

# The economics of change and stability in social trust: Evidence from (and for) Catalan secession

Christan Bjørnskov<sup>1,2</sup>  | Miguel Ángel Borrella-Mas<sup>3,4</sup>  |  
Martin Rode<sup>3</sup> 

<sup>1</sup>Department of Economics and Business Economics, Aarhus Universitet, Aarhus V, Denmark

<sup>2</sup>Research Institute of Industrial Economics (IFN), Stockholm, Sweden

<sup>3</sup>Departamento de Economía, Universidad de Navarra, Pamplona, Spain

<sup>4</sup>Navarra Center for International Development (NCID), Universidad de Navarra, Pamplona, Spain

## Correspondence

Martin Rode, Departamento de Economía, Campus Universitario, Universidad de Navarra, 31009 Pamplona, Navarra, Spain.  
Email: martinrode@unav.es

## Abstract

Consequences of social trust are comparatively well studied, while its societal determinants are often subject to debate. This paper studies both in the context of Catalan attempts to secede from Spain: First, we test whether Catalonia enjoys higher levels of social capital that it is prevented from capitalizing on. Second, the paper examines whether secessionist movements create animosity and political divisions within society that undermine trust. Employing the nine available waves of the European Social Survey for Spain, we only find weak indications that social trust levels are higher in Catalonia than in the rest of the country. Interestingly, we further find testimony of a purely transient “exuberance effect” after secession became a real option, indicating that the long-run evolution of social trust may best be thought of as a stable punctuated equilibrium.

## KEYWORDS

secession, social change, social trust, stability

## 1 | INTRODUCTION

Outside of the current COVID-19 crisis, few issues have recently achieved a comparable international media attention to the Catalan secessionist conflict, which is dominated by the political and legal debate over an independence referendum from Spain. Still, Catalan secession and the clash with Spanish nationalism are not a new phenomenon, but rather have a long tradition in Spanish politics.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2021 The Authors. *Economics & Politics* published by John Wiley & Sons Ltd.

With the 1939 victory of Franco's nationalist forces in the Spanish Civil War, the autocratic regime would initiate a policy of heavy-handed suppression of Catalan autonomy and culture that would last for the next 37 years.<sup>1</sup> Catalonia would only regain its regional autonomy following the 1977–78 democratization of Spain, which established Spanish federalism as an essentially unfinished project that would be continuously expanded in the following decades (Guibernau, 2004; Lago-Peñas et al., 2017). As a consequence, secession largely became a minority issue in Catalan society during the 1980s and 1990s. Yet, that situation has substantially changed during the last decade.

Guibernau (2013) identifies three main reasons for the current surge of Catalan secessionist sentiments: first, increasing awareness of the region's fiscal deficit, meaning the difference between regionally generated revenues and spending assigned by the central government in Madrid, which amounts to somewhere between 5% and 7.5% of total regional output. Second, a lack of willingness by the central government to negotiate an increased fiscal autonomy for the region. Third, the 2010 constitutional court ruling against a new autonomy statute, which would have given Catalonia a comparable status to the asymmetric fiscal autonomy of the Basque Country and Navarre. According to Lago-Peñas et al. (2017), Catalonia has long sought a similar status, while parallel demands for a partial recentralization have grown in other parts of the country, further accentuating the already diverse preferences.

Interestingly, the current conflict is partly dominated by scholarly arguments that bear a close relation to ongoing discussions of social capital and social trust: On the one hand, supporters of Catalan independence build on claims of the productivity and the uniqueness of Catalan culture to support the potential long-run economic benefits of separation in a series of popular contributions (Galí, 2012; Sala i Martín, 2014; Solé, 2012). The comparatively higher social capital in Catalan society would potentially make an independent republic economically more successful, more democratic, and more equitable than a Catalonia under continued Spanish rule, it is argued. On the other hand, unionists argue in similar outlets that the secessionist political process fuels mutual animosity among opposing groups, given that a large minority of Catalan society is consistently against separation, which creates a political divide in society that will hurt mutual trust. To a substantial degree, the two claims are mutually inconsistent, and in the literature, the associated lines of thought are known as the *culturalist* and *institutionalist* schools, respectively (Bjørnskov & Sønderskov, 2013).

Employing data from all nine waves of the European Social Survey (ESS), we test the underlying propositions of the two opposing camps of the Catalan controversy and thus also provide new input to the discussion between culturalists and institutionalist. In doing so, we arguably also observe one of the very few examples, where the evolution of social trust can be followed through a major political, social, and institutional conflict. This is often complicated by a lack of adequate data. As such, it is furthermore a unique opportunity to assess the social trust consequences of such events within the context of a high-income democracy, as opposed to the ex-post evaluation of violent civilian conflicts in developing countries (Goodhand et al., 2000; Kijewski & Freitag, 2018), where such issues have mostly been studied to date.

On the one hand, we only find weak and non-robust evidence that, *ceteris paribus*, social trust levels are higher in Catalonia than in the rest of Spain. On the other hand, we find no indications that Catalan social trust has declined as a result of the secessionist conflict. Much to the contrary, indications point to a temporary and small but significant increase in trust after secession became a

---

<sup>1</sup>Part of the background for this policy was vengeance for Catalan alignment with the Republican cause during the civil war, while another, and probably more substantial element, was that Catalan and Basque nationalism were important sources of the underlying conflict that had led to the war itself. It should be noted that despite the heavy suppression of their individual cultures, both regions were economically somewhat privileged by the regime's industrialization policies (Molinero & Ysàs, 1992).

real option around 2012. This “exuberance effect” could well be an outcome of increasing nationalist sentiments and expressions of a shared separate identity (Gustavsson & Stendahl, 2020; Martini & Torcal, 2019; Reeskens & Wright, 2013). Perhaps due to the frustrated nature of the secession attempt, the shock is purely transitory though, with Catalan social trust reverting to its long-run steady state sometime after 2017.

The remainder of the paper is organized as follows: Section 2 reviews the arguments of Catalan secessionists and Spanish unionists in light of the relevant literature and develops our main research questions. Section 3 outlines the data, variables, and the different estimation procedures employed. Section 4 describes the empirical results, while section 5 concludes.

## 2 | LITERATURE REVIEW AND RESEARCH QUESTIONS

Ever since Robert Putnam's seminal contribution on the comparative functioning of Italian democracy across regions, social capital research has developed into a topic of major interest for academic literature on development (Putnam et al., 1993). A large variety of empirical studies has subsequently established an empirical connection between different social capital concepts and the performance of formal institutions (Boix & Posner, 1998; Porta et al., 1996), economic growth (Knack & Keefer, 1997; Zak & Knack, 2001), workplace productivity (Brown et al., 2015), total factor productivity (Bjørnskov & Méon, 2015), and welfare state organization and economic inequality (Algan et al., 2016). Overall, Horváth (2013) suggests that it is plausible to compare the economic significance of social capital to that of human capital.

The current secessionist conflict in Catalonia bears a clear relation to scholarly literature on social capital and social trust in two distinctive areas, each represented by a side in the political debate: First, academic supporters of Catalan independence build on the uniqueness of Catalan culture to argue that it presents higher levels of social capital than the rest of Spain (Solé, 2012). These social capital dividends could potentially lay the foundation for long-run economic benefits of separation, via the creation of Catalan institutions that are more in line with facilitating entrepreneurship and sustained economic growth (Galí, 2012; Sala i Martín, 2014).<sup>2</sup> It should be noted here explicitly that Galí (2012) and Solé (2012) are newspaper columns, while Sala i Martín (2014) is a non-fiction book with academic content, intended for a wide audience. Similar points have also been made by a group of renowned scholars, which has given itself the name of *Col·lectiu Wilson* (the *Wilson Initiative*). Interestingly, this claim seems to be somewhat generalized among the popular prosecessionist literature, at least where authors argue for the independence of high-income regions in Europe—for example, see Scharnagl (2012) for the case of Bavaria.

Arguments of the kind essentially go further than many academic contributions that highlight the fiscal benefits of separation, where secession could be seen as a possibility to limit unjust taxation and achieve a more equitable tax treatment by a government closer to the regional electorate (Buchanan & Faith, 1987; Gutmann & Voigt, 2017; Rode et al., 2018; Vaubel, 2013).<sup>3</sup> Instead, they rely on a literature that interprets social capital as a path-dependent factor of economic success. Studies in this field, which count both Putnam et al. (1993) and more recent influential papers such as Nunn and Wantchekon

---

<sup>2</sup>Please note that not all of the scholars cited above have openly declared themselves in favor of Catalan independence, despite having made scholarly arguments that highlight potential benefits of separation from Spain.

<sup>3</sup>According to Hillman (2005), secessionist political movements could also be driven by a desire to create new rent-seeking opportunities for regional political elites.

(2011) and Guiso et al. (2016), all belong within what is sometimes known as the *culturalist school* in trust research.

