

# **The unintended consequences of political mobilization on trust: the case of the secessionist process in Catalonia**

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## **Abstract**

Conflicting theories and mixed empirical results exist on the relationship between ethnic diversity and trust. This article argues that these mixed empirical results might be driven by contextual conditions. We conjecture that political competition could strengthen ethnic saliency and, in turn, salient ethnic identities can activate or intensify in-group trust and depress trust in members of other ethnic groups. We test this conjecture using the move towards secession in Catalonia, Spain. We conduct trust experiments across ethnic lines in Catalonia before and during the secessionist process. After three years of pro-independence mobilization in Catalonia, one of the ethnic groups, Spanish-speakers living in Catalonia, has indeed increased its in-group trust. This result is robust after a set of individual-level variables are controlled for, but no equivalent result is found in a comparable region, the Basque Country.

How do contextual political conditions affect intergroup behavior? Recent research shows that electoral campaigns and violent riots might activate different group strategies, from out-group discrimination to accommodating the other group's goals (Beber et al. 2014; Michelich 2015). Building on this literature, we here study some of the behavioral effects of an important but under-analyzed political process: a peaceful secessionist movement in a multi-ethnic society. The stakes are typically high for all ethnic groups involved in a secessionist process. The prospect of secession might increase in-group trust and cooperation among those who feel threatened by the secessionist process and probably decrease out-group trust towards members of the pro-independence ethnic majority. This is a typical result of a "security dilemma" (Posen 1993), in which mobilization by one party can increase the insecurity of the other party and lead, in turn, to a counter-mobilization.

We focus on the recent move towards secession in Catalonia, a multi-ethnic affluent democratic society in Spain. We conduct trust experiments in Catalonia before and during the pro-independence mobilization to investigate whether this process increases in-group trust among those potentially threatened by the secession. As a further control, we conduct the same two sets of experiments in the Basque Country, a comparable multi-ethnic Spanish region undergoing no pro-independence mobilization during the period in question. Our identification strategy crucially relies on comparing two similar regions sharing a history of nationalistic mobilization at a point in time in which only one is actively mobilized towards secession.<sup>1</sup> We use a difference-in-difference statistical approach to test our causal claim from secessionist mobilization to intergroup discrimination. Our results largely confirm an effect of secessionist mobilization on in-group trust in Catalonia. Spanish-speakers in Catalonia, those who could feel that their interest would be threatened by the secession, trust

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<sup>1</sup> The history of national mobilizations in these two Spanish regions is summarized in the *Case Study* section below. See Criado et al. (2015) for a socio-economic and a behavioral comparison of Catalonia and the Basque Country.

fellow Spanish-speakers more once the secessionist movement is in place. This effect is totally absent in the case of the Basque Country.

While the effects of electoral politics and political violence on ethnic salience have been extensively studied, peaceful secessionist processes and their consequences on ethnic mobilization have been barely analyzed, despite its potential to make ethnic divisions salient. Furthermore, the majority of analyses on the effects of political contextual variables on ethnic discrimination have focused on voting behavior or inter-ethnic violence, but not on behavioral variables such as trust. In this regard, this article aims to make a relevant contribution to the study of the behavioral effects of political mobilization by focusing on the effects of peaceful secessionist processes on intergroup trust between ethnic groups.<sup>2</sup>

Our study also provides a novel research design to study the effects of secessionism on intergroup trust in multi-ethnic societies, thus complementing other studies on the effects of contextual variables on intergroup behavior. Michelich (2015) studies the effect of elections on ethnic discrimination in Ghana, using experimental evidence at three points in time: before, during and after the elections. Beber et al. (2014), in turn, study the effects of pro-independence riots in Sudan's capital (Khartoum) on the preferences regarding Southern Sudan's secessionist bid by Northerners who experienced those riots. These two analyses, however, do not include a similar control case in a range of relevant variables as our analysis does. Our analysis, in this sense, advances in the direction of establishing a causal link from a contextual variable (secessionist mobilization) to intergroup trust.

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<sup>2</sup> One remarkable exception is Beber et al. (2014) analysis on the effects of violent riots on preferences towards secession by people that have experienced the violence. While they consider preferences towards secession as endogenous to violence, in our study, secession is exogenous to intergroup trust.

## Theory

There is mixed evidence on intergroup discrimination on ethnic lines. Some survey studies find that ethnic heterogeneity is associated with less social trust, suggesting that people tend to trust members of their own ethnic group and distrust members of other ethnic groups (see Rice and Steele 2001; Alesina and La Ferrara 2002; Costa and Kahn 2003; Delhey and Newton 2005; Ziller 2015), or, in some cases, that both in-group and out-group trust are depressed by ethnic heterogeneity (Putnam 2007).<sup>3</sup> The experimental literature, in turn, presents mixed results. Some experimental studies have found a co-ethnicity effect on trust, meaning that members of an ethnic group are both more willing to trust their co-ethnics and to distrust people from other ethnic groups (see Ferhstman and Gneezy 2001; Falk and Zehnder 2013). Similar results are reported for participants of different ethnic backgrounds in public goods games (Habyarimana et al. 2007; 2009).<sup>4</sup> By contrast, other experimental works fail to find in-group or out-group effects on trust (Boucakert and Dhaene 2004; Glaeser et al. 2000) or cooperation (Whitt and Wilson 2007; Alexander and Christia 2011).

We argue that these mixed empirical results on intergroup discrimination could be driven by contextual political conditions to a certain extent. More specifically, political mobilization could strengthen ethnic saliency and, in turn, salient ethnic identities can activate or intensify in-group trust and depress trust in members of other ethnic groups. This view is consistent

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<sup>3</sup> However, not all analyses based on survey data agree on this point. Several analyses using data on European countries fail to find any negative impact of ethnic diversity on trust (see Hooghe et al. 2009 and Gesthuizen et al. 2009). Gundelach (2014), using a measure of out-group trust as the dependent variable instead of the standard social trust question, finds that ethnic diversity actually increases such trust. Bahry et al. (2005) show that high in-group trust in ethnically heterogeneous Tartarstan and Sakha-Yakutia is normally associated with high out-group trust. According to Uslaner (2012), it is not ethnic diversity *per se* but ethnic segregation that drives trust down. Trust tends to be higher in integrated communities where people have friends from different backgrounds. Rydgen et al. (2013) find fairly similar results in their analysis of two Iraqi cities: ethnic heterogeneity seems to be positively associated with trust and tolerance, at least within structurally constrained interaction spaces, even in conflict settings.

<sup>4</sup> Non-experimental data confirming this hypothesis are reported by Miguel and Gugerty (2005) in their analysis of the provision of public goods in ethnically heterogeneous settings in Kenya.

with a constructivist approach to ethnic identities, which distinguishes between “nominal” and “activated” ethnic identities. Nominal ethnic identities are ethnic identity categories in which an individual’s descent-based attributes make her eligible for membership, while activated ethnic identities are those in which she actually professes membership, or to which she is assigned by others as a member (Chandra 2012). Therefore, every individual has a set of nominal ethnic identities, some of which can be activated, notably by political contextual variables. Some previous analyses on the effects of the political context on intergroup discrimination along ethnic lines include Michelitch (2015) on the effects of electoral campaigns on discrimination across ethnic and partisan lines, as well as some studies on the effects of conflict on intergroup trust (Cassar et al. 2013; Gilligan et al. 2014).

