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Trusting people in times of crisis  
Panel and experimental evidence on the political foundations and consequences of social trust



Sergio Martini

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Universitat  
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uncovering the structural foundations of political dissatisfaction in Italy, 1973-2013” has appeared in “West European Politics”. Another one “Easy come, Easy go? Economic performance and satisfaction with democracy in southern Europe in the last three decades” has been published by the “Social Indicators Research”, and, finally “Does the economy really matter for satisfaction with democracy? Longitudinal and cross-country evidence from the European Union” has appeared in “Electoral Studies”.

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## **Abstract**

This work is set around three empirical papers concerned with the political foundations and consequences of trust among people. The first one addresses the question of how trust evolves and whether this is shaped by life-events related to economic shocks vis-à-vis experiences related to the individual engagement in civic life and to the institutional environment. The second paper turns the attention to the characteristics of the partner involved in the interaction investigating how intergroup political conflicts affect social cooperation and trust. This allows assessing whether heuristics about political group membership and identities shape the individual trust radius. The third paper considers, instead, the consequences of trust addressing whether it favors involvement in unconventional political participation, a still understudied relationship. This is done also accounting for other selective and collective incentives. Overall, this thesis offers a novel approach and new evidences on both political origins and implications of trust among people.

## **Resumen**

Este trabajo de tesis consta de tres artículos empíricos sobre los orígenes y las consecuencias políticas de confianza social. El primer artículo se propone investigar la cuestión esencial de cómo se forma confianza social y si esta es el resultado de shocks económicos, frente a experiencias relacionadas con la participación en la vida cívica o el contexto institucional. El segundo artículo se centra en la interacción de confianza entre individuos investigando cómo los conflictos políticos entre grupos afectan la confianza y la cooperación entre individuos. Esto nos permite evaluar si los individuos emplean heurísticos cognitivos e identidades sociales y políticas y si estos afectan al perímetro de la confianza social. En fin, el tercer artículo estudia las consecuencias políticas de confianza social analizando como esta influye en la participación política en formas no convencionales de protesta, en el marco de una teoría de los incentivos selectivos y colectivos, una discusión que sigue abierta en la literatura científica. En general, este trabajo de tesis se propone ofrecer nuevas evidencias empíricas sobre los orígenes y las implicaciones de la confianza social entre personas a través de soluciones metodológicas innovadoras.



## Preface

Despite the concept of trust has always been central in social and political sciences and the theoretical literature has seen a dramatic increase in the last few years, empirical evidence on its foundations and consequences is only becoming available. Moreover, scholars are increasingly concerned with solving some of the main problems related to trust measurement and identification. This thesis tries to contribute to this trend by connecting recent theoretical accounts with more refined methodological tools. Specifically, it investigates trust in real social interactions making use of original panel and experimental data collected in Spain and Portugal between 2012 and 2013.

This thesis comprises five chapters. Chapter 1, the introduction, defines the concept and presents the theoretical debate that underlies the whole study. Then, it deals with all methodological choices that have been taken in order to achieve the main research goals. In this respect, it is worth mentioning that the data set used in this thesis is part of a research project entitled “*Ciudadanía Europea en España: Comportamiento Político y actitudes Políticas hacia el Proceso de Integración Europea*” and funded by the “*Ministerio de Ciencia e Innovación de España - Plan Nacional de I+D+F*”, code: CSO2009-14434 (2010-2012), and directed by Prof. Mariano Torcal. The fieldwork activities have been implemented in collaboration with the marketing and opinion poll firm, “NetQuest”.

Then, Chapter 2 focuses on the main theories of trust formation and investigates whether this is stable or rather it is shaped by life-events related to economic shocks and contrasting it also to classic explanations personal experiences connected to individual civic engagement or features of the institutional context. This is a very relevant question as scholars seem to be split in two groups and the resulting mixed findings are mostly based on cross-sectional analysis. As it will be discussed, our results show that trust seems to be contingent to daily experiences and it may be affected by negative economic shocks related to unemployment as well as to evaluations of the political environment and high perception of corruption.

In Chapter 3, instead, we shift our interest to the partner involved in the trust relationship and we concentrate on the importance of information and identities for trust, looking at the role of stereotypic knowledge and political group discrimination in complex situations. In this way, the chapter shows how trust may break down along salient political conflicts and the relevant identities they generate. The study challenges classic



social capital literature on the role of political groups in strengthening trust among people in divided societies. The last empirical part, Chapter 4, is dedicated to the consequences of trust for political participation. The importance of social trust for political engagement is often taken for granted in particular when considering more costly forms of social protest. However, as it will be discussed, if we compare the importance of trust with other important explanations we find no evidence supporting the hypothesis that trust imbue unconventional forms of political action. The paper calls for a reevaluation of this relationship by providing contrasting results.

Finally, Chapter 5 represents the conclusion that wrap up the insights of this thesis and makes propositions as to the future research on trust behaviors and social cooperation. All in all, this work constitutes a small step in our understanding of such important resource as trust among people. As far as this thesis has been organized in a three-paper format, which corresponds to the three empirical chapters, rather than as a monograph, some parts relative to the concept of trust as well as to the data involved may be reiterative throughout the text.

Different parts of this thesis have been presented at different national and international conferences or seminars as the “*XVII Jornadas del Anuario de la Facultad de Derecho: Identidad, Derecho y Política*” (*Universidad Autónoma de Madrid*; November 2012); the “Congress of the Spanish National Association of Political Science and Public Administration” (*Universidad de Sevilla Pablo de Olavide*; September 2013; *Universidad del País Vasco*; July 2015), the “European Graduate Network Conference” (Science Po; February 2014); the “European Consortium for Political Science General Conference” (University of Glasgow; September 2014); the seminar on “Advanced Research Design” (European University Institute; October 2014).

Some of the analyses included in the thesis have appeared in the “*Anuario de la Facultad de Derecho de la Universidad Autónoma de Madrid*”. Chapter 3 has been accepted for publication by “Party Politics” and co-authored with Prof. Mariano Torcal.

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# 1 Introduction

## 1.1 The puzzle of trust

The concept of trust has always attracted the interest of social scientists. Classics of sociological thought emphasized the prodigious virtues of trust in enhancing solidarity and maintaining social cohesion at the micro as well as at the macro level. George Simmel (1950 [1908]), perhaps the first to refer explicitly to trust in his theoretical work, considered it as one of the most synthetic forces within society. In his view, trust is a necessary condition to common action and it favors exchange of goods and intensifies mutual obligation among people. In this way, trust becomes a prerequisite to transaction in modern market societies as well as an important aspect of non-commercial relations.

That mutual trust is a fundamental element of social aggregates and cultural contexts is at the core of Emile Durkheim's conception of organic solidarity and division of labor in modern societies, characterized by complex processes of complementary and interdependence among individuals (Durkheim, 1997 [1893]). Trust is considered a key-element which protects the moral order, while diffuse distrust and social suspiciousness may weaken the integrity of a community and come in hand with anomic conditions, producing conflicts and threatening social cohesion. In brief, when studying the micro-foundation of social relationships, it is essential to take into account the degree of trust among individuals, being at the heart of group behavior and constituting the glue of social organizations (see on this e.g. Homans, 1958; Blau, 1964; Elster, 2007, chap. 21).

There is a broad range of situations in which trust is involved to a certain extent. We refer here to such situations that involve actions and relationships at least between two actors. We show, for instance, some levels of trust when we lend a book to a colleague or a bike to a friend; when we leave our child at home with the babysitter or we give a ride to a stranger who is hitching at the traffic light. We finally have some level of trust in less known people when we buy stocks at the phone by following the tips of a stockbroker. Trust pervades human relationships from friendship and love to economic exchange and political activities, making



cooperation viable (a more detailed account of the trust problem is included in Baier, 1986: 234 and Coleman, 1990: 91-118).

The importance of trust has increased with the development of virtual markets and artificial societies, which involves countless daily social interactions with unknown people (Castelfranchi and Tan, 2001; Cook et al., 2009). Indeed, shopping goods on the Internet or participating in social and political online activities often entail exchange between two anonymous actors distant in time and space, who may not be completely sure whether the other will cooperate or act dishonestly. Without doubts, in contemporary societies trustworthy behaviors are guaranteed by means of a system of formal institutions and contracts, which have been designed on purpose to sustain cooperation among people and to enforce the respect of bilateral arrangements (Levi, 1998; Offe, 1999; Herreros, 2004; Rothstein, 2005). Moreover, sticking to the example of online markets and virtual communities, reputation systems that collect and disseminate information about buyers and sellers guarantee the feasibility of online trading (Dieckmann et al., 2009; Przepiorka, 2013).

However, when it is not possible to monitor others' actions or we do not possess enough information on the counterpart, a certain level of trust is indeed necessary especially in single interactions. As it has been pointed out by some authors, trust is extremely important to the extent that it is a lubricant of social relationships, which ensure less costly agreements and it contributes to collective action and to solve social dilemmas (see on this e.g. Arrow, 1974; Gambetta, 1988a; Ostrom and Walker, 2003). A social dilemma occurs whenever individuals in interdependent situations face choice in which the maximization of short-term self-interest leads to worse outcomes than feasible joint alternatives (Yamagishi, 1995; Kollock, 1998). In order to make all participants rejecting those strategies based on self-interest in favor of a better and more profitable collective solution through cooperation, almost all agents should express some trust on others. Therefore, higher levels of trust reduce transaction costs by allowing the use of informal agreements, instead of contracts and their costly enforcement.

Trust can also be seen as the result of established systems of beliefs about the behavior of others and the diffusion of norms of strong reciprocity resulting from socialization, so that we expect others to comply with them by acting trustworthily (for a discussion see Fehr and Gintis, 2007). In this view, trust reduces the number of possible strategies and facilitates positive outcomes in social relationships by means of a mutual commitment. By lowering social complexity (Luhmann, 1979), it allows overcoming situations of information asymmetry and our inability to

monitoring other people's behavior. In this respect, as noted by Mistral (1998: 82), trust acquires the status of public good, which needs to be preserved for the benefit of societies.

While we should not overstate the relevance of trust as the unique key to cooperative behaviors, as far as these actions are not simply determined by the degree of trust<sup>1</sup>, in the last few years, its positive role has been largely investigated through empirical analysis. Indeed, trust levels measured in surveys seems to correlate positively with many political, economic and social conditions both at the individual and aggregate levels. For instance, at the individual level, high trust towards other people shows to be associated with high education, higher life satisfaction, fertility, health and tolerance for cultural diversities (Helliwell, 2002; Uslaner, 2002; Aassve et al., 2012). Then, it has been argued that trust favors economic action through obligations of reciprocity or the development of weak ties (Granovetter, 1973, 1985; Coleman 1990).

When trust is considered at the country level, it seems to further economic prosperity. In this respect, studies have shown that trust is positively correlated to country growth levels and negatively associated to levels of price costs. Knack and Keefer (1997) find evidence of this on a sample of twenty-nine countries between 1980 and 1992. Zak and Knack (2001) reports similar results on a larger sample of forty-one nations. While these studies only provides preliminary evidence on the association between trust and economic outcomes, more recent investigation has also tried to demonstrate its causal effect by means of more refined statistical techniques (Algan and Cahuc, 2010). Moreover, bilateral trust among countries has been considered to increase levels of transnational trading (Guiso et al., 2009).

The role of trust, however, seems not only to be confined to economic activities but also it has been often connected to the performance of government and the stability of social and political institutions (Putnam et al., 1993; Fukuyama, 1995; Boix and Posner, 1998). Well-known contributions have tried to demonstrate this argument by showing how different indicators are associated to overall good government measured across thirty-five different criteria in the United States (Knack, 2002). Moreover, cross-national research shows that Scandinavian countries display the highest aggregate levels of trust (Newton, 1999; Dehley and Netwon, 2005), while Southern and Eastern European nations achieve more moderate and lower levels, respectively (on this see e.g. Torcal and

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<sup>1</sup> Other possible mechanisms may include coercion, shared interests, values or personal bonds (see on this for instance, Axelrod 1984; Dasgupta, 1988; Gambetta, 1988b; Williams, 1988; Hardin, 2002: 10-11).

Magalhães, 2010). For this reason, some authors have concluded that trust is also one of the decisive factors for the development of universalistic social protections. In fact, in Northern countries people's propensity to contribute their share to a system of welfare would be related to the expectation that others will do the same (Rothstein, 2005; Rothstein and Uslaner, 2005).

The surge of research on trust has been striking in particular during the last two decades. Figure 1 shows interests towards the notion of trust throughout the years by means of word search across Web of Science, one of the most diffuse online subscription-based scientific citation indexing service (Meho and Yang, 2007). As it can be seen, trust research has increased dramatically from the mid-1990s across social sciences disciplines.

Figure 1.1: Popularity of the trust concept in social sciences research (1960-2015)



*Note:* a total of 4472 records have been found among academic journals in anthropology, communication, economics, educational research, ethics, ethnic studies, neurosciences, political science, psychology (e.g. applied; social psychology; clinical; experimental; biological; educational; developmental), public administration, sociology and urban studies. Source: own elaboration from Web of Science ([www.webofknowledge.com](http://www.webofknowledge.com))

In spite of the wave of results and much outstanding theoretical work, trust remains still a puzzling phenomenon with many answered questions.

As pointed out by many authors, the first problem relates to the confusion that has resulted in defining the concept (see on this e.g. Shapiro, 1987; Luhmann, 1988; Hosmer, 1995; Rousseau et al., 1998; Nannestad, 2008; Fehr, 2009). As it will be argued in more detail, the trust literature has gradually developed in different branches focusing on relative types of trust depending on the actor towards which this is directed such as other people, organizations or institutions (e.g. Newton, 2007; Freitag and Traumoeller, 2009; Newton and Zmerli, 2011; Freitag and Bauer, 2013).

A related problem concerns the choice of consistent measures of trust. In this respect, literature is divided among scholars who favor a survey-based approach and the use of attitudinal measures of trust and those who instead employs a game theoretic approach and behavioral measures elicited by means of experiments (Cook and Cooper, 2003). Neither of the two approaches offers an ideal solution for exploring trust variation at the individual level. Yet, recently, some innovations have been introduced in this respect.

When coming to the nature of trust among people and its foundations, it is still unclear how trust is formed, whether this is a stable characteristic, and, finally, whether individual experiences and personal shocks may actually play a role on the propensity to trust others. This is a very crucial debate that has characterized the recent literature across sub-disciplines and it has to do with whether trust preferences are conceived as rigid (Becker, 1996; Jones, 1996; Uslaner, 2002), or, instead, these are malleable and contingent to life-time events (Coleman, 1990; Hardin, 2002; Glanville and Paxton, 2007; Paxton and Glanville, 2015).

On the same line, if trust involves a relationship of dependency between two individuals, the information on the identity of the two agents involved as well as the use of heuristics to predict the other person trustworthiness become crucial (Bacharach and Gambetta, 2001; Gambetta and Hamill, 2005). Another promising debate recently developed in the literature but still underexplored, stresses, in fact, the importance of the “radius” of trust, namely the extent to which people are likely to trust and cooperate with others who are similar under some important respects and distrust others who are different (Fukuyama 1995; Bjornskov, 2008; Delhey et al., 2011, 2014). In this view, trust would depend on social and political distance among people and the more societies are conflictive and fragmented the more will trust vary along such divides. This is another interesting debate which need to be investigated more because it has to do with whether trust is exogenous to the social and political context or it is endogenous to the situation and sensitive to the salient social and political conflicts.

Finally, as we have noted, trust has been connected to different positive outcomes. In political terms, trust is deemed to be crucial for democratic systems as far as it promotes civic engagement and political participation (Almond and Verba, 1963; Parry, 1976; Bellah 1991, 3; Sztopka 1999, chap. 7; Putnam, 2000; Warren, 2001). In this normative view, trust becomes a necessary condition for the development and the sustainment of democratic systems. However, while this theoretical argument is very diffuse in the literature on political behavior, empirical evidence on the role of trust for political participation is still scarce in particular for less conventional forms.

Overall, this thesis tries to contribute to each one of these relevant debates by taking into account the most recent development in trust research and using original panel and experimental data collected in Spain and Portugal between 2012 and 2013. As it will be noted, Spain might be a useful context in which our theoretical expectations might be tested, while we will benefit from comparison with Portugal only in one of the empirical chapters. However, before going deeper into the motivation of this thesis and the research strategy employed to achieve its goals, first, it is worth asking: what do we mean by trust? How can we define it? What are the theoretical and empirical tools to investigate its variation? How can trust be measured?

## 1.2 Defining the concept of trust: a brief overview

There are already several reviews of the trust literature, which tries to systematize the main aspects of this concept.<sup>2</sup> As already highlighted by other scholars (Nannestad, 2008; Wilson and Eckel, 2011), conceptions of trust may be somewhat ordered on a continuum in which on the one side trust is conceived as norm-driven, something inherited in the process of socialization and tied to a positive psychological outlook on human nature. In contrast, on the other side, trust is usually treated as rational, it can be acquired and it is contingent on the subjects involved and on the information at hand. Following other contributions (Herrerros, 2004; Rothstein, 2005), we believe that a comprehensive understanding of trust should contain elements of both approaches. Moreover, in the case of trust among people, that is, the central topic of this thesis, trust has also been

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<sup>2</sup> Existing work focuses on different types of social and political trust and measurement approaches, that is the survey-based and experimental-based tradition (Rousseau et al., 1998; Levi and Stoker, 2000; Cook and Cooper, 2003; Nannestad, 2008; Wilson and Eckel, 2011). In this section, we are trying to provide a broader view on the trust concept by drawing upon the main insights of the most relevant literature on trust and the most recent results.

conceived depending on the different degrees of abstraction of the actor this is referred to, ranging from a specific target to a broad category concerning other people in general or even strangers. Given the complexity of trust literature, in our view, the best way to proceed would be to identify some points of agreement in the existing theoretical work and identify a comprehensive definition of trust, which might be used later on in the empirical analyses.

### *1.2.1 Basic features of trust relationships*

The first aspect that is often pointed out by the theoretical research is that trust involves a relationship at least between three different components: a truster 'A' who trusts another agent or group of agents 'B', a trustee, with respect to a particular action 'X' (Baier, 1986, Hardin, 2002, Luhmann, 1979; Gambetta, 1988b; Coleman, 1990; Sztompka, 1999; Bacharach and Gambetta, 2001; Fehr, 2009). Thus, we might conceive trust as an expectation about future behavior of other parties on a specific context or domain (see also on this point Barber 1983; Dasgupta, 1988; Mayer et al., 1995; Offe, 1999). Then, if the trustee behaves trustworthily we are better off while we are worse off if he or she betrays our trust.

Another important aspect, which is involved when we engage in a trust situation, is social uncertainty, as it presents itself in terms of alternative possible events and another party may affect our own outcome (Gambetta, 1988b; Fehr, 2009). It goes without saying that risk is also relevant to the notion of trust since the possible damage we are exposed could be higher than the benefit we could achieve (Luhmann, 1979, 1988; Baier 1986; Gambetta, 1988b; Becker, 1996; Ben-Ner and Putterman, 2001; Hardin, 2002; Cook and Cooper, 2003; Fehr, 2009). Nevertheless, trust relationships should not be reduced to gambling or financial bets in which the occurring of events is exogenously specified often through a random mechanism whose probabilities are known. On the contrary, trust involves social ambiguity in the form of evolving social interactions and it constitutes a problem of judgment based on imperfect information on the likelihood of positive responses from the trustees (Eckel and Wilson, 2004; Houser et al. 2009). Briefly, incomplete knowledge about the intentions of others is essential. In fact, if we had the possibility to monitor all possible outcomes of the relationship by means of other mechanisms as contracts or coercion, trust would not have reason to exist.