According to studies in this school of thought, informal institutions of social capital are stable over long periods of time and underlie formal governmental structures, determining their relative success or failure in the present (Boix & Posner, 1998; Guiso et al., 2016; Putnam, 2001; Putnam et al., 1993). Social capital is thus determined by history, and, rather than being subject to current policies, it is a factor of economic success that is exogenous to current events. Yet, ever since the seminal study by Knack and Keefer (1997) questioned Putnam's central assumption that all elements of the concept reflect a unitary underlying phenomenon, the literature has been debating what really constitutes social capital.

The confusing state in the literature has both made the concept somewhat elusive on many occasions and made many empirical studies difficult to compare. Yet, it has also caused most scholars to abandon the concept of social capital as a topic of academic interest and instead focus specifically on either social trust or association related activity. Several empirical studies by Uslaner (2002), Bjørnskov (2019), and Bjørnskov and Sønderskov (2013) have attributed the positive effects of social capital largely to the underlying factor of social trust. This is also what we will focus on in the following.

The political idea, which may a priori be consistent with an understanding of trust in the culturalist school, is that Catalan society is historically and culturally distinct from the Castilian majority of Spain. That this is consistent with the facts is easily observable in the existence of a Catalan language, specific Catalan customs, etc. (cf. Guibernau, 2004). What is not so straightforward is the idea that Catalan society should also present higher levels of social trust: It is true that Catalonia has an entrepreneurial tradition and culture that somewhat sets itself apart from the one present in most other parts of Spain (cf. Harrison, 2012; Sánchez, 2000), which could also be seen as an indication of the existence of unique informal institutions that facilitate economic exchange. Yet, whether this is a reflection of higher levels of social trust remains unknown. Interestingly, the question of whether Catalan social trust is somehow different from the rest of Spain has not been investigated empirically up to date. Our first research question is thus as follows:

RQ1: Compared to the rest of Spain, does Catalan society consistently demonstrate different levels of individual social trust?

Second, Spanish and Catalan unionists argue that the secessionist process fuels animosity among the opposing political groups. According to regular surveys conducted by the Catalan government, the share of independence supporters has risen sharply in recent years, although roughly 50% of Catalan society remains consistently against the option of secession.<sup>4</sup> This deepening political divide between large groups of society is further fueled by the push for an independence referendum, it is argued. According to unionist civil society organizations such as *Societat Civil Catalana* and some moderate secessionist groups such as *Colectivo Treva i Pau*, the corresponding conflict will erode mutual confidence and hurt social trust.<sup>5</sup>

Recent academic evidence by Criado et al. (2018) lends support to these ideas, identifying a decline of social trust among members of different linguistic groups in Catalonia after the start of large-scale independence mobilization in 2012 via experiments. Generally speaking, early evidence in the

<sup>4</sup>See Centre de Estudis de Opinió: <http://ceo.gencat.cat/ca/inici>.

<sup>5</sup><http://www.lavanguardia.com/opinion/20180319/441667971038/catalunya-declive-social-definitivo.html>.

trust literature suggested that ethnically or linguistically diverse societies tend to have lower levels of social trust, where the low levels seem to be concentrated in minority (Alesina & Ferrara, 2002; Knack & Keefer, 1997). More recently, García Albacete (2010) finds a very similar effect for the case of the Basque Country, while Martini and Torcal (2019) encounter interpersonal trust to significantly differ across regional identities in Spain. Making such differences politically and socially salient, one could argue, would lead to an erosion of social trust in Catalonia as a consequence of the political drive toward independence.<sup>6</sup>

Overall, these arguments bear a clear relation to literature within what is known as the *institutionalist* school of trust research, which contends that collective action can create (or destroy) social trust over relatively short periods of time (Goodhand et al., 2000; Kijewski & Freitag, 2018; Rothstein, 2013; Tendler et al., 1997). The institutionalist perspective on trust thus stands in opposition to the interpretation of social trust as a path-dependent informal institution. Herreros and Criado (2008), for example, claim that the state can play an important role in the creation of social trust as a third party enforcer of private agreements, but that this will ultimately depend on the efficacy of its institutions. The authors also find that the positive effect will be different for the minority and majority ethnic group, where state efficacy mainly improves the social trust of the latter. According to this strand of arguments, lower social capital in the minority ethnic group could also lead to the development of strong particularized trust, or what Putnam (2001) has called bonding social capital. This would mean that there is a high degree of in-group trust, but low generalized trust between groups akin to the destructive phenomenon of ‘amoral familism’ (Banfield, 1967).

However, it should be mentioned that even if state institutions are efficient enforcers of contract, it is currently not clear from the literature whether this will ultimately induce crowding-in or crowding-out of civic behavior and trust. If social trust is indeed a risk assessment, as implicitly assumed in the institutionalist school, good enforcement might crowd in trust (Rothstein, 2013). Yet, if social trust instead is a moral assessment of the motives and benevolence of other people, as argued by Uslaner (2002), enforcement institutions may be entirely irrelevant or could even crowd out trust by destroying visible information on whether or not people are actually trustworthy (Simpson & Eriksson, 2009), and reducing parents’ incentives to teach rule following norms to children (Lowes et al., 2017).

Finally, the literature leaves open a third option that, to the best of our knowledge, has not been brought up in the political debate about the consequences of Catalan secession: that the rekindling of a specific national or regional identity may affect social trust. Although practically no examples exist in which one can observe this process, the example of Estonia suggests that it may be possible (Pettai, 2007). As one of the very few countries in the world, Estonia has seen increasing trust levels after the country regained its independence in the early 1990s. The population quickly began to distance itself from the decades of Soviet occupation and rediscover and repopularize Estonian culture and traditions (Gylfason & Hochreiter, 2009). Trust levels have increased since the mid-1990s, but mostly among Estonian citizens who speak Estonian and consider themselves culturally Estonian, and much less so among ethnic Russians in Estonia. Interestingly, the Estonian experience also differed from that of Latvia and Lithuania, in which social trust levels have not changed to a visible extent. On identity and social trust, Petro (2001) tells a similar, although earlier, story of the city of Novgorod in Russia during the 1990s.<sup>7</sup>

<sup>6</sup>These results are nevertheless inconsistent with other studies finding that the apparent negative associations with diversity are spurious. See, for instance, Berggren and Bjørnskov (2011) or Pitlik and Rode (2020).

<sup>7</sup>The city council of Novgorod rid the city of Soviet street names and reverted to using the precommunist names of streets, squares, and the city itself.

The idea behind these examples is that it may be possible that the Catalan secessionist movement allows many Catalans to (re)discover an emergent social order with different moral norms and traditions than the current one. If this is the case, and a sufficient number of Catalans do so to make it an evolutionary stable social belief, social trust levels may increase as a result of a popularized drive toward secession. Consistent with these arguments, research by Reeskens and Wright (2013) and Gustavsson and Stendahl (2020) find civic nationalism to be linked with higher social trust levels. Yet, it logically requires that a substantial share of the Catalan population also believe that most people they consider part of their society—or moral community, using the specific concept of Uslaner (2002)—will reflect a traditional and more honest Catalan culture after secession, despite the very mixed cultural heritage that the region presents. However, this discussion can only be tangentially relevant for our case, since the Catalan secessionist process has not led to formal independence—at least not for the time being.

In sum, it remains an open and contested question in this literature, whether social trust is substantially altered by public policy and conflict in the short run, and what exactly the outcome of this process would look like. From the discussion outlined above, we formulate our second research question:

RQ2: Compared to the rest of Spain, has the secessionist process led to a change in individual social trust levels within Catalan society?

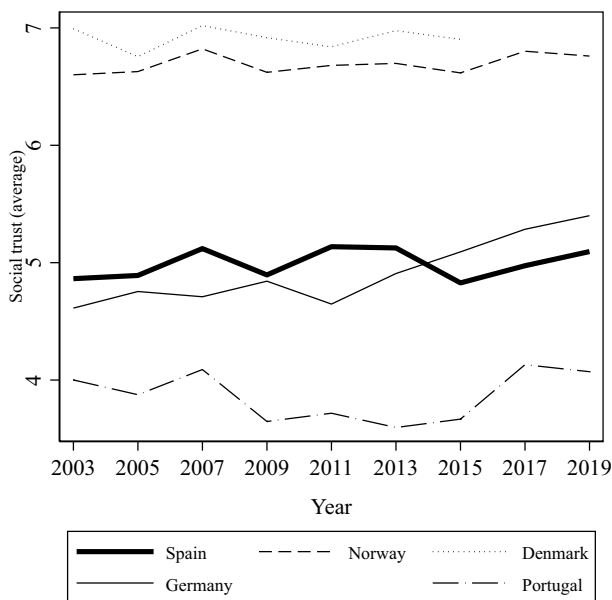
### 3 | RESEARCH STRATEGY

#### 3.1 | Data and variables

The empirical analysis of our research questions is based on data from the European Social Survey (ESS), which is an academically driven cross-national survey that has been conducted across Europe since its establishment in 2001. Every two years, face-to-face interviews are conducted with newly selected, cross-sectional samples. Currently, nine ESS rounds are available, covering the years 2002 to 2018, where field interviews in Spain were conducted on a bi-annual base from 2002 to early 2019. In total, the survey for Spain contains about 17,100 individual interviews for all 17 regions of the country.

