 4 describes our empirical strategy and presents our main results. Section 5 reports the outcomes of sensitivity analyses, and Section 6 concludes the paper.

## 2. Crises and trust in government: background

### 2.1. Motivation and related literature

Although many studies explore the relationship between crises and factors such as interpersonal versus generalized trust (for a recent review in the context of armed conflict, see Bauer et al., 2016), few concentrate on the crisis-trust in government nexus. Those that do can be broadly categorized into two distinct strands based on whether they focus on the effect of war on trust in government or the effect of terrorism. Among the former, De Juan and Pierskalla (2016) exploit the timing of micro-surveys and spatial and temporal variation in conflict intensity in Nepal. The authors demonstrate that exposure to violent conflict causes reduced trust in national institutions, especially through one crucial channel signaled by such conflict: government inability ‘to uphold its monopoly over the use of violence and to protect citizens from physical harm’ (p. 68). Likewise, Sacks and Larizza (2012) use spatial variation in exposure to violence in the Sierra Leone civil war, finding that constituents in more war-torn areas are more likely to view their local government

<sup>3</sup> See, for example, The Atlantic, “Trust in Government is Collapsing Around the World”, <https://www.theatlantic.com/international/archive/2016/07/trust-institutions-trump-brexite/489554/>

<sup>4</sup> Cambridge Dictionary online, “Crisis”, <https://dictionary.cambridge.org/dictionary/english/crisis>

<sup>5</sup> World War I began as a confrontation between the Triple Alliance (Germany, Austria-Hungary, and Italy) and the Triple Entente (Russia, France, and the United Kingdom) over conflicts in the Balkans, while World War II was the direct consequence of the Nazi regime.

councilors as honest. On the other hand, Bakke et al. (2014) analysis of a 2010 public opinion survey administered in Abkhazia shortly after the 2008 South Ossetia-Abkhazia crisis reveals no association between exposure to the conflict and trust in the Abkhaz president. As regards the link with terrorism, Coupe (2017) finds increased trust in government after the November 2015 attacks in Paris; Dinesen and Jaeger (2013) document a short-run increase after the Madrid bombings of March 2004; and Wollebaek et al. (2012) identify a similar increase in Norway after the 2011 attacks of far-right terrorist Anders Breivik. Gates and Justesen (2016), in contrast, show that Tuareg rebel attacks on a military garrison in Mali decreased constituents' trust in the Malian president and parliament. Hence, across both strands of literature, the empirical findings are contradictory.

Our quasi-experimental research design departs from this previous literature in three important ways: First, instead of relying on self-reported survey data, we examine referendum voting outcomes, which are not only far more likely to reflect constituents' true preferences<sup>6</sup> but can be matched with government voting recommendations. Second, because collecting survey responses at different points in time can contribute to mixed results (De Juan and Pierskalla, 2016), we treat our referenda voting behavior as a real-time measure of trust that is continuously available prior to, during, and after the crisis studied. Doing so fulfills the need for a more dynamic approach to exploring crises. Third, unlike previous studies, which examine fully realized crises whose material consequences directly affected constituents and probably also their satisfaction with and trust in government, we explore a 'pure' crisis whose undeniably positive outcome (i.e., Switzerland stayed out of the wars) makes it much less prone to perceptually erroneous citizen evaluation biased by dissatisfaction with government crisis management. This is an important consideration: Flückiger et al. (2019) show that the way in which governments handle crises is key to understanding the relationship between crises and trust in government. They exploit the 2013–2016 Ebola epidemic in West Africa as a crisis that was managed with varying degrees of effectiveness by different governments. In this setting, they find that trust in government increased in regions with better Ebola control measures, relative to regions with worse Ebola control measures. Another probable manifestation of constituent dissatisfaction is the short duration of the increased trust after the Madrid bombings (Dinesen and Jaeger 2013), which may have been curtailed by subsequent public revelations that Prime Minister Aznar had tried to pressure news organizations into reporting that the attack was perpetrated by the Basque separatist group ETA.<sup>7,8</sup>

## 2.2. Stylized facts

First, to answer the question of how trust varies after a crisis, we leverage newly available multi-national data on trust in government to systematically examine two different crisis types: armed conflicts and economic recessions. We summarize these data in Fig. 1, whose vertical axis indicates standardized values of trust in government from the World Values Survey. We report coefficients from the following regression:

$$\text{Trust Government}_{it} = \delta_0 + \chi_i + \gamma_1 \text{Crisis in Past Five Years}_{it} + \theta_{it} \quad (1)$$

where *Crisis in Past Five Years* is either a dummy for armed conflict in the previous five years or a dummy for recessions in the previous five years,  $\chi_i$  is a vector of country fixed effects,  $\delta_0$  is a constant term, and  $\theta_{it}$  is a stochastic error term. Eq. (1) thus exploits within-country variation to examine how trust in government in a given country which has recently experienced a crisis – for example, a recession – compares to trust in government in that same country when it has not recently experienced a recession. We estimate Eq. (1) separately for armed conflicts and recessions: on the left-hand side of Fig. 1, our independent variable is a war dummy equal to one if a country has experienced any of the four types of conflict defined in the Uppsala Conflict Data Project (internal, interstate, internationalized, or extra-systemic). On the right-hand side of Fig. 1, the recession dummy is equal to one if the country has experienced one or more years of negative growth in GDP per capita as defined in the World Development Indicators.

**Countries.** Armed conflict: Argentina, Germany, Moldova, South Africa, Bangladesh, Ghana, New Zealand, Spain, Bosnia and Herzegovina, Japan, Nigeria, United States, Bulgaria, Jordan, Norway, Venezuela, China, Kyrgyzstan, Peru, Zimbabwe, Estonia, Macedonia, Poland, Georgia, Mexico, Romania. Recession: Australia, India, Nigeria, Thailand, Belarus, Indonesia, Romania, Trinidad and Tobago, Bulgaria, Iran, Russia, Turkey, Chile, Japan, Slovenia, Ukraine, Cyprus, Jordan, South Africa, United States, Egypt, Moldova, South Korea, Uruguay, Estonia, Morocco, Spain, Finland, New Zealand, Sweden.