We study the effects of a peaceful secessionist process in a multi-ethnic society on intergroup trust along ethnic lines. Secessionist processes can turn violent and lead to civil wars or, in some cases, be conducted in a peaceful way. According to most evidence, in high-income countries, secessionist processes tend to be “political” rather than violent (Collier and Hoeffler 2006). This evidence also shows that peaceful secessionist processes are more likely in democratic countries (Walter 2009: 82). Our case –the recent secessionist mobilization in Catalonia– fits into this pattern: an affluent region that seeks secession from a democratic state by peaceful means.

A secessionist process in a multi-ethnic society is a way of politically mobilizing ethnic identity that lies in between two extreme cases of political mobilization: a less extreme case of mobilization through regular electoral processes and a more extreme case of ethnic mobilization through violence. There is typically much more at stake than in a conventional electoral process in a peaceful secessionist process: the change in the status quo is more radical and potential gains and losses are also higher. In general terms, the potential costs of a

secessionist process include state opposition (especially if the state has to deal with other potential secessionist challenges (Walter 2009)), international hostility and economic losses (at least in a transitional period) (Bartkus 1999). The costs for the losers in the secession process could be potentially larger than those faced by losers in a regular electoral process within the seceding community, particularly in cases of communities that are themselves ethnically heterogeneous. The minority ethnic group, that in many cases constitutes an ethnic majority in the state as a whole but a minority in the seceding region (Spanish-speakers in our case study), can feel threatened by the perspective of a newly independent state dominated by the majority ethnic group and with no protection from the former state. This ethnic minority does not typically share the desire for independence of the ethnic group that is mobilizing in favor of secession. It is for this reason that ethnic mobilization is more successful when the ethnic group seeking independence is heavily concentrated in a single region (Toft 2005; Laitin 2007: 19) and why, in general terms, ethnic differences within a region dampen its prospects of organizing successful demands for sovereignty (Sambanis and Milanovic 2011).<sup>5</sup> To a certain extent, a secessionist process in a multi-ethnic community implies a kind of “security dilemma” (Posen 1993) in which the minority ethnic group may feel threatened by the mobilization of the ethnic group seeking independence. This, in turn, can lead them to try to increase their security by counter-mobilization.

A secessionist process could induce effects on several variables, such as the vote, or attitudes towards secession in general. Our variable of interest is trust. There are several available definitions of trust in the literature. One of the most influential is Hardin’s (2002: 4)

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<sup>5</sup> In general terms, nation-building through the mobilization of majoritarian ethno-linguistic identities implies a push towards homogenization of the national community, the imposition of a majoritarian culture and language, and, therefore, a reduction in ethno-linguistic heterogeneity (see Gellner 1983). The building of new nations in Europe in the inter-war years provides numerous examples of ethnically heterogeneous communities forced into homogeneity through top-down nationalist policies (see Hobsbawm 1990). Alphabetization in the majoritarian (or that of the elite) language was central to the creation of what Anderson (1983) called “imagined communities”.

definition of trust as “encapsulated self interest”: “I trust you because I think it is in your interest to attend to my interest in the relevant matter”. According to Fehr (2008), apart from these beliefs regarding the trustworthiness of others, trust is also based on the willingness to accept the risks involved in trusting acts. There is strong neurobiological and behavioral evidence that the preferences that underpin trust behavior are different from those towards risk in general. The risks involved in trust are typically social risks, related to social preferences such as inequity aversion (Fehr and Schmidt 1999) or betrayal aversion (Bohnet et al. 2008). Notice that trust is different to a related concept, trustworthiness, which simply refers to the willingness of an individual to reciprocate trust, based basically on three types of motivations: internal commitment (out, for example, of moral inclinations), exogenous incentives (third-party sanctions, or reputational costs), or a combination of both (Hardin 2002: 28-29). In the trust game described in the next section, the move of the first player captures trust and it is usually driven by perception of social risks, while the move of the second player could be interpreted as related to trustworthiness.<sup>6</sup>

Our argument is that the minority ethnic group in a multi-ethnic seceding community will probably feel that their interests are threatened in a relevant way. This may result in distrust towards the ethnic majority that is promoting the secessionist bid. Members of the ethnic minority may think that the members of the ethnic majority group are not “addressing their interests in the relevant matter”. This may led them, first, to focus their trust on their co-ethnics (that is, to increase their in-group trust), as a defensive measure against a perceived threat, and, second, to decrease trust in members of the dominant ethnic group (that is, to decrease their out-group trust).

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<sup>6</sup> Although our main focus is on trust, we also provide an analysis of the change in reciprocal behavior before and during the mobilization process.

The rationale for increasing in-group trust is analogous to the aforementioned “security dilemma” sometimes encountered in analyses on ethnic collective conflict. The security dilemma is caused by security fears, one of which is when a minority ethnic group finds itself isolated within a majoritarian ethnic group (Walter 1999: 4). These fears can fuel suspicion and distrust between members of different ethnic groups that, in turn, can lead to defensive measures to increase their own security. In less threatening scenarios, such as peaceful secessionist processes in democratic and affluent countries, members of the minority ethnic group will typically not fear for their security, but they can still fear that their interests will not be taken into account by the dominant ethnic group in the newly independent polity. A response can be membership in the minority ethnic group (in our case, Spanish-speakers) becoming more salient and the mobilization of the ethnic group seeking independence may be counter-balanced by a parallel mobilization by the majority ethnic group. The ethnic group can be a focal point for the collective action (Hardin 1995; de Vaal 2005). In this scenario, in-group trust will likely grow. It is also likely that distrust against the out-group will grow too, to the extent that members of the minority group will not think that their interests will be encapsulated into the majority ethnic group’s interests.

Based on the theoretical discussion and taking into account our empirical strategy, we can set out our hypotheses in precise terms:

1. Participants will not trust their co-ethnics more in the endline study than in the baseline study in the non-treated region (the Basque Country).<sup>7</sup>
2. Participants will not trust non co-ethnics less in the endline study than in the baseline study in the non-treated region (the Basque Country).

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<sup>7</sup> In what follows we refer to this first wave of experiments as the *baseline* study and to the second wave of experiments –conducted in early 2015– as the *endline* study.



3. Spanish-speakers will trust their co-ethnics more in the endline study than in the baseline study in the treated region (Catalonia).
4. Spanish-speakers will trust non co-ethnics less in the endline study than in the baseline study in the treated region (Catalonia).