In all estimations, our dependent variable *social trust* is captured by the following survey question: “Most people can be trusted, or you cannot be too careful?”. Respondents answer on a 1 to 10 scale, where increasing values indicate higher levels of social trust. According to Bjørnskov (2019), the history of using this question in social science research is long and there is a broad consensus that it captures meaningful differences in beliefs at the individual and societal levels. For example, it has been included in various US surveys since the late 1950s and has been asked in all waves of the World Values Survey beginning in 1981.

When asking this question, it is nonetheless not made clear to respondents whom to trust, in which situations, or under which circumstances (Bjørnskov, 2019). Potentially, this could mean that respondents do not distinguish between generalized trust and more particularized forms of trust at the moment of answering this question. However, several different tests suggest that the trust question quite exactly captures individuals’ belief that strangers can be trusted. In-depth interviews reported in Uslaner (2002, 2007) and the analysis of questions about trust in a set of different actors implemented by Naef and Schupp (2009) in a large-scale German survey show that the simple question picks up trust in people, whom the respondent has no specific information on. Knack and Keefer (1997), and more recently Bjørnskov (2021), show that trust scores at the national level correlate highly with



**FIGURE 1** Evolution of (average) social trust by country. Note: The figure shows the round-by-round evolution of mean social trust for Spain (thick continuous line), Norway (dashed line), Denmark (dotted line), Germany (thin continuous line), and Portugal (dashed-dotted line)

return rates in wallet-drop experiments and thus cannot simply reflect the quality of enforcement institutions.

Figure 1 shows social trust averages for a selected group of representative European countries across the nine waves of the ESS to illustrate several important points: First, over time average social trust levels are remarkably stable at the country level. Fluctuations are low and not clearly subject to any easily distinguishable events during these 16 years. Second, there is a notable diversity in average social trust levels across Europe, with Scandinavia generally being at the high end of the distribution and most Mediterranean countries scoring rather low. Third, compared to other countries in Southern Europe, average social trust levels in Spain are actually quite decent, being comparable to those of Germany. The range that is set by these series therefore also constitutes the interesting sphere of comparison for our study of regional variation across Spain.

In the following, we attempt to capture *Catalan culture* in two different ways: first, in a broader sense by simply employing a dummy variable that takes the value of one, if a respondent declares to be living in Catalonia; and second, with another more restrictive dummy variable that takes the value of one, if a respondent lives in Catalonia and declares Catalan to be his native language. We make this distinction because Catalonia is among Spain's regions that have attracted a high share of labor migration during the past 50 to 60 years, and we want to capture the effect on social trust of those whom we might expect to be *core Catalans*, rather than immigrants from other parts of Spain or abroad, as these might also systematically present different social trust levels (cf. Collier, 2013; Bergh & Öhrvall, 2018).

All estimations further control for a number of individual-specific characteristics that have been previously shown to be significant determinants of social trust (Albanese & de Blasio, 2014; Alesina & Ferrara, 2002; Berggren & Bjørnskov, 2011). In particular, we include the following: *gender* (dummy that equals one if male, zero if female), *age* and *age*<sup>2</sup> (in years), *income* (dummy that equals one if respondent declares income to be good or very good, zero otherwise), *education* (in years),



**TABLE 1** Summary statistics by living in Catalonia

	(1)	(2)	(3)	(4)
	Living in Catalonia			
	All	Yes	No	<i>p</i> -Value
<i>Outcome variable</i>				
Social Trust	5.01	5.07	5.00	.12
<i>Treatment variables</i>				
Region Cat.	0.16	1.00	0.00	
Region & Lang. Cat	0.06	0.38	0.00	.00
<i>Control variables</i>				
=1 if male	0.49	0.51	0.48	.01
Age	46.77	47.06	46.71	.41
Age <sup>2</sup>	2,534.61	2,563.70	2,529.20	.41
=1 if good income	0.31	0.28	0.32	.00
Education	12.19	12.47	12.14	.01
Victim	0.25	0.29	0.24	.00
Unemployment	0.07	0.06	0.07	.00
Religious	4.36	3.92	4.45	.00
Urban	0.27	0.36	0.26	.00
Ideology	4.48	3.95	4.59	.00
<i>N.</i> Observations	17,102	2,548	14,554	

*Note:* Summary statistics for all individuals included in the sample by whether they live in Catalonia. Columns (1): Mean for all individuals. Columns (2–3): Means for the subgroups of individuals living and not living in Catalonia. Column (4): *p*-value of the null hypothesis that the difference in means between both subgroups is equal to zero.

*victim* (dummy that equals one if respondent declares to have been victim of an assault or burglary during the past five years, zero otherwise), *unemployment* (dummy that equals one if the respondent is currently unemployed, zero otherwise), *religious* (self-declared degree of religiosity on a scale from 1 to 10, with higher levels indicating more religiosity), *urban* (dummy equal to one if respondents live in an urban area, zero otherwise), and *ideology* (self-declared ideology on a single-dimensional left-right scale from 1 to 10, where higher values indicate more right-wing attitudes). Summary statistics for all variables are shown below in Table 1.

### 3.2 | Estimation procedures

First, in order to formally test our RQ1, whether social trust levels are higher in Catalonia than in the rest of Spain, we estimate the following linear equation:

$$STrust_{ijt} = \alpha_0 + \alpha_1 Catalonia_i + X'_{ijt} \delta + \alpha_j + \gamma_t + \epsilon_{ijt} \quad (1)$$

where  $STrust_{ijt}$  is self-reported social trust of individual  $i$  in region  $j$  in period  $t$ , and  $\epsilon_{ijt}$  is an error term clustered at the individual level to reflect the variation in social trust. The variable  $Catalonia_i$  specifies our two different measures of Catalan culture, which in the following we interchange for all estimations. All



individual-level controls discussed above are also included in our estimation model. Finally, we also control for regional- and time-invariant factors by including both region fixed effects ( $\alpha_j$ ) and *ESSround* fixed effects ( $\gamma_t$ ).<sup>8</sup>

Second, in order to answer our RQ2—whether the secessionist process has undermined Catalan social trust—we cannot simply estimate general differences, but move to a quasi-experimental design. We do so by studying the impact of three exogenous events in the Catalan secessionist conflict, comparing individuals living in Catalonia (and those that declare Catalan to be their native language) with individuals who do not live in this region.

The causal effect of being Catalan on individual social trust is identified in the corresponding analysis by adopting a difference-in-differences strategy (*DiD* hereafter). The two key features we exploit are as follows: first, the residence (and native language) of individuals that defines the treatment effect of being Catalan and second, the time effect of several macro-events in the Catalan separatist conflict, namely the Spanish constitutional court rejection of the renegotiated autonomy statute in 2010, the self-determination consultation conducted by the regional government in 2014, and the regional government's referendum in October 2017, which was considered illegal by Spanish authorities. In all three cases, we argue that these dates represent exogenous events that allow us to study, how the secessionist process in Catalonia impacts individual social trust levels.<sup>9</sup>

Despite the fact that one might argue that all three instances could themselves be driven by regional trust-related processes, this is only true at the aggregate level. For individual social trust, which is the outcome variable of interest in all of our estimations, all three events are clearly exogenous. Expressed in a different way, individual-level trust in Catalonia obviously has, on average, no effect on whether the Spanish constitutional court rejects an autonomy statute, or whether and when the regional government determines to hold plebiscites on self-determination.

Specifically, we estimate the following model:

$$STrust_{ijt} = \beta_1 Cat_i + \beta_2 ESS_{round_t} + \beta_3 Cat_i * ESS_{round_t} + X'_{ijt} \delta + \alpha_j + \gamma_t + \epsilon_{ijt} \quad (2)$$

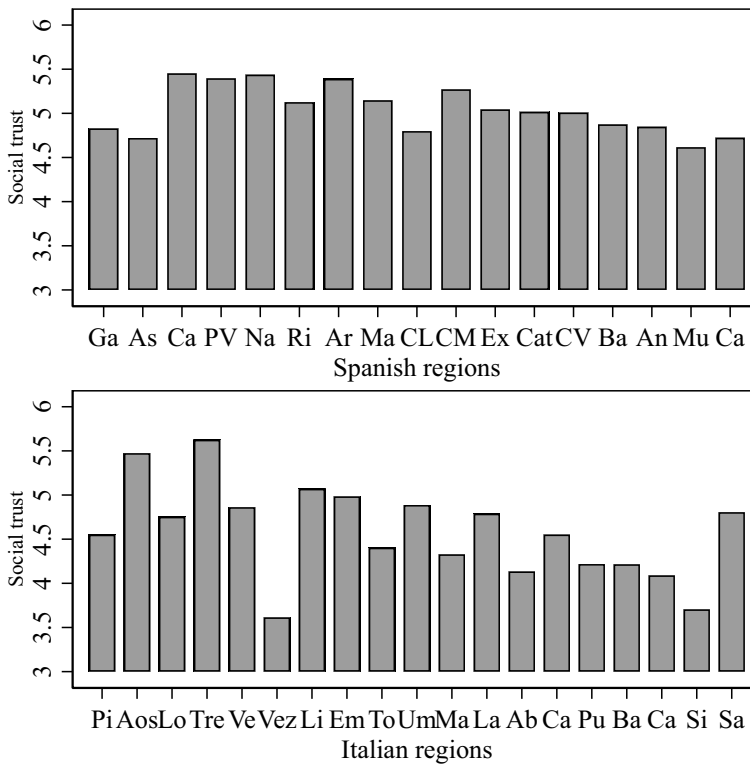
where  $STrust_{ijt}$  is self-reported social trust of individual  $i$  in region  $j$  in period  $t$ , and  $\epsilon_{ijt}$  is clustered at the individual level to reflect the variation in social trust.  $Cat_i$  is the treatment variable, which takes the value 1 for those individuals declaring living in Catalonia and zero otherwise. Again, we estimate the same model using our alternative definition of the treatment variable. Similarly,  $ESS_{round_t}$  is another dummy equal to 1 for all observations after the noted events, corresponding to ESS rounds 5, 7, and 9.