Even though the sporadic coverage afforded by our data source provides us with at most six data points per country, the pattern that emerges is informative: not only does trust in government tend to decline in the aftermath of any of the two types of crisis, but these effects are quantitatively large, with trust being approximately 0.16 and 0.19 of a standard deviation smaller after wars and recessions respectively. Nevertheless, we interpret these correlations cautiously given that post-crisis decreases of trust in government may reflect genuine discontent with a government's handling of a crisis. For example, governments are frequently – and rightly – criticized for

<sup>6</sup> A key issue with survey responses is that they are subject to social desirability bias, wherein respondents feel pressured to provide an answer that does not displease the survey enumerator. More generally, surveys can be seen as cheap talk, where respondents can take any position without any real consequences. In contrast, voting is secret, such that no social desirability bias arises, and has real consequences insofar as it affects the outcome of elections.

<sup>7</sup> Deutsche Welle, "Aznar Faces the Wrath of the Media" <http://www.dw.com/en/aznar-faces-the-wrath-of-the-media/a-1146495>; Clarin, "Asombro y Escándalo en España por la Presión de Aznar a los Medios", [https://www.clarin.com/ediciones-antecedentes/asombro-escandalo-espana-presion-aznar-medios\\_0\\_Hy8-k26kCYx.html](https://www.clarin.com/ediciones-antecedentes/asombro-escandalo-espana-presion-aznar-medios_0_Hy8-k26kCYx.html)

<sup>8</sup> It is worth noting that trust in government is a distinct concept from other kinds of trust. We show this empirically in Appendix Tables A8 and A9.

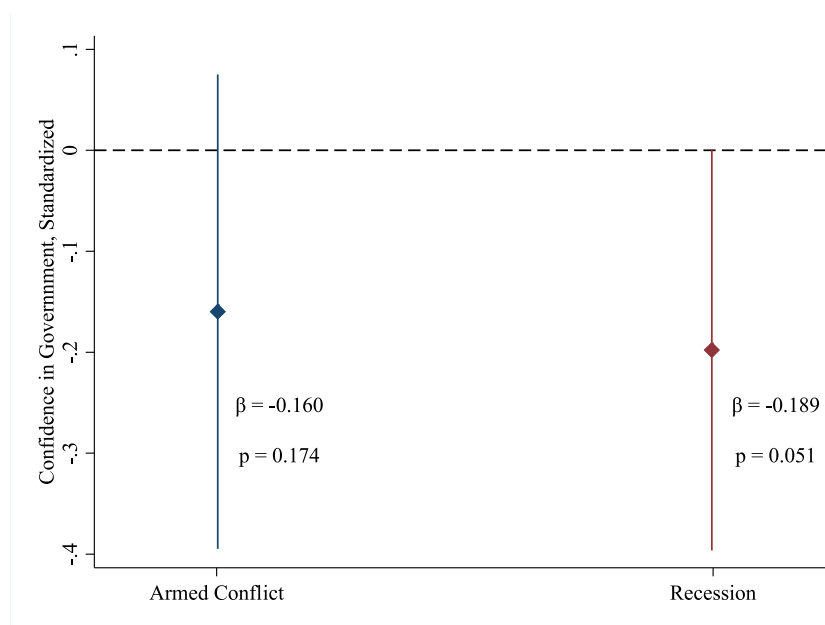


Fig. 1. Confidence in Government and Crises in the Past 5 Years.

World Values Survey, UCDP, WDI.

mishandling natural disasters, such as in the much-discussed case of Hurricane Katrina.<sup>9</sup> Moreover, these effects, although economically large, cannot be precisely estimated econometrically.

*Note:* The dashed line indicates the onset of a recession. Countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

More importantly, because the assignment of crises is not generally random, simply comparing trust before and after crises can be misleading. We illustrate this point in Fig. 2 by exploiting a question on trust in government from the Eurobarometer surveys with continuous time coverage between 2003 and 2013 for 27 European countries. When we plot trust in government over time on the vertical axis against time on the horizontal axis (Fig. 2) with date  $t = 0$  normalized to show when recessions begin (dashed vertical line), it is clear that such trust was already declining *before* recession onsets. This across-the-board lack of any sharp change in trust at recession onset underscores the pitfalls of taking crises as given; pitfalls that serve as a core motivation for our using referenda voting data in the quasi-experimental setting of increased wartime threats to Switzerland.

### 2.3. Referenda outcomes as a measure of trust in government

In addition to determining policy outcomes, referenda results may reveal citizen preferences for these outcomes more accurately than do self-reported survey responses. That is, referenda produce dichotomous results that indicate what a majority prefers, meaning that referendum votes should capture constituents' preferences. In particular, referenda permit the majority to rank the policy outcomes from the proposed laws against the status quo<sup>10</sup> (Schneider et al., 1981; Frey 1994; Hessami 2016).

Consequently, as has been widely accepted by political scientists since the seminal work of Miller (1974), referenda are probably the most accurate measure of true policy preferences, dissatisfaction with which is closely related to trust in government and voting behavior. Indeed, Hetherington (1999) – using 1968–1996 U.S. election data – demonstrates that political trust is a critical determinant of voting decisions, with declines in trust reducing the vote for the incumbent party. As regards referenda outcomes as strong indicators of trust in government, Franklin et al. (1995), show that public support for referenda on European integration in Denmark, France, and Ireland in the early 1990s is well explained by trust in the government of the day. They analyze other salient modern examples in which the relation between referenda outcomes and trust in government is apparent, including the UK Parliament's 1979 referendum on the devolution of legislative powers to Scotland, initiated by the Labour Party under James Callaghan. Whereas 60 percent of a sample of Scottish voters surveyed six weeks before the referendum favored devolution preceding the vote, they were evenly split immediately after it. The authors attribute this shift to an increased role of party affiliation; in particular, the unpopularity

<sup>9</sup> For an overview of the criticism, see the bipartisan report 'A Failure of Initiative' (Select Bipartisan Committee 2006).