## **Research Design**

### *Case study selected - Catalonia*

Our case is the move towards secession in Catalonia. Catalonia is an affluent industrialized region in the Northeastern Spain with a per capita GDP of 113% of the European average. It is also a multi-ethnic society, whose main ethnic groups (commonly defined by language) are Catalans and Spaniards. Since the last quarter of the nineteenth century, Catalonia has harbored a substantial nationalist movement seeking greater autonomy or even independence from Spain. That movement gained momentum in the first three decades of the twentieth century and the left-wing nationalist party *Esquerra Republicana de Catalunya* (ERC) briefly governed the autonomous region of Catalonia during the first period of fully democratic politics in Spain in the 1930s. Expressions of cultural and political nationalism were largely banned during the subsequent four decades of Franco's authoritarian regime in Spain. During that time, the arrival of immigrants from the rest of Spain, in a process that actually began during the industrialization of Catalonia in the first third of the twentieth century, reached new heights. As a result of those waves of immigration from the rest of Spain, Catalan society today is plural in ethnic terms, with a majority of Catalan-speakers and a large minority of Spanish-speakers.

Since the transition to democracy in Spain in the 1970s, Catalonia has enjoyed a degree of political autonomy from the central government in Madrid. The current Catalan

political party system is a reflection of the multiple political identities of modern Catalan society. The dominant political party for the best part of the last three decades (except for a brief interlude between 2003 and 2010 in which Catalonia was governed by a coalition formed by left-wing nationalists and the Socialist Party) has been *Convergència Democràtica de Catalunya* (CDC), a conservative nationalist party. The other main nationalist party, with a more clearly pro-independence stance, is the historically left-wing *Esquerra Republicana de Catalunya* (ERC). There are also other recently-formed minor pro-independence groups, most notably the left-wing *Candidatura d'Unitat Popular* (CUP). The more clearly pro-Spanish parties are the Partido Popular (People's Party) (the Catalan branch of the conservative party currently in power in Madrid) and the relatively new *Ciutadans* (Citizens). The remaining parties are the Catalan Socialist Party (the Catalan branch of the mainstream social democratic Spanish Socialist Party) and *Iniciativa per Catalunya*, formerly the representative in Catalonia of Izquierda Unida (United Left), the coalition led by the Spanish Communist Party, which is now in a coalition with the new left-wing Spanish party *Podemos* ("We Can"). These last two parties defend the notion of a federal arrangement between Spain and Catalonia.

Political competition in Catalonia has been structured along two main cleavages: the traditional ideological left-right and the nationalist cleavage. However, in the last three years Catalonia has experienced a process of strong mobilization in favor of independence from Spain that has led to polarization around the nationalist divide. The ruling party, CDC, which has traditionally been more in favor of some sort of accommodation between Spain and Catalonia, has adopted a much more pro-independence stance under the new leadership of Artur Mas, premier of Catalonia from December 2010 to January 2016 (see Figure 1). In September 2012 a big demonstration in favor of independence (under the slogan "Catalonia, a

new European state”) organized by the Catalan National Assembly (a voluntary association recently created to advance Catalan independence) was held in Barcelona and, at about the same time, Premier Mas convened new elections for November 2012. The election campaign completely focused on the independence issue. The resulting parliament led to a rearrangement of forces within the nationalist camp: CDC lost one sixth of its seats, while the more clearly pro-independence ERC and CUP considerably expanded their electoral support. In the following two years, the political debate in Catalonia became increasingly centered on the convening of a referendum on independence. On January 23 2013, the Catalan Parliament approved a “Declaration of Sovereignty and of the Right to decide of the Catalan People”. The Popular Party, *Ciutadans* and most of the Socialist Party’s MPs voted against. The central government rejected it, but the Catalan government nonetheless finally convened an informal referendum on independence on November 9 2014. After months of intense political mobilization, 2,305,290 votes (around 40% of the electoral roll in Catalonia) were eventually cast, according to the Catalan Government, 80% of them in favor of an independent Catalan state. The referendum process led to high levels of polarization between those in favor of the “right to decide” of the Catalan people and those –mostly, pro-Spanish political parties– who considered the convening of a referendum by the Catalan government to be illegal and a clear breach of the constitutional order.

This move towards secession has clearly made ethnic identities more salient. Pro-independence forces have stressed the existence of a Catalan ethnic and cultural identity different from the Spanish one. This may have deepened the existing cleavage in Catalan society between the Spanish and Catalan identities.<sup>8</sup> As mentioned in the theoretical part of this paper, there is ample empirical evidence that electoral processes can mobilize ethnic

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<sup>8</sup> According to the study of Orriols and Simon 2016, during the period 1984-2015, the probability of voting for a Catalan nationalist party for non Catalan-speakers was 0.18, while it was 0.73 for Catalan-speakers, which indicates the existence of a relevant divide in Catalan politics along ethno-linguistic lines.

identities, but hardly any on the consequences of secessionist processes for social behavior. In this type of political process, the stakes are higher than in a standard election campaign, and, as a consequence, the effect on social dynamics such as trust could be also greater. This paper tests whether this intense mobilization of the nationalist cleavage in Catalonia has affected trust between Catalans and Spaniards living in Catalonia. To that end we conduct an online trust experiment at two points in time: before the pro-independence mobilization process and during that process, just after the November 2014 referendum. As a further control, we replicate the experiment in the Basque Country, where we also have data at those same two points in time: pre and post-treatment (pro-independence mobilization in Catalonia). This is another multi-ethnic region of Spain, where the main ethnic groups are Basques and Spaniards. It is very similar to Catalonia in a range of variables. As in the case of Catalonia, the Basque Country became an industrialized region at the end of the nineteenth century, well ahead of the rest of Spain. Several flows of immigrants from Castile reached the Basque Country to work in the burgeoning new industries during the twentieth century. The consequence was a multi-ethnic society consisting of Basque and Spanish speakers. Today, the Basque Country remains a highly industrialized and wealthy region, its per capita GDP is well above the European average (133% in 2014) and it has been governed by a moderate nationalist party (the Basque Nationalist Party, PNV) for most of the last three decades.<sup>9</sup> As was the case in Catalonia, nationalism first took roots in the Basque Country at the end of the nineteenth century and the PNV was founded in 1895 (Corcuera 1979). The nationalist movement was already hegemonic in the Basque Country by the 1930s, during the Spanish Second Republic, and the Basque Autonomous Region was governed by the PNV for a brief period (1936-37) before the Basque Country was conquered by Franco's Army during the

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<sup>9</sup> A difference between the two territories is that the Basque Country has harbored a pro-independence terrorist organization, ETA. However, ETA had ceased its terrorist attacks by the time of the period under consideration.