Estimating Equation (2) using only these three dummies would give us the basic DiD estimator. In addition, we estimate our preferred specification augmenting the basic model by successively including the following: (a) region fixed effects  $\alpha_j$  that control for any time-invariant characteristic that may have an influence on both, the outcome and residence at the region level; (b) an ESS round fixed effect  $\gamma_t$ , controlling for the change in social trust common to all individuals due to common shocks, such as an economic crisis; and (c) a vector of our time-varying control variables  $X_{ijt}$ , which accounts for all individual-specific characteristics that are described above.

In this setting,  $\beta_3$  is our parameter of interest, measuring the causal effect on social trust in Spain of living in Catalonia after the noted events, thus delivering a direct test of our RQ2.

<sup>8</sup>Additionally, a propensity score matching analysis is further conducted to confirm the robustness of our results from the OLS estimations. The methodology and findings can be found in Appendix S1.

<sup>9</sup>It should be noted that the three events do not completely correspond to the timing of the waves of the European Social Survey. In particular, for the events of 2010 and 2014, the survey took place very shortly after they happened, while for the event of 2017, the survey took place more than one year after.



**FIGURE 2** (Average) social trust by region in Spain and Italy. Note: The figure shows averages of social trust by region for Spain and Italy. Spanish regions: Ga = Galicia; As = Asturias; Ca = Cantabria; PV = Basque Country; Na = Navarra; Ri = La Rioja; Ar = Aragón; Ma = Madrid; CL = Castilla y León; CM = Castilla la Mancha; Ex = Extremadura; Cat = Catalonia; CV = Valencia; Ba = Baleares; An = Andalucía; Mu = Murcia; Ca = Canarias. Italian regions: Pi = Piemonte; AOs = Aosta Valley; Lo = Lombardia; Tre = Trentino-Bolzano; Ve = Veneto; Vez = Venezia; Li = Liguria; Em = Emilia-Romagna; To = Toscana; Um = Umbria; Ma = Marche; La = Lazio; Ab = Abruzzo; Ca = Campania; Pu = Puglia; Ba = Basilicata; Ca = Calabria; Si = Sicilia; Sa = Sardegna

## 4 | RESULTS

### 4.1 | The Catalan social trust dividend: actual advantage or secessionist myth?

We start by simply showing average social trust across regions in Spain in Figure 2, and comparing them to the averages of Italian regions, a country that is well-known in the social capital literature for its large internal trust diversity (Putnam et al., 1993). Interestingly, the variation of social trust across regions seems to be much lower in Spain than it is in Italy, indicating that, in this aspect, the country is much more homogeneous than its Mediterranean counterpart. In addition, it is also notable that, at least on average, Catalonia does not stand out as a particularly high trusting region inside Spain either. Instead, the region is statistically no different from the national average.

Of course, these findings could be driven by systematic differences at the individual level, which is why we show results for our estimations of Equation (1) in the following. Findings from our baseline regressions are shown in Table 2, where we also display the full set of controls. For the sake of robustness, we also present OLS estimates in columns (1) and (4). There, we find a couple of noteworthy details regarding our control variables: Men present positive and statistically significant coefficients

TABLE 2 Determinants of social trust in Spain

Dep. variable	Social trust					
	OLS (1)	Time FE (2)	Time & Reg FE (3)	OLS (4)	Time FE (5)	Time & Reg FE (6)
Methodology						
Region Cat.	0.066 (0.050)	0.064 (0.050)	0.137* (0.081)			
Region & Lang. Cat				0.121* (0.073)	0.128* (0.073)	0.108 (0.091)
= 1 if male	0.100*** (0.036)	0.100*** (0.036)	0.100*** (0.036)	0.101*** (0.036)	0.100*** (0.036)	0.100*** (0.036)
Age	0.001 (0.005)	0.002 (0.005)	0.001 (0.005)	0.002 (0.005)	0.002 (0.005)	0.001 (0.005)
Age <sup>2</sup>	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
= 1 if good income	0.328*** (0.041)	0.331*** (0.041)	0.327*** (0.041)	0.326*** (0.041)	0.329*** (0.041)	0.326*** (0.041)
Education	0.052*** (0.004)	0.051*** (0.004)	0.051*** (0.004)	0.051*** (0.004)	0.051*** (0.004)	0.051*** (0.004)
Victim	-0.229*** (0.043)	-0.229*** (0.043)	-0.231*** (0.043)	-0.229*** (0.043)	-0.229*** (0.043)	-0.231*** (0.043)
Unemployment	-0.262*** (0.073)	-0.260*** (0.074)	-0.245*** (0.074)	-0.261*** (0.073)	-0.259*** (0.074)	-0.243*** (0.074)
Religious	0.044*** (0.007)	0.044*** (0.007)	0.046*** (0.007)	0.044*** (0.007)	0.044*** (0.007)	0.046*** (0.007)
Urban	0.134*** (0.041)	0.137*** (0.040)	0.110** (0.045)	0.141*** (0.040)	0.144*** (0.040)	0.116** (0.045)

(Continues)

TABLE 2 (Continued)

Dep. variable	Social trust					
	OLS	Time FE	Time & Reg FE	OLS	Time FE	Time & Reg FE
Methodology	(1)	(2)	(3)	(4)	(5)	(6)
Ideology	-0.048*** (0.010)	-0.049*** (0.010)	-0.046*** (0.010)	-0.048*** (0.010)	-0.049*** (0.010)	-0.046*** (0.010)
Mean dep. var. non-treated	4.984			4.980		
N. Observations	14,105	14,105	14,105	14,105	14,105	14,105

Note: Basic OLS in column (1); time fixed effects in column (2); time and region fixed effects in column (3). Standard errors are clustered at the individual level. The significance levels are as follows: \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .

for social trust, indicating that they are significantly more trusting than women in Spain, although the size of the difference is relatively small. Individual age is neither statistically different from zero as a linear variable, nor does it present a non-linear association with social trust. The remaining controls are all significant and present the expected sign: Especially having a good income, more years of education, being a religious person, and residing in an urban area are all factors associated with higher levels of social trust. Conversely, having become a victim of a crime during the last five years, being unemployed, or having more right-wing political views are all factors that are significantly related to lower social trust. Numerically speaking, especially the variables income, victim, unemployment, and to some degree living in an urban area stand out in their relatively strong association with social trust, where we obviously do not want to make any causal claim.

Coming to our main variables of interest, it can be observed in the first row of Table 2 that living in Catalonia does not really present a robust significant association with social trust, as shown in columns (1)–(3). Coefficients on this variable are only statistically significant and positive when introducing both time and region fixed effects in column (3). Employing our more restrictive definition for Catalan identity in columns (4)–(6), we find weakly significant positive effects in columns (4) and (5). For all significant coefficients, the numerical impact is also rather small. All in all, results from using this simple model therefore suggest that the impact of living in Catalonia, or alternatively of living in this region and speaking Catalan as a native language, is not robustly different from social trust levels in the rest of Spain. The propensity score matching procedure in Appendix S1 further confirms the robustness of these results.

The only possible answer to our RQ1 can thus be that there is no systematic Catalan social trust dividend, at least none that is large enough to produce substantially different outcomes. Catalan culture and society are singular in many aspects, but in the sphere of social trust, the region is not much different from the overall Spanish average, even if we only consider native speakers of Catalan. Of course, this finding could be highly dependent on the current institutional context of the region as a political element of Spain.

## 4.2 | Growing distrust in Catalan society: unionist fiction or reality of separatist conflict?

### 4.2.1 | Main results

Results from the corresponding Equation (2) are presented in Table 3, showing the estimated effect of living in Catalonia on social trust, modifying the number of controls as we move from columns (1) to (4). We divide the table into three panels, each of them taking into account one of our three possible exogenous “treatment” events: first, the court decision on the *Estatut* (June 2010, before ESS round 5), second, the mentioned self-determination consultation (November 2014, before ESS round 7), and third, the independence referendum (October 2017, before ESS round 9).<sup>10</sup> Mean values of the dependent variable for the subgroup of individuals not living in Catalonia are further reported at the bottom of each panel. The validity of our research design is confirmed by a series of tests described below, and additional robustness checks are conducted in Appendix S2.