In this regard, it is worth noting that in trust relationships we accept the chance of being vulnerable and we expose ourselves to the possibility of being betrayed (Baier 1986; Gambetta 1988b; Hardin 2002; Levi and Stoker, 2000; Hong and Bohnet, 2007). In other words, we rely on the fact

that others will take care of something we value, but, at the same time, they can also harm us having a degree of freedom to run against our expectations. Thus, we trust others as far as we believe that those we entrust will both commit themselves not to hurt us, and they will have the competence and personal motivations to respect the mutual agreement. Therefore, trusting others needs a subjective assessment of the probability that the trustee will perform that particular action (Gambetta 1988b, Coleman 1990; Offe, 1999; Hardin 2002). As Gambetta clearly points out in one of his famous contributions, trust might be seen as a threshold point on a probabilistic distribution of more general expectations which may take different values between complete distrust and complete trust (Gambetta, 1988b, 218). The result of this evaluation, which might be based on resources at stake as well as on some beliefs on the other people's trust-warranty qualities (Bacharach and Gambetta, 2001), will affect the final decision on whether to engage on cooperation or not.

At this point, it is quite clear that it is very important to distinguish between "trust" and "trustworthiness" (Hardin, 2002). Indeed, while the former describes an expectation that has an influence on our actions and decisions, the latter, instead, identifies an attribute of an individual, which is independent from the situation. An individual may indeed be trustworthy despite somebody has placed or not trust on him (Baier, 1986; Levi and Stoker, 2000). The decision to be trustworthy also is remarkably different from the decision to trust as far as it may relate to other social preference as reciprocity or fairness and cultural dispositions, resulting from socialization as expectations with respect to social punishment (see on this Fehr and Gächter, 2000; Bacharach and Gambetta, 2001).

Another relevant distinction should be made between trust and pure "faith". In this respect, while trust may be placed on others depending on specific domains and situations, pure faith is usually unconditional and directed towards some entity regardless one specific context of action (Mutti, 2003). Trust is also slightly different than "confidence" (Luhmann, 1988). Both circumstances involve expectations that can be disappointed, but in the case of trust, this requires a previous engagement on our part before deciding whether to initiate an action or not and we can evaluate different alternatives (we can hire a research assistant rather than another one). On the other hand, in situations of confidence we cannot make such an assessment between alternatives and a prior engagement does not come in place. Thus, we have not direct responsibility of the result of the situation and we usually discard the possibility of a negative outcome as very remote (the chance that the university building would collapse over our heads).

In conclusion, trusting other people usually means that we are in a situation of dependency, so that we need other people in order to achieve some potential outcome. However, this necessity implies the opportunity of being damaged, as far as the other party is free to disappoint our expectations. At the same time, we accept to be vulnerable as a result of an assessment of the probability about the positive future behavior of those others with respect to some issue at stake. Hence, it is reasonable to think that the trust we express will also be dependent on the partner involved.

### *1.2.2 Types of trust*

We should not consider the trust concept as one-dimensional. In fact, it has been common in the literature to distinguish among different types of trust depending on the object towards which this is oriented (Uslaner, 2002; Newton, 2007; Freitag and Traumoeller, 2009; Delhey et al. 2011; Newton and Zmerli, 2011; Freitag and Bauer, 2013).

When trust is directed towards other people we usually define it as “social” or “interpersonal” trust. This constitutes perhaps the most debated form of trust as far as the trustee is in this case another individual. When instead trust is oriented towards some organizations from the political world or political institutions, we usually call it “political” trust. In this respect, some authors prefer to use the term “institutional confidence” (Newton, 2007), which indeed seems to be more appropriate also in the light of the discussion we have underlined in the previous section.<sup>3</sup> All in all, the fact that the trustee is the “national parliament”, the “government”, the “political parties” or the “justice system” does not, of course, diminishes its importance.

On the contrary, the concept of institutional confidence or political trust is often related to the consolidation and the legitimacy of political systems. Hence, measures of this type of trust have been used as an indicator of citizens’ political support (Easton, 1975; Muller and Jukam, 1977; Norris, 1999; Dalton, 2004). There is also plenty of contributions that exploit it to evaluate cross-nationally the state of health of contemporary democracies

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<sup>3</sup> Luhmann uses the term political confidence to describe the relationship between citizens and political institutions because citizens cannot really decide to engage or retreat from a relationship with them. However, in his view a relationship of confidence may sometimes turn into one of trust and *viceversa*, since: “Elections may to some extent convert political confidence into political trust, at least if your party wins. Conversely, trust can revert to mere confidence when the opinion spreads that you cannot really influence political behavior through the ballot” (1988, 98).



and declining institutional trust is seen usually as a sign of disaffection and detachment from the rules and formal procedures that operate in politics (see on this e.g. Stokes, 1962; Citrin, 1974, 1977; Abramson and Finifter, 1981; Jennings and van Deth, 1989; Nye et al., 1997; Citrin and Muste, 1999; Newton, 2001; Torcal and Montero, 2006; Hetherington, 2008; Zmerli and Hooghe, 2011; Hetherington and Husser, 2012). The interest of this thesis is, however, on trust among people, so that in the next pages we will leave this discussion aside. In any case, institutional confidence will return at some point as explanatory factor in the models proposed later on in this work.

When it comes to social trust, another distinction seems to have particularly attracted the attention of scholars and it is based on the set of individuals who engage in the trust relationship. On the one side is “particularized” trust, which constitutes the most basic form of trust resulting from cooperative experiences and repeated interactions within the immediate circle of people, relatives, or neighbors. This type of trust is based on personal knowledge of individuals and it involves low level of risk. For this reason, also the term “knowledge-based trust” has been used to refer to a type of trust, which involves people we are close to (Yamagishi and Yamagishi, 1994). On the other hand, “generalized” trust extends beyond the boundaries of face-to-face interaction and it may incorporate people out of a specific personal setting, referring to the broad category of other people in general, even strangers. This form of trust is thought to be more important in modern complex societies, where people frequently engage in relationship with whom they do not know (Yamagishi and Yamagishi, 1994; Stolle, 2002; Uslaner, 2002). Putnam (2000), instead, seems to put more emphasis on the relationship rather than on knowledge when he distinguishes between “thick” and “thin” trust, with the latter capturing a more abstract type of trust based on weak ties between people.

Another declination of the trust concept is related to processes of identification and categorization (Tajfel, 1974, 1978; Tajfel and Turner, 1979; Brewer, 1981; Kramer, 1999; Tyler, 2001). In this respect, “group-based” trust captures the extent to which people trust others depending on whether they share the same group identity. Hence, identities and shared membership may facilitate the decision to trust strangers by setting the boundaries of relationship and solving the problem of scarce information by associating the partner involved in the situation to a salient social group. Briefly, in this conception, trustworthiness would be assessed by means of group stereotypes so that it would be possible to distinguish between trust expressed towards members of the same group and trust towards those that are not members. Since personal knowledge is not

needed, in this case individuals make use of available clues about the category of the target person and his or her experience with people belonging to that specific group. Therefore, expectations of trust may be contingent on information at hand and people use shortcut in uncertain situations to infer trustworthiness of other people (Bacharach and Gambetta, 2001; Gambetta and Hamill, 2005).

Despite initial contrasting evidence (Whiteley, 2000), more recent studies based on survey-data and common survey questions seem to confirm these dimensions depending on the target of trust. Freitag and Traumoeller (2009) show that social trust is a multidimensional phenomenon constituted by distinct *spheres*, from particularized to more generalized trust in Germany. Freitag and Bauer (2013) extend this analysis by using data from the Swiss Household Panel and the World Values Survey on seven Western democracies and confirm a third type of trust based on religious and national identities. Also experimental evidence mirrors this finding, showing that religious or national group differences may influence trust (Yuki et al. 2005). Finally, Newton and Zmerli (2011), provide survey-data evidence based on the fact that people do distinguish between social trust and confidence in institutions in twenty-three countries.

### *1.2.3 Trust and social capital*

The interest towards trust in its different forms has decisively increased from the 1990s along with the debate around the concept of social capital. The social capital approach has had indeed the merit of providing a framework to study collective action and to explore variation in economic and political performance across nations and communities, driving attention to such resources as trust relationships among people (Ostrom and Ahn, 2009).

Despite the fact that the appearance of the term “social capital” can be dated back to the beginning of the twentieth century, the first refined conceptualization comes with the work of Coleman (1988, 1990: chap. 12). In his contribution, the author defines it as those aspects of the social structure that facilitate certain actions by the individual and they can be used to achieve one’s own interest, being this occupational mobility or other forms of economic exchange. As other types of capital this comes in different forms and among these he includes the obligations of reciprocity and trustworthiness generated by systems of mutual trust; the fact that social networks among people constitutes important channels for information; and, the set of norms and effective sanctions which help maintaining a climate of collective action.

However, it is not until the effort of Putnam (1993, 2000) that the concepts of trust and social capital have gained much popularity and their central position in the scientific debate as it is nowadays. In his view, trust is a basic element of social capital together with networks of civic engagement and reciprocity and both communities and countries are characterized by their own “social capital stock”. The three components are indeed connected together and are deeply rooted in historical and cultural traditions, resulting from the interaction between institutions and the quality of civic culture. This interpretation of social capital has been later picked up by other contributions in which trust gradually acquires the status of moral value to the same extent as “fraternity” or this is compared to a state of mood as general “optimism” or “openness” towards others (Fukuyama 1995, 2000; Newton 1999, 2001; Uslaner 2002). In other words, trust becomes an absolute dictate to treat others well and it refers to a positive view on human benevolence. The risk of this work is to overstretch both the concept of social capital and the one of trust with the resulting problem of blurring distinctions between trust and other personality traits (optimism, or norms of reciprocity for instance) and of making empirical research difficult (Durlauf, 2002a).

In this respect, Herreros (2004, chap. 2) has tried to go back to Coleman’s approach by proposing a model of social capital formation, which connects its main components. In his view, social capital is solely constituted by obligations of reciprocity and information. However, differently from the previous approach he emphasizes the role of trust as being an intermediary resource connecting social networks on the one hand and the two components of social capital on the other. Similarly, Ostrom and Ahn (2009) consider trust as a linkage between trustworthiness, social networks and formal and informal rules, allowing mutually beneficial cooperation and the achievement of collective outcomes. By drawing insights from behavioral game theory and experimental economics (Henrich et al., 2001; Camerer, 2003; Fehr and Gintis, 2007; Bowles and Gintis, 2011), their approach to social capital recognizes that individuals are not only exclusively concerned with their own immediate material gains based on standard self-regarded utility functions but also have heterogeneous preferences connected to the wealth of other persons and are willing to engage in cooperation with them. Moreover, individual action does not come in a vacuum but is embedded in a net of relationships and networks among people and trust plays an important role in facilitating exchange especially when it is referred to a wide range of different actors.

At this point it is also important to remark that the external effects of social capital and the role of trust should not be considered as always

positive. As it has been often pointed out a certain type of social capital in the form of social networks can be also found in forms of organized crime resulting in sub-optimal outcomes as clientelism or corruption (Portes, 1998). Thus, depending on the characteristics of social capital it is possible to expect different types of social trust or cooperation (Putnam, 2000; Zmerli, 2003; Warren, 2008). In this respect, “bonding” social capital, would take place among inward-looking networks with strong in-group loyalty and it would be associated with forms of particularized or group-based trust. Conversely, “bridging” social capital would characterize more crosscutting networks with the possibility of generating more general trust or trust in strangers. This latter type is seen as more beneficial for societies as far as it enhances cooperation among different groups.

All in all, while we are more inclined to follow the more recent social capital approach and conceive trust as a link between this and final collective action, what it is important here to emphasize is that trust is an expectation with respect to the behavior of others that affects our choices favoring cooperation and collective action. The conception of trust we adopt here is a rational expectation that may depend on the actors involved in the relationship and on the information at hand. However, we diverge from a strict rational approach at least in two important aspects. First, in trust situations, people face situations of uncertainty and imperfect information so that they might rely to heuristics and shortcuts to form their expectations as it happens in the case of cues related to group membership. Moreover, trust is not reducible to interest based on strict instrumental calculation. People’s preferences may in fact be heterogeneous and sometimes be positively oriented towards others. In other words, they may include other person’s welfare in their utility function. Of course this does not imply that their beliefs and decisions are not rational but it means that they are not only self-regarded or grounded on selfish motivations.

To conclude, as much literature suggests, trust may be more beneficial when the circle of cooperation one express includes as much different people as possible and in the best of cases also those we do not have any knowledge about. Trust towards unknown people may play a better role in creating social connections and activating cooperation in different contexts. Now, we need to identify the main approaches through which we can measure it.

## 1.3 Measurement issues in trust research

The debate on how to measure trust at the individual level mostly involves two different approaches, which have developed almost side by side since the beginning of 1960s, thanks to the work of social psychologists and experimental economists. One strategy is focused on the study of the micro-foundations of cooperative behavior by means of experiments and the tools provided by behavioral game theory. In this case, the researcher observes subjects' behaviors and choices in an experimental context. Another strategy, instead, uses survey questionnaires to elicit self-reported measures by asking directly to the sample participants what their level of trust is with respect to some individuals, groups or organizations. In this section, we will only concentrate with what we have already defined as social trust, as far as this is the topic of the present thesis.

### 1.3.1 Survey-based approach

The survey approach to trust measurement is probably the most widespread because of its use across countries by the main research programs. Indeed, research networks such as the "General Social Surveys" (GSS) in the United States, the "European Social Survey" in Europe or the "World Value Survey" on a global scale often employ the same question to measure generalized social trust, asking subjects: "*Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?*". Originally developed in the early 1940s by American researchers, since then, this has gradually diffused worldwide.<sup>4</sup> In this case, trust is mainly conceived as an attitudinal characteristic of the subject, which do not capture a relationship between specific persons in a well-defined situation. On the contrary, this is considered an aspect of one's own personality so that the question aims at capturing a predisposition of an individual towards others in general.

One of the first applications of this question is the Rosenberg's (1956) faith in people scale. The purpose was to construct a Guttman scale by merging the general trust question with other four indicators gauging whether other people try to be fair, or are generally helpful, as well as their general cooperative nature. The main purpose was to consider faith in people as a generalized attitude and to investigate the relationship between misanthropy and political ideology. Although no clear evidence

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<sup>4</sup> The introduction of this question in the social sciences research is often ascribed to Rosenberg (1956). Yet, the issue is still debated; refer to the work of Uslaner (2002) or Sturgis and Smith (2010) for more information.

was provided, the study suggested that the way an individual look at other people might exert some influence on other attitudes towards the authority or support for democratic values.

Notwithstanding, the most important contribution to the measurement of trust as an attitude comes from Rotter (1967, 1971), which dedicated part of his work to refine batteries of questions to create an interpersonal trust scale. Rotter defined trust as an expectation that other peoples' actions are reliable and distinguished between two types of items. The first group collected information on the extent to which people trust different social objects (such as friends, teachers and so forth). The second group of items, instead, elicited other personality traits, which capture general optimism towards society. The composite index consisted of twenty-five questions and fifteen filter questions in total and it allowed the collection of more complex information on different types of trusters and to correlate them with other attitudinal or behavioral measures as self-reported indicators of trustworthiness or civic engagement.

A last relevant example formulated some years later is the Yamagishi and Yamagishi's (1994) trust scale. In their work, the authors proposed a definition of trust as a cognitive bias in the evaluation of incomplete information about a potential interaction with another partner. By drawing items from the work of Rosenberg and Rotter and other authors, they investigated cross-cultural difference in cooperation between United States and Japan, paying particular attention to peoples' self-perception in terms of honesty and fairness as well as the role of reputation for trust towards people.

While there have been some attempts to improve these measures with different phrasing or scales, they presents several problems (e.g. Cook and Cooper, 2003; Miller and Mitamura, 2003; Delhey et al., 2011). The first problem is that, as in the case of the general trust question outlined above, in the majority of cases, survey instruments are generic in that they do not make any reference to a specific group. As some studies have pointed out, it is difficult to understand what people have actually in mind when formulating their answers and some studies have shown that respondents may refer to different circles of people when doing so. In this respect, asking people to report who visualized in their mind after having answered to the generalized trust question, Sturgis and Smith (2010) demonstrated that a substantial share of respondents actually thought about someone they had some personal knowledge about, rather of most people in general. Another problem concern, instead, the fact that the questions only measure expressed preferences and the risk component of trust situation is only implicit if not completely absent. The survey

instruments, in fact, do not mention under what circumstances actually those other people should be trusted about (Ermisch et al., 2009).

In order to provide an answer to the problem of validity of the generalized trust question, some studies have tried to use different statistical techniques to test for the equivalence of this measure across countries. While Zmerli and Newton (2008) and Freitag and Bauer (2013) dispute the view that respondents understand the wording of this survey questions differently depending on the cultural context by using cross-country data from the World Values Survey, on the other hand, Reeskens and Hooghe (2008) in their analysis of the three generalized trust items in two waves of the European Social Survey showed that the measurements achieve only weak equivalence conditions across European countries.

Despite empirical controversies about the validity of generalized trust questions, as we anticipated, the most important concern is that the survey-based approach only provides attitudinal measures, which do not fit necessarily the main aspects of a definition of trust as a expectation on other people with respect to a behavior and some sort of vulnerability involved. Indeed, the type of generalized trust elicited by most used survey questions might seem to elicit a two-part relation which lacks basic stakes on which trust is usually posited. Moreover, it would confound trust with other personality traits as general optimism about certain others (Hardin 2002: 61). As it is argued in the next section, the experimental approach and the use of economic games seem to have addressed better the behavioral aspects of trust and the conditions under which this can emerge (Camerer, 2003; Cook and Cooper, 2003). However, also this approach is not free from some critical points.

### *1.3.2 Experimental-based approach*

The earliest experimental research of cooperation and trust is attributed to Deutsch (1960), in which the author used the paradigmatic case of the prisoner's dilemma to examine the nature of the relationship between trust and cooperation. The one-shot prisoner's dilemma is usually configured as a two-person mixed-motives situation in which both actors take decisions independently one another.<sup>5</sup> In his original formulation, two individual suspected to have committed a serious crime are detained without the possibility of communication and they face the following decision. Both

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<sup>5</sup> For a discussion of the prisoner's dilemma in the context of cooperative behavior refer to Axelrod (1984) and for its connection to other social dilemmas see Yamagishi (1995) and Kollock (1999). For a review of experimental studies using the prisoner's dilemma game see instead Sally (1995).

of them are given the chance of turning state's witnesses in order to convict the other. If one prisoner confesses while the other does not, the confessor will be released while the other will be condemned to ten years in prison. If neither of the prisoners confesses, both will be persecuted for a minor crime and they will be sentenced only to one year in jail. Finally, if both prisoners decide to confess both will be convicted for the crime, even though they will receive a reduced sentence of saying seven years for their cooperation with the authority.

The dilemma faced by the two prisoners illustrates very well the tensions between individual and group interests. The two actors, in fact, realize that both are jointly better off if each decide not to confess. Yet, since the prisoners select their strategies simultaneously and independently, self-regarded incentives would win over the other possibilities, leading to a worse outcome. By adapting this framework to an experimental situation, Deutsch intended to demonstrate that both individuals need to show mutual trust in order to achieve a better collective result. Hence, in his view trust becomes manifest when individuals are concerned with the welfare of other peoples and it is reflected in an observable behavior. However, the author did not offer a precise definition of trust or how this can actually be measured under this framework.