Spanish Civil War. After democracy was restored in Spain in the late 1970s, the PNV regained its prominent position in Basque politics. As in Catalonia, there is another more clearly pro-independence movement alongside the moderate PNV, in the nationalist camp by the so-called “Abertzale Left”, a movement largely associated with the ETA terrorist group until the latter abandoned its terrorist attacks in 2011. The other political parties in the Basque political landscape are the Basque branches of the Spanish Socialist Party, the conservative Popular Party and the new political movement *Podemos* (“We Can”). A major difference between Catalonia and the Basque Country in the last three years is the absence of any large-scale political mobilization in favor of independence in the latter. Although the Basque political system is in some ways fairly similar to the Catalan one, with a hegemonic moderate nationalist party alongside a more radical left-wing pro-independence party, pro-independence mobilization has been much lower in the Basque Country than in Catalonia in recent years, especially since ETA turned its back on violence in 2011. In this sense, the comparison between the electoral manifestos for the 2012 Basque and Catalan parliamentary elections of the two hegemonic nationalist parties, PNV in the Basque Country and CDC in Catalonia, is illuminating. The CDC electoral manifesto devoted its first 20 pages to explaining what it termed the “National Transition”, and stated that the paramount aim of the party was the construction of a new Catalan state.<sup>10</sup> By contrast, the PNV electoral manifesto devoted just two pages to “self government”, without any reference to “independence”. The rest of the manifesto was exclusively devoted to economic and social issues.<sup>11</sup> While pro-independence Catalan forces were capable of gathering huge multitudes in favor of secession from Spain and actually convened an informal referendum for independence, the hegemonic PNV largely abstained from any pro-independence mobilization and the attempts of the

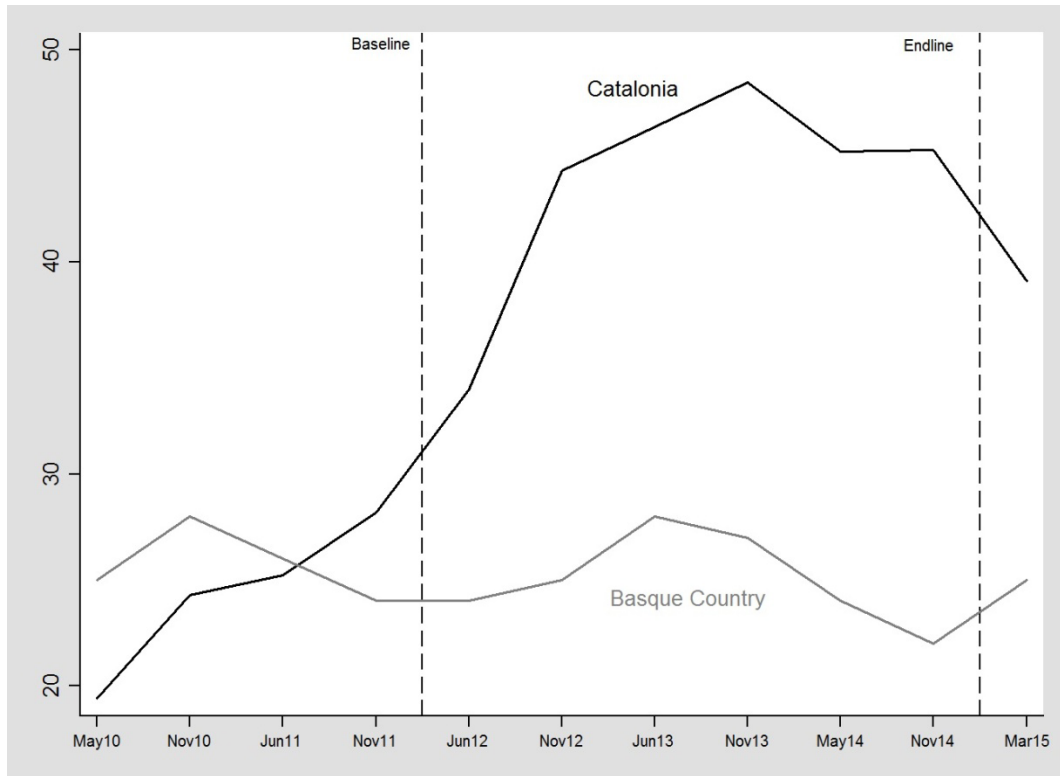
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<sup>10</sup> [http://blogs.deusto.es/programasaldesnudo/wp-content/uploads/2012/10/CAT\\_2012\\_CiU.pdf](http://blogs.deusto.es/programasaldesnudo/wp-content/uploads/2012/10/CAT_2012_CiU.pdf).

<sup>11</sup> <http://www.eaj-pnv.eus/es/adjuntos-documentos/14391/pdf/programa-electoral-parlamento-vasco-2012-compromis>.

Abertzale Left to imitate the “Catalan way” obtained scant results. The absence of Basque secessionist mobilization during this period compared to Catalonia is graphically depicted in Figure 1.

**FIGURE 1. Percentage of the population who declare themselves to be pro-independence**



**Source:** Centre d'Estudis d'Opinió (Catalonia) and Euskobarometer (Basque Country) surveys.

### *Behavioral experiments*

We conducted online experiments in Catalonia and the Basque Country in 2012 and 2015. The *baseline* studies were conducted in February and March 2012 in the Basque Country and in April and May 2012 in Catalonia. The *endline* studies were conducted in January 2015.<sup>12</sup> The participants were 936 students and non-students (388 men and 548 women) recruited on seven university campuses (four in the Basque Country and three in Catalonia). Subjects

<sup>12</sup> These two points in time coincide with initial and advanced phases of the current mobilization towards session in Catalonia.

participated in the experiment online. All the studies used a purposely-designed online platform. Participants played only one instance of a trust game anonymously.

The experiment involved a symmetric version of the trust game<sup>13</sup> (Berg et al. 1995) that included both in-group (same ethnic group) and out-group (different ethnic group) dyads. Each participant played the game only once with a single anonymous partner. The players in a dyad were each provided with an endowment of €50. After receiving the endowment, the first mover (sender) in a dyad transferred an amount between zero and €50. The experimenter doubled this transfer. After learning how much had been transferred, the second mover (receiver) transferred an amount between zero and €50 back to the first mover. The experimenter also doubled the back-transfer. We use a symmetric version of the trust game in which the receiver is asked to reveal her decision regardless of the sender's decision. We chose the symmetric version because it maximizes the number of observations from receivers. In the original trust game, the receiver only gets to decide when the sender sends a positive amount.

The experiment had a 2x2x4 factorial design resulting from the combination of two years, two regions and four pairing conditions (see Table 1). Once the participants had confirmed their participation in the experiment, they received general instructions and were asked to answer a pre-experiment questionnaire which included questions on age, sex, nationality and language. Once they had answered it, they were presented with the instructions of the trust game and asked to answer control questions. The instructions of the game were presented and the control questions answered before participants were informed

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<sup>13</sup> The investment or trust game has been extensively studied using laboratory, field and online experiments. Johnson and Mislin (2011) provide a meta-analysis of over one hundred and sixty experimental replications of this game in different geographical locations. On average, they find a considerable willingness to trust and reciprocate trust behaviour across subject pools. However, they also find important behavioural differences between replications of the experiment. Most of these differences can be explained by various design features of the experiments, but they also find robust evidence of geographical differences.

about their role in the game. Once participants understood the rules of the game, they were informed of the language of the person they were interacting with and asked to make their choice. Each participant was shown on the screen the answer her partner gave to the question “which is the language you use in your daily life?” Before answering the socio-demographic questionnaire, they were informed that the only thing they will know about their partner will be the answer to one question from the questionnaire. If they played as receivers, they were also informed of how much money the sender had sent. Finally, participants were asked to answer a post-experiment questionnaire. When participants completed the second questionnaire, they were given a participation code and a password to collect a prize if they were selected to be paid. Twenty participants, ten in the Basque Country and ten in Catalonia, were actually paid their earnings in the experiment. The maximum payment was €130, the minimum €16 and the average €66.98.