<sup>10</sup> In the Swiss case, keeping the status quo equates to a rejection of the referendum (a No vote), whereas a Yes vote means a law change is implemented and the status quo is not kept.

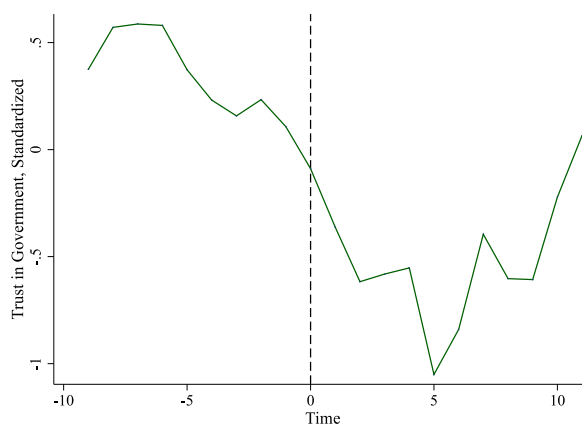


Fig. 2. Trust in Government and Recessions.

Eurobarometer, WDI.

of James Callaghan's Labour government. Clarke and Kornberg (1994) document a similar pattern in the 1992 Canadian constitutional change referendum that they also attribute to dissatisfaction with government, while Kriesi et al. (1993) find a positive correlation between trust in government and a Yes vote on the 1992 Swiss referendum on closer integration with the European Community.

In this paper, therefore, we assume that citizens are more likely to listen to the voting recommendations of trusted politicians, which allows us to use referenda outcomes (adherence to government recommendations) as a *behavioral proxy* of citizen trust in government. While it is possible that referenda outcomes could also reflect systematic differences in preferences across peacetime and wartime, Stadelmann and Torgler (2013) show that adherence to government recommendations in Swiss referenda is stronger when the cognitive task of voting is more complex, which they operationalize as more referenda being held on the same day. If voters base their voting decisions on their own preferences, with trust in government playing no role, then one would expect task complexity to be irrelevant as far as greater adherence to recommendations. The pattern Stadelmann and Torgler (2013) observe, however, is hard to reconcile with a preference-based explanation, supporting the use of referenda outcomes as a proxy for trust in government.

### 3. Institutional setting

#### 3.1. Swiss institutions

Under Switzerland's federal constitution – enacted in 1848 and modelled on the U.S. constitution – the legislative body represents the 25 electoral districts (cantons)<sup>11</sup> in Parliament, which is made up of the National Council (*Nationalrat*, similar to the U.S. House of Representatives) and Council of States (*Ständerat*, comparable to the U.S. Senate). The collective head of government is the Federal Council, which is elected by Parliament and whose councilors serve as 'ministers' of government departments but are responsible for all government business and overall federal administration. As is the case in more than half of U.S. states, Switzerland enjoys a referenda-based system of direct democracy in which citizens may challenge any law passed by Parliament. A referendum is mandatory for any parliamentary proposal to change the constitution. Citizens may also demand an 'initiative' or constitutional amendment by referendum; government cannot refuse a demand unless it violates formal rules.<sup>12</sup> Parliament can, however, work out a direct counter-proposal to be presented to voters simultaneously.<sup>13</sup> Switzerland has not engaged in war since 1848 and was neutral during both world wars. Moreover, the Swiss political system and the country's institutions are very stable. The well-known Polity IV project (Marshall and Gurr 2014) rates Switzerland's national institutions as one of the most durable regimes in the world, second only to the United States; meaning that, Switzerland's democratic institutions have been in place for over 170 years without interruption or large swings towards autocracy at any point in time.

#### 3.2. The referenda

Since 1877, the executive Federal Council and the legislative Parliament have provided constituents with pamphlets through the

<sup>11</sup> Before, during, and after both world wars, Switzerland consisted of only 25 cantons as Jura did not become a canton until after its 1979 secession from Bern.

<sup>12</sup> For a description of these rules, see <https://www.ch.ch/en/demokratie/political-rights/popular-initiative/what-is-a-federal-popular-initiative/>.

<sup>13</sup> Because such counter-proposals are usually a compromise between the status quo and the demands of the initiative, the initiative is often withdrawn and only the counter-proposal presented to voters.

Federal Chancellery containing detailed referendum information together with voting recommendations.<sup>14</sup> Whereas Parliament is obliged to declare a position, the Federal Council may remain neutral. Parliament recommends acceptance of its own proposals but rejection of citizen-led initiatives. No matter the source of the recommendation, the provision of information pamphlets means that on voting day even those constituents uncertain about the referendum's details and implications can go to the polls familiar with the recommendations. Voting recommendations are also issued by political parties, labor unions, and various association types (business councils, for example). We are unable to control for these in our empirical analysis, as data are unavailable for the time period we consider in this paper. However, voters view government voting recommendations as more important than recommendations from any other organization (Trechsel and Sciarini, 1998).<sup>15</sup>

Importantly, the number and nature of referenda does not differ widely across peace time and wartime. The website of the Federal Chancellery (2018) publishes (in three national languages) a range of information on all referenda presented to citizens, the topics voted on, and references to legal documents in Switzerland during the relevant periods (see also Appendix Table A1 for English translations). In Appendix Figures A1 and A2, we show that the number of referenda and the number of citizen-led initiatives do not change significantly when each war begins. The topics voted on are also comparable; for example, military-related referenda were held both in peace time and wartime, such as the 1935 and 1940 referenda on the organization of the military. Citizen-led initiatives for legislative issues – including initiatives for the proportional election of the National Council – were held both before and during World War I (in 1910 and 1918). A variety of other issues were voted on in peace time and wartime alike, including transportation (1935 referendum on the regulation of the transport of goods and animals via motor vehicles on public roads and 1945 referendum on the Swiss Federal Railway), taxation (sometimes related to financing the war, as was the case for both accepted 1915 and 1919 referenda), and the economy more generally (including the competition law referendum of 1944 and the initiative to combat the economic crisis in 1935). In sum, topics do not dramatically differ across peace time and wartime.<sup>16</sup>