Deutsch had the merit to stimulate the development of other experimental framework to measure trust, laying the ground to what is the most used tool nowadays, that is the "trust game", or also known as the "trust-honor" game or the "investment" game (for a discussion see e.g. Hardin, 2003). This game designed by Berg et al. (1995) for the sake of studying trust in an experimental environment has some peculiar characteristics. As very well discussed in Camerer (2003: 85), this is a sequential version of the prisoner's dilemma game in which the first subject ( $A$ ) is given an endowment ( $X$ ) and has to decide whether to keep or invest it with another subject ( $B$ ) without knowing what the partner will do. If  $A$  invests ( $I$ ) and keeps ( $X - I$ ) the investment ( $I$ ) is increased by a return  $(1 + r)$  and turn into  $(1 + r)I$ . The second subject reacts by knowing the first player's move, and he or she has in turn to decide whether to share the new amount and cooperate something in return. If the second player decides to keep ( $Z$ ) and return  $(1 + r)I - Z$ , then ( $A$ ) earns a final payoff which corresponds to  $(X - I) + (1 + r)I - Z$ .

In this framework, "trust" is the availability of the first player to expect that the other player will be trustworthy and will reciprocate in order to have a final better joint outcome. Thus, the amount sent is considered to measure trust while the amount returned is deemed to elicit trustworthiness. The strength of this framework lays on the fact that the



decisions are not simultaneous, so that player's one behavior will be the result of a trust assessment on the potential response from player 2. Moreover, it can take the form of a one-shot situation as well as it can be set as a repeated interaction. Lastly, it ensures the possibility of maintaining the anonymity of the players or also adding information on the profile of both players. In the former case, the game elicits the most abstract form of trust towards strangers.

Nevertheless, also some criticisms have been raised towards this method. Ermisch et al. (2009, 753) claimed that this form of the standard trust game omits some important features of the trust relationship and they offer a new framework based on binary decisions. Stated differently, instead of passing on any amount of the endowment the players should decide whether to keep or share all of it. In their opinion, in real life situations trust and trustworthiness take the form of "yes" or "no" decisions and they are not usually expressed in terms of degree. Another potential criticism is that such types of games are usually conducted in university labs with reduced population samples of students. In order to make the environment less artificial and expand the pool of participants, some studies have brought the game to a real context and perform it as a field experiment for instance in a urban context (e.g. Cardenas and Carpenter, 2008; Chuah et al., 2013). Others have, instead, preferred to apply this approach to an online environment by using the Internet (Anderhub et al., 2001; Eckel and Wilson, 2006). The strength of this procedure is the possibility of simulating different situations and achieving a broader sample of participants. In this respect, perhaps, one of the first examples of a trust game embedded in a survey questionnaire is the experiment conducted by Fehr et al. (2003) with the objective of collecting information on behavioral trust on a representative sample of the German population.

Experimental researchers have also tried to evaluate whether behavioral measures and attitudinal measures of trust are actually correlated. In a former systematic study Glaeser et al. (2000) investigated whether the behavior in a trust game was correlated with the standard survey measure of generalized trust as well as with a wide range of other trust attitudinal questions or scales we have specified above (e.g. Rotter's interpersonal trust scale and Rosenberg's faith in people scale). In this respect, they concluded that reported past trust behaviors are better predictors than abstract attitudinal questions. All in all, a weak or null association of the trust survey measure of generalized trust and behavior in the trust game has been gradually confirmed by several other studies (Ashraf et al., 2006; Ermisch et al., 2009). Recent contributions have also shown that experimental measures capture a very specific dimension of trust and that

this is associated to more refined survey questions of trust in strangers (Fehr et al., 2003; Naef and Schupp, 2009).

To sum up, survey measures of trust emphasize the attitudinal aspect and fail to report some important characteristics of trust three-part relations. This does not mean that they are not useful as far as there is methodological research that tells us that they are not as unreliable and invalid instruments as they are usually depicted. Conversely, the experimental approach is better suited to capture the relational dimension of trust towards unknown people, allowing the study of the conditions under which people activate different behaviors. However, it is necessary to go beyond laboratory experiments in order to increase the validity of the results.

## 1.4 Structure and contribution of the thesis

In the previous sections, we have tried to pose the basis for a comprehensive although short overview of the trust concept. Moreover, we have explored the main approaches to explore its determinants and consequences, drawing attention on main strengths and weaknesses of both the survey approach and the experimental approach. All three subsequent empirical chapters of this work will use the same working definition of trust as a three-part relationship in which one actor makes a rational assessment of the other partner's trustworthiness and influence his or her decisions. Thus, we consider more useful to employ a behavioral measure of trust in strangers as elicited by means of a games designed on purpose combining a panel design with experiments in Spain. More specifically, both Chapter 2 and 3 tries to investigate the political foundations of social trust while Chapter 4 will explore its political consequences on unconventional participation.

### *1.4.1 Political foundations and consequences of social trust*

The first discussion this research tries to contribute relates with the very foundations of trust by investigating whether this is somehow stable at the individual level or rather it depends on personal life-events and experiences. In this respect, we will pay particular attention on shocks in terms of economic experiences with deprivation. In the last few years, attention to the implications of economic deprivation at the individual level has increased substantially also due to the last economic crisis. Much attention has been concentrated on the political effects in the form of changes in attitudes towards redistribution (Margalit, 2013), electoral accountability as well as political attitudes and behaviors in the form

political support (Armingeon and Guthmann, 2014) and political protest (Quaranta, 2015).

However, there are very few contributions on whether economic shocks in terms have any effect on trust among people (Brandt et al., 2014). Moreover, to the best of our knowledge, there is not available research in which a behavioral measure of trust has been employed. In this respect, Chapter 2 wants to add on the existing work concerned with whether economic conditions matters for individual preferences (e.g. Fisman et al., 2015; Necker and Zieglmeyer, 2016), and more specifically to such other-regarding preference as social trust. Above all, the chapter also attempts to contribute to the debate on whether trust is shaped by daily life experiences or conversely this is a function of socialization and therefore hard to influence by later-life events (e.g. Uslander, 2002; Bauer, 2015; van Ingen and Bekkers, 2015; Paxton and Glanville, 2015). The importance of economic experiences need of course to be contrasted to other explanations of trust behaviors. As a result, by means of panel analysis in Spain we will evaluate the importance of economic shocks vis-à-vis two of the most classic arguments on the development of trust, which look at the role of civic engagement and the importance of institutions (for an overview e.g. Stolle, 2002; Nannestad, 2008).

A second interesting discussion concerns the role of heuristics and group discrimination when taking trust decisions. Trust expectations not always follows strict rationality. Instead, people often use rules to deal with uncertainty and their decisions are limited due to scarce information. More recent theories of bounded form of rationality assume people to use stereotypic knowledge and heuristics in their decisions to deal with complex situations (Tversky and Kahneman, 1974; Gintis, 2009: 24-32) or as we have seen in previous sections, they tend to categorize people into groups. In this respect, previous research conducted in the United States context have shown that political conflicts activate basic partisan identities at the expenses of trust and instigate inter-group hostility (Fowler and Kam, 2007; Carlin and Love, 2013; Iyengar and Westwood, 2015). Using an experimental design, Chapter 3 tries to complement it by testing whether the partisan effect travels across countries. Moreover, it checks whether other salient identities such as social class, ethnic and regional identities or ideologies generate comparable trust discriminations between similar and different groups. In brief, while we check how the radius of trust varies along with political distance, the chapter also explores whether trust changes endogenously and according to characteristics of the political context and the actors involved. In this chapter, we will show results from two online survey experiments conducted in Spain and Portugal.

A third interesting debate is whether social trust facilitates participation in political activities. In general, political participation has been investigated by standard models in which individuals maximize their self-interests. Using the classical rational choice framework, scholars have tried to explain conventional activities such as voting behavior (Downs, 1957; Ricker and Ordershook, 1968; Aldrich, 1993) or party activism (Whiteley, 1995) as well as more unconventional forms of participation as joining social movements (Chong, 1991). However, it remains difficult to explain political behavior within this approach. Participation is, in fact, a costly behavior, which frequently exceeds personal benefits, so that citizens will eventually abstain and will free ride on other people's efforts. This could be even more likely for protest activities, in which both costs and benefits are more difficult to anticipate. For this reason more refined conceptualizations of the rational choice approach to participation have gradually turned the attention to both selective and collective incentives (Ricker and Ordershook, 1968; Opp, 1986) and above all to the role of trust towards unknown people (Kaase, 1999; Putnam 2000; Benson and Rochon, 2004; Pattie et al., 2004; Norris, 2006; Roßteutscher, 2010; Dehley et al., 2011). Nevertheless, there are not so many empirical tests of the trust hypothesis and the theoretical connection between trust and participation is often taken for granted. Chapter 4 tries to explore this link by going back to panel data in Spain, in order to check whether there is a connection at the individual level. As it will be argued, a reevaluation of the relationship between interpersonal trust and protest participation is needed, especially when its effect is contrasted to other important incentives mentioned by the literature.

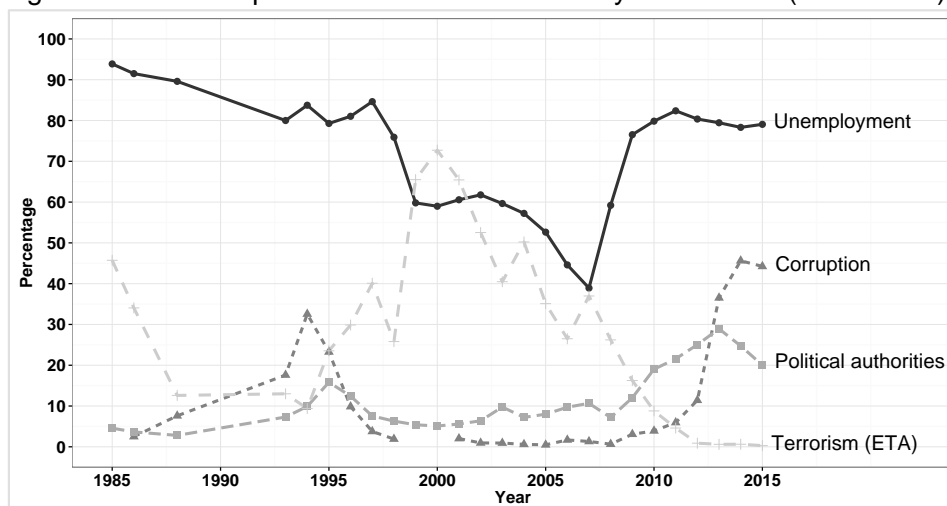
To summarize, the three following chapters contributes to several important ongoing discussion within trust research in relation to both the political determinants of trust and its consequences. The research only tries to take a small step forward and open up different possibilities in the future of the trust research agenda. This will be the objective of Chapter 5, which will wrap up the main conclusions and develop their main implication. Notwithstanding, before going to the empirical part it is important to present both the context of the study as well as the data employed. This are constituted by an unique panel and experimental data set designed on purpose, so it might be useful to present it thoroughly.

### 1.4.2 Social trust in times of crisis: the Spanish context

The Spanish context may be a relevant case to achieve our research purpose. The worldwide economic crisis that began in 2008 completely reversed Spanish economic conditions and its impact has been extremely harsh. After years of expansion characterized by growth, a significant reduction in public debt and the creation of jobs, the Spanish economy officially entered recession in 2009 along with the real estate bubble and the collapse of the property markets (Barreiro and Sánchez-Cuenca, 2012).

Problems related to the economic situation and above all unemployment has increased substantially their importance since the beginning of the recession. However, the economic downturn has also had some important political implications. As it can be seen clearly from figure 1.2, the role of the political authorities has been considered one of the most important issues in the country. This has also been confirmed by the increasing dissatisfaction with the functioning of democracy (Cordero et al., 2015), and the declining confidence in politicians and political parties, which dramatically has risen to one of the highest levels in the Eurozone (Torcal, 2014).

Figure 1.2: Most important issue that the country has to face (1985-2015)



Note: own elaboration from CIS data. [www.cis.es](http://www.cis.es)

During its legislature between 2008 and 2011, the government led by the *Partido Socialista Obrero Español* (PSOE) shifted its economic policies towards austerity measures, provoking widespread social and political unrest. In 2011, the 15-M (15th of May) movement quickly spread from Madrid to the whole country (Anduiza et al., 2014). The so-called

movement of *indignados* (“indignant”) occupied the main Spanish squares and called for more participative democracy and demanded changes in the electoral law in order to put an end on a system dominated by two big parties (Barreiro and Sánchez-Cuenca, 2012). The Prime Minister Zapatero called early elections that took place in November 2011.

The recession had a visible effect on the results of the 2011 national elections. The incumbent party, the PSOE, was heavily punished with a loss of 16.1 percent compared to the elections of 2008, becoming the worst electoral performance of the party since the democratic transition (Fraile and Lewis-Beck, 2014; Medina and Muñoz, 2014). On the other hand, the main opposition party, the conservative *Partido Popular* (PP), achieved its best electoral result and the absolute majority of seats in the Parliament, confirming a political system, which has been always characterized by a two-party political competition.

During the new legislature between 2011 and 2015, the new government quickly prosecuted the intense austerity measures and formally requested financial assistance from the European Union (EU) to recapitalize the banking system. In return, the EU Commission required the implementation of a plan to reduce public spending in the education system, in the welfare state as well as demanded structural reforms of the labor market. Main political consequences consisted of a gradual deterioration of the support for the incumbent party, while the main opposition represented by the PSOE was not able to recover confidence (Cordero and Montero, 2015; Rodón and Hierro, 2016).

The perception of a lack of responsiveness of traditional political elites was also connected to the fact that the austerity measures were perceived as an imposition by external supranational institutions (Armingeon and Guthmann, 2014). As a result, citizens’ demands were not only driven by economic reasons, but also they were based on a broader criticism towards mechanisms of political representation. This problem became also more important among the general population also because of the increasing number of scandals and political corruption that has involved from the early 2013 not only most of the regions governed by the PP party but also the same national government.

All these factors constituted a perfect scenario for the rising of new political formations, which centered their attention on the low performance of the political system (Rodríguez-Teruel and Barrio, 2016). In this respect, there is a quite clear connection between the *Indignados* movement and the origin of the party called *Podemos* (“We can”), whose leaders developed a political discourse against the traditional party system

portrayed as being opposed to the real interest of the Spanish people (Fernández-Albertos, 2015; Cordero et al., 2015). Also the new party *Ciudadanos* (“The Citizens”) focused part of its platform on the political renewal of the Spanish system, on the democratic regeneration and the fight against political corruption, with proposals to reform the regulations on party finances to guarantee greater transparency and to promote internal democracy within parties (Sánchez-Teruel and Barrio, 2015).

In the last few years, the Spanish political system has been under stress not only for the economic downturn or rising levels of conflict in party competition but also for the increasing polarization at the territorial level. First, the Spanish party system has always been characterized by statewide parties and a myriad of small regionalist political formations. Then, saliency of the center-periphery cleavage has also had implication for social capital formation with patters of civic engagement in organizations which reflects deep regional divisions (García Albacete, 2010).

Furthermore, movements supporting the independence have a long history in the Basque country, which has also been characterized by political violence and terrorism. However, the region in which support for secession has increased the most is perhaps Catalonia (Muñoz and Guinjoan, 2013). In 2005, the Catalan Parliament passed a proposal for a new Statute of Autonomy with the purpose of increasing the political and fiscal autonomy of the region. After the amendments made by the National Parliament, the PP party appealed against the reform of the statute before the Spanish Constitutional Court. The result was the change and abolishment of some key passages of the statute. One of the main consequences was the increase in number of massive demonstrations in support of the Catalonia as a nation, which culminated in September 2012 with one of the largest protests ever organized. Subsequently, the President of Catalonia asked for a new arrangement to the Spanish government. After this was rejected he called for new regional elections. The resulting government was a parliamentary agreement between the former President’s party, *Convergència i Union*, and the pro-independence leftist party *Esquerra Republicana de Catalunya* with the main purpose of holding a referendum during the legislature. The citizen participation process was celebrated in November 9th 2014, despite the Constitutional Court had suspended the week before due to the appeal made by the National Government.

At this point, it is worth noting that the data employed in this thesis only cover the time window between 2012 and 2013, which perhaps was the climax of the economic and the territorial crises while antecedent to the

profound transformation of the party system and political competition. Moreover, as far as Chapter 3 and the experiments are concerned, we will also use data for Portugal in order to extend our test of the role of different political identities in trust relationship. While this comparison is important for that specific part of the analyses this thesis consists of a case study of the Spanish political system.

## 1.5 Methodological choices and data

The main purpose of this thesis is to investigate the political foundations and consequences of trust relationships. To do this, we use a research design, which tries to address the main problems in previous research while taking into account the more refined techniques available to measure trust. Thus, in this final section we will first present our design and the main methodological choices that have been taken to overcome the main challenges in trust research. Then, we will present our framework to gauge trust behaviors as well as we will conclude it by paying attention to the sample and participants and main conclusions with respect to the validity of the study and data employed.

### *1.5.1 Analytical strategy*

When studying trusting behaviors, the researcher has to face some important challenges related to identification. The first problem concerns the analytical strategy suitable to explore its determinants as well as its consequences. In this respect, the most considerable part of the literature consists of statistical analysis of observational data, in which the focus is on a large number of countries in specific time periods relying on the use of ordinary least squares and related non linear techniques to evaluate the association between survey-based measures of generalized trust and a set of theoretically relevant covariates (e.g. Newton, 1997, 1999, 2001; Putnam, 2000; Uslaner, 2002; Delhey and Newton, 2003; Freitag, 2003; Delhey and Newton, 2005; Rothstein, 2005; Rothstein and Uslaner, 2005).

A potential source of bias that undermines this type of investigation is the endogeneity of the relationship under examination (Durlauf, 2002b; Bjornskov, 2006; Nannestad, 2008). One important explanation of the propensity to trust concerns, for instance, its connection with institutional performance. In this case, the main threat to validity may be reversal causation, as far as it might be difficult to identify with this type of research whether corruption drive down social trust levels, rather than the other way around. The same can be said for instance for its supposedly connection with other types of variables. Another important explanation is



the people learn trust by their participation in a network of civic associations. Even in this case we might expect more trustful citizens to be more likely to participate in civic organization as well as their civic engagement may reinforce their trust propensity. In other words, the reported effect of these determinants of social trust may be overestimated.

A related concern with the connection between, for instance, social networks or group-effects and social trust may be a possible self-selection as far as those who share more civic profile may be over-represented in voluntary association but at the same time their trust is not influenced by interaction within those associations (Hooghe and Stolle, 2003). Similar problems may be raised when we evaluate the potential positive effect of trust on some important outcomes. It might be reasonable to think, for instance, that there are other important incentives to participate in political activities, apart from trust in other people. This may indeed be favored from other mobilization channels related to political motivations and attitude. Thus, if we want to study both the political origins and consequences of trust we need first to consider a way to tackle this problem.

In general, in experimental research, endogeneity is usually overcome by design (Fehr et al., 2003; Morton and Williams, 2011). This is made possible in particular by randomly assigning subjects to different treatments, which are manipulated at purpose by the researcher. Hence, the main advantage of experiments is a firm control of the environment under which participants take decisions or express their opinions. Then, the experimenter can vary the variables of interest and check how the subjects react to the exposure to a particular treated variable. In this respect, the possibility of introducing exogenous variation on some aspects constitutes an important advantage of experiments over observational data and it is perhaps the most reliable way to approximate causal inference. In this respect, random assignment enables the research to estimate the average treatment effect by comparing those participants who were treated and those who were untreated (Druckman et al., 2011: 17). In order to profit from an experimental design while having much information on heterogeneous population, perhaps one of the most relevant innovations in the last few years is the implementation of survey-experiment to national samples. In this framework, participants are not required to show up in a laboratory but the stimulus is administered via more common survey tools (Mutz, 2011).