Results in column (1) are based on the basic DiD estimator, in which we only include the treatment variable, the time variable, and their interaction effect. The first row in panel A shows that social trust

<sup>10</sup>Results are very similar, if we use the decision by the main Catalan liberal/conservative party *CiU* to openly support Catalan secession from Spain (September 2012, before ESS round 6). These results are available upon request.

TABLE 3 Effect of living in Catalonia on social trust

Dep. variable	Social trust			
	DiD	DiD	DiD	DiD
Methodology	(1)	(2)	(3)	(4)
<i>Panel A: After court decision on Estatut</i>				
DiD (region)	0.276*** (0.092)	0.275*** (0.092)	0.273*** (0.092)	0.264*** (0.099)
Region Cat.	-0.076 (0.068)	-0.077 (0.068)	0.040 (0.092)	-0.011 (0.100)
$ESS_{round} \geq 5$	0.022 (0.038)	0.183** (0.086)	0.186** (0.086)	0.142 (0.093)
Mean dep. var. non-treated	4.959			
<i>Panel B: After self-determination consultation</i>				
DiD (region)	0.330*** (0.100)	0.333*** (0.100)	0.329*** (0.100)	0.314*** (0.105)
Region Cat.	-0.032 (0.055)	-0.033 (0.055)	0.084 (0.083)	0.036 (0.089)
$ESS_{round} \geq 7$	-0.089** (0.040)	0.175** (0.086)	0.178** (0.086)	0.135 (0.092)
Mean dep. var. non-treated	5.016			
<i>Panel C: After independence referendum</i>				
DiD (region)	0.142 (0.164)	0.144 (0.164)	0.146 (0.164)	0.108 (0.171)
Region Cat.	0.059 (0.049)	0.058 (0.049)	0.173** (0.078)	0.126 (0.083)
$ESS_{round} = 9$	0.092 (0.062)	0.204** (0.088)	0.206** (0.087)	0.170* (0.094)
Mean dep. var. non-treated	4.975			
Time fixed effects		✓	✓	✓
Region fixed effects			✓	✓
Control vars.				✓
N. Observations	17,102	17,102	17,102	14,105

Note: Basic DiD in column (1); DiD with time fixed effects in column (2); DiD with time and region fixed effects in column (3); and finally, DiD with fixed effects and control variables in column (4). We regressed the outcome on a dummy equal to 1 if an individual is living in Catalonia, on another dummy equal to 1 for observations corresponding to the 5th to the 9th (panel A), 7th to the 9th (panel B) and 9th (panel C) ESS rounds and on their interaction. Standard errors are clustered at the individual level. The significance levels are as follows: \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .

rose significantly by 0.28 points or 5.6% around the time of the court decision on the *Estatut*. Column (2) includes time fixed effects, while the specification with region and time fixed effects is presented in column (3). Finally, column (4) reports the most complete specification, including the vector of control variables together with region and time fixed effects. The main result is practically unchanged by the inclusion of all controls.

Focusing on panel B, the first row shows that the estimated effect is slightly higher when taking the self-determination consultation of November 2014 as a threshold event. After this instance, social trust significantly increases by almost 0.37 points or 7.4% in Catalonia, compared to the rest of Spain. This finding is again robust across our different model specifications. Finally, comparing social trust before and after the legally disputed independence referendum of October 2017, we can observe that the positive effect for Catalan trust has virtually disappeared again. Hence, results shown in this table suggest that the secessionist process has not hurt Catalan social trust, but has rather increased it temporarily. Results are very similar if we use our more restrictive definition of *core Catalan*, which can be found in Table 4. Interestingly, coefficients for Catalan native speakers are somewhat bigger, but only after the initial secessionist event.

The purely transient nature of this secessionist-driven social trust increase is rather intriguing: It almost seems as if the growth of Catalan secessionism into a popular mass movement sometime between 2010 and 2012 produces an “exuberance effect” for Catalan generalized trust. Once it becomes clear that its goals are not easily attainable though, and many Catalan secessionist leaders are incarcerated by the Spanish judiciary, the positive shock fades as a consequence of the frustrated secession attempt, and regional social trust reverts to its long-term steady state again. At current, similar phenomena have only been documented for political trust outcomes from natural disasters (Dussailant & Guzmán, 2014). In the case of life satisfaction and happiness, analogous effects have been observed for partisan electoral results (Pierce et al., 2016) and unexpected victories in sports events (Janhuba, 2019), albeit for a much shorter time frame.

#### 4.2.2 | Heterogeneous effects

In the following, we would like to distinguish whether the temporary increase in Catalan social trust following the secessionist process can be ascribed to any societal group in particular. A priori, it could be expected that individuals are affected differently according to certain individual characteristics, of which we assess the following: (a) linguistic groups, (b) individual-level economic conditions, (c) linguistic groups and individual-level economic conditions, (d) individual-level unemployment, (e) ideology, and, following Criado et al. (2018), (e) salience of prosecessionist positions. Unfortunately, distinguishing between pro- and antisecessionist individuals is seriously complicated by the simple fact that we are only partially able to do so in the ESS. Still, if we assume that these factions are imperfectly captured by whether individuals speak Catalan as a native language or not, our results do shed some light on any potential heterogeneous effects for the opposing political groups of Catalan society.

To operationalize these tests, we present an alternative empirical analysis of our main regression model from Section 3.2. In particular, we augment our main regression model by including an additional indicator variable for each of the potential heterogeneous effects  $H_i$ , as well as all the possible interactions between this variable, the dummy indicating if an individual lives in Catalonia, and the time dummies. Thus, we estimate the following model:

$$STrust_{ijt} = \beta_1 Cat_i + \beta_2 ESS_{round_t} + \beta_3 Cat_i * ESS_{round_t} + \beta_4 H_i + \beta_5 H_i * Cat_i + \beta_6 H_i * ESS_{round_t} + \beta_7 H_i * Cat_i * ESS_{round_t} + X'_{ijt} \delta + \alpha_j + \gamma_t + \epsilon_{ijt} \quad (3)$$

In this context, the coefficients of interest are now  $\beta_3$ —the standard DiD coefficient for the subgroup of individuals without the particular characteristic of the heterogeneous variable—and  $\beta_7$ , commonly known as the difference-in-difference-in-differences (DDD) estimate, the coefficient on the triple interaction term  $H_i * Cat_i * ESS_{round_t}$ .



TABLE 4 Effect of living in Catalonia and speaking Catalan on social trust

Dep. variable	Social trust			
	DiD	DiD	DiD	DiD
Methodology	(1)	(2)	(3)	(4)
<i>Panel A: After court decision on Estatut</i>				
DiD (Reg-Lang)	0.341 ** (0.140)	0.327 ** (0.140)	0.325 ** (0.140)	0.292 * (0.150)
Reg & Lang Cat.	0.016 (0.109)	0.036 (0.108)	0.054 (0.120)	-0.067 (0.133)
$ESS_{round} \geq 5$	0.044 (0.036)	0.204 ** (0.085)	0.206 ** (0.085)	0.166 * (0.092)
Mean dep. var. non-treated	4.942			
<i>Panel B: After self-determination consultation</i>				
DiD (Reg-Lang)	0.334 ** (0.142)	0.327 ** (0.141)	0.324 ** (0.142)	0.209 (0.147)
Reg & Lang Cat.	0.094 (0.087)	0.105 (0.086)	0.123 (0.100)	0.029 (0.109)
$ESS_{round} \geq 7$	-0.062 (0.038)	0.204 ** (0.085)	0.206 ** (0.085)	0.172 * (0.092)
Mean dep. var. non-treated	5.000			
<i>Panel C: After independence referendum</i>				
DiD (Reg-Lang)	0.162 (0.225)	0.149 (0.225)	0.152 (0.225)	0.056 (0.227)
Reg & Lang Cat.	0.194 *** (0.073)	0.207 *** (0.073)	0.223 ** (0.087)	0.101 (0.094)
$ESS_{round} = 9$	0.101 * (0.059)	0.215 ** (0.086)	0.217 ** (0.086)	0.183 ** (0.092)
Mean dep. var. non-treated	4.969			
Time fixed effects		✓	✓	✓
Region fixed effects			✓	✓
Control vars.				✓
N. Observations	17,102	17,102	17,102	14,105

Note: Basic DiD in column (1); DiD with time fixed effects in column (2); DiD with time and region fixed effects in column (3); and finally, DiD with fixed effects and control variables in column (4). We regressed the outcome on a dummy equal to 1 if an individual is living in Catalonia and her main language is Catalan, on another dummy equal to 1 for observations corresponding to the 5th to the 9th (panel A), 7th to the 9th (panel B) and 9th (panel C) ESS rounds and on their interaction. The significance levels are as follows: \* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$ .