## 4. Empirical strategy and main results

### 4.1. Identification strategy

As an identification strategy, we estimate variants of the following model:

$$\Pr(\text{ConstituentsAcceptReferendum})_{ijt} = \Lambda \left[ \alpha_0 + \gamma_i + \beta_1 \text{WarCrisis}_t + \beta_2 \text{Gov.RecommendsYes}_j + \beta_3 (\text{WarCrisis}_t * \text{Gov.RecommendsYes}_j) \right] \epsilon_{ijt} \quad (2)$$

where the dependent variable is the probability that the constituents in canton  $i$  accept referendum  $j$  during period  $t$ ,  $\alpha_0$  is a constant term,  $\gamma_i$  is a set of cantonal fixed effects, and  $\Lambda$  is the cumulative distribution function of the logistic distribution. The *War Crisis* dummy is equal to 1 during the two world wars and 0 otherwise, while the *Gov. Recommends Yes* is set equal to 1 when the government recommends a Yes vote, and 0 otherwise.

The parameter of interest is  $\beta_3$  which captures the constituents' propensity to agree with the government during wartime, *above and beyond* two crucial factors.<sup>17</sup> First, the *Gov. Recommends Yes* dummy captures voters' propensity to pass a referendum when the government recommends a Yes vote, relative to those cases where the government recommends a No vote. Second, the *War Crisis* dummy captures voters' propensity to pass referenda in wartime relative to the propensity to pass referenda in peacetime. Those two propensities may be systematically different, as there may be systematic differences between war and non-war periods. These differences between periods are captured by the *War Crisis* dummy. The *War Crisis* dummy plays a critical role in this context, as historical research suggests that wartime politics in Switzerland were characterized by more political consensus. Thus, if the types of issues presented for voting were systematically different across war and non-war periods, the *War Crisis* dummy would account for these

<sup>14</sup> See item BBl 1877 I 265 in the Federal Gazette of Switzerland (Schweizerisches Bundesblatt): Message of the Federal Council addressed to the Federal Assembly regarding the question of whether referenda to the Swiss people need to be accompanied by an explanatory message (Botschaft des Bundesrates an die hohe Bundesversammlung, betreffend die Frage, ob Vorlagen an das Schweizervolk mit einer erläuternden Botschaft zu begleiten seien), available from the Swiss Federal Archives at: <https://www.amtsdruckschriften.bar.admin.ch/viewOrigDoc.do?id=10009444>.

<sup>15</sup> Trechsel and Sciarini (1998, p. 122) ask survey respondents the following question: "Before every federal vote you read several points of view and recommendations about how one should vote. Here is a list of groups, organisations and persons who generally express themselves before a vote. Which point of view is generally the most important one for you?"

<sup>16</sup> In Appendix Table A10, we come to a similar conclusion using latent semantic analysis, based on the titles of referenda, to study the similarity of topics across time periods.

<sup>17</sup> Because the coefficient of the interaction term  $\beta_3$  is obtained from logit models, we interpret our results as suggested by Ai and Norton (2003). We also report a linear probability model (OLS) of our main results in the appendix (Table A6). All our interpretations remain unchanged when estimating a linear probability model. This also holds when estimating all results with linear probability models. As our dependent variable is binary, we report logit results in the main text.

differences. At the onset of World War II, the major political actors are widely thought to have set aside their differences in the interests of protecting Switzerland from a German invasion. This political development is known as the “spiritual national defense” (Church and Head 2013, p. 8). Recognizing that the “division between workers and bosses had played into the Nazis’ hands in Germany”, Swiss trade unions “signed a no strike / no lockout agreement, the so-called Labour Peace, with major employers” (Church and Head 2013, p. 211). This spirit of unity in the face of Nazism is also exemplified by the fact that the Social Democrats, the party most closely associated with the trade unions, first served on the governing Federal Council in 1943 (Luebbert, 1991). Similarly, the Social Democrats had “pursued a policy of truce (Burgfrieden)” during World War I (Koller 2015, p. 5), with the explicit intention of keeping the peace. On the other hand, there is an argument to be made that, during wartime, Swiss citizens voted primarily on citizen-led initiatives and controversial referenda which were carried over from before the war. This is due to the fact that, during wartime, the Federal Council ruled under emergency decrees, which arguably may have disrupted normal voting processes.<sup>18</sup> While we do not observe large disruptions in our data (see Section 3.2 above), this possibility cannot be ruled out, which is why our empirical approach controls for systematic differences between wartime and peace-time with the inclusion of the *War Crisis* dummy.

In our analysis, we use a data set of up to 1875 canton-referendum observations from 25 cantons covering a timeframe from 10 years prior to 10 years after each world war. We conduct our analysis at the cantonal level in recognition of the fact that Switzerland displays substantial degrees of regional and cultural heterogeneity. It is entirely plausible that rural and urban cantons may exhibit different voting patterns, as may the three major linguistic groups in the country (German, French, and Italian speakers, respectively). Including canton fixed effects in our specifications therefore allows us to capture all unobserved confounds that are canton-specific and time-invariant, such as local culture, geography, and social norms. Following Bertrand et al. (2004), we cluster standard errors at the cantonal level throughout the analyses, allowing us to relax the assumption that error terms in all cantons follow identical processes. Our results also hold when we weight each canton-referendum observation by the margin of victory in the canton-referendum, thus assigning greater weights to referenda won by larger margins and ensuring that our results are not attributable to knife-edge referenda. Weighting by turnout in the canton-referendum – to preclude conclusions based on low levels of voter engagement – does not change our results.<sup>19</sup>

We focus our discussion mainly on Federal Council (hereafter, ‘government’) recommendations rather than parliamentary suggestions, because as the executive branch it is more likely to be seen as the relevant authority in navigating the crisis. Descriptive statistics for our main variables are provided in Appendix Table A2.

#### 4.2. Non-Parametric results

To derive non-parametric estimates of the likelihood that constituents will accept a referendum, we calculate this probability in each of four cells defined by the interaction of the following two conditions: (i) the government recommends a Yes (No) vote, and (ii) the referendum takes place during war (peace) time (Fig. 3 and corresponding Table 1).