Also within the observational framework there are some statistical strategies, which allow us to resemble the experimental ideal. One approach that has recently increased its importance in the trust literature

(see e.g. Sturgis et al., 2009, Glanville and Paxton, 2013; van Ingen and Bekkers, 2013; Bauer, 2015) consists on the use of the panel study design, where multiple individuals or units are observed in several time points. Since individuals change their states on some relevant variables over time, approximating the assignment to a treatment condition, it is possible to identify whether this has an effect on other response variables as in our case their propensity to trust (Morgan and Winship, 2007, 253). Moreover, panel models allow investigating in a more complex way the direction of the effects by having different time periods and a precise order in the conditions included in the analysis. Overall, this design departs from previous investigation under two important aspects. First, a panel design allows the inclusion of the temporal dimension, which might help by providing a more detailed and dynamic account of the determinants and consequences of social trust. Then, it enables the research to study the phenomenon at the individual level, while a large share of the existing empirical investigation based on observational often considers the problem at the aggregate level, with issues related to the potential ecological fallacy.

In this thesis we try to employ both panel models in Chapter 2 and 4 as well as survey experiments in Chapter 3 to answer some relevant research questions in trust research.

### *1.5.2 Gaming trust online*

As we have discussed thoroughly, another source of inconsistency in the empirical research relates to measurement. In this respect, our proposition is to follow seminal research in the field by combining trust game experiments with the survey method where substantial background information is solicited (Fehr et al., 2003). In this way, it might be possible to take advantage of a better trust measurement based on observed subject's behavior while collecting data on a wider sample of subjects.<sup>6</sup>

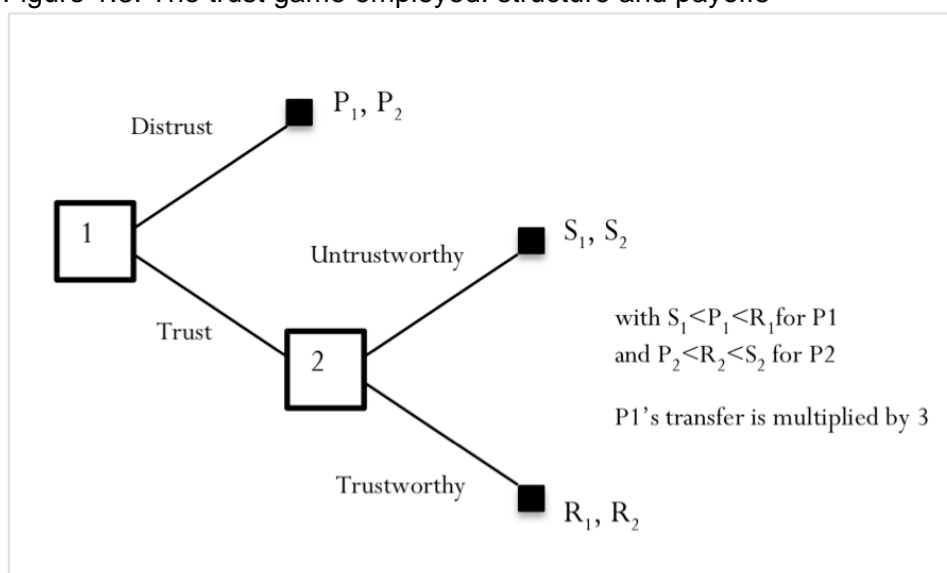
To elicit behavioral trust towards strangers, we have employed an adapted version of the one-shot trust game designed by Berg et al. (1995). As we have already described in section 1.3.1, the structure of the game is a sequence of moves between two actors where both are fully informed about its structure and payoffs. As shown by figure 1.3, this is played by two randomly assigned anonymous players who do not know each other

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<sup>6</sup> Other relevant instances, which combine trust games with survey methods to collect data on population samples, include for instance Barr (2003); Ermisch et al. (2009) and Criado et al. (2015).

before participating in the game and neither do they exchange any information during its implementation. Both players began each game with an amount of virtual money equal to 5 points (convertible into goods from the survey company).<sup>7</sup> Therefore, given the tripling aspect of the game, the maximum number of points any subject could obtain was 20 per game; the minimum was 0. Player 1 is told he/she can share some, none, or all of it with player 2 and that any sum shared will be tripled before giving it to player 2, and that player 2 will be given the same options, namely to return some, none, or all of it to Player 1. After having completed the game, in the second step of data collection, subjects were administered a questionnaire in which different questions on political attitudes and behaviors as well as economic conditions and group membership were included.

Figure 1.3: The trust game employed: structure and payoffs



In this thesis we have both implemented anonymous games with the purpose of eliciting trust towards strangers, as well as we have varied the information on the partners involved. More specifically, in Chapter 3 we

<sup>7</sup> The procedure has been managed by NetQuest, which employs its own system of incentives and rewards. This system is based on virtual 'points', which can be accumulated by the panelist for his participation in the surveys and used to obtain goods from online shops. Netquest is in fact embedded in a net of other online companies which sell their products on the Internet (including technology, food, gifts for children and home appliances). The virtual points cannot directly be assimilated to current Euros, though they constitute real money to be used once accumulated. Panelists may also participate into lotteries that are often run to get expensive products. All in all, this system has been ideal to realize the survey-experiment online.

will show results of a survey experiment implemented in Spain and Portugal to assess the impact of different salient political conflicts and relative identities. In other words, participants were involved in multiple trust games, in which after the anonymous game they interacted with different players and we gave some information on the other person's political identity, being this his or her party, social class, regional identity or ideology. When referring to trust in the anonymous form we prefer using the terms "trust in strangers" or "trust in unknown people" as the term generalized trust is still strongly associated with the survey-based tradition and the phrasing of available survey instruments.

A word should be given on the validity of our research, the method employed to gauge trust (Levitt and List, 2007; McDermott, 2011). The first aspect of validity to be considered relates to construct validity or how well the measures match working conceptualizations and theory. In this respect, our measure of trust fits our definition, as far as player 1 needs to perform a subjective evaluation of the potential response of player 2. In this respect, player 1 exposes to vulnerability, by accepting the chance of being exploited. As a further robustness check, before the experiment subjects were given a series of questions on payoff calculations and understanding. Extensive analysis shows that there was no association between questions answered correctly and decisions in the games.

One common criticism related to this game is whether it measures other-regarding preferences as altruism rather than trust. In one seminal contribution Cox (2004) develops a specific method to separate altruistic motives from trust and trustworthiness and finds positive levels of trust, even when controlling for individual-level altruism. Moreover, in their experimental test, Brülhart and Usunier (2012) do not find evidence of a significant relation between first-mover transfers and second-mover wealth. In their view, this result would reject the hypothesis of altruistic motives as a dominant determinant of "trust-like" decisions.

Another critical point raised is whether trust games actually gauge risk preferences (Ben-Ner and Putterman, 2001; Lönnqvist et al., 2015). While it might be intuitive to look at trust relationships in the game as risky bet on the trustworthiness of another person, many contributions seem to suggest that subjects do not consider trust decisions as similar to financial gambles. For instance, Eckel and Wilson (2004) show that different measures of risk tolerance, both survey and behavioral gambles, are not associated to decisions in the trust game. On the same lines, other research have shown that aggregate contributions differ significantly between trust and risk environments (Houser et al. 2009) or that risk attitudes do not predict individual investments in trust games (Ermisch et al. 2009). The

distinction between risk tolerance and trust seems also to be confirmed by biological studies which support the hypothesis that trust is regulated by other factors than risk attitudes and that trust decisions are performed differently by the brain than risk decisions (McCabe et al. 2001; Ksonsfeld et al. 2005).

All in all, recent empirical analysis seem to suggest that trust may be shaped simultaneously by risk preferences, betrayal aversion and beliefs about the trustworthiness of other people and that the trust game may better suited than survey measures to capture it (Bohnet and Zeckhauser, 2004; Bohnet et al. 2008; Fehr et al. 2009). As noted in previous sections (§ 1.3.2), we believe our strategy to provide a better solution to capture revealed trust in a three-part relationship which includes two agents and some resources (Fehr et al 2003; Fehr et al. 2009; Naef and Schupp, 2009). As in previous studies, our behavioral measure of trust is not associated with common generalized trust questions, confirming that the two measures are mostly disconnected (see table A.1.1 in the Appendix A1). While the former elicit behavioral trust in strangers, the latter captures an attitude directed at the general category of humans and is not related to a specific behavior and available stakes, failing to describe the relational aspect of trust.

Another aspect to be considered concerns with the internal validity, namely whether the difference we observe with respect to a certain outcome depends on the explanatory factors or treatments we are interesting in vis-à-vis other control conditions. Internal validity is therefore increased in well-designed research, which tries to approximate as much as possible the underlying causal processes. As we have already anticipated in the previous section, our strategy aims at doing it by focusing on changes over time by means of longitudinal analysis as well as by the systematic manipulation of treatments in an experimental setting. In this respect, as far as our experiment presented in chapter 3 is concerned our use of a within-research design establishes first baseline levels of trust constituting our pre-test (Charness et al., 2012). Subsequent trust games introduce political information on group identification in a controlled way and create treatment effects rendering post-test measures of trust. As far as this is the solely information provided, one can confidently infer that the relationship between group membership and trust resemble the causal process beneath.

External validity refers, instead, to the generalizability of the study and the extent to which conclusions can be applied across different populations (McDermott, 2011). The levels of trust towards anonymous people achieved are in line with other studies implemented on students

and non-student samples in different countries. Indeed, in their meta-analysis of 162 trust games based Johnson and Mislin (2011) show that in Europe the proportion of the endowment sent by Player 1s ranges between 0.22 and 0.78, with a mean of 0.53 and a standard deviation of 0.12. In our anonymous game, on average the Player 1s sent a proportion between 0.52 and 0.64 across the different waves. The value is within a standard deviation of that mean, confirming the reliability of the results. It has been argued that in Internet-based trust games subjects may trust more when they do not believe they are playing against a real person (Eckel and Wilson, 2006). Since the current study does not find higher levels of trust, online game play does not appear to harm validity. Another aspect related to the external validity is whether the situation, the actors involved and the treatments actually resemble those in the real world. We implement these sequential games online, by presenting every player 2 with a randomly assigned decision drawn from a prior uniform distribution of player 1 moves. This procedure allowed the games to be conducted simultaneously and with real individuals. In this respect, our procedure is similar to Fehr et al. (2003).

Figure 1.4: Screenshot of the trust game (test-mode)



Note: NetQuest. [www.netquest.com](http://www.netquest.com)

Finally, the use of an online environment (see figure 1.4) may have also facilitated the collection of sensitive information and in this way increased the accuracy of people's answers and behaviors, enhancing the anonymity of subjects (Eckel and Wilson, 2006; Kreuter et al., 2008). Sometimes the criticism towards behavioral experiments is their apparent simplicity. However, as others have noticed (Fehr et al., 2003), they provide a useful tool to test theories and to be used as a benchmark for more complex situations. As argued by Hoffman et al. (1996) and Ermisch et al. (2009), subjects are likely to bring their real world experience with trust

interactions into the formal experimental game. This make decisions in such setting likely to reflect habitual decisions in such class of situations.

### *1.5.3 Longitudinal online sample and participants*

Data are from an original three-wave longitudinal study of repeated individuals implemented in Spain and a one-wave of a study conducted in Portugal, being both extracted from existing online panels. In both countries, respondents were between 18 and 65 years of age with Internet access either at home or at work. The quotas were designed to approach the actual composition of the Spanish and the Portuguese populations in terms of sex, age and broad regional division of the countries. While a comparison with round 5 and 6 of the European Social Survey reveals that our samples are somewhat skewed as far as our respondents are slightly more educated, we have adequate variation in both socio-demographic characteristics (please refer to tables A1.2 and A1.3 in the Appendix A1). Recently, the use of web-survey methodology and non-probability online panels has dramatically increased in social and political research (Baker et al. 2010; Baker et al. 2013; Callegaro et al. 2015). While we need to be cautious when drawing inferences to the whole population when using information from such type of sampling methods, they might be useful when we concentrate our efforts on testing some novel hypotheses concerning treatment effects. This is the very aim of this work and something we need to keep in mind. In this respect, recent replication studies have revealed considerable similarity between many treatment effects obtained from experiments conducted in convenience and nationally representative population-based samples (Mullinix et al. 2015).

As it is usual in any longitudinal study it is hard to maintain a high level of participation across waves. This is also the case of the panel study we have conducted in Spain, which suffers the problem of attrition, namely those subjects that dropped out across the three waves. To check for whether attrition is associated to some basic characteristics of interest in our research such as trust or other basic socio-demographics (gender, age and education) we test whether panelists who remained in all waves are different from those who dropped out. To do this we run OLS models to regress survey participation on a series of socio-demographic characteristics and measures of trust. Our test has revealed no significant differences among groups of survey panelists with the exception of gender (the number of women tends to decrease between the first and the second wave). While this test may be considered as not completely exhaustive it suggests an overall low level of selection through the waves in relation to such fundamental aspects (see table A1.4 in the Appendix A1).

In Spain the three waves were realized on February-March 2012, on December 2012-January 2013, and on May-June 2013, respectively. The final size of the samples is 1275 subjects for the first wave, 946 subjects for the second one and 886 subjects for the third one. A basic form of the anonymous trust game has been included in all surveys. In Portugal, instead, the survey was implemented on May 2012 and with a final sample of 1005 subjects. However, not all dimensions of interest with respect to the explanatory factors were covered in the three waves. Moreover, since our interest is only on trust behaviors, we only consider the information for the decisions taken by the respondents acting as Player 1. As a result, in the different chapters we will consider different samples depending on the type of analysis. In this respect, a comprehensive explanation of the data employed has been included in each empirical section as well as in the Appendix.<sup>8</sup>

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<sup>8</sup> The samples have the following response rates: Spain wave I (50.0%); Spain wave II (67.0%); Spain wave III (93.0%); Portugal wave I (44.5%). The attrition rate between waves I and III in Spain is 30.9%.



## **2 When the chips are down: the implications of economic shocks for trust**

### *Abstract*

*A central discussion in the study of trust is whether this is stable or experiences and life-events impact people's propensity to trust strangers. Until now, empirical evidence is scarce and results are uncertain due to model specification and measurement. Indeed, research relies mainly on cross-sectional analysis or use common trust survey questions. By taking advantage of a trust game embedded in a panel survey in Spain, this paper looks at the effect of personal economic shocks. Using a longitudinal research design and behavioral measures, it overcomes the limitations of existing research and shows evidence of the impact of job loss on the individual change in actual trust behavior. The study also provides a compelling test of main theories on the origins of trust by considering the importance of institutional confidence, political efficacy and perceived corruption while controlling for other traditional social and cultural suspects.*

## 2.1 Introduction

How do we learn to trust? Do economic shocks influence the extent to which we trust our fellow citizens? Are experiences related to the negative financial situation connected to more suspiciousness? There are both theoretical and empirical reasons for engaging in such type of research. First, many scholars have argued that trust in strangers, also understood as the subjective probability with which we assess the trustworthiness of an average person and we expect good will from her (Gambetta 1988b; Coleman, 1990; Offe, 1999; Hardin 2002), has many positive effects for social systems (Fukuyama, 1995; Putnam, 1993, 2000; Herreros, 2004). Many studies have indeed found trust to imbue tolerance for cultural diversities and social connectedness, being both extremely important in large scale and socially mixed societies, where social ties can be weak and people need to cooperate with others they do not know personally. Lastly, trust among people has been associated to various indicators of democratic quality (Brehm and Rhan, 1997; Paxton, 2002; Uslander, 2002).

A second central aspect relates to the basic question of how trust is formed. In this respect, in the literature it is possible to identify two alternative perspectives. One view argues that trust is a predisposition of an individual towards the other, which constitutes a personality trait developed primarily during childhood (Erickson, 1968; Becker, 1996; Uslander, 2002). Thus, individual daily experience has little effect on one's own evaluation of the social environment and trust exhibit individual and aggregate stability over time. Conversely, the other view maintains that the propensity to trust may actually change and it suggests that people update their judgments according to social experiences and interactions (Coleman, 1990; Hardin, 2002). In this latter case, trust is context-dependent and it may be the result of later-life events. Overall, empirical research is still scarce and evidence presented offers mixed results (e.g. Glanville and Paxton, 2007; Sturgis et al. 2010; Bauer, 2015; Paxton and Glanville, 2015).

One possible class of events may be related to the harmful consequences of economic downturns on people's social life and relationships. In this respect, while distrust is often mentioned as an important link in the causal chain between economic deprivation and well-being, social exclusion or political disengagement (Oishi et al., 2011; Delhey and Dragolov, 2014), the effect of exogenous shocks such as unemployment or income drop on actual people's trust behavior still remains underexplored. While the recent harsh economic downturn has renewed the interest on how changing economic conditions affect political attitudes and behaviors (Gallie 2013; Margalit, 2013; Bermeo and Bartels, 2014;

Armingeon and Guthman, 2014; Fisman et al. 2015), very little attention has been dedicated to the adverse effect on one of the component of social cohesion, namely trust among people.

A last reason to engage in such research endeavor is that there are still methodological problems to overcome in the empirical research on the foundations of social trust. As it will be discussed in more detail, this is confounded by measurement and estimation issues (Durlauf, 2002b; Bjornskov, 2006; Nannestad, 2008). Indeed, scholars use common survey-based instrument to elicit trust, which have often been criticized because they are unable to identify trust in action. At the same time, there is still much reluctance to embrace more recent efforts of those who have tried to provide a solution by employing experimental games to study patterns of altruism, cooperation, and trust (for a review see Camerer, 2003). In this respect, few empirical studies have investigated how behavioral trust evolves over time, due to different circumstances and changing situations.

By taking advantage of an online experiment embedded in a panel survey conducted between 2012 and 2013 in a national sample in Spain, this paper addresses the question of the effect of individual economic situation on behavioral trust towards unknown others. To our best knowledge, this is one of the first attempts in this direction. Using a longitudinal research design and behavioral measures, it tries to address limitations of previous analyses and provides first results on the negative impact of job loss on the individual change in people's actual behavior.

Moreover, we test our argument considering the alternative role of the system's political performance by considering the role of institutional confidence, political efficacy and perceived corruption in explaining peoples' reluctance to cooperate while controlling for other cultural suspects. In this way, it provides a broader test of main theories on the origins of social capital within a political community. As it will be show, lower levels of trust are also found between individuals with higher levels of perceived corruption. We pay attention to Spain, a case that may be analytically useful for our purpose. In fact, after a period of prosperity, since the year 2008, this country has experienced a harsh economic depression along with rising discontent with institutional performance and political scandals.

## 2.2 Trust and economic shocks

Nowadays, there is wide consensus among social and political scholars that trust constitutes a basic element of interpersonal relationships and a resource that tied up societies together (Nannestad, 2008). In general terms, trust can be described as an expectation about the good will of others and that people are not oriented to carry out harmful actions (Yamagishi and Yamagishi 1994; Offe, 1999). However, trust does not come only in one form (for a discussion on the different types of trust please refer to Uslaner 2002; Newton 2007; Freitag and Traunmüller, 2009; Newton and Zmerli, 2011). In this work we focus our attention to the realm of social trust, in particular when this expectation is extended towards unknown people including strangers we randomly meet in our daily activities.