**TABLE 1: Treatment assignment**

Treatment\ Language	Baseline		vs.	Endline	
	Sender	Receiver		Sender	Receiver
S-S	Spanish	Spanish		Spanish	Spanish
NS-NS	NonSpanish	NonSpanish		NonSpanish	NonSpanish
S-NS	Spanish	NonSpanish		Spanish	NonSpanish
NS-S	NonSpanish	Spanish		NonSpanish	Spanish

Note: NonSpanish means Catalan speakers in Catalonia and Basque speakers in the Basque Country.

### *Empirical strategy*

Our main research question is whether the process of political mobilization in Catalonia between 2012 and 2015 has had an effect on trust between co-ethnics. To investigate this question, we study the association between trust and ethnicity in Catalonia in 2015 and control for levels of trust identically estimated in Catalonia in 2012 and in the Basque



Country in 2012 and 2015. Interestingly, we find no association in the 2012 experiments between trust and ethnicity either in Catalonia or in the Basque Country. The low political mobilization along ethnic lines between the baseline and endline studies makes the Basque Country an ideal control for the potential changes observed in Catalonia between the two waves. We observe trust in coethnic and noncoethnic dyads in each experimental study. First, we compare average levels of in-group and out-group trust in 2012 and 2015 (before and during the secessionist mobilization). We then use a difference-in-difference statistical approach to model changes in trust toward coethnics and trust towards non-coethnics between the two experimental waves. To this end, we estimate the following linear regression model:

$$Trust_{it} = \alpha_0 + \alpha_1 Cat_t + \alpha_2 Y2_t + \alpha_3 (Cat_t * Y2_t) + \varepsilon_i \quad (1)$$

where  $Trust_{it}$  is participant  $i$ 's amount sent in the trust game;  $Cat_t$  takes the value 1 if  $i$  was in Catalonia and 0 if  $i$  was in the Basque Country;  $Y2_t = 1$  if the decision was made in the second year (endline), 0 if the decision was made in the first year (baseline);  $\alpha_0$  to  $\alpha_3$  are the coefficients to be estimated;  $\varepsilon_{it}$  is the error term. In this specification, the effect of participating in the experiment in Catalonia in the second year is a difference-in-difference. Specifically, it is the difference in the change over time in the amount sent (trust) between Catalonia and the Basque Country, i.e., it is  $\alpha_3$ . We estimate below this model separately for each of the four ethnic dyads presented in table 1. We also pool the data and estimate the four dyads jointly with and without additional control variables.

## Results

### *Trust and Ethnicity: Differences-in-Differences*

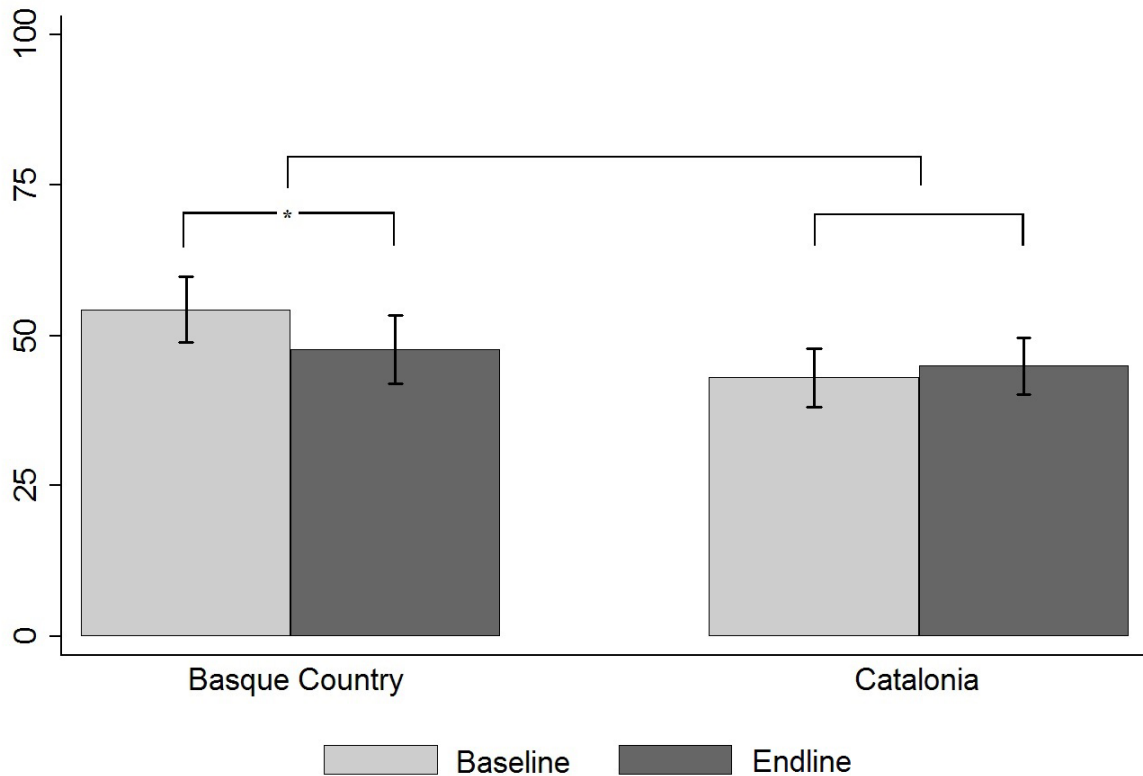
We begin by examining the average trust levels found in the experiment in Catalonia and the Basque Country, in the baseline and endline studies (figure 2). In Catalonia there is a small, insignificant increase in trust levels of two percentage points. In the Basque Country average trust in the endline is observed to be seven percentage points lower than in the baseline experiment. This decline in trust is statistically significant at the 10% level. However, the trends in the Basque Country and Catalonia are only marginally different. The *p-value* of the differences-in-differences estimator (*Cat x Y2*) is  $p=0.104$ .<sup>14</sup> In fact, we show below that the increase in trust levels in Catalonia is driven by one of the dyads in the experiment: *Spanish-Spanish*. When that dyad is excluded from the analysis declining trust levels are also observed in Catalonia in the endline.