Although we restrict the sample to referenda for which the government offered a recommendation, in our regression results, we also include referenda on which it remained neutral. Before each war crisis, the average probability that constituents would approve a referendum was 16 percent (44 percent) for a government recommendation of a No (Yes) vote, so constituents were 28 percentage points more likely to approve a peace time referendum given a government recommendation of Yes relative to No. During the war crises, the expected probability was 27.3 percent (38 percent) for a government recommendation of No (Yes), so constituents were only 10.7 percentage points more likely to pass a wartime referendum on a Yes recommendation, far lower than the 28 percentage point difference observed in peace time. The estimate of the interaction term (bottom right, Table 1) is thus a strongly statistically significant 17.3 percentage points, providing *prima facie* evidence that voters trust government recommendations less during times of crisis and are more sceptical of government policy initiatives during wartime. It is also worth noting that the observed effects are approximately symmetric: in wartime, the constituent propensity to disregard government advice is evident for both No *and* Yes recommendations, with No referendums passing *more* often in wartime than in peace time (27.3 percent to 16 percent, respectively) but Yes referendums passing *less* often (38 percent to 44 percent, respectively).

#### 4.3. Regression results

A similar picture emerges when we use a logit model to analyze the probability of a constituency accepting a referendum (see Table 2). Here, to rule out time-invariant canton-specific characteristics that may affect the results (e.g., culture and geography), we include a set of cantonal fixed effects in all specifications. We also report robust standard errors clustered at the constituency level. Although the sample period runs from 5 years before each war year began to the year it ended, our results remain robust to alternate time periods (see Section 5). For each regression, we also report a Brier (1950) score of predictive accuracy in limited dependent variable models, which ranges between 0 (most accurate prediction) and 1 (least accurate). Given the small size and tight distribution of the Brier scores estimated throughout the paper (between 0.170 and 0.199), we are reasonably confident that, in addition to properly identifying the coefficient of interest, our model makes relatively accurate predictions and that any omitted variable bias the model may suffer from is unlikely to be very large.

Our main variable of interest is the *Gov. Recommends Yes\*War Crisis* interaction term, which identifies the influence of government

<sup>18</sup> We are grateful to an anonymous reviewer for this insight.

<sup>19</sup> These results are not shown here to preserve space but are available from the authors.



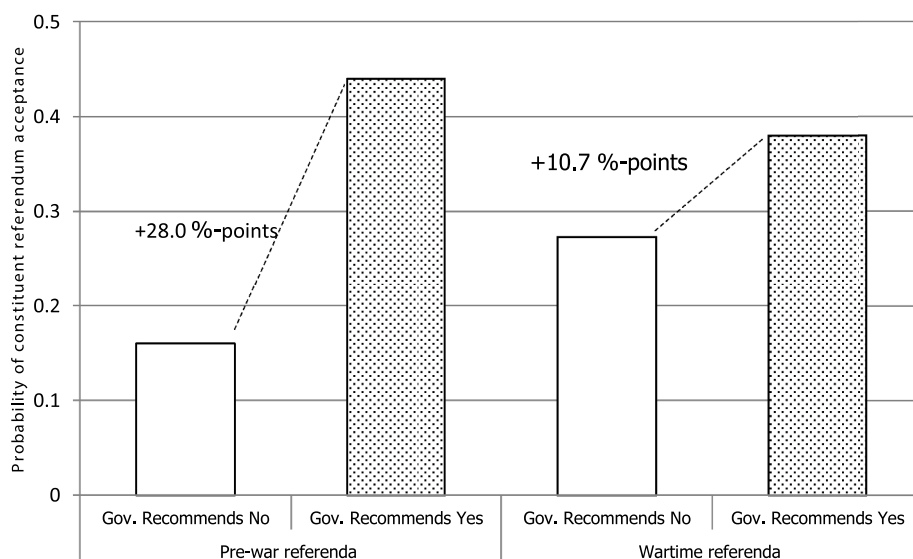


Fig. 3. Probability of constituent referendum acceptance.

Author's calculations; see Table 1 for precise figures and significance tests.

Table 1

Average probability of constituent referendum acceptance dependent on government recommendation and war crisis.

	<i>Gov. Recommends No</i>	<i>Gov. Recommends Yes</i>	<i>First differences</i>
Pre-war referenda	0.160*** (0.033)	0.440*** (0.045)	0.280*** (0.055)
Wartime referenda	0.273*** (0.037)	0.380*** (0.049)	0.107*** (0.061)
First differences	0.113** (0.049)	-0.060 (0.066)	-0.173*** (0.082)

**Notes:** The values represent the average probability (first difference and difference-in-difference) that constituents will accept a referendum either 5 years before or during the war crisis (excluding observations with no government recommendation). Standard errors are in parentheses, and \*\*\*, \*\*, and \* indicate a mean significance level of below 1%, between 1 and 5%, and between 5 and 10%, respectively.

recommendations during a war crisis while also controlling for cases in which the council remained neutral (*Gov. Neutral*). In our baseline results, specification (1), *Gov. Recommends Yes\*War Crisis* is negative and statistically significant at the 1 percent level, confirming that constituents trust government less during crises. The quantitative interpretation of this result is given by the discrete effect calculated while holding other variables at their medians. This outcome suggests that constituents are 19.59 percentage points less likely to follow government recommendations and accept a referendum in wartime. This effect is in the same order of magnitude as the 17.3 percentage point decrease estimated non-parametrically in Table 1.

The *War Crisis* dummy, which accounts for the possibility that the issues put on the ballot in peacetime and wartime are systematically different, is positive and significant throughout all specifications. This indicates that constituents are on average more likely to pass referenda during crises than in peace time, which corroborates the notion that wartime politics in Switzerland was characterized by more consensus, as discussed in Section 4.1 above. Thus, more controversial issues might have been put on the ballot after the war; if anything, our estimates of a reduction in trust in government during crises are therefore conservative.