Trust in strangers, that is, a class of fellow citizen of whom we do not have any relevant information, constitutes an expectation towards other people in general and it extends beyond the boundaries of familiar interactions. This form of trust is thought to be more important in modern complex societies, where people frequently engage in relationship with unknown others and with non pre-existing social ties. This is often distinguished from trust towards people we have direct knowledge of which results from cooperative experiences and daily repeated interactions, such as relatives and friends. For these reasons, the former is considered to favor bridging forms of social capital, with benefit for the whole society. The latter, instead, is usually deemed to reinforce loyalty among homogenous networks stimulating bonding social capital, with resulting negative social externalities (Putnam, 2000; Zmerli, 2003; Warren, 2008). But, how can we explain the formation of trust towards other unknown fellow citizens? What is the role of personal conditions and social experiences?

While it might be reasonable to expect that people update their estimations on the trustworthiness of specific groups or individuals they have direct interaction with, this process is much more complicated when they deal with someone they do not have any relevant information about. In this respect, there are at least two alternative approaches throughout the literature that try to explain our willingness to engage in trust relationships with strangers. The first one holds that this is a psychological trait, which is developed in early life mainly due to parental socialization. Following this account, trust is independent from adult daily experiences so that trust is mainly conceived as a stable affective attitude, a general world-view on the benevolence of human beings (Erickson, 1968; Yamagishi and Yamagishi, 1994; Becker, 1996; Jones 1996; Uslaner, 2002).

The other approach, instead, looks at trust as a social relationship between one individual, the “truster” who trusts another actor, the “trustee”, in order to accomplish a specific task (see on this Gambetta, 1988; Coleman, 1990; Bacharach and Gambetta, 2001, Hardin, 2002). In this view, trust is a rational judgment of the expected probability that the trustee will be trustworthy, so that through this evaluation, subjects consider returns they would obtain if trust is honored relative to the costs, if otherwise. Thus, trust decisions are also related to the chance of being betrayed which is connected to the incentives and the issue at stake in that specific situation together with the information at hand about the actor involved. Yet, when such information is not available people may rely on a generalization of their previous experiences in the form of aspects of the social environment and personal life-events. So far, empirical research is scarce and evidences are still mixed. For instance, Glanville and Paxton (2007) finds that people form a generalized expectation of trustworthiness based on their experiences with groups of people in different localized settings. In the same way, Paxton and Glanville (2015), in an experiment, find participants to change their trust according to levels of trustworthiness of the environment. On the other hand, Bauer (2015), by means of the Swiss Household Panel, achieves opposite results and show trust to be immune to experiences of victimization. On the same line, other empirical studies support the claim that trust is a relatively stable trait (e.g. Uslaner, 2002; Bekkers, 2012)

The main hypothesis we try to test in this paper relates to the importance of the economic situation and the events resulting from economic shocks on our willingness to trust strangers. At a first glance, the argument that individuals adapt their behaviors according to their own personal conditions and financial situation, both real and perceived, is quite straightforward. Advocates of this position (see on this e.g. Newton, 1999; Zmerli and Newton 2011) suggests that social “winners”, as measured in terms of income and higher level of job status or education would also show higher levels of trust towards different others. In contrast, distrust should be more common among those with lower income and worse socio-economic conditions. In brief, social “losers” should be more suspicious towards others who they do not know personally.

As argued by Zmerli and Newton (2011), there are different mechanisms which might explain why those who have better status are also more trusting. First, people with a better social status are also likely to be more optimistic in their psychological outlook while people living in disadvantaged conditions may be more cynical and show defensiveness in the form of social distrust (Brandt and Henry, 2012). Moreover, higher level of trust for winners can also be explained in rational terms. As we

have noted above, trust involves risks of betrayal and costs in case of untrustworthy behavior by the other party involved in the relationship. Hence, it might be reasonable to think that an actor will consider his own economic situation before engaging in such type of interaction. In this respect, the absolute level of wealth may actually matter for trust decisions and winners may be more equipped to face the risk involved in a trust decision. Finally, winners are more likely to live in a trustworthy social environment, developing greater trust in the society they live in. There is some evidence that confirms this position which shows that economic circumstances and bad financial situations lead to less trust in other unknown people. There is for instance evidence that higher levels of trust are found among people showing higher socio-economic status and higher educated people in the US between 1974 and 1994 (Alesina and La Ferrara, 2002; Brehm and Rahn, 1997) as well as over nineteen democratic countries between 2005 and 2007 (Zmerli and Netwon, 2011). Then, cross-national results have associated more distrust to joblessness (Paxton, 2007).

However, although this perspective may help us to understand the role of personal conditions, it does not tell us much about how economic shocks actually matter. In fact, in this paper we are mainly concerned with those events that might change the relative economic situation of an individual, such as losing a job or experiencing a drop in the income, rather than his absolute level of wealth. In this respect, the two distinct views on the nature of trust delineated above resemble the discussion within the literature on parental socialization and life-events (Kinder and Sears, 1985; Sears and Brown, 2013). Socialization literature accepted long ago the possibility of changes across the life course especially when important events come along. The economic and political context may in fact offer conditions that favor these events to occur producing individual level change. The most relevant theory in this respect is the ‘lifelong openness hypothesis’ which maintains that individuals are highly flexible and responsive throughout their lives as a result of social circumstances and personal experiences beyond early learning.<sup>9</sup>

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<sup>9</sup> Of course, our aim is not to address all theories that have studied how attitudes and behaviors develop over life-course. However, it is worth mentioning that in socialization studies, the ‘life openness hypothesis’ has been developed along and often contrasted to the ‘persistence hypothesis’ which argues that individuals are flexible to events when they are young but they are less responsive when their age increase. Moreover, it has been tested against the ‘impressionable years hypothesis’, which states that attitudes and beliefs develop in late adolescence and early adulthood while they remain more stable afterwards (see on this in particular, Sears and Brown, 2013). In recent research, Dinesen (2012a, 2012b)

In addition to this, according to the economic and psychological theory of ‘hedonic adaptation’ (e.g. Diener et al., 2006), we get used to a stimulus if it persists over time, while we are reactive to changes and contingencies, including economic ones. Empirical evidence has been provided on the negative consequences of unemployment on psychological health. It has been show for example that the erosion of disposable income and above all joblessness undermine feelings of self-esteem and people’s self-perception, with important effect on general well-being (see Zeisel et al. 1972; Frey and Stutzer, 2002; Di Tella et al. 2010; Oishi et al., 2011). Thus, we might derive that the problems that people experience after a negative economic event may be associated with a psychological distress and undermine a sense of togetherness which is important for trust, leading people to look after their interests and express more selfish behavior (Delhey and Dragolov, 2014). In this direction, by using panel analyses, some authors have shown that changes in income predict increases in social trust over time confirming the role of economic events for trust (Brandt et al., 2014). Others have highlighted the role of changing perception of the financial situation to drive changes in trust (Sturgis et al., 2009). So, our first hypothesis states, that:

*H1: Negative economic shocks have a negative effect on trust in strangers, that is, a negative economic event is associated to a decrease in individual trust towards strangers.*

### 2.3 Alternative mechanisms: the role of institutions and civic engagement

There are at least two other mechanisms that might help us to understand how we learn trust through experiences with the social and political environment. The first and most common explanation of the development of trust is related to the viability of civil society and the degree to which we are embedded in informal social networks (e.g. Putnam 1993, 2000; Fukuyama 1995; Newton, 2001). The assumption of this perspective is that by active participation in voluntary associations, individuals learn the virtues of trust together with other people from different backgrounds and socialize in civic skills. In this society-centered approach, civic engagement fosters trust by means of face-to-face interaction. The mechanism approximates an idea known in social psychology as the ‘contact hypothesis’, in which it is argued that interactions can help to overcome stereotypes and intergroup discrimination. This is possible

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shows that trust may be continuously formed throughout life, providing interesting findings in support of the ‘life openness hypothesis’.

under certain circumstances, especially when the interaction promotes intimacy and creates conditions for equality and cooperation among different groups (for a review see Pettigrew and Tropp, 2006). This applies to the context of voluntary organizations, in which repeated interactions tend to deepen a subjective sense of trust between individuals. In brief, people involved in voluntary work via associational membership should be more likely to express higher levels of trust in strangers than those who are not connected in such type of social networks.

Despite this perspective has popularized during the last two decades, it has been challenged both in theoretical and methodological terms (Nannestad, 2008). Additionally, evidence is still mixed. For instance, in his longitudinal analysis in the Netherlands based on panel data between 2002 and 2006, Bekkers (2012) finds that changes in volunteering are not related to changes in trust, and that trust is higher among volunteers due to selection. Similarly, in their analysis from several national panel studies in Australia, Britain, Netherlands and Switzerland, van Ingen and Bekkers (2015) finds participants to civic organization to be more trusting. Nevertheless, these findings seem to be related to selection effects. Lastly, in their panel analysis in Britain, Sturgis et al. (2009) also find no significant relationship between formal and informal social connectedness and trust.

On the other hand, by using the 2006-2008 General Social Survey Panel, Glanville et al. (2013) find that generalized expectation of trustworthiness depends on positive changes in informal social ties and people's engagement in voluntary work. Li et al. (2005) observe that informal social networks and civic engagement especially in the form of neighborhood relationship tend to facilitate trust in Britain. Consistent results also emerge from experimental investigation. In this respect, for example, Ermisch and Gambetta (2010) provide evidence that people with more outward exposure, and, therefore, more likely to get involved in informal social interaction, are more willing to trust and deal with strangers.

Another important perspective stresses the role of the institutional context and the quality of government in creating or hindering social trust (e.g. Levi, 1998; Torcal and Montero, 1999; Herreros, 2004; Rothstein 2005). Advocates of this perspective often stress that during social and economic exchanges information is often incomplete and asymmetric. Under these circumstances, an actor is unable to assess neither the quality of goods nor whether the other will comply with the agreements. As a result, social and economic relationships imply additional costs related to negotiation and monitoring, which in itself make the exchange just not worthy of being



pursued. In this respect, political institutions such as the justice system and the police provide formal mechanisms to enforce private agreements and protect property rights, reducing costs of social relationships. In this way, people are more able to predict others' behavior.

However, when institutions do not function properly and they are generally perceived as untrustworthy, it might be difficult to maintain a general climate of cooperation. For instance, if people interact with civil servants that do not act honestly, they will be likely to conclude that corruption is the norm in that social context. In the same way, if institutions deputed to detect and punish are actually the same that behave in an unfair manner, citizens will be likely to do the same, as they will have reason to believe that the probability to be persecuted in their conduct is very small. In brief, an exposure to a low quality institutional environment and a general perception of inefficiency of the sanctioning system constitute an important signal to infer the standard level of trustworthiness of the social environment, so that people's trust in unknown others will be inevitably affected. Therefore, citizens who express more negative judgments on state institutions will also express lower levels of trust in strangers than people who perceive the political system more capable and reliable.

Despite an initial disagreement, more recent studies, have found fairly strong association between trusting behavior and confidence towards institutions. Cross-sectional research shows that confidence in institutions provides a breeding ground for social trust in many democracies (Freitag, 2003; Rothstein, 2005; Rothstein and Stolle, 2008; Freitag and Bühlmann, 2009; Newton and Zmerli, 2011). Similar conclusions can be extended to the importance of political corruption. For instance, by means of experiments in Romania and Sweden, Rothstein and Eek (2009) show that people's level of trust is affected by how they interact with civil servants and the extent to which these engage in illegal behaviors. Also survey research has shown that there is a connection between confidence towards institutions deputed to strengthen the rule of law, political corruption and trust (Rothstein and Uslaner, 2005). In sum, the feeling that order institutions are failing to respond to public needs and that public official acts at the expenses of citizen's interest and expectations may be a crucial determinant of individual social trust and cooperation.

To conclude, if we want to have a more comprehensive test of the impact of relative economic shocks on levels of trust in strangers we need also to control for other important dispositions and individual characteristics related to the level of engagement in civic life and attitudes towards the functioning of institutions.

## 2.4 Research design

In the empirical literature on the foundations of trust, a large number of studies consist of cross-sectional research on different countries in specific periods of time. One problem that undermines this type of investigation is the potential endogeneity of the relationship under examination, which may result for instance from reversal causation or self-selection (Durlauf, 2002b; Bjornskov, 2006; Nannestad, 2008). Then, often trust is only considered at the aggregate level, with issues related to the potential ecological fallacy, as this is measured at the individual level and not at the district or country-level. While this problem is addressed by more recent cross-national multilevel research in which the individual and contextual effects are taken into account simultaneously (e.g. Paxton, 2007; Freitag, 2009; Newton and Zmerli, 2011; Traunmüller, 2011), the problem of individual change is left unexplored. A more promising approach should take into account both problems and include the temporal dimension, which might help by providing a more detailed and dynamic account of the determinants of social trust. A panel design, namely a study where survey responses on the same individual are measured over multiple time points, is more suitable to identify the direction of the effects and to establish the temporal order of the considered factors (Morgan and Winship, 2007).

Another criticism relates to measurement. Most international survey programs use the same question to measure social trust by asking subjects on whether “most people can be trusted”. Some studies have pointed out in fact that trust questions are generic since they do not give reference to the group or the issue at stake (e.g. Glaeser et al., 2000; Miller and Mitamura, 2003; Sturgis and Smith, 2010; Delhey et al., 2011).<sup>10</sup> A different approach relies on the use of the experimental method and game theory which provide behavioral measures and frame more clearly the type of situation, the stakes and the actors involved in the interaction (e.g. Camerer, 2003; Ostrom and Walker, 2003). Indeed, subjects are usually assigned an endowment, a set of choice and they are given information about the other participants. In this way, it is possible to elicit revealed subject’s behavior instead of expressed preferences. However, trust games are often conducted in university labs relying on subjects of self-selected students with resulting problem of external validity. To benefit from both approaches, we combine combining trust game experiments with the survey method. In this way, it is possible to take advantage of a better

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<sup>10</sup> The wording is: “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?”

trust measurement, collecting data on a wider sample of subjects (e.g. Fehr et al., 2003).

The main purpose of this paper is to assess whether trust in strangers is stable and to estimate the effect of economic shocks on trust while considering other alternative explanations. To do this, we employ a design which tries to identify it and overcome the limitations of previous research by using data from an online trust game embedded in a panel survey conducted in two waves on a quota sample of the Spanish population. Finally, although attention is posed mainly on intra-individual change, the inclusion of other stable individual characteristics will help us to achieve a more comprehensive test of alternative explanations of trust levels.

#### *2.4.1 Trusting strangers in the trust game*

In this paper, we rely on the “trust game” to measure our dependent variable. The trust game is widely used in the field of behavioral economics and dates from the early 1990s (Berg et al., 1995). The game developed as a variation of the prisoner’s dilemma aimed at eliciting trust in action when people face real choices and monetary incentives. In its basic form, the trust game is a one-shot situation in which two subjects are given an endowment usually as a sum of money. The first player (the proposer) can decide how to allocate his/her endowment between him/herself and the second subject (the receiver). The proposer is also told that the experimenter will triple the sent amount and that the receiver can choose how much of the total quantity (the tripled transferred amount plus the initial endowment) to return to the proposer. The game is usually called a trust game as far as the amount that the proposer transfer serves as a measure of his/her trust in his partner while the amount of money returned by the receiver is usually considered his/her level of trustworthiness. The receiver has complete control over the resources so that the unique sub-game perfect Nash equilibrium would be for him/her to keep the money, and the same would be for the proposer, that is, to send none. Yet, as much empirical evidence show, players are used to send and to return non-trivial amount of their endowments (Camerer, 2003; Johnson and Mislin, 2011).

Our game was conducted online and embedded in a broader survey-questionnaire. This procedure has allowed increasing the number of participants while ensuring their anonymity.<sup>11</sup> At first, participants were

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<sup>11</sup> The implementation of the study has been supported by NetQuest, which employs its own system of incentives and rewards. This system based on virtual ‘points’ has been ideal to realize the survey-experiment online. The online

recruited and instructed briefly about the details and content of the survey. Moreover, they did not know each other before participating to the game, nor did they exchange any information during its implementation. Before the game started, participants were randomly assigned to one of the two role in the game to prevent selection effects as well as they were asked questions regarding payoff calculations and information clarity, in order to check for their level of understanding. They began the game with an amount of virtual money (convertible into products available online) equal to 5 points. The proposer receives no information on the other player, enabling us to measure baseline trust in strangers: in our case, the generic group consisting of people living in Spain.

By presenting the receiver with a randomly assigned decision drawn from a prior uniform distribution of the proposer's moves, our online procedure has allowed conducting the games simultaneously with real decisions made by real players. At the end of the game, participants were administered a questionnaire to collect information on different attitudinal and behavioral aspect. Even if the behavior in the game is often considered an indirect measure of trust it correlates highly with more specific questions on trust in strangers, suggesting the game to be a more refined tool to elicit this type of other-regarding preferences towards unknown people (e.g. Glaeser et al., 2000; Fehr et al., 2003). Overall, contributions in our game are in line with other applications of the trust game cross-nationally, confirming the reliability of our results (for a meta-analysis see Johnson and Mislin, 2011).

#### *2.4.2 Context of the study*

The Spanish case may be suitable to test our purpose. Since 2008, this country has experienced the worst recession in a half century showing the fragile foundations of its economic growth.

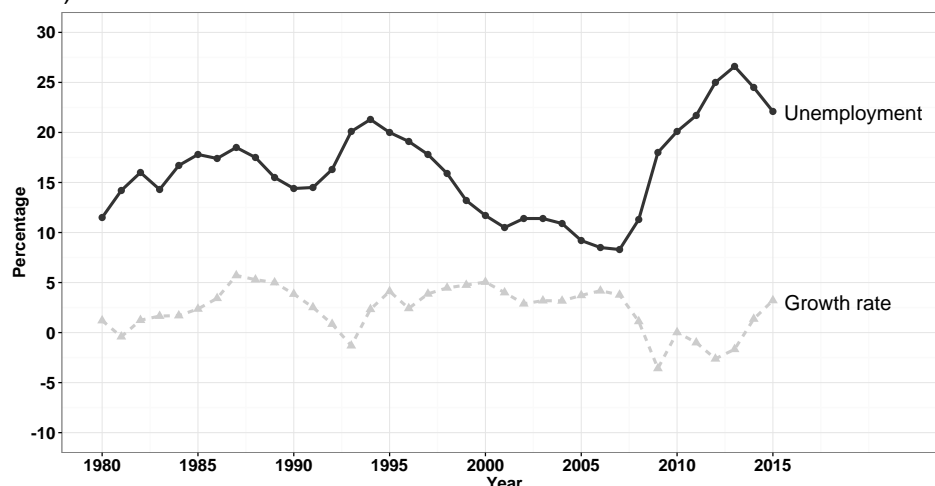
To have a better grasp of the economic dynamics it might be useful to consider our cases in historical perspective. In the second part of the 1990s, Spain underwent a notable economic growth, becoming one of the most successful countries in the Eurozone. Between 1997 and 2007 Spanish GDP grew at an average level of around 3.5%, unemployment was reduced to 8% and public debt to 40% by 2007. Nevertheless, since the real estate market bubble burst and the international financial crisis started in the 2008 the economy entered a painful period of depression (Royo, 2009). As shown by figure 2.1, between 2008 and 2012 the

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environment may have also helped in reducing any experimenter effect and preventing decisions guided by social desirability (Kreuter et al. (2008).

country lost 4.7% in GDP while the general level of unemployment rose to over 25% in 2012.