Figure 2 pools the decisions of participants in all language dyads. However, our hypotheses predict different behavior patterns depending on the dyad. Figure 3 compares trust levels in Catalonia and the Basque Country in the baseline and endline studies in the different dyads. There are four graphs in Figure 3, corresponding to the four language dyads. The top two graphs show trust levels in Spanish (left) and NonSpanish (right) coethnic dyads. The bottom two graphs present results of noncoethnic dyads. We plot average trust for each region and year for each graph. Finally, we report statistical tests in horizontal bars. The significance levels reported correspond to the regression specification reported in Table 2 below.

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<sup>14</sup> Statistical tests reported in Figure 2 are from estimating model (1) for the whole sample of participants in the two years and regions.

**FIGURE 2. Average Trust in the Basque Country and Catalonia in the Baseline and Endline studies**

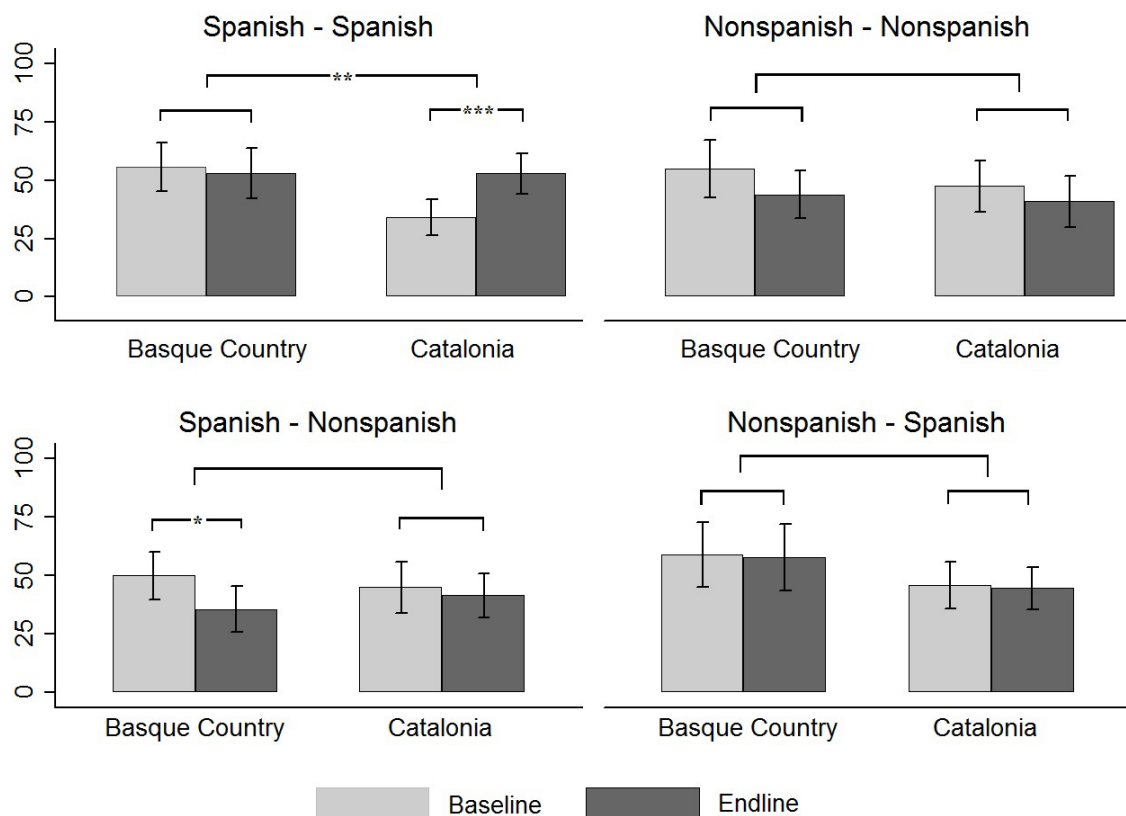


*Note:* Average trust levels (as a % of initial endowments) are graphed as vertical bars. The whiskers indicate 95% confidence intervals. The difference in means between the years (lower horizontal bars) is tested and reported for each region in each time period. The upper horizontal bar indicates the level of significance of the difference-in-differences between the Basque Country and Catalonia. \*  $P < 0.1$ .

Our first observation is that there is a decline in trust levels between the baseline and the endline in seven of the eight time comparisons. This suggests that we would observe a similar negative trend in trust in the two regions without our language treatment. Second, average trust behavior among NonSpanish participants in Catalonia (Catalan speakers) does not change between the two studies. The third observation is that there is virtually no difference in any of the pairings between the two years in the Basque Country, as we predicted. Finally, we observe a large, significant change in the behavior of the *Spanish-Spanish* dyad in Catalonia. This group goes from being the less trusting dyad in Catalonia in the baseline to be the more trusting. Trust between Spanish speakers in Catalonia increases from 34% in the baseline study to 53% in the endline. This increase in trust is significant at

the 1% level and the difference-in-difference estimator ( $Cat \times Y2$ ) is significant at the 5% level for this group (see Table 2).<sup>15</sup> This suggests that the *Spanish-Spanish* group is the only group affected by the pro-independence mobilization in Catalonia between the baseline and endline studies. We come back to this result below, but first we replicate our differences-in-differences analysis incorporating a set of control variables that may affect the decision to trust.

**FIGURE 3. Average trust by language pairing**



*Note:* Average trust levels (as a % of initial endowments) are graphed as vertical bars. The whiskers indicate 95% confidence intervals. The difference in means between the years (lower horizontal bars) is tested and reported for each region in each time period. The upper horizontal bar indicates the level of significance of the difference in differences between the Basque Country and Catalonia. \*\*\* $P < 0.01$ ; \*\*  $P < 0.05$ ; \*  $P < 0.1$ .

<sup>15</sup> 28 out of 468 senders were not Spanish. We replicate the same analysis excluding those observations and the results remain the same.

**TABLE 2. Differences-in-Differences on trust by language pairing.**

	Spanish-Spanish		NonSpanish-NonSpanish		Spanish-NonSpanish		NonSpanish-Spanish
Catalonia (Cat)	-21.601 ***		-7.438		-4.886		-13.088
	(6.442)		(8.423)		(6.969)		(8.125)
Year 2 (Y2)	-2.722		-11.111		-14.285 *		-1.173
	(6.609)		(9.530)		(7.372)		(8.806)
Cat*Y2	21.425 **		4.431		10.701		-0.034
	(9.292)		(11.849)		(10.145)		(11.294)
Constant	55.722 ***		55.000 ***		49.824 ***		58.900 ***
	(4.455)		(6.739)		(4.853)		(6.374)
N	133		102		126		107

Note: Linear regression model. Standard errors in parentheses. \*\*\* P<0.01; \*\* P<0.05; \* P<0.1.