In specification (2), we control for the critical issue of voter turnout, a necessary precaution given that, as in all observational studies of voluntary decisions (e.g., turning out to vote), our estimates may suffer from a sample selection problem caused by non-random attrition. There are two other reasons to control for this factor: the first is evidence from the political participation literature that voter turnout declines during times of adversity (e.g., Rosenstone 1982); and the second is our own observation that turnout is indeed lower during periods of crisis (see Appendix Table A3). The results for this specification show that both the coefficient of *Gov. Recommends Yes\*War Crisis* and the discrete effect remain virtually unchanged, meaning that our findings are not attributable to changes in electoral composition across crisis and non-crisis periods.

In specification (3), we interact voter turnout with the war crisis dummy to allow for any heterogeneous turnout effects across wartime and peace time. We find no evidence that either peace time turnout or wartime turnout significantly affects the probability of constituents accepting referenda, which provides further reassurance that electoral composition plays no part in explaining our main finding. More importantly, none of the point estimates, significance levels, or discrete effects of *Gov. Recommends Yes\*War Crisis* are

**Table 2**  
Trust in government in times of crisis.

	5 Years Before/During War Crisis				
	(1)	(2)	(3)	(4)	(5)
Gov. Recommends Yes	1.472*** (0.305)	1.483*** (0.302)	1.480*** (0.297)	1.498*** (0.294)	
Gov. Recommends Yes*War Crisis	-0.946*** (0.348)	-0.953*** (0.348)	-0.949*** (0.350)	-0.978*** (0.373)	
War Crisis	0.682*** (0.161)	0.678*** (0.164)	0.703 (0.431)	0.703*** (0.181)	0.592*** (0.216)
Gov. Neutral	3.025*** (0.189)	3.016*** (0.184)	3.017*** (0.185)	3.045*** (0.179)	
Gov. Neutral*War Crisis				-0.054 (0.300)	
Turnout		-0.119 (0.462)	-0.099 (0.574)	-0.113 (0.455)	-2.486*** (0.585)
Turnout*War Crisis			-0.049 (0.737)		
Parl. Recommends Yes					2.467*** (0.278)
Parl. Recommends Yes*War Crisis					-0.702** (0.295)
Intercept	-1.948*** (0.187)	-1.852*** (0.421)	-1.862*** (0.470)	-1.873*** (0.385)	0.050 (0.518)
Cantonal Fixed Effects	Yes	Yes	Yes	Yes	Yes
DE "Gov./Parl. recommends Yes"	32.03	32.40	32.34	32.63	53.90
DE "(Gov./Parl. Recommends Yes) * (War crisis)"	-19.59	-19.90	-19.69	-20.30	-13.91
Dataset	5 years + war	5 years + war	5 years + war	5 years + war	5 years + war
R2	0.389	0.389	0.389	0.389	0.313
Brier	0.171	0.171	0.171	0.171	0.187
n. Obs.	775	775	775	775	775

**Notes:** The values reported are from logit estimates in which the dependent variable is Constituency Accepts Referendum. Robust standard errors clustered on a cantonal level are given in parentheses. DE = discrete effect in the predicted probability. The effects for Gov. Recommends Yes and Gov. Recommends Yes\*War Crisis are discrete effects in percentage points for these coefficients when all other variables are evaluated at their median values. \*\*\*, \*\*, and \* indicate a mean significance level of below 1%, between 1 and 5%, and between 5 and 10%, respectively.

affected by the inclusion of the turnout variables.

In specification (4), we interact the *Gov. Neutral* and *War Crisis* dummies. The coefficient of the interaction term is not significantly different from zero. Thus, when the government provides no recommendation, the likelihood of a Yes vote by the constituents is not significantly different between peacetime and wartime. This offers further confirmation for our main result that voters react specifically, and negatively, to government recommendations during wartime: when no recommendation is offered, referenda outcomes are no different between peacetime and wartime.

Lastly, in specification (5), we study how voters respond to recommendations from Parliament rather than the Federal Council using a sample in which the former offers the same voting recommendations as the latter. However, because Parliament, unlike the Council, is unable to remain neutral, we cannot validly analyze the effect of the two bodies' recommendations separately.<sup>20</sup> Here, the negatively statistically significant coefficient of *Parl. Recommends Yes\*War Crisis* indicates that constituents disregard parliamentary recommendations more often during crises than in ordinary times. The interaction term's discrete effect indicates an estimate of the interaction term in the order of 13.91 percentage points, which is smaller than that for the discrete effects estimated for government (council) recommendations. This finding corroborates our view that, as the holder of executive power, the Federal Council is perceived as the relevant institution for navigating the crisis. Trust in the Council therefore appears to be more affected by crises than trust in Parliament, although voters may also be less distrustful of Parliament because of the former's relatively opaque recommendations, which involve fewer politicians and much less public debate.

## 5. Sensitivity analysis

### 5.1. Crisis start dates

Table 3 reports results using the exact start and end dates of the wars rather than simply the starting year. In specifications (1) and (2), we use the widely agreed upon start dates of July 28, 1914, for World War I (when Austria-Hungary officially declared war on Serbia) and September 1, 1939, for World War II (when Germany invaded Poland). This interpretation of history, however, ignores a potentially important event from the Swiss perspective: Germany's annexation of Austria on March 12, 1938, which gave Switzerland

<sup>20</sup> This should not be a problem, as during the whole history of over 600 referenda, the Council decided against the Parliament in only three instances.

**Table 3**

Start of crisis and post-war dynamics: Trust in government versus Parliament in times of crisis.