Figure 2.1: Trends in unemployment and growth rate in Spain (1980-2015)



*Note:* own elaboration from European Commission (EC) and the Organisation for Economic Co-Operation and Development (OECD) data (EC 2016; OECD 2016). [www.ec.europa.eu](http://www.ec.europa.eu); [www.stats.oecd.org](http://www.stats.oecd.org)

This process has also led to deep political repercussions. The national executive came under great stress, as it had to implement harsh financial cuts to deal with a loss of international market confidence (Armingeon and Baccaro, 2012). Among others, one result was the downfall of the government in 2011 (Bosco and Verney, 2012). Moreover, the level of conflict rose as social movements and protest have spread against austerity measures (Anduiza et al., 2014). Another feature is the low quality of the political class. Parties are a constant presence into all spheres of society with political patronage being still important nowadays (Sotiropoulos, 2006). The unveiling of scandals and episodes of corruption is also a piece of this picture across the two countries, posing the relation between citizens and the state under serious threat. According to Transparency International, Spain is a country with moderate levels of corruption, scoring 65 on a scale of 0 (highly corrupt) to 100 (very clean) in 2012 (Corruption Perception Index of Transparency International). Moreover, 73% of people considered corruption in politics to have increased during the period between 2009 and 2011. Finally, among the institutions with the highest level of perceived corruption is the judiciary.<sup>12</sup> All this characteristics makes the Spanish case relevant for the

<sup>12</sup> For further information please refer to the following webpage: [www.transparency.org](http://www.transparency.org).

study of the impact of personal conditions and the performance of the political system on trust.

### 2.4.3 Data and variables

We use data from a two-wave panel dataset collected in Spain on February-March 2012 and on November 2012-January 2013. Respondents were recruited by active invitation among the registered users. Self-registering was not allowed, so the problem of self-selection was more limited. The online sample consisted of citizens with Internet access either at home or at work and extracted by using gender, age, education, and territorial quotas and it includes Spaniards between 18 and 65 years of age. Despite the entire two-wave panel dataset comprises 946 subjects, we only consider the information for the decisions taken by the respondents acting as the proposer in both surveys which makes 233 subjects/466 subjects-wave observations in total. Although this is not a probability sample, this procedure provides variation in key-predictors of trust and basic socio-demographics (for more on sample characteristics and a comparison with other face-to-face survey sample see table A2.1 in the Appendix A2).<sup>13</sup>

Table 2.1: Descriptive statistics of main variables included in the analyses (2012-2013)

	Mean/ Proportion	SD	Min	Max	N
<i>Time variant</i>					
Behavioral trust in strangers (points sent) (w1-w2)	3.03	1.39	0	5	233
Salary freeze (w1-w2)	0.46	-	0	1	233
Salary cut (w1-w2)	0.55	-	0	1	233
Job loss (w1-w2)	0.38	-	0	1	233
Confidence in justice system (w1-w2)	2.65	1.57	1	7	233
High external political efficacy (w1-w2)	0.13	-	0	1	233
<i>Time invariant</i>					
High perceived corruption (w1)	0.86	-	1	5	233
Member of voluntary organization (w1)	0.17	-	0	1	233

Table 2.1 shows main descriptive of the main variables involved in the analysis. The table displays also the main independent variables used in the study, which are both time-variant and time-invariant. Our dependent

<sup>13</sup> The second wave suffered the problem of attrition. Yet, a regression model predicting survey participation in the different waves by means of basic socio-demographic characteristics and measures of trust. Our test has revealed no significant differences among groups of survey panelists with the exception of gender. While this test may not be considered as completely exhaustive, it also suggests low level of selection with respect to such important aspects.

variable of interest is trust in strangers measured as the absolute amount of money sent by the proposer to the receiver. The most important factors included in the analyses to test our hypothesis are of the former type and elicit personal economic situation capturing in a dichotomous format whether the respondent or a member of his/her household has experienced a job loss and two possible sources of drop in the income, that is a salary freeze or a salary cut. Then, to control for change in attitudes towards institutions and their performance to punish misbehaves we include an indicator of confidence in the justice system which is measured on a 7-point scale (Rothstein 2005). We also add an indicator of external political efficacy asking respondents their view on whether politicians and public authorities care about peoples' opinion. The time-invariant variables include, instead, a dichotomous indicator of subjects' perceived corruption of politicians (ref: "low corruption") to fully test the role of the political context. At the same time, we check the role of informal interactions and networks in predicting social trust levels by adding a dichotomous indicator of whether the respondent is a member of a voluntary organization.

Lastly, we follow existing research by adding other time-invariant characteristics related to traditional socio-demographic predictors of interpersonal trust (e.g. Alesina and LaFerrera, 2002; Croson and Gneezy, 2009). More specifically, we include gender (reference category: "man"); age in years; educational level (ref: "primary or lower education") and income. For an exhaustive description of the question wording, the operationalization of the variables and overtime variation of our dependent variable and the three main indicators of economic shocks please see the Appendix A2.

#### *2.4.4 Model specification*

In comparison to much of previous work in this study we want to test how events have a role in explaining changing individual behaviors in terms of trust. When performing this type of analyses the default choice is usually fixed effect estimation as far as it ensures more robust estimates due to the greater control of individual unobserved heterogeneity. This is because with fixed effects we do not estimate the effects of variables whose values do not change over time, rather, we partial them out (Allison, 2009). This is true whether the variables are explicitly measured or not. However, when the panel consists of a few waves and the within-subject variation is small, this method may not be the best option, as far as it requires the estimation of a parameter for each unit, providing less efficient results and reducing model's power. This problem may also get worse when the

sample size is small (see on this, Clark and Linzer, 2014; Bell and Jones, 2015). Thus, to identify the effect of economic conditions while controlling for other alternative explanations we use a longitudinal approach based on a panel model with random-effects. Moreover, as far as trust games are concerned, many authors suggest to consider the final variables as it would be censored (in our case between 0 and 5) and to apply tobit models (e.g. Carpenter et al., 2004; Garbarino and Slonim, 2009). The empirical model is, therefore:

$$y_{it}^* = \beta_0 + \beta_1 x_{it} + \beta_2 z_i + (\mu_i + \varepsilon_i), \quad i = 1, \dots, N; t = 1, \dots, T_i \quad (1)$$

The model specifies the latent trait  $y_{it}^*$  underlying the level of trust for the  $i$ -th individual on occasion  $t$ . This is assumed to be a function of individual time-invariant covariates such as for instance membership in voluntary organizations, perceived corruption and other background socio-demographic characteristics,  $z_i$ , and time-variant features of interests related to economic shocks and evaluations of institutional capability of maintaining social order and cooperation,  $x_{it}$ . The error term consists of  $\mu_i$  and  $\varepsilon_i$  where  $\mu_i$  is the individual-specific time-invariant component and  $\varepsilon_i$  is the individual and time-varying disturbance term. Our latent trait is measured using the observed variable  $y_{it}$ , which is our indicator censored at  $a$  (0 points) and  $b$  (5 points), as described by the expression:

$$y_{it} = \begin{cases} y_{it}^*, & \text{if } a < y_{it}^* < b \\ a, & \text{if } y_{it}^* \leq a \\ b, & \text{if } y_{it}^* \geq b \end{cases} \quad (2)$$

At this point, it is worth noting that the most important disadvantage of the random-effect approach is the problem of bias that pooling observation together can introduce. To overcome it, the random-effects estimator requires zero-correlation between the covariate of interest and the unit effect and that the residuals are normally distributed so  $\mu_i \sim N(0, \sigma_\mu^2)$  and  $\varepsilon_i \sim N(0, \sigma_\varepsilon^2)$ . Then, the estimation for the time-variant factors from the standard random-effect model is a weighted average of the between and the within estimates making it difficult to achieve final conclusions on the longitudinal impact of considered factors. In this article, we try to address these problems by using the Mundlak method, also known as the correlated-random effects model, which relaxes the zero correlation by adding one additional correction term for each time-varying covariate, that is, the group-level mean  $\bar{x}_i$  (Mundlak 1978; Wooldridge, 2002). Moreover, in the correlated random effect model  $\beta_1$  is solely an estimate of the within-effect, which allows us to check for any over time impact of economic shocks on trust. The final equation is, thus:



$$y_{it}^* = \beta_0 + \beta_1 x_{it} + \beta_2 z_i + \beta_3 \bar{x}_i + (\mu_i + \varepsilon_i), \quad i = 1, \dots, N; t = 1, \dots, T_i \quad (3)$$

Overall, at the beginning of our analysis we run a series of models by following equation (1) to evaluate first separately, then jointly, our main explanatory factors, while in the last model we apply equation (3) by adding the Mundlak correction term to get final estimates. All the models are also checked for multicollinearity via variance inflation factors.

## 2.5 Results

Let us now look at the results. First of all, it is worth asking whether our subjects' decisions in the trust game are stable over time. As we have noticed in the theoretical part, it is possible to identify two different positions in the trust literature. The first one considers trust a stable preference which hardly depends on later-life events. The other, instead, holds that trust is constantly updated due to life contingencies and experiences do play a role in shaping trust behaviors. Our data allows having a first preliminary answer to this point as far as we have repeated measures of trust on the same individuals in two different time-points. In this respect, when analyzing individual level trust allocations, we find only marginal evidence of stability, suggesting trust to be subject to change depending on time circumstances. Both Spearman rank correlation and Pearson correlation between amount of points sent in the two periods are fairly small and close, being 0.28 and 0.27, respectively (with  $p < 0.001$ , see also Figure A2.1 in the Appendix A2 showing the linear relationships). Overall, only around 33% of the proposers sent the same amount across the two waves (see Table A2.2 in the Appendix A2). Although to some extent this change may be attributed to measurement error, it is also likely that a part of this variation may be due to individual change on several covariates and among this to economic shocks (see descriptive statistics of individual transitions in Tables A2.3-5).

In order to study the longitudinal effect of economic events as losing the job or having experienced a loss in the income during the period under examination, by means of either a salary cut or a salary freeze, we have to refer to the results of the panel tobit models described above while controlling for other intervening factors and characteristics of the respondent. We show these estimations in table 2.2, which presents five different models. In the first three standard random-effects (model 1 to 3), we include the different types of shocks separately to evaluate their respective explanatory power, together with all other time-variant and

invariant institutional indicators, a stable measure of civic engagement, and, the socio-demographic characteristics of the respondents.<sup>14</sup>

Table 2.2: Panel tobit models with random-effects explaining individual change in behavioral trust in strangers in Spain (2012-2013)

	(1)	(2)	(3)	(4)	(5)
	Standard RE	Standard RE	Standard RE	Standard RE	Correlated RE
<i>Time variant</i>					
Salary freeze	-0.133 (0.178)			-0.195 (0.183)	-0.326 (0.286)
Salary cut		-0.005 (0.180)		0.086 (0.185)	0.059 (0.301)
Job loss			-0.623*** (0.192)	-0.643*** (0.193)	-0.641** (0.311)
Confidence justice	-0.015 (0.060)	-0.011 (0.060)	-0.022 (0.059)	-0.028 (0.059)	-0.088 (0.100)
Low political efficacy	-0.287 (0.269)	-0.290 (0.270)	-0.274 (0.266)	-0.259 (0.266)	-0.442 (0.393)
<i>Time in-variant</i>					
High perceived corruption	-0.739** (0.290)	-0.735** (0.290)	-0.746*** (0.286)	-0.748*** (0.286)	-0.675** (0.293)
Member of voluntary	-0.259 (0.262)	-0.250 (0.262)	-0.260 (0.258)	-0.267 (0.259)	-0.237 (0.260)
Female	-0.587*** (0.195)	-0.577*** (0.194)	-0.535*** (0.192)	-0.552*** (0.193)	-0.540*** (0.193)
Age	0.003 (0.009)	0.003 (0.009)	0.002 (0.009)	0.002 (0.009)	0.001 (0.009)
Secondary education	0.779* (0.422)	0.801* (0.421)	0.824** (0.415)	0.791* (0.416)	0.779* (0.417)
Tertiary education	0.676 (0.434)	0.684 (0.434)	0.682 (0.427)	0.659 (0.428)	0.621 (0.430)
Income	0.024 (0.034)	0.024 (0.034)	-0.011 (0.036)	-0.012 (0.036)	-0.012 (0.037)
<i>Mundlak terms</i>					
Constant	NO 3.738*** (0.710)	NO 3.662*** (0.707)	NO 4.085*** (0.706)	NO 4.178** (0.715)	YES 3.832** (0.785)
Observations	466	466	466	466	466
Number of id	233	233	233	233	233
Wald(Chi2)	22.96***	22.43***	33.28***	34.47***	36.08***

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

<sup>14</sup> Tobit estimation seems to be appropriate since 2.4% of our observations are left-censored while 25.3% are right-censored.

As it can be seen, job loss turns out to be the most important factor among the economic shocks considered. In fact, the estimation corresponding to losing a job is highly significant ( $p < 0.01$ ) and exerts a negative effect on the willingness to trust strangers, while the other two factors measuring a loss in income are in the expected direction but they fail to achieve levels of conventional significance. This would suggest that those subjects who experienced a job loss during the panel period also expressed less trust in the subsequent wave, confirming that deprivation actually undermines one of the key-elements of social cohesion, such as trust in strangers (H1). However, it is important to draw distinctions between types of economic shocks along the gravity of deprivation, with the most negative event, that is, unemployment, having the stronger and most significant impact on trust. The effect of job loss confirms its importance also in the fully specified model 4, in which we test the effect of economic shocks by including all of them at the same time. Additionally the importance of job loss holds although we control for income. Thus, we might conclude that the absolute level of wealth apparently does not count for trust; what actually matters is the relative change in the job situation.

At this point, it is worth noting that in the standard random-effect model we cannot be sure that there is not correlation between the considered covariates or other unobserved factors and our unit-effect. Moreover, the estimator we get from the standard formulation combines within and between variations. Thus, to test for the zero-correlation assumption and to get the final within estimate, we run a correlated-random-effect model by centering our time-varying factors at their group means. We do this in the last model 5 of the same table. As it can be seen, our indicator of job loss is still significant and the magnitude of the effect remains quite stable. Most importantly, none of the Mundlak terms are significant which would suggest that correlation is not at place (full models are included in Table A2.6 in the Appendix A2).<sup>15</sup>

As a robustness check we also run same models by using different estimation strategies. First, we employ a linear specification without finding any relevant difference: our results are indeed confirmed (see Table A2.7 in the Appendix A2). Then, when studying over time change some scholars have also proposed the use of a different approach based on a ‘within-between’ formulation with three additional advantages: the interpretability of the findings as the within and between effects are clearly separated; the possibility of leading to more stable and precise estimates by reducing correlation between the covariates and the group-

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<sup>15</sup> A Wald linear test after estimation is also not significant, so the terms are not different from 0.

level mean; lastly, collinearity between group-level means and other time-invariant variables is removed (Bell and Jones, 2005: 141-144).<sup>16</sup> We also run this type of model and we find still a significant negative effect of losing a job for trust behaviors. As it can be noticed from Table A2.8, the within effect is identical to the one reported in model 5 of Table 2.2 while the between effect is extremely close. This confirms our results and it provides a further test of robustness.

Turning now our attention to the other two alternative explanations considered in this paper, we can see from all models that our indicator of civic engagement is not significant. So, being involved in voluntary work does not contribute to explain trust levels. While this results might be surprising, it is actually in line with other works which have found a null effect of membership in voluntary organizations for behavioral trust in economic games (see e.g. Glaeser et al., 2000; Bigoni et al. 2016). Similar comments can be made for attitudes towards institutions and the rule of law, such as the indicator of external political efficacy and the one gauging confidence in the justice system. Indeed, they seem to play no role in explaining levels of trust in strangers over time, as both factors turn out to be not statistically significant. Nevertheless, the institutional explanation should not be completely discarded, as far as our indicator of perceived corruption is negatively associated with our dependent variable and the coefficient is highly significant ( $p < 0.01$ ). While it is true that this estimation only capture the role of corruption between individuals rather than an over time within effect, it provides some confirmation of the importance of the quality of the political system and its reliability (Rothstein, 2005; Rothstein and Eek, 2009). As we have noted previously, in the last few years, one relevant feature of the Spanish political system has been the low quality of the political class. The unveiling of scandals and episodes of corruption is a piece of this picture, posing the relation between citizens and the state under serious threat.

As we know, tobit coefficients are not easy to interpret as far as they refer to the estimation on the latent trait. In order to gauge the impact of our two significant factors we can calculate the final average marginal effect which gives us linear prediction on the observed trust variable (censored between 0 and 5). If we refer to the last model and Figure 2.2, we can conclude that the negative effect of losing the job consists of an over time decrease of almost 0.50 points out of 5 virtual points available, equal to around 10% of the endowment (upper figure 2.2a). Results are similar in magnitude when considering the impact of corruption. Indeed, this is negative so that people who perceived high political corruption among

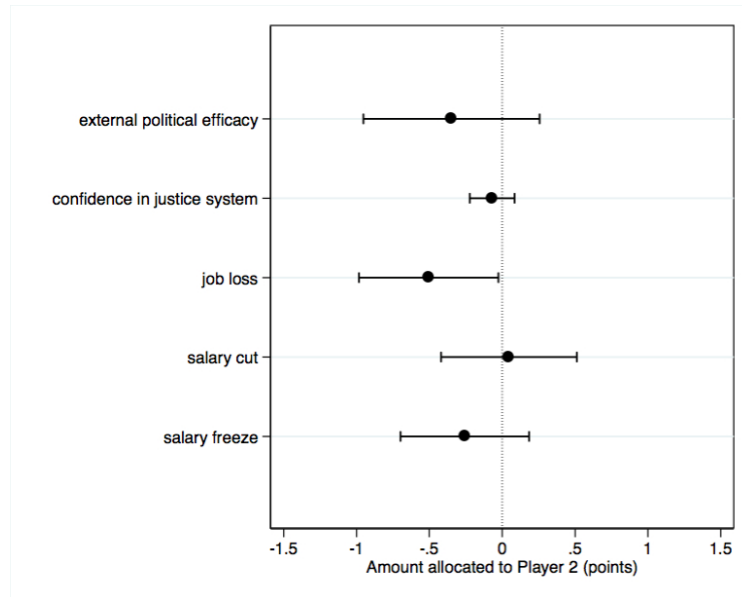
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<sup>16</sup> See on this the hybrid method proposed by Allison (2009: 23).

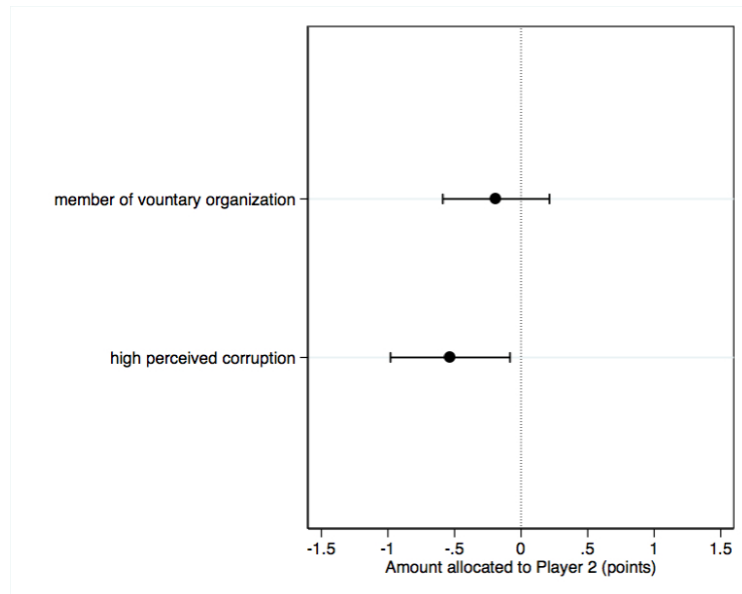
politicians also sent 0.53 points less than those who perceived low levels of corruption (lower figure 2.2b). In both cases, the effect is considerable and statistically significant ( $p < 0.05$ ).