Table B.1 shows DDD estimates of the heterogeneous effect of living in Catalonia on social trust. We divide the table into six panels: Panel A shows the heterogeneous effect of speaking Catalan as a native language, using for this purpose the more restrictive dummy variable of *core Catalans*. Panel B presents the heterogeneous effect of individual economic conditions, using the dummy variable high income as the heterogeneous one. In panel C, we combine speaking Catalan as native language and high income as

another source of potential heterogeneity. Panel D shows the heterogeneous effect of being unemployed, while Panel E presents the effect of ideology—using for this purpose a dummy equal to 1 if respondents declare themselves to be politically on the left spectrum of the ideology dimension. Finally, Panel F presents results employing the salience of a prosecessionist opinion as a source of heterogeneity, which is captured by a dummy equal to 1 if an individual feels close to a secessionist party and 0 otherwise. Response rates to the corresponding ESS question are not especially encouraging, meaning that this specific variable should be regarded with some degree of reservation.<sup>11</sup> In all cases, we focus our description on the coefficients of interest—that is,  $\beta_3$  and  $\beta_7$ —for the sake of simplicity and exponential clarity.

From top to bottom, we find no significant differences between individuals who speak Catalan as a native language, those with higher incomes, individuals who speak Catalan as a native language and enjoy a higher income, respondents that are unemployed, or those who feel close to a secessionist party. If anything, the only significant differences are found for those individuals that declare themselves to be on the left side of the political spectrum. Still, this is only so after the court decision on the *Estatut*, and after the self-determination consultation of November 2014, while this difference is insignificant after the legally disputed independence referendum of October 2017.

Overall, there is really no specific group of individuals in the trust distribution that is more affected than others. Rather, the effect seems to temporally shift the overall distribution of social trust of Catalan society. Contrasting this to the evolution of institutional trust, we clearly find that the same events substantially reduce trust in state institutions, but much more so for Catalan native speakers than Spanish native speakers in Catalonia. Together with the evidence shown above, this would indicate that the evolution of Catalan social trust is indeed not driven by any particular group, thus affecting Catalan society as a whole.<sup>12</sup>

#### 4.2.3 | Robustness checks

This subsection briefly summarizes a battery of robustness checks. First, we start by dropping the regions with a higher amount of autonomy, namely the Basque Country and Navarra, because social trust there might also be affected by some of the secessionist-related events that we exploit in our empirical analysis. By taking this approach, the setting is closer to the ideal experiment in which one group receives treatment—living in a secessionist region—and the other does not. The results are included in Tables B.2 and B.3 of Appendix S2. Coefficients are virtually unchanged relative to those above and, if anything, are actually slightly larger. This is in line with the idea that including other secessionist regions may introduce some noise to our main results.

Second, we make sure that our main estimates are not driven by a Catalan-specific time trend. This may be the case, if secessionist demands are fueled, for example, by changes in per capita regional GDP following the economic crisis of 2008 (Gehring & Schneider, 2020). Results are presented in Tables B.4 and B.5 of Appendix S2. Again, we do not find significant differences with respect to our main estimates. Alternatively, we directly include regional economic growth and regional economic unemployment as control variables, in order to check whether economic fluctuations are a potential mechanism behind our findings. Results presented in Tables B.6 and B.7 also show that regional economic trends are not driving our findings.

<sup>11</sup>In order to increase the number of observations, the 0 group includes individuals that declare themselves close to a non-secessionist party, and those who do not declare themselves close to any party at all. Results are practically unchanged, if we only include individuals who declare themselves close to a non-secessionist party. These are available upon request.

<sup>12</sup>The results employing institutional trust are not shown, but are all available from the authors upon request.

Furthermore, we also explore the possibility that the increasing amount of polarization exhibited over this decade in Catalan politics ultimately determines the controversy over social trust. To some degree, the Catalan political system has been characterized by a two-dimensional policy space ever since 1978. Notwithstanding, the dimension that refers to the distribution of power between the Spanish government and the Catalan government has become increasingly salient during the last two decades. In addition to our ideology variable, we therefore also include the prosecession dummy as an additional control in this analysis, keeping in mind the shortcomings in total observations mentioned in the previous section. Results in Tables B.8 and B.9 show that our findings are robust to the inclusion of this additional control variable.

Finally, we present an alternative estimation strategy to further demonstrate that results are not driven by alternative developments, either between ESS waves or over time. In particular, we extend our main empirical model by including all three macro-events in the Catalan separatist conflict that we exploit into the same specification. The estimated model is as follows:

$$STrust_{ijt} = \beta_1 Cat_i + \beta_2 ESS_{round_{5,6}} + \beta_3 ESS_{round_{7,8}} + \beta_4 ESS_{round_9} + \beta_5 Cat_i * ESS_{round_{5,6}} + \beta_6 Cat_i * ESS_{round_{7,8}} + \beta_7 Cat_i * ESS_{round_9} + X'_{ijt} \delta + \alpha_j + \gamma_t + \epsilon_{ijt} \quad (4)$$

where variables  $ESS_{round_{5,6}}$ ,  $ESS_{round_{7,8}}$  and  $ESS_{round_9}$  are dummies equal to 1 for observations in ESS survey rounds 5 and 6, rounds 7 and 8, or round 9, respectively. In this context,  $\beta_5$ ,  $\beta_6$ , and  $\beta_7$  are our parameters of interest, each of them measuring the causal effect of our three events in question. Findings are shown in Tables B.10 and B.11 of Appendix S2. Consistent with our main results, the bulk of the impact on social trust corresponds to the self-determination consultation. In addition, when considering all three events together, the joint effect is statistically significant.<sup>13</sup>

### 4.3 | Research design validity

Following our research design, the effect of living in Catalonia for individual  $i$  is given by the difference between the outcome for this individual at time  $t$ , and the outcome for this same individual, had that person not been living in Catalonia:

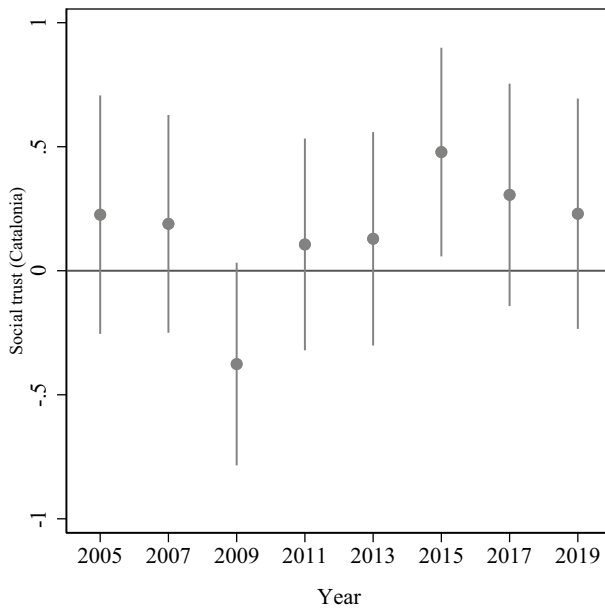
$$\beta_{it} = Y_{it}^T - Y_{it}^{NT}, \quad (5)$$

where  $\beta_{it}$  denotes the individual-specific treatment effect,  $Y_{it}^T$  denotes the outcome in the treated group of individuals living in Catalonia; and  $Y_{it}^{NT}$  denotes the outcome in the treated group of individuals, had they not lived in this region (Blundell & Dias, 2009).

The only assumption that we need in order to identify the effect of interest,  $\beta_3$ , is that outcomes in treatment and control groups would follow the same time trend in the absence of the treatment—that is, that living in Catalonia is independent of  $\epsilon_{jit}$ .<sup>14</sup> Although this common trend assumption is not directly testable because the region of residence is obviously not the same for both groups of individuals, we can nonetheless implement several tests to confirm the validity of our identifying strategy.

<sup>13</sup>Values for the joint  $F$ -statistic test ( $\beta_5 = \beta_6 = \beta_7 = 0$ ) and corresponding  $p$ -values are shown at the bottom of the table.

<sup>14</sup>This ensures that the evolution of the outcome for non-treated individuals is the same as it would have been for treated ones, had the latter not been treated. Hence, the  $DiD$  estimator can be interpreted as the excess outcome growth for treated individuals compared with non-treated ones.



**FIGURE 3** Time passage relative to self-determination consultation. Note: The figure shows the estimated impact of living in Catalonia on social trust for up to five rounds before the self-determination consultation and for the relevant rounds after which it was held, using Equation (6). Vertical bands represent  $\pm 1.96$  times the standard error of each point estimate

First, we perform a sensitivity analysis by estimating a placebo DiD test. In particular, individuals living in (a) Madrid, (b) Andalucía, or (c) Basque Country are used to construct “fake” treatment groups of individuals that were not directly affected by events in the Catalan separatist conflict.<sup>15</sup> We do not expect a difference between individuals residing in these regions, as none of them should be affected by these events. In this context, DiD estimates different from 0 would provide evidence against the parallel trend assumption. Table B.12 of Appendix S2 shows that this is not the case, offering strong support to the validity of our research design.