	<i>Start of Crisis: July 28, 1914 and September 01, 1939</i>		<i>Start of Crisis: July 28, 1914 and March 12, 1938</i>		<i>Post-War Dynamics</i>			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gov. Recommends	1.506***		1.621***		1.545***		1.999***	
Yes	(0.311)		(0.339)		(0.123)		(0.292)	
Gov. Recommends	<b>-1.074***</b>		<b>-1.101***</b>		<b>-1.320***</b>		<b>-1.766***</b>	
Yes*(War Crisis)	<b>(0.355)</b>		<b>(0.368)</b>		<b>(0.273)</b>		<b>(0.405)</b>	
War Crisis	0.766***	1.247***	0.861***	0.595***	0.950***	0.840***	1.156***	0.681*
	(0.182)	(0.221)	(0.171)	(0.217)	(0.152)	(0.269)	(0.194)	(0.391)
Parl. Recommends		2.960***		2.415***		2.117***		1.942***
Yes		(0.271)		(0.281)		(0.179)		(0.372)
Parl. Recommends		<b>-1.810***</b>		<b>-0.603**</b>		<b>-0.368</b>		<b>-0.193</b>
Yes * War Crisis		<b>(0.339)</b>		<b>(0.258)</b>		<b>(0.306)</b>		<b>(0.452)</b>
Gov. Neutral	3.076***		2.968***		2.274***		2.317***	
	(0.202)		(0.180)		(0.105)		(0.114)	
Turnout	-0.447	-2.940***	-0.231	-2.416***	0.296 (0.295)	-0.485*	0.446 (0.288)	-0.521*
	(0.467)	(0.605)	(0.536)	(0.591)		(0.285)		(0.286)
1–3 Years Post War Crisis					0.271***	0.235***	0.491***	0.135
					(0.084)	(0.081)	(0.145)	(0.309)
Gov. Recommends							<b>-0.782***</b>	
Yes*1–3 Years Post War Crisis							<b>(0.263)</b>	
Parliament								<b>0.106</b>
Recommends								<b>(0.360)</b>
Yes*1–3 Years Post War Crisis								
4–6 Years Post War Crisis					-0.572***	-0.505***	-0.234	-0.781***
					(0.111)	(0.114)	(0.180)	(0.292)
Gov. Recommends							<b>-0.532</b>	
Yes*4–6 Years Post War Crisis							<b>(0.378)</b>	
Parliament								<b>0.324</b>
Recommends								<b>(0.305)</b>
Yes*4–6 Years Post War Crisis								
Intercept	-1.584***	0.103 (0.488)	-1.886***	-4.1e-03	-2.270***	-1.824***	-2.606***	-1.637***
	(0.384)		(0.460)	(0.528)	(0.223)	(0.223)	(0.281)	(0.342)
Cantonal fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dataset	5 years + war	5 years + war	5 years + war	5 years + war	war + 9 years	war + 9 years	war + 9 years	war + 9 years
R2	0.391	0.34	0.395	0.313	0.282	0.262	0.287	0.263
Brier	0.17	0.181	0.17	0.187	0.194	0.199	0.193	0.199
n. Obs.	775	775	775	775	1875	1875	1875	1875

**Notes:** The dependent variable for all logit estimations is Constituency Accepts Referendum. Robust standard errors clustered on a cantonal level are reported in parentheses. The evaluation of the interaction terms follows Ai and Norton (2001). \*\*\*, \*\*, and \* indicate a mean significance level of below 1%, between 1 and 5%, and between 5 and 10%, respectively.

two major land borders to protect from the Nazi regime. In specifications (3) and (4), therefore, we use the date of the Austrian annexation as the beginning of the World War II crisis. In all four specifications, our results remain unchanged.

## 5.2. Post-War dynamics

In specifications (5) to (8) (Table 3), we drop the pre-war period from our sample and instead compare wartime voting behavior with post-war behavior while allowing for unobserved heterogeneity in 3-year intervals during the post-war period. Specifications (5) and (6) thus include a *1 to 3 Year Post War* dummy and a *4 to 6 Years Post War* dummy, for which a *7 to 9 Years Post War* dummy serves as the reference category. When we check voting behavior against these alternate control periods, we again find that voters are more likely to disregard government recommendations during wartime, with discrete effects in the order of 19 percentage points, which is very similar to our previous results.

In specifications (7) and (8), we estimate how long it takes for voter behavior to return to pre-war patterns by interacting each of the same 3-year period dummies with council and parliamentary voting recommendations. The results for specification (7) suggest that the decline in trust in government lasts up to 3 years after the crisis: *Gov. Recommends Yes\*1–3 Years Post Crisis* is negative and statistically significant but then moderates (i.e., voting recommendations are no more frequently ignored in the 4- to 6-year post-crisis period than in the 7- to 9-year post-crisis period). In specification (8), however, trust in Parliament returns to pre-crisis levels as soon as the crisis is over, again suggesting that constituents view the Federal Council as more responsible for crisis management than Parliament. These results corroborate findings from specification (5) in which the discrete effect for parliamentary recommendation is smaller than the

**Table 4**  
Robustness - Trust in government and Parliament in times of crisis.

	10 Years Before/During War Crisis			5 Years Before/ During/ 5 Years After War Crisis		
	(1)	(2)	(3)	(4)	(5)	(6)
Gov. Recommends Yes	1.632*** (0.192)	1.679*** (0.191)		1.251*** (0.123)	1.252*** (0.122)	
Gov. Recommends Yes*War Crisis	<b>-1.057***</b> <b>(0.326)</b>	<b>-1.151***</b> <b>(0.338)</b>		<b>-0.983***</b> <b>(0.243)</b>	<b>-0.987***</b> <b>(0.238)</b>	
War Crisis	0.280** (0.135)	-0.330 (0.460)	0.738*** (0.212)	0.909*** (0.135)	0.880*** (0.341)	0.848*** (0.209)
Gov. Neutral	2.764*** (0.142)	2.767*** (0.141)		2.361*** (0.093)	2.362*** (0.091)	
Turnout	-2.450*** (0.586)	-2.752*** (0.723)	-3.955*** (0.551)	0.248 (0.292)	0.240 (0.306)	-0.975*** (0.293)
Turnout*War Crisis		1.176 (0.829)			0.057 (0.582)	
Parl. Recommends Yes			2.928*** (0.232)			2.160*** (0.114)
Parl. Recommends Yes*War Crisis			<b>-1.165***</b> <b>(0.279)</b>			<b>-0.421*</b> <b>(0.234)</b>
Intercept	0.406 (0.442)	0.545 (0.512)	1.027** (0.404)	-2.227*** (0.269)	-2.225*** (0.273)	-1.459*** (0.266)
Cantonal Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Dataset	10 years + war	10 years + war	10 years + war	5 years + war + 5 years	5 years + war + 5 years	5 years + war + 5 years
R2	0.368	0.369	0.371	0.277	0.277	0.263
Brier	0.175	0.175	0.174	0.193	0.193	0.197
n. Obs.	1225	1225	1225	1675	1675	1675

Notes: The dependent variable for all logit estimations is Constituency Accepts Referendum. Robust standard errors clustered by canton are given in parentheses. The evaluation of interaction terms follows Ai and Norton (2001). \*\*\*, \*\*, and \* indicate a mean significance level of below 1%, between 1 and 5%, and between 5 and 10%, respectively.

discrete effect for council recommendation (see Table 2).