Figure 2.2: Trust and the effect of economic shocks, institutions and civic engagement

a) time-variant



a) time-invariant



*Note:* The dots are average marginal effect estimations for the panel tobit model 5 with random effects and Mundlak terms on the observed outcome (amount allocated to Player 2 in the anonymous trust game). The bars are 95% confidence intervals.

Finally, it is reasonable to ask whether we can find any contingent influence of both institutional and civic engagement variables on the effect of unemployment experience on the willingness to trust strangers. Thus, as additional analysis we run standard random-effects models with interactions and we do not find any consistent effect of these factors when they interact with job loss (models are shown in Table A2.9).

## 2.6 Discussion and conclusions

The aim of this article is to contribute to the debate on how trust develops among people. Using a longitudinal research design and behavioral measures, it tries to overcome the limitations of previous analyses and show a negative impact of economic life events on the individual change in people's actual behavior. Our findings contradict the notion that trust represents a stable disposition. This somewhat disconfirms previous research on the stability of trust and the neutral role of experience (e.g. Uslaner, 2002; van Ingen and Bekkers, 2015; Lönnqvist et al., 2015), while it seems to confirm those contributions that point at instability of trust and the role of life-events (Sturgis et al. 2010; Paxton and Glanville, 2015). However, it should be underlined the fact that we find this effect only for job loss, the most negative experience included in the analyses, while we do not see any impact on trust of the other shocks considered, gauging a drop in income.

Another important contribution is that the paper offers some evidence of the negative effects of economic conditions on a key-component of social cohesion. With the recent global financial crises there has been a renewed interest in the social and political implications of economic cycles in contemporary democracies (Gallie 2013; Margalit, 2013; Bermeo and Bartels, 2014; Armingeon and Guthmann, 2014; Fisman et al., 2015). However, little research has been dedicated to social trust. We contribute to this line of investigation following previous work which considers the personal economic situation for trust behaviors (Newton, 1999; Zmerli and Newton, 2011). Our evidence seems to be robust to different model specifications and estimation strategies. In the same way, the impact of job loss holds true when controlling for absolute material conditions and other potential explanations. In this respect, we also point at the role of corruption in explaining peoples' variation in decisions, demonstrating that trust in strangers is related to the trustworthiness of the context they live in and it depends on mediate experiences with the social environment. Lastly, the use of a behavioral measure of trust and a panel survey represents a substantial advance over previous research.

This work, however, is not without limitations. The most important of this consists in the small number of subjects and time points considered. This has affected the number of variables to be included into the models. In this same respect, our analysis would have benefit of more time-variant variables which are however not available. Then, the problem of selection may not be completely solved as far as the sample is not probabilistic. Another point to be stressed concerns the external validity of the experiment. In this case, it has been suggested that both the structure of the game and the stakes involved may influence decisions relative to trust (Levitt and List, 2007; Johnson and Mislin 2011). We did not vary the stakes, but our pay-offs are in line with both previous laboratories experiments as well as survey-experiments on representative samples. We might expect that if our findings applies to relatively low or moderate stakes they might extended to more complex and highly valued situations. Yet, if trust falls when stakes increase, it is reasonable to expect in such situations an even larger effect of a sudden change in personal financial situation.

Another limit may be that our results are based on a single country which at the time of the survey was in the middle of a deep economic crisis. While this exceptional situation may have helped in testing the hypothesis giving the saliency of economic problems, on the other hand, it may have reduced possibility for generalizing results. Lastly, as it has been also remarked in the previous chapter trust may be shaped by risk, social preferences as betrayal aversion, and beliefs on the other person trustworthiness. Then, future research may consider including different measures to also capture these different motives in order to understand the mechanisms beneath changes in trust levels.

This study raises also other interesting questions for future research. We hope research on the impact of economic deprivation on trust will be eventually extended to consider other different countries and even comparing them, by applying a longitudinal cross-national approach. The institutional context, as we partially demonstrate, may indeed play a role, so it would be interesting to check whether our findings are confirmed in other European cases. Finally, it would be useful to evaluate the enduring effect of unemployment on social trust. In fact, as the hedonic habituation theory might suggest, the effect of changes may easily fade away after some time. This is another point future research might investigate by using longer time periods.

*The following chapter has been accepted for publication by Party Politics and co-authored with Mariano Torcal.*

Martini S and Torcal M Trust across political conflicts: evidence from a survey experiment in divided societies, *Party Politics*, forthcoming.



### **3 Trust across political conflicts: evidence from a survey experiment in divided societies**

#### *Abstract*

*The implications of intergroup political conflicts for social cooperation are still an under-studied topic. We report on two online survey experiments in which we implement multiple trust games to assess the impact of different political conflicts on trust behaviour in two national samples in Spain and Portugal. The results suggest that citizens' social trust is heavily affected by partisanship, favouring in-group party members over out-group party identifiers. This finding is robust in both countries, although the partisanship overall effect seems to be stronger in Spain, which has a more polarized party system. Moreover, the effect involves all parties despite their size and ideology. However, trust among different partisans mirrors interparty positioning. A second study for the Spanish case shows that the partisanship treatment is the one affecting trust the most, followed by the ideological and regional conflicts, which are usually considered long-standing divides with a greater impact in European democracies.*

### 3.1 Introduction

The importance of intergroup political conflicts for social cooperation and trust has only recently attracted the attention of social and political scientists. Cutting-edge research has shown that the importance of partisanship extends beyond electoral behaviour and the political arena, and shapes more basic orientations such as social trust and altruism (Fowler and Kam, 2007; Carlin and Love, 2013; Iyengar and Westwood, 2015). The argument is that people tend to cooperate with others belonging to the same group and that, unlike other social identities, political conflicts activate political identities at the expense of social norms and instigate inter-group hostility.

However, most of the available experimental evidence on the effect of party or political conflicts on social cooperation presents problems or limitations. First, it mostly comes from the context of the United States (for an exception see Carlin and Love, 2016), in which two parties historically dominate the political competition and partisanship seems to be the most important element for the formation of party and other political preferences (Campbell et al., 1960). Conversely, in Europe political systems vary in their levels of fragmentation with different multi-party systems, and their development is closely related to other well-established societal cleavages (centre/periphery or class) or ideological conflicts, which still play the most important role in party choices and voting (Lipset and Rokkan, 1967; Bartolini and Mair, 1990; Thomassen, 2005).<sup>1</sup> There is robust evidence that, for instance, ethnic identities also affect cooperation, social trust, and daily economic activities (e.g. Fershtman et al., 2005; Habyarimana et al., 2009; Michelitch, 2015). However, the partisanship effect on trust is rarely compared to the role of other non-partisan conflicts (e.g. Iyengar and Westwood, 2015). Moreover, almost all the existing literature on this topic is based on laboratory experiments with students or other individuals selected from reduced populations.

This work thus addresses whether partisanship has the power to shape trust behaviours in Europe and whether this holds in multi-party systems which may represent broader range of social and political divides. Specifically, what is the role of partisanship in trust decisions in political systems characterized by different parties? Is this effect the same for all

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<sup>1</sup> We use the classic notion of ‘multi-party system’ proposed by Sartori (2005: 112) and defined as a system with more than two parties where no party is likely to maintain an absolute majority and its strength can depend on its coalition indispensability.

political parties regardless of their size and ideological positions? Do other group identities such as social class, regional identities and ideology produce the same impact on trust? To establish whether the partisanship effect on trust relationships travels across countries, we connect social identity theory, cognitive heuristics and classic accounts of party system formation and cleavages to examine micro-level trust interactions among citizens in Spain and Portugal between 2012 and 2013. A comparison between these two countries offers an optimal setting, as both of them are third-wave democracies characterized by multi-party systems but varying along levels of fragmentation, political polarization, and partisanship salience. The Spanish case also shows strong territorial cleavages with the development of regional parties, which helps us assess the relative effect of partisanship versus other significant social divides.

To achieve greater validity, we conduct a series of within-subject trust game experiments on two online national samples. Analysis of a first study conducted in both countries confirms that individual trust is to a large extent affected by party identities for all political parties, although this effect varies across the two countries. These findings extend existing research to more diverse party settings in which multiple parties and coalition dynamics make party identity more complex and even undermine loyalty towards a single party. A closer look at Spain in a second study allows us to complement these findings by concluding that not all divides have the same impact. Indeed, another important result is that partisanship seems to be the most powerful source of differentiation, followed by the left-right ideological dimension and the territorial conflict.

### 3.2 Trust relationships and mechanisms of group discrimination

Trust among people is a central element in a complex virtuous circle in which a prevalence of norms of reciprocity and enhanced cooperation among individuals in a given community tends to facilitate collective action, wealth and good governance (e.g. Gambetta, 1988; Coleman, 1990; Putnam, 2000). In its basic form, interpersonal trust involves a three-part relationship of dependency in which a truster 'A' accepts vulnerability by making resources 'X' available to a trustee 'B' (Coleman, 1990). Specifically, trust involves the expectation that the act will pay off in terms of the truster's objectives, so that when trusting someone the truster considers the trust justified if it is honoured relative to the costs if otherwise. Trust implies a willingness to risk being betrayed, which might depend on the context and the issue at stake. Thus, people's decisions to

trust rely on a final evaluation of the probability that the trustee will be trustworthy and that the result will not be detrimental. According to Hardin's theory (2002), we trust others when we have reasons to believe that the other partner has the incentives to sustain the relationship and we recognize his or her commitment to act in our own interests. Thus, trust is based on previous experience and individuals are able to generalize from specific persons and situations to different contexts by using information about the incentives at stake.

Nevertheless, this theory works better in repeated interactions, while real life situations do not always involve an iterated relationship with the same person. Moreover, while trust relationships are facilitated in situations in which some knowledge is available, it seems to be much harder when the context of the interaction is too loose or information about the counterpart is scarce or even completely absent. If a person is unknown, we are likely to make use of generalization from our previous experience. At the same time, it is also reasonable to think that during a trust interaction individuals use their capacity to read signs of trustworthiness by looking at some trust-warranting qualities of the partner in the form of character traits or cultural dispositions (Bacharach and Gambetta, 2001).

Lately, the importance of stereotypes and group-based assessments has been gradually integrated into research on trust behaviour and cooperation (e.g. Brewer, 1981; Alesina and La Ferrara, 2002; Foddy and Yamagishi, 2009). The assumption is that people tend to associate with those to whom they feel close and similar according to certain cultural markers. In this respect, shared in-group characteristics such as attitudinal and behavioural similarities, territorial proximity and common narratives and symbols may serve as criteria to reduce risk in trust relationships and overcome a lack of knowledge. Hence, as the distance is reduced by means of group-enhanced commonalities, people's behaviour is directed towards group goals more than towards individual achievements.

As social identity and self-categorization theories argue (e.g. Brewer and Kramer, 1985; Turner et al., 1987) people categorize themselves and others who share the same attributes as 'in-group' members and individuals who do not share them as members of the 'out-group'. In this view, aggregates of individuals turn into social groups as they choose to identify with them and their affiliates and comply with shared group norms and values. In this respect, it has been shown that people display group bias even under minimal induced conditions by orienting positive feelings towards fellow members and negative feelings towards rival ones. The result enhances group differentiation, which manifests itself as in-group favouritism and out-group derogation.

Social categorization is, in essence, a stereotyping process (Mackie and Hamilton, 1993) which allows a mental representation of differences between groups and a more efficient processing of information. Specifically, stereotypes are structured around the most distinct group features in order to increase between-group heterogeneity while reducing within-group variation (Hilton and Hippel, 1996). People reduce the uncertainty in social reality and develop psychological attachments by perceiving group differences, which are in turn responsible for critical decisions in different circumstances. As a result, heuristic processes help individuals to make rational decisions and to anticipate the likelihood of uncertain events when information is incomplete while external cues are present and explicit (Tversky and Kahneman, 1974).

The importance of identities and stereotypes is emphasized by the classic theory of statistical discrimination applied to firm hiring practices (Arrow, 1973). Under this view, agents try to assess features of individuals in low-information contexts by using signals they receive, which allow them to infer the likelihood of certain behavioural characteristics of the candidate. If the signal is informative, agents will be likely to weight such information in their final decision. Another theory instead highlights how tastes for discrimination may explain cooperative decisions in certain situations (Becker, 1957). People will perceive no utility if out-group members will benefit from the relationship so that people are willing to pay a price and to avoid cooperation as social distance translates into animosity, impeding trust across groups.<sup>2</sup>

Theoretical models concerning the importance of identity in cooperation and social preferences have been tested in experimental settings. Preferential in-group treatment in terms of fairness and altruism has been found in post-conflict Bosnia (Whitt and Wilson, 2007). When studying the role of ethnic heterogeneity and religious diversity in trust behaviours, the same pattern has been identified in Belgium, China, South Africa and the United States, confirming in-group favouritism (Buchan and Croson, 2004; Fershtman et al., 2005; Haile et al., 2008). Consistently with these arguments, it is plausible to expect that in trust situations political identity cues will inform individual decisions to predict other people's trustworthiness.

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<sup>2</sup> Our intention is not to review all possible mechanisms behind identity-based discrimination. Mitchelitch (2015: 46-48) provides a comprehensive discussion adding other channels such as 'other-regarding preferences discrimination' and 'norm-based discrimination'. What we deem important is that all these mechanisms rely on the use of stereotypes when taking decisions under limited information.

### 3.3 The implications of political conflicts for trust relationships

This work focuses on the implications of political conflicts and the associated identities for the micro-foundation of trust among people. Political parties may represent the most influential political force, and serve as a set of principles guiding a full range of attitudes and behaviours. One important process involves their capacity to provide a strong source of identification. Specifically, party identification constitutes a sense of psychological attachment to a political party, which is transmitted over generations and which develops through socialization in youth, resulting in a deeply affective bond (e.g. Campbell et al., 1960). During this process, parties are represented as connected to specific social groups, values and expectations, which act as a frame of reference for citizens during their lifetime. As scholars argue, party identification is a social identity, so that in-group and out-group processes are a prime factor behind bipolar partisan dispositions (Greene, 2004; Huddy, 2013). Since partisanship converges with preferences over issues and beliefs, it is reasonable to expect people to be able to categorize themselves in terms of different partisan identities, which will produce positive and negative feelings and group discrimination in relation to the party membership.

Partisanship may also be used as a powerful lens through which to interpret social reality and make reasonable choices. Various studies have suggested that political party stereotypes summarizing relevant details can function heuristically when people are confronted with political information-processing tasks (Rahn, 1993). Despite having little political knowledge or interest, citizens may express opinions and make decisions by means of information shortcuts. Nicholson (2012) tries to provide evidence of party cues influencing policy positions on specific issues. Similarly, other scholars have shown the importance of parties in that citizens are likely to follow a frame if it is promoted by their party (Slothuus and de Vreese, 2010). Goren et al. (2009) have demonstrated that this influence goes further and that party cues shape core values, such as equal opportunities and tolerance.

Following these arguments, party identities could be a powerful tool to set the boundaries of in-group and out-group membership and an important stereotype with which to infer the trustworthiness of other people and show more animosity toward out-party identifiers. When party identity enters into a real strategic interaction, people may trust other people on the basis of the direction of their party identities. Therefore, despite the initial idea that political parties are one form of social capital which facilitates networks of civic engagement among different people and

develop the virtue of trust in people from different groups (Putnam, 2000), they may actually enhance cooperation among in-group party members while boosting competition against out-group ones.<sup>3</sup> Some studies have already shown by means of experimental designs that partisanship shapes social preferences in the United States. Fowler and Kam (2007) have shown that partisanship affects altruism in dictator games, with subjects sharing a higher proportion of money with in-group members and a lower proportion with the out-group. Similar findings have been found in trust games, with people displaying in-group favouritism in trust decisions (Carlin and Love, 2013). Moreover, hostile feelings for the opposing party seem to be automatic in voters' minds, and affective party polarization is just as strong as the division based on race (Iyengar and Westwood, 2015).

All these studies focus on a single country. Moreover, the importance of party identification outside the United States has often been questioned (Bartle and Bellucci, 2009). In European multi-party systems, self-identification with a party may indeed be more complex as more than one party represents a given ideological tendency. Thus, people might identify with different parties, undermining attachment to a single formation. In general, multi-party systems may be also characterized by coalition dynamics in which different political formations may combine in groups in order to accomplish collective goals. Preferences towards a single party may be blurred by preferences for larger political groups (Jonhston, 2006; Hagevi, 2015). Experimental research has shown, however, the power of partisan cue-taking in Europe (Brader et al., 2012). Hence, we expect to encounter similar dynamics in trust behaviours.

The impact of party identities may also depend on the levels of salience of partisanship and of the polarization of the political context, namely the level of contention parties are able to promote around them. We might conceive of political polarization in ideological terms as either the objective or the perceived distance of parties on the left-right scale with respect to the average of the party system (Dalton, 2008). Political polarization may also be thought of as a divergence in affect between the in-group and out-group party members (Iyengar et al. 2012). Thus, the act of identifying with a party prompts negative evaluations and a sense of dislike towards different political groups. These feelings become more or less pronounced depending on the information environment. Both cross-national and longitudinal analyses emphasize a reinforcement relationship between elite polarization and individual partisanship (Lupu, 2014).

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<sup>3</sup> Uslaner (2005: 377) similarly argues that parties are not as beneficial as other out-ward looking associations enhancing group-based discrimination.

Polarization also clarifies party positions on specific issues and their cueing effect, leading voters to adopt more consistent attitudes (Levendusky, 2010). Lastly, we might also expect to encounter different effects of party identities on trust behaviours depending on type of parties, their size and their ideological positions. For instance, minority parties may often provide more important bases for social identity and political cohesion than majority parties (Huddy, 2013). So, our first two hypotheses anticipate that:

*H1: In multi-party systems, partisanship affects trust decisions, leading people to favour in-group members over the out-group. This effect may, however, vary across national contexts.*

*H2: In multi-party systems, the partisanship effect involves all political formations, although it may differ according to their size and ideological position.*

Nevertheless, individuals might also exhibit group differentiation under minimal conditions. Thus, there might be nothing specific about partisan identity but in-group and out-group differences in trust levels can be found for other types of group. Moreover, the partisanship effect might reflect more profound political conflicts related to party system formation. In this respect, scholars have most frequently regarded the left-right dimension as the primary axis of party competition in Europe. While partisanship is recognized as relevant, it is generally seen as a less useful cue for European voters than other functional informational shortcuts (Bartle and Bellucci, 2009). Most importantly, the left-right scheme is associated with sets of values and it may be used as a reference point to identify groups in the socio-political realm (Mair, 2007). It has been demonstrated that this dimension is often more stable than party identification, and it is the main mechanism that voters use to choose a party to represent them in Europe (e.g. Thomassen, 2005).