### *Trust and Ethnicity: Differences-in-Differences with Controls*

One limitation of our two-period experimental study is that it has no panel structure and we cannot estimate changes at the individual level. This poses a problem if the four samples in the experiment (two regions and two years) differ in any variable correlated with trust behavior and that correlation drives our main result presented above. We addressed this issue prior to the experiments by focusing on largely homogeneous samples of participants recruited on several university campuses.<sup>16</sup> However, some variation can still be observed in variables that have been shown to correlate with trust behavior in the experiment. Table 3 reports the means and standard deviations of five covariates for which there is enough variation in our sample. There is a higher proportion of women than men and participants are on average relatively young (the median is 23) in all our experiments. However, no significant change is observed in the proportion of women or the average age of the participants between the two regions and years, as shown in the last column of Table 3. The samples in our experiment consist of both students and non-students and it has been reported that these two groups behave differently in experimental trust games (Belot et al., 2015). A higher proportion of students can be observed in all the samples except in the endline study in

<sup>16</sup> We sampled the same population of university students and non-students in the baseline and the endline studies, using the same recruitment channels.

the Basque Country. Finally, we use two variables to control for idiosyncratic characteristics of participants: first, we use a standard survey question on risk attitudes to control for lower willingness to trust among risk lovers. Second, we control for a self-reported measure of identification with Catalan (Basque) nationalist causes. There is no change in the average risk attitudes of participants, but the Catalan sample in the endline is marginally less supportive of the Catalan nationalist cause.

**TABLE 3. Mean of covariates**

	2012		2015		Differences in differences
	Basque Country	Catalonia	Basque Country	Catalonia	
Female (%)	56.48 (49.81)	59.69 (49.24)	54.17 (50.09)	68.89 (46.47)	0.115 (0.091)
Age	27.26 (9.09)	23.47 (5.27)	26.90 (7.03)	23.05 (4.48)	-0.053 (1.220)
Student (%)	69.44 (46.28)	75.97 (42.89)	46.88 (50.16)	82.22 (38.37)	0.288*** (0.082)
Risk	6.09 (2.07)	6.29 (2.24)	5.81 (2.39)	5.72 (2.42)	-0.296 (0.427)
Nationalism	2.81 (1.02)	2.64 (1.04)	3.16 (0.99)	2.64 (1.13)	-0.340* (0.197)

*Notes:* Standard deviations are in parentheses in the first 4 columns. Standard errors are in parentheses in the difference-in-differences column, which compares means in Catalonia before and after the political mobilization to means in the Basque Country. Standard errors come from regressing the characteristics on year and region trends and an interaction term using an OLS. \*\*\* P<0.001; \*\* P<0.05, \*P<0.1.

The first model in Table 4 reports a regression analysis pooling the four models reported in Table 2 and adding the corresponding interactions. The reference category in this model is the *Spanish-Spanish* dyad in the Basque Country in the baseline study. There are two highly significant variables: the negative, significant coefficient on the variable *Catalonia* shows that Spanish speakers trusted other Spanish speakers less in Catalonia than in the Basque Country in the baseline study. By contrast, the positive, significant coefficient of *Cat x Y2* indicates that the increase in trust between Spanish speakers in Catalonia between 2012 and 2015 is significantly higher than in the Basque Country.

The second and third models reported in Table 4 add objective and subjective controls to our pooling analysis, respectively. Our main result is robust to the introduction of these

two sets of controls. More specifically, the coefficient capturing the specific time trend of the Spanish coethnic dyad in Catalonia hardly changes between models. Additionally, we find two results that are in line with previous experimental studies on the trust game: older and risk-prone participants trust more.

**TABLE 4: Full estimation of differences-in-differences on trust with controls**

	Trust	Trust + Objective controls	Trust + Objective + Subjective controls
Spanish-NonSpanish (S-NS)	-5.899 (6.689)	2.389 (6.894)	1.377 (6.739)
NonSpanish-Spanish (NS-S)	3.178 (7.801)	8.363 (7.791)	12.671 (7.770)
NonSpanish-NonSpanish (Ns-Ns)	-0.722 (8.075)	3.119 (8.014)	5.289 (7.912)
Y2	-2.722 (6.915)	-1.891 (6.911)	-0.977 (6.789)
S-NS*Y2	-11.563 (10.046)	-17.197 * (9.991)	-18.576 * (9.815)
NS-S*Y2	1.549 (11.068)	-0.102 (10.922)	-2.591 (10.677)
NS-NS*Y2	-8.389 (11.608)	-6.257 (11.488)	-6.315 (11.220)
Catalonia (Cat)	-21.601 *** (6.741)	-14.394 ** (6.940)	-14.443 ** (6.784)
S-NS*Cat	16.715 * (9.639)	9.399 (9.770)	10.045 (9.540)
NS-S*Cat	8.514 (10.441)	1.442 (10.502)	-2.345 (10.283)
NS-NS*Cat	14.164 (10.647)	11.321 (10.536)	9.758 (10.291)
Y2*Cat	21.425 ** (9.723)	20.451 ** (9.725)	20.780 ** (9.517)
S-NS*Y2*Cat	-10.724 (13.968)	-4.742 (13.883)	-4.059 (13.559)
NS-S*Y2*Cat	-21.458 (14.744)	-16.934 (14.678)	-13.355 (14.366)
NS-NS*Y2*Cat	-16.994 (15.131)	-19.830 (14.994)	-20.749 (14.639)

Female		-2.541 (2.697)		-2.234 (2.639)	
Age		0.636 ** (0.258)		0.615 ** (0.253)	
Student		-3.998 (3.780)		-4.697 (3.701)	
Risk				13.418 *** (2.765)	
Nationalism				-2.481 * (1.403)	
Constant	55.722 *** (4.662)		38.387 *** (10.625)		36.210 *** (11.143)
N	468		467		467

Note: Linear regression model. Standard errors in parentheses. \*\*\* P<0.01; P<0.05; P<0.1.

We report no specific coethnic behavior in trust before the pro-independence mobilization in Catalonia and similarly we find no change between the baseline and endline studies in any of the dyads in the Basque Country. By contrast, Spanish speakers in Catalonia show a significantly higher level of trust towards other Spanish speakers after the political mobilization. Interestingly, we observe no behavioral change in the target group of the political mobilization: Catalan speakers. Moreover, these results are robust to the introduction of a series of control variables that have been shown to affect trust behavior.

The results, therefore, point to an effect of secessionist mobilization on in-group trust in the ethnic group (Spanish-speakers) that did not mobilize for independence, while there is no a similar effect on the non-treated region, the Basque Country. This confirms three of the theoretical hypothesis. A fourth one, claiming a decrease in out-group trust towards non-Spanish speakers in Catalonia, is largely disconfirmed. It seems that the response of the ethnic community potentially more threatened by independence is a defensive one: an increase in trust towards members of their own community, but not a decrease in the (already relatively low) levels of out-group trust.