### 5.3. Alternate 10-Year windows

We check the robustness of our results against different time windows for non-crisis periods in Table 4. Rather than the results being driven by the choice of time before or after the war crisis, the effect of interest can be pinpointed to actual times of crisis. First, we treat the 10 years before each war as a non-crisis period, allowing us to rule out any idiosyncratic anticipation effects that may have been ongoing immediately before the war started (specifications (1) to (3)). Then, in specifications (4) to (6), we treat the 5 years before and after each war as the control period. The results are virtually unchanged from Table 2, with the point estimates of *Gov. Recommends Yes\*War Crisis* still statistically significant at the 1 percent level and of the same magnitude as before.

### 5.4. Proximity to Germany

In Appendix Table A4, we attempt to study whether the intensity of the crisis matters. For this, we exploit the fact that military threats mostly arose from Germany, and might therefore make for a higher-intensity crisis in border cantons relative to non-border cantons. We split the sample into cantons that share a land border with Germany and cantons that do not. This allows us to explore heterogeneous effects for parts of the population that are potentially more affected. We find that, in cantons that share a common border with Germany, constituents disregard the government recommendation. The same holds true in cantons that do not share a common border with Germany. The point estimates of the coefficient *Gov. Recommends Yes\*War Crisis* are slightly higher for cantons that share a common border with Germany but confidence intervals of point estimates of both samples overlap. Based on the historical literature of this period of Swiss history, we speculate that cantons that share a common border with Germany might experience a slightly differential (perceived) threat. While the empirical pattern shown in Table A4 is interesting, we recognize that this result is not robustly identifiable in this setting.

### 5.5. Cantonal share of Yes votes

Finally, in Appendix Table A5, we explore two alternate formulations of the outcome variable. First, in specifications (1) – (3), we use the canton-level share of Yes votes as our dependent variable. Examining this continuous dependent variable allows us to gain additional insights regarding the effect sizes. The results show that the Yes vote is 8.0 to 8.9 percentage points lower if the government recommends a Yes vote in wartime, relative to peace time. This result supports our earlier interpretation.

In specifications (4) – (6), we construct an alternate indicator for trust in government, namely a binary variable equal to 1 if the constituency votes the same way as the government recommended, and 0 otherwise. The results show that, during wartime, the

likelihood that a constituency follows the government recommendation is significantly lower than during peace time, which offers additional support for the empirical patterns documented throughout this paper.

## 6. Concluding remarks

To shed more light on findings that to date have been inconclusive, this study on whether crises erode trust in government had first to deal with the common problem that institutional quality affects both trust in government and the likelihood of a crisis. Luckily, not only did the exogenous military threat to Switzerland during the two world wars provide a useful quasi-experiment, but Swiss neutrality means that the standard referenda-based political process continued without interruption throughout both war periods. We are thus able to exploit Switzerland's unique practice of referenda voting recommendations by its legislative and executive branches, which allowed us to use constituent adherence to government recommendations as a behavioral proxy able to measure trust continuously prior to, during, and after the crisis.

To overcome potential concerns that wartime referenda may be systematically different from those in peace time, we apply an identification strategy that captures how voters respond to government recommendations during crises, in peace time, and in peace time relative to wartime. Our non-parametric estimates of the probability that the constituents accept a referendum dependent on a wartime versus peacetime government recommendation of a Yes or No vote indicate that during wartime, constituents are more than 17 percentage points less likely to listen to government. Such results remain robust even after we eliminate time-invariant canton-specific characteristics that could affect the results (e.g., culture or geography) or control for lower voter turnout during times of crisis. In general, we find that constituents are around 20 percentage points less likely to follow government recommendations and accept a referendum in wartime, which is in the same order of magnitude as the 17 percent decrease estimated non-parametrically. These results cannot be attributed to the increased level of consensus in Swiss politics during wartime documented by historians, for which we do find supporting evidence.

Our estimates further indicate that constituent trust in Parliament decreases during wartime but to a smaller degree than trust in the Federal Council; perhaps the latter's executive power is more dominant and active in navigating such crises as war threats. We confirm these effect sizes in additional sensitivity studies using increased time windows for non-crisis periods or adjusted start dates for war events. Our analyses also show that voters have returned to pre-war trust patterns by 4–6 years after the crisis, meaning that individuals adjust relatively quickly. However, again, the trust adjustment for Parliament happened quicker, which supports the finding that executive powers are more susceptible to crowding out of trust.

Although crisis management responses are often top-down and command-and-control oriented (Aldrich 2012), such a centralized approach requires the maintenance of a high level of social capital among citizens. Indeed, centralized procedures for handling crises have been criticized as too ambitious and flawed; failing, for example, to take into account trust aspects like damage to social bonds and networks or overlooking the quality of social resources (Aldrich 2012). According to our results, not only is trust in executive government crowded out during crises, but negative citizen responses are stronger for the executive than for the legislative branch. Although such results may not necessarily apply in other contexts, they imply that the crowding out of trust effects is more likely to occur for institutions perceived as having the authority and accountability to navigate crises.

Because the omnipresent crises and conflicts, whether local or global, could lead to the downfall of civilization, society needs a better understanding of how to manage such events if we are to improve resilience and efficiency during transitions and changes. As Boulding (1964) points out, moving such topics into the area of scientific knowledge has a 'stabilizing, one is tempted to say a sterilizing, effect' (p. 103).

## Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jce.2020.09.005](https://doi.org/10.1016/j.jce.2020.09.005).

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