Second, we can formally test the evolution of pretrends by interacting the treatment variable with time dummies (cf. Autor, 2003). To explore these dynamics, we estimate our main specification described by Equation (2), augmented with leads (and lags) of living in Catalonia. Specifically, the estimated regression model is as follows:

$$STrust_{ijt} = \sum_{\tau = -5}^{-1} \beta_{\tau} Cat_i * ESS_{round_{\tau}} + \sum_{\tau = 0}^2 \beta_{\tau} Cat_i * ESS_{round_{\tau}} + X'_{it} \delta + \alpha_j + \gamma_t + \epsilon_{ijt} \quad (6)$$

where the dependent variable is the same as before,  $\gamma_t$  are *ESSround* dummies and we include the interactions of the *ESSround* dummies and the treatment indicator for all but one pretreatment periods (leads) and all post-treatment periods (lags).<sup>16</sup>

<sup>15</sup>These regions were chosen for the following reasons: Madrid, because it is comparable in terms of GDP per capita; Andalucía, as it is an example of a non-secessionist region with an own identity and similar population size; and the Basque Country, due to its comparability in terms of secessionist tendencies within the region. Very similar results are found when repeating this exercise with other regions of the country. Results available upon request.

<sup>16</sup>Specifically, we include 5 out of 6 *ESSrounds* before the consultation, and all *ESSrounds* after this event.

Figure 3 shows the estimated impact of living in Catalonia on social trust for up to five *ESS* rounds before the self-determination consultation, and also for the relevant rounds after which it was conducted (2015). The intuition is as follows. If the outcome trends between treatment and control groups are the same, then all leads should be insignificant; that is, the lead effects are informative regarding whether the estimated effect is stemming from a previously existing trend, instead of coming from the exogenous events in the Catalan secessionist conflict. This is indeed the case, as all lead coefficients are close to 0 and not significant, thus ruling out anticipatory responses in social trust before the consultation. This also means that we do not find any significant effects for the court rejection of the autonomy statute (2011), probably because this event simply affected a smaller amount of the total Catalan population. In addition to providing strong support for the validity of the common trend assumption, Figure 2 also shows that the jump in social trust quickly disappears over time, as the estimated impact vanishes after the referendum for Catalan independence (2017).

Overall, we can conclude regarding our RQ2 that also the unionist story of declining social trust in Catalonia is inconsistent with observable facts. Much to the contrary, our findings show that relative to the rest of Spain, Catalan social trust has actually increased in a positive transitory shock after the secessionist movement gained increasing popular traction after 2012, which nonetheless comes to an abrupt end sometime around 2017.

## 5 | CONCLUSIONS

Catalan secessionism and the ensuing clash with the Spanish central government have produced a massive echo in the European media and abroad. The discussions have put an age-old topic of Spanish politics on the agenda once more, as it reflects similar tensions not only in Northern Italy, but also in Scotland, Flanders, and the Faeroe Islands that form part of the United Kingdom, Belgium, and Denmark, respectively. Interestingly, the current conflict is partly dominated by scholarly arguments that bear a clear relation to social trust and central discussions within the trust literature. While secessionists claim that comparatively higher trust levels in Catalan society would make an independent republic economically more successful outside of Spain, unionists argue that the secessionist process fuels mutual animosity, thereby leading to a decline in generalized trust.

Employing data from all nine waves of the European Social Survey for Spain, we find that the contents of both claims are factually incorrect. First, social trust levels are not significantly higher in Catalonia than in the rest of Spain. While Catalan culture might set the region apart in many other visible aspects, it is not appreciably different in terms of social trust. This implies that we can also conclude that there is really no significant social trust advantage that the region could build on for the construction of its hypothetical postindependent institutions, always assuming of course that its current informal institutions would form the base of those formal arrangements. We cannot reject that there might be other advantages that we do not capture in this investigation, such as potentially lower corruption, or a more entrepreneurial culture, but these factors would be independent of any differences in social trust.

Second, Catalan social trust has not declined as a result of the secessionist conflict, as argued by the unionist side of the discussion, but have rather experienced a temporal increase in an “exuberance effect,” roughly corresponding to the phase between 2012 and 2017. In purely numerical terms, this transitory increase is equivalent to the trust difference between the Netherlands and Sweden, which is anything but inconsequential. Once it becomes clear that the political goals of the secessionist movement are not easily attainable, and many Catalan secessionist leaders are persecuted on criminal charges by the Spanish judiciary, the positive shock to regional social trust fades again, reverting to

its long-term steady state. The long-run evolution of social trust may therefore best be thought of as a stable punctuated equilibrium, which is only altered rather little by events that significantly affect important parts of society, and not necessarily in a permanent manner. Interestingly, the transient increase also seems to affect Catalan society as a whole, as we cannot pinpoint it to any specific group. Future research with better data will have to determine, whether this is actually so. Finally, one can only speculate on the evolution of Catalan social trust, had the secessionist movement really been successful in the fall of 2017. Given the literature on social trust and nationalism, as well as the real world example of Estonia after independence, the establishment of a different long-term equilibrium is, nevertheless, well within the range of plausible outcomes.

## ACKNOWLEDGMENT

The following persons have made helpful comments on earlier drafts of the paper: Andreas Bergh, Gabriel Doménech, Pierluigi Conzo, Luigi Franzoni, Juan Sebastián Mora Sanguinetti, Viktoria Obolevich, Guilherme de Oliveira, Martin Paldam, Albert Solé Ollé, Pilar Sorribas Navarro, and two anonymous referees. We also thank participants in seminars at Aarhus University, Bowling Green State University, Umea University, the 2019 European Public Choice Society conference, and the 2018 Spanish Association of Law and Economics meeting for helpful comments on earlier versions. Martin Rode gratefully acknowledges support from the Fundació Ciutadania y Valores in the framework of a research project. María Nolla provided excellent research assistance. All remaining errors are naturally our own.

## ORCID

Christan Bjørnskov  <https://orcid.org/0000-0002-9765-913X>

Miguel Ángel Borrella-Mas  <https://orcid.org/0000-0002-1107-5409>

Martin Rode  <https://orcid.org/0000-0002-8795-7838>

## REFERENCES

- Albanese, G., & de Blasio, G. (2014). Who trusts others more? A cross-European Study. *Empirica*, 41(4), 803–820. <https://doi.org/10.1007/s10663-013-9238-7>
- Alesina, A., & Ferrara, E. L. (2002). Who trusts others? *Journal of Public Economics*, 85, 207–234. [https://doi.org/10.1016/S0047-2727\(01\)00084-6](https://doi.org/10.1016/S0047-2727(01)00084-6)
- Algan, Y., Cahuc, P., & Sangnier, M. (2016). Trust and the welfare state: The twin peaks curve. *The Economic Journal*, 126(593), 861–883. <https://doi.org/10.1111/eoj.12278>
- Autor, D. (2003). Outsourcing at will: The contribution of unjust dismissal doctrine to the growth of employment outsourcing. *Journal of Labor Economics*, 21(1), 1–42. <https://doi.org/10.1086/344122>
- Banfield, E. C. (1967). *The moral basis of a backward society*. Free Press.
- Berggren, N., & Bjørnskov, C. (2011). Is the importance of religion in daily life related to social trust? Cross-country and cross-state comparisons. *Journal of Economic Behavior & Organization*, 80(3), 459–480. <https://doi.org/10.1016/j.jebo.2011.05.002>
- Bergh, A., & Öhrvall, R. (2018). A sticky trait: Social trust among Swedish expatriates in countries with varying institutional quality. *Journal of Comparative Economics*, 46(4), 1146–1157. <https://doi.org/10.1016/j.jce.2018.06.002>
- Bjørnskov, C. (2019). The political economy of trust. In R. Congleton, B. Grofman, & S. Voigt (Eds.), *Oxford handbook of public choice*, Vol. 1. New York, NY: Oxford University Press.
- Bjørnskov, C. (2021). Civic honesty and cultures of trust. *Journal of Behavioral and Experimental Economics*, 92, 101693. <https://doi.org/10.1016/j.socec.2021.101693>
- Bjørnskov, C., & Méon, P.-G. (2015). The productivity of trust. *World Development*, 70, 317–331. <https://doi.org/10.1016/j.worlddev.2015.01.015>
- Bjørnskov, C., & Sønderskov, K. M. (2013). Is social capital a good concept? *Social Indicators Research*, 114(3), 1225–1242. <https://doi.org/10.1007/s11205-012-0199-1>