### *Reciprocity and Ethnicity: Differences-in-Differences*

We have so far focused on the effect of mobilization in Catalonia on trust. In addition to trust, our experiment observes the behavior of receivers in the trust game, which is typically interpreted as a measure of reciprocity. Second movers typically return positive amounts in the trust game (Johnson and Mislin, 2011) and, in the case of reciprocal behavior, the amount returned is positively correlated with the amount received. Potentially, mobilization towards secession could also have an effect on reciprocity.<sup>17</sup> To model changes in reciprocal behavior, we estimate the following linear regression model:

$$\text{Reciprocity}_{jii} = \alpha_0 + \alpha_1 X_{ijit} + \alpha_2 \text{Cat}_i + \alpha_3 (X_{ijit} * \text{Cat}_i) + \alpha_4 Y2_t + \alpha_5 (X_{ijit} * Y2_t) + \alpha_6 (\text{Cat}_i * Y2_t) + \alpha_7 (X_{ijit} * Y2_t * \text{Cat}_i) + \varepsilon_{ji} \quad (2)$$

where  $\text{Reciprocity}_{jii}$  is participant  $j$ 's amount sent back to participant  $i$  in the trust game;  $X_{ijit}$  is the amount received by participant  $j$  from participant  $i$ ;  $\text{Cat}_i$  takes the value 1 if  $i$  was in Catalonia and 0 if  $i$  was in the Basque Country;  $Y2_t = 1$  if the decision was made in the second year (endline), 0 if the decision was made in the first year (baseline);  $\alpha_0$  to  $\alpha_7$  are the coefficients to be estimated;  $\varepsilon_{ji}$  is the error term. In this specification, the effect of the change in reciprocal behavior for individuals participating in the experiment in Catalonia is a triple difference. Specifically, it is the difference in the change over time in the correlation between the amount received and the amount sent back between Catalonia and the Basque Country, i.e., it is  $\alpha_7$ . We estimate below this model separately for each of the four ethnic dyads

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<sup>17</sup> In fact, second movers' behavior in the trust game can be interpreted as a measure of social preferences because they are independent of risk aversion, as an anonymous referee pointed out. However, the focus of our paper is trust behavior, which involves a different type of risk (social risk) as discussed in the theory section.

presented in table 1. Results are presented in table 5.

**TABLE 5: Differences-in-Differences on reciprocity by language pairing.**

	Spanish-Spanish		NonSpanish-NonSpanish		Spanish-NonSpanish		NonSpanish-Spanish
<i>Amount sent (X)</i>	0.628 *** (0.138)		0.357 (0.228)		0.441 *** (0.151)		0.815 *** (0.167)
<i>Catalonia(Cat)</i>	-20.964 * (11.855)		-11.698 (15.746)		-17.806 (11.940)		3.437 (13.186)
<i>Cat * X</i>	0.077 (0.243)		0.2558 (0.266)		0.112 (0.213)		-0.315 (0.216)
<i>Y2</i>	-11.131 (12.931)		-0.992 (19.224)		0.412 (12.507)		14.408 (14.519)
<i>Y2 * X</i>	0.021 (0.211)		-0.115 (0.361)		0.198 (0.258)		-0.075 (0.221)
<i>Cat * Y2</i>	43.701 ** (18.193)		2.223 (21.766)		10.309 (16.975)		-11.968 (17.964)
<i>Cat* Y2 * X</i>	-0.539 (0.337)		0.001 (0.407)		-0.341 (0.340)		0.038 (0.299)
<i>Constant</i>	23.327 *** (8.695)		30.376 ** (13.694)		21.284 ** (8.719)		7.405 (10.923)
N	133		102		126		107

Note: Linear regression model. Standard errors in parentheses. \*\*\* P<0.01; \*\* P<0.05; \* P<0.1.

We find no significant change on reciprocal behavior for any of the ethnic dyads. This means that, whereas mobilization towards session has a significant effect on trust (beliefs about other individual), it has no effect on reciprocity (preferences about another individual).

## Conclusions

In this paper, we claim that the mobilization of ethnicity through secessionism has an impact on the in-group trust of the ethnic group potentially threatened by the secessionist bid. Most studies have stressed two main ways of mobilizing ethnicity: through elections and through violent conflict. These studies, with some exceptions, have focused on the effects of regular elections and conflict on voting or public opinion attitudes across ethnic lines. We here test the effects of another, middle way of mobilizing ethnicity –peaceful secessionist processes in multi-ethnic societies– on trust across ethnic lines. We specifically sought to establish

whether a period of intense secessionist mobilization has had an effect on in-group and out-group trust for the would-be losers of a successful secessionist bid: the ethnic group of Spanish-speakers that were mostly not the target of the secessionist mobilization. As far as we know, this is the first analysis of the effects of a peaceful secessionist process on a behavioral variable like trust.

Having conducted experiments on trust across ethnic lines in Catalonia before the mobilization towards secession began, we realized when the process gained momentum that this gave us the opportunity to test whether this type of mobilization has the potential to affect in-group trust by running another wave of experiments on trust. We have also benefited from a further control in another multi-ethnic society with no secessionist mobilization in the period under consideration, the Basque Country. So to a certain extent we find ourselves faced with a sort of natural experiment on mobilization and trust.

The results largely confirm that secessionist mobilization in a multi-ethnic society has had indeed an effect on trust across ethnic lines. After two years of pro-independence mobilization in Catalonia, one of the ethnic groups -, Spanish-speakers living in Catalonia - has indeed increased its in-group trust. This result is robust after controlling for a set of individual-level variables, but no equivalent result is found in the Basque Country. This finding is in line with recent studies that have found that traumatic forms of mobilization (conflict) have an impact on trust. The Catalan secessionist process is a peaceful one, but the stakes are nonetheless higher for winners and losers than in a regular election and, probably for this reason, an effect on in-group trust can be seen for one of the ethnic groups living in Catalonia. The fact that this effect is limited to Spanish-speakers is also relevant. This is a large minority in Catalonia that generally does not share the secessionist preferences of the Catalan-speakers. Arguably, Spanish-speakers are the group that potentially can harbor more

fears that their relevant interest will not be taken into account in a newly independent state. Interestingly, this did not lead them to trust less in Catalan-speakers, but rather increased their in-group trust, perhaps as a defensive reaction towards the mobilizations for independence by the majority ethnic group in Catalonia. This result has interesting implications for other peaceful secessionist processes in multi-ethnic communities, as the mobilization of the secessionist issue by the majority ethnic group within the seceding community can have the unforeseen result of generating defensive attitudes on the part of the ethnic group that in principle can feel itself threatened by the secessionist bid.

We find no effect of the secessionist move on reciprocal behavior between the different ethnic groups. This suggests that the effect should be interpreted as a change in beliefs –of Spanish speakers in Catalonia– and not as a change in preferences about other social groups.

The result also points to the fact that ethnic heterogeneity per se does not necessarily have behavioral consequences in variables such as trust, explaining to a certain extent the apparently contradictory results obtained in the empirical analyses on ethnic heterogeneity and trust. The literature has already pointed to contextual variables as spatial segregation, electoral mobilization in regular elections and conflict that can affect in-group and out-group trust. We have shown in this paper that another type of contextual variable, a peaceful secessionist process, can indeed affect in-group trust.

Through further research, we need to establish whether our results are limited in scope to ethnic groups that are a national majority but a regional minority or, more generally, to situations in which there is a clear minority.

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