- Blundell, R., & Dias, M. C. (2009). Alternative approaches to evaluation in empirical microeconomics. *Journal of Human Resources*, 44(3), 565–640.
- Boix, C., & Posner, D. N. (1998). Social capital: Explaining its origins and effects on government performance. *British Journal of Political Science*, 28(4), 686–693. <https://doi.org/10.1017/S0007123498000313>
- Brown, S., Gray, D., McHardy, J., & Taylor, K. (2015). Employee trust and workplace performance. *Journal of Economic Behavior & Organization*, 116, 361–378. <https://doi.org/10.1016/j.jebo.2015.05.001>
- Buchanan, J. M., & Faith, R. L. (1987). Secession and the limits of taxation: Toward a theory of internal exit. *The American Economic Review*, 77(5), 1023–1031.
- Collier, P. (2013). *Exodus: Immigration and multiculturalism in the 21st century*. Penguin.
- Criado, H., Herreros, F., Miller, L., & Ubeda, P. (2018). The unintended consequences of political mobilization on trust: The case of the secessionist process in Catalonia. *Journal of Conflict Resolution*, 62(2), 231–253. <https://doi.org/10.1177/0022002717723433>
- Dussailant, F., & Guzmán, E. (2014). Trust via disasters: the case of Chile's 2010 earthquake. *Disasters*, 38(4), 808–832. <https://doi.org/10.1111/disa.12077>
- Galí, J. (2012). *La independència, per fer qué?*. La Vanguardia.
- García Albacete, G. M. (2010). The saliency of political cleavages and the dark sides of social capital: Evidence from Spain. *American Behavioral Scientist*, 53(5), 691–716. <https://doi.org/10.1177/0002764209350832>
- Gehring, K., & Schneider, S. A. (2020). Regional resources and democratic secessionism. *Journal of Public Economics*, 181, 104073. <https://doi.org/10.1016/j.jpubeco.2019.104073>
- Goodhand, J., Hulme, D., & Lewer, N. (2000). Social capital and the political economy of violence: a case study of Sri Lanka. *Disasters*, 24(4), 390–406. <https://doi.org/10.1111/1467-7717.00155>
- Guibernau, M. (2004). *Catalan nationalism: Francoism, transition and democracy*. Routledge.
- Guibernau, M. (2013). Secessionism in Catalonia: After democracy. *Ethnopolitics*, 12(4), 368–393. <https://doi.org/10.1080/17449057.2013.843245>
- Guiso, L., Sapienza, P., & Zingales, L. (2016). Long-term persistence. *Journal of the European Economic Association*, 14(6), 1401–1436. <https://doi.org/10.1111/jeea.12177>
- Gustavsson, G., & Stendahl, L. (2020). National identity: a blessing or a curse? The divergent links from national attachment, pride, and chauvinism to social and political trust. *European Political Science Review*, 12(4), 449–468. <https://doi.org/10.1017/S1755773920000211>
- Gutmann, J., & Voigt, S. (2017). *Why adopt a federal constitution? And why decentralize?—Determinants based on a new dataset*. Available at SSRN: <https://ssrn.com/abstract=2962625>
- Gylfason, T., & Hochreiter, E. (2009). Growing apart? A tale of two republics: Estonia and Georgia. *European Journal of Political Economy*, 25(3), 355–370. <https://doi.org/10.1016/j.ejpoleco.2009.02.002>
- Harrison, L. E. (2012). *Jews, Confucians, and Protestants: Cultural capital and the end of multiculturalism*. Rowman & Littlefield Publishers.
- Herreros, F., & Criado, H. (2008). The state and the development of social trust. *International Political Science Review*, 29(1), 53–71. <https://doi.org/10.1177/0192512107083447>
- Hillman, A. L. (2005). Political institutions, jurisdictional boundaries and rent creation. *Keio Economic Studies*, 41(1–2).
- Horváth, R. (2013). Does trust promote growth? *Journal of Comparative Economics*, 41(3), 777–788. <https://doi.org/10.1016/j.jce.2012.10.006>
- Janhuba, R. (2019). Do victories and losses matter? Effects of football on life satisfaction. *Journal of Economic Psychology*, 75, 102102. <https://doi.org/10.1016/j.joep.2018.09.002>
- Kijewski, S., & Freitag, M. (2018). Civil war and the formation of social trust in Kosovo: Posttraumatic growth or war-related distress? *Journal of Conflict Resolution*, 62(4), 717–742. <https://doi.org/10.1177/0022002716666324>
- Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics*, 112(4), 1251–1288. <https://doi.org/10.1162/003355300555475>
- Lago-Peñas, S., Fernández-Leiceaga, X., & Vaquero-García, A. (2017). Spanish fiscal decentralization: A successful (but still unfinished) process. *Environment and Planning C: Politics and Space*, 35(8), 1509–1525.
- Lowes, S., Nunn, N., Robinson, J. A., & Weigel, J. L. (2017). The evolution of culture and institutions: Evidence from the Kuba Kingdom. *Econometrica*, 85(4), 1065–1091. <https://doi.org/10.3982/ECTA14139>
- Martini, S., & Torcal, M. (2019). Trust across political conflicts: Evidence from a survey experiment in divided societies. *Party Politics*, 25(2), 126–139.



- Molinero, C., & Ysàs, P. (1992). Movimientos sociales y actitudes políticas en la crisis del franquismo. *Historia Contemporánea*, 1(8), 269–280.
- Naef, M., & Schupp, J. (2009). *Measuring trust: Experiments and surveys in contrast and combination*. Tech. rep., DIW Berlin, The German Socio-Economic Panel (SOEP).
- Nunn, N., & Wantchekon, L. (2011). The slave trade and the origins of mistrust in Africa. *American Economic Review*, 101(7), 3221–3252. <https://doi.org/10.1257/aer.101.7.3221>
- Petro, N. N. (2001). Creating social capital in Russia: The Novgorod model. *World Development*, 29(2), 229–244. [https://doi.org/10.1016/S0305-750X\(00\)00101-7](https://doi.org/10.1016/S0305-750X(00)00101-7)
- Pettai, V. (2007). The construction of state identity and its legacies: Legal restorationism in Estonia. *Ab Imperio*, 2007(3), 403–426. <https://doi.org/10.1353/imp.2007.0022>
- Pierce, L., Rogers, T., & Snyder, J. A. (2016). Losing hurts: The happiness impact of partisan electoral loss. *Journal of Experimental Political Science*, 3(1), 44–59. <https://doi.org/10.1017/XPS.2015.8>
- Pitlik, H., & Rode, M. (2020). Radical distrust: Are economic policy attitudes tempered by social trust? *Social Indicators Research*, 1–22.
- Porta, R. L., Lopez-De-Silanes, F., Shleifer, A., & Vishny, R. W. (1996). *Trust in large organizations*. Tech. rep., National Bureau of Economic Research.
- Putnam, R. D. (2001). *Bowling alone: The collapse and revival of American community*. Simon and Schuster.
- Putnam, R. D., Leonardi, R., & Nanetti, R. Y. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton University Press.
- Reeskens, T., & Wright, M. (2013). Nationalism and the cohesive society: A multilevel analysis of the interplay among diversity, national identity, and social capital across 27 European societies. *Comparative Political Studies*, 46(2), 153–181. <https://doi.org/10.1177/0010414012453033>
- Rode, M., Pitlik, H., & Borrella Mas, M. Á. (2018). Does fiscal federalism deter or spur secessionist movements? Empirical evidence from Europe. *Publius: The Journal of Federalism*, 48(2), 161–190. <https://doi.org/10.1093/publius/pjx060>
- Rothstein, B. (2013). Corruption and social trust: Why the fish rots from the head down. *Social Research*, 80, 1009–1032.
- Sala i Martín, X. (2014). *És l' hora dels adéus?*. Rosa Vents.
- Sánchez, A. (2000). Crisis económica y respuesta empresarial. Los inicios del Sistema fabril en la industria algodonera catalana, 1797–1839. *Revista de Historia Económica-Journal of Iberian and Latin American Economic History*, 18(3), 485–523.
- Scharnagl, W. (2012). *Bayern kann es auch allein: Ein Plädoyer für den eigenen Staat*. Bastei Lübbe.
- Simpson, B., & Eriksson, K. (2009). The dynamics of contracts and generalized trustworthiness. *Rationality and Society*, 21(1), 59–80. <https://doi.org/10.1177/1043463108099348>
- Solé, A. (2012). *Por qué Catalunya no fracasaría*. El Periódico.
- Tendler, J. (1997). *Good government in the tropics*. Johns Hopkins University Press.
- Uslaner, E. M. (2002). *The moral foundations of trust*. Cambridge University Press.
- Uslaner, E. M. (2007). The foundations of trust: macro and micro. *Cambridge Journal of Economics*, 32(2), 289–294. <https://doi.org/10.1093/cje/bem039>
- Vaubel, R. (2013). Secession in the European Union. *Economic Affairs*, 33(3), 288–302. <https://doi.org/10.1111/ecaf.12028>
- Zak, P. J., & Knack, S. (2001). Trust and growth. *The Economic Journal*, 111(470), 295–321. <https://doi.org/10.1111/1468-0297.00609>

## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

**How to cite this article:** Bjørnskov, C., Borrella-Mas, M. Á., & Rode, M. (2022). The economics of change and stability in social trust: Evidence from (and for) Catalan secession. *Economics & Politics*, 34, 275–297. <https://doi.org/10.1111/ecpo.12198>