Another aspect to consider when studying the implications of partisanship in European democracies is the fit between political parties and the social structure (Jonhston, 2006). Party system formation has often been related to the fractionalization of society, so it is possible that the impact of party identities on cooperation and trust might be the product of deeper social divisions. Hence, there are other cleavages that shape the nature of party and political competition which need to be taken into account, such as social class and centre/periphery cleavages (Lipset and Rokkan, 1967; Bartolini and Mair, 1990). Briefly, there may be some divisions and identities outside group partisanship which might have a higher political leverage and reduce trust towards people. Other social divisions, instead,



may not favour distinct beliefs so that the identities they produce may be too loose to gain political content. Thus, our last hypothesis states that:

*H3: In multi-party systems, other divides such as social class, regional and ideological identities affect interpersonal trust, creating similar in-group/out-group discrimination as that observed for partisanship.*

## 3.4 Experimental design

### 3.4.1 Context of the study

Portugal and Spain are two useful cases to test our hypotheses as they share broad common traits but also some important differences. Both countries completed their transition to democracy at the end of the 1970s. During their short democratic histories, they have been characterized by weakly institutionalized multi-party systems with two pivotal parties and a set of smaller formations. Additionally, the two countries share a very similar economic context as they have recently been shaken by a harsh economic crisis started in 2008. Moreover, the research was carried out in both countries after very controversial national elections were held in 2011. Despite these similarities, there are also some differences which might be relevant when testing the effect of partisan identities on trust behaviours. These dissimilarities pertain to the fractionalization of the party system, their different levels of political polarization, and the salience of partisanship in the period under consideration. During 2008 and 2009, the percentage of citizens reporting that they felt close to a political party was 45% for Portugal and almost 62% in Spain. While in the former this value decreased by about 6% compared to the previous decade, the value grew substantially in the latter by almost 20% over the same period.<sup>4</sup> This gives an idea of the distinctive salience of partisanship and its trend in the two countries. Differences can also be observed in the levels of ideological polarization of the party systems. On a scale ranging from 0 (no polarization) to 10 (extreme polarization), Spain showed a 4.8 between 2006 and 2011, whereas Portugal exhibited a level of 3.8.<sup>5</sup> These differences were still present in 2012 when the studies took place.<sup>6</sup>

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<sup>4</sup> These data come from modules 1, 2 and 3 of the Comparative Study of Electoral Systems (CSES) ([www.cses.org](http://www.cses.org)).

<sup>5</sup> The index is computed using CSES module 3 data and based on Dalton's formula (Dalton, 2008).

<sup>6</sup> For Spain, we use CIS study 2941 (April 2012: [www.cis.es](http://www.cis.es)); for Portugal, the 'Portuguese Voters survey, 2012' (Freire, A., Viegas, J. M. L., and Lisi, M., 2012), research project at ISCTE-IUL and CIES-IUL, Elections, Leadership, and Accountability: Political Representation in Portugal in a longitudinal and

Finally, other differences are related to the party system. Lately, in Portugal the party system has been characterized by greater fragmentation, with a return of policies typical of a consensual system and coalition governments (Freire, 2010). The 2011 elections marked the return of a coalition government of the two main centre-right formations, the Social-Democratic Party (PSD) and the Centre-Democratic Socialist People's Party (CDS-PP). Conversely, until the elections considered in this work, Spain had experienced one-party governments and stable voter orientations, which have anchored their decisions to divisions such as social class and ideology. In the 2011 elections saw the defeat of the Spanish Socialist Party (PSOE) and the return of the centre-right People's Party (PP).<sup>7</sup> Moreover, Spain is a multi-lingual society with one of the highest levels of cultural fractionalization in Europe. This heterogeneity gave rise after the transition to a two-party system, but with different regional electoral arenas due to the presence of state-wide parties and various significant regional or nationalistic parties (Linz and Montero, 2001).

### *3.4.2 Experimental protocol*

To test whether the partisanship effect on trust extends to multi-party systems and to compare it to other divides, we follow seminal research by Fehr et al. (2003) which integrate behavioural experiments with the survey data collection.

In the first part of our online survey, the interviewees were asked to play a multiple one-shot trust game (Berg et al., 1995). The game is a sequence of moves between two randomly assigned anonymous players who are fully informed about its structure and payoffs. They do not previously know each other and nor do they exchange any information during the implementation of the game. Player 1 is given an endowment and told he/she can share some, none, or all of it with Player 2, who is also given the same endowment. Player 1 is told that any sum shared will be tripled before it is given to Player 2, and that Player 2 might return some, none, or all of it to Player 1. Individual trust is elicited as the amount Player 1 sends to Player 2. It is worth noting that since Player 2 has no incentive to

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comparative perspective, FCT: PTDC/CPJ- CPO/119307/2010: [www.er.cies.iscte-iul.pt/](http://www.er.cies.iscte-iul.pt/).

<sup>7</sup> In the 2014 European Elections new parties entered the electoral arena with a profound restructuring of the party system. This pattern was confirmed at the 2015 General Elections and in the following ones in June 2016. In the period considered in this paper, between 2012 and 2013, the party system had been still stable.

return any amount, the dominant strategy (purely instrumental, based on distrust) for Player 1 would be for Player 1 to keep the money he/she receives at the beginning and to pass none. Nonetheless, as many studies have shown, trust is widespread and reciprocated (e.g. Johnson and Mislin, 2011). The amount of money returned by Player 2, instead, measures trustworthiness, which is not the topic of this research.

Following this design, we carried out two studies based on Players 1's decisions in different games. In the first one, we tried to test the effect of partisanship in the Portuguese and Spanish multi-party systems. In each country, we used identical instructions and payoff allocations to introduce participants to the game. The players began each game with an amount of virtual money equal to 5 points which could be used to buy goods online. Given the incentive of tripling the points each player could give away, the maximum number of points any subject could obtain was 20 per game and the minimum was 0. Each participant played a series of games with different players. In the first anonymous game, all of them received no information about the other player, enabling measurement of their baseline trust in strangers. In the subsequent games involving different players, we gave some information on the other person's party identity, which constituted the experimental treatments.<sup>8</sup> In Portugal, we told the interviewees that the new player was identified with one of the two main parties or two smaller ones: the Socialist Party (PS) (major centre-left), the Social-Democratic Party (PSD) (major centre-right), the Centre Democratic Socialist People's Party (CDS-PP) (minor right wing) or the Portuguese Communist Party (PCP) (minor left wing). In Spain, the participants were informed that the new player identified with one of the two main parties or two smaller regional-nationalist ones: the Spanish Socialist Party (PSOE) (major state-wide centre-left), the People's Party (PP) (major state-wide centre-right), Convergence and Union (CiU) or the Basque National Party (PNV) (both regional centre-right).<sup>9</sup> Additionally, in Spain a random subset of respondents was exposed to a social class treatment, telling subjects that the other player belonged to a social group ('high', 'middle' or 'low' social class). Finally, to assess whether partisanship or class social identities convey more stereotypic information beyond minimal group identities, in both countries, a random subset of subjects played other games in which participants were assigned to one of two "non-political" treatments: a group of people assigned to the green color and the other to the blue one.

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<sup>8</sup> The format mirrors Fowler and Kam (2007) and Carlin and Love (2013).

<sup>9</sup> In Portugal, the four parties together gathered a vote share of 86% (2011), and in Spain 80% (2011). (Source: [www.eleicoes.mai.gov.pt/legislativas2011/](http://www.eleicoes.mai.gov.pt/legislativas2011/) for Portugal; [www.infoelectoral.interior.es/](http://www.infoelectoral.interior.es/) for Spain).

We expanded the research design to other potential political and social conflicts in a second study with the same sample in Spain by introducing more treatments. In a set of different games respondents were informed that the subsequent players belonged to a specific regional origin ('Basque', 'Catalan', 'Madrilenian' or 'Andalusian') and an ideological orientation ('Left', 'Centre' or 'Right'). This set of experiments was implemented on the same sample and with the same exact protocol and incentives.

To implement these sequential games online, we adopted a similar strategy to Fehr et al. (2003), in which every Player 2 is presented with a randomly assigned decision drawn from a prior uniform distribution of Player 1's moves. This procedure allowed the games to be conducted simultaneously and with real individuals. The information regarding the identity of the different players was the only information provided, allowing whether the players biased their trust throughout the games due to group differentiation and political and social cues to be tested. It is important to note that the roles in the game and the treatments were also randomized to avoid order effects. Moreover, Players 1s were told about final rewards once the whole survey was concluded. Last, the use of a within-subject design had the effect of controlling for individual-level variation and unobservable characteristics. Overall, the results from our games eliciting trust in strangers are in line with those reported in a meta-analysis of 162 trust games by Johnson and Mislin (2011), confirming the validity of our measurement (see the protocol in Appendix A3 and the descriptive statistics in Figures A3a.1-5).

In both studies, after the experimental section, a survey questionnaire was administered to the subjects to gauge their positions on the four dimensions of interest: partisanship, regional identity, ideology, and indicators of wealth and education to identify social and economic status (for question wordings, see Appendix A3).

### *3.4.3 Samples and participants*

We applied the survey experiment to two national samples of the Spanish and Portuguese populations extracted from existing online panels.<sup>10</sup> The respondents were recruited by active invitation among the registered users. Self-registering was not allowed, so the problem of self-selection was limited. The samples were extracted by using quotas based on gender, age, and territorial areas, and they consisted of citizens between 18 and 65

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<sup>10</sup> The fieldwork was done by NetQuest ([www.netquest.com](http://www.netquest.com)).

years old with Internet access either at home or at work. In 2010, around 86% of the population in this age range had access to the Internet in Spain and over 77% in Portugal.<sup>11</sup> Although these two national samples are not probabilistic, this procedure provides a variety of key demographics, minimizing the possibility that the results are driven by specific population group. Moreover, studies using samples from this same online panel in Spain have shown that the quality of estimations in terms of reliability and validity is very similar to those obtained using the probabilistic sample of the European Social Survey in the same country (Revilla et al., 2013). All in all, our research focuses on treatment effects rather than descriptive inference. The data are part of a panel survey conducted in several waves on the same subjects. We only use those including experiments relevant to testing our hypotheses (Portugal in May 2012; Spain in February-March 2012 and in May-June 2013). The analysis focuses not on the full samples but only on subset of people attached to the groups being considered in the treatments.<sup>12</sup>

#### 3.4.4 Model specification

The dependent variable measuring interpersonal trust is double censored between 0 and 5 points and we have repeated observations of the same subject at different points in time corresponding to the games. The most robust strategy to elicit how individual behaviour changes over time due to diverse identity cues is to adopt a longitudinal approach based on tobit models (e.g. Wooldridge, 2002). To identify the treatment effect, we apply the general equation for panel data tobit models with random effects:

$$y_{it}^* = x'_{it} \beta + \alpha_i + \varepsilon_{it}, \quad i = 1, \dots, N; t = 1, \dots, T_i$$

The model specifies the latent trait  $y_{it}^*$  underlying the level of trust for the  $i$ -th individual on occasion  $t$  and it is measured using the observed variable  $y_{it}$ , which is our indicator censored at  $a$  (0 points) and  $b$  (5 points), as described by the expression below:

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<sup>11</sup> The data are from the European Social Survey, Round 5 ([www.europeansocialsurvey.org](http://www.europeansocialsurvey.org)).

<sup>12</sup> In Appendix A3, we compare our samples to those of the European Social Survey. Our Spanish sample suffered from the problem of attrition. Yet, analyses reveal no significant differences in trust or basic socio-demographics between subjects who stayed in all waves and those who dropped out, suggesting low selection on such variables (results available on request). For Portugal, instead, we use the first wave only.

$$y_{it} = \begin{cases} y_{it}^*, & \text{if } a < y_{it}^* < b \\ a, & \text{if } y_{it}^* \leq a \\ b, & \text{if } y_{it}^* \geq b \end{cases}$$

The error term consists of  $\alpha_i$  and  $\varepsilon_{it}$ , where  $\alpha_i$  is the individual-specific time-invariant component and  $\varepsilon_{it}$  is the individual and time-varying disturbance term. The random-effect estimator assumes that the residuals are normally distributed, so  $\alpha_i \sim N(0, \sigma_\alpha^2)$  and  $\varepsilon_{it} \sim N(0, \sigma_\varepsilon^2)$ . As the coefficients of a tobit model are difficult to interpret, we calculate the marginal effects of the censored expected value,  $E(y_i)$ , which describe how the observed variable,  $y_{it}$ , changes with respect to the vector of covariates,  $x'_{it}$ . In the analysis we only show graphical results of the average marginal effect using our baseline control measure of trust towards strangers as reference category. Models only include treatments and relevant identities about the subjects. We include descriptive statistics and preliminary tests for differences in means in the supporting material (Tables C1-4) as well as all complete results for the econometric models.

## 3.5 Results

### 3.5.1 Study 1: The effect of partisanship on interpersonal trust in multi-party systems

Our first study focused on whether the partisanship effect on trust applies to the two different multi-party systems considered in our research. If our expectation is correct, in both countries the number of points sent to in-group partisans should be similar to or higher than those given in the anonymous game, while the number sent to rival partisans should be lower. Figure 3.1 displays estimations of the observed outcome of the first model, in which we test whether partisan identities actually matter. As it can be seen, the average trust allocation towards same party identities is significantly higher than our baseline measure of trust in strangers (Spain: 0.68; s.e. 0.11;  $p < 0.001$ ; Portugal: 0.44; s.e. 0.10;  $p < 0.001$ ), while the average allocations of points towards different partisans is much lower than our control (Spain: -1.40; s.e. 0.09;  $p < 0.001$ ; Portugal: -0.67; s.e. 0.08;  $p < 0.001$ ), so our first hypothesis H1 seems to be supported.

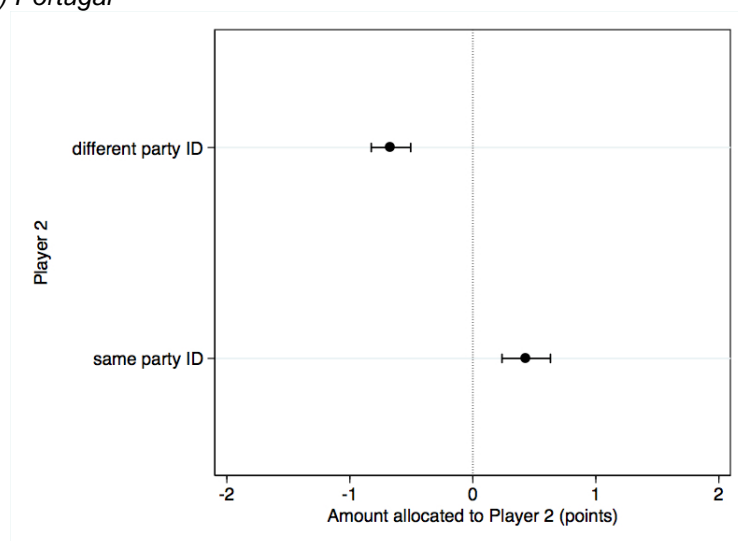
One important specification is that partisanship has an effect on in-group and out-group trust, building up cooperation among similar identities and largely undermining it among different ones. However, the negative effect of partisanship vis-à-vis interpersonal trust is much more important than the positive one. This finding seems to be in line with Nicholson (2012),

who shows that out-party cues are more effective in polarizing opinions than those from the in-party, moving respondents away from specific policy positions. Goren et al. (2009) and Slothuus and de Vreese (2010) find similar results in relation to framing effects and support for political values, underlining that out-party cues are stronger motivators of opinion expression. In the same way, it is possible that partisan identities facilitate discrimination in trust decisions mainly because of animosity and affective polarization towards opposing groups (Iyengar and Westwood, 2015).

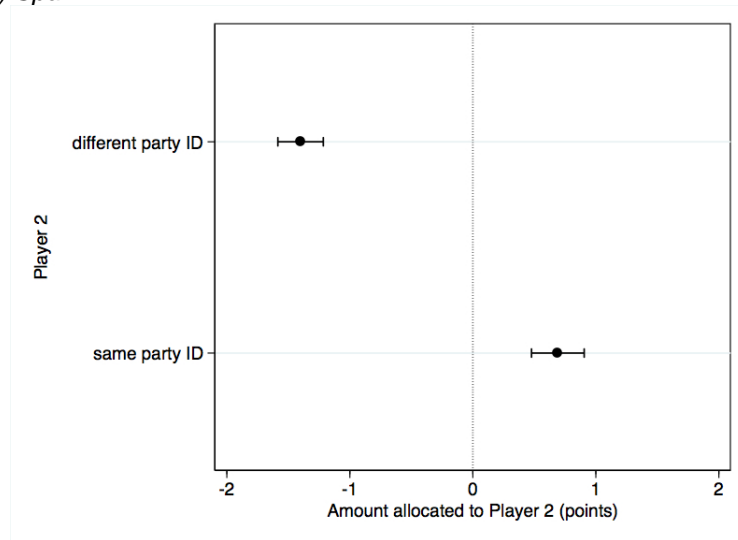
Results also seem to suggest that the partisanship effect on trust may vary according to the context. While we find the same group dynamic in both countries, in Spain the difference between in-group and out-group members is slightly higher than in Portugal, where the partisan effect seems to be more moderate. In absolute values, the trust gap produced by partisanship, namely the difference between the average amount of money sent by Player 1s to co-identities minus the average amount sent to rival ones, is equal to 2.08 (s.e. 0.08;  $p < 0.001$ ) out of the 5 available in Spain (almost 42% of the endowment) and 1.09 (s.e. 0.08;  $p < 0.001$ ) in Portugal (equal to 22% of the money available). Both differences are highly significant and provide empirical support that partisan effects on trust vary across party systems (also refer to Tables A3c.5-6 in the Appendix A3). This dynamic might result from a higher salience of partisanship as well as a higher level of political polarization in Spain during the period under consideration.

Figure 3.1: Trust and the average effect of partisanship in Portugal and Spain (reference: baseline trust in strangers - dotted line)

a) Portugal



b) Spain



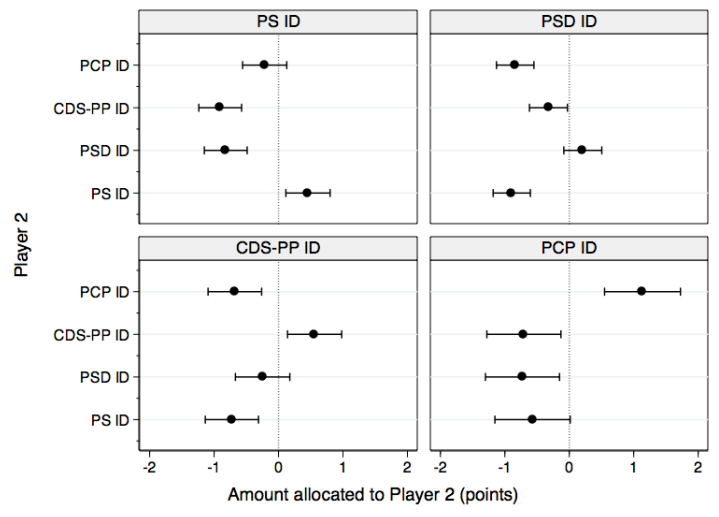
*Note:* The dots are the average marginal effect estimations for the panel tobit models with random effects on the observed outcome in the anonymous and partisan games (Portugal: N=208, Occasions= 1034; Spain: N=223, Occasions= 878). The bars are 95% confidence intervals.

What is the effect across all the considered parties? To answer this question, we estimate other models in which we let the single party identities interact with the treatments. In the case of Spain, we have decided to group the identifiers and respective party treatments of the two centre-right regionalist parties, CiU in Catalonia and PNV in the Basque country, to increase statistical efficiency. As is illustrated in Figure 3.2, the partisanship effect is found for all political formations, producing the same group dynamic, as party identifiers of all considered groups tend to trust more those from the same-party and oppose those from a different one. However, party-based trust mirrors interparty positioning on the main dimensions of political competition. For instance, in Portugal people who identify with the centre-left party PS tend to trust people from the more extreme PCP more than subjects who identify with the centre-right PSD or CDS-PP. Similarly, PSD and CDS-PP identifiers were inclined to trust each other more, suggesting the importance of ideological proximity among partisans or the existence of political coalitions. In Spain, the results are a little more complex due to the importance of the territorial conflict and the presence of nationalistic parties. It is worth noting that people who identified with CiU and PNV were inclined to trust each other more while avoiding cooperation with identifiers of the state-wide parties PSOE, and, in particular with those of the PP, confirming the importance of the centre-periphery dimension in the Spanish political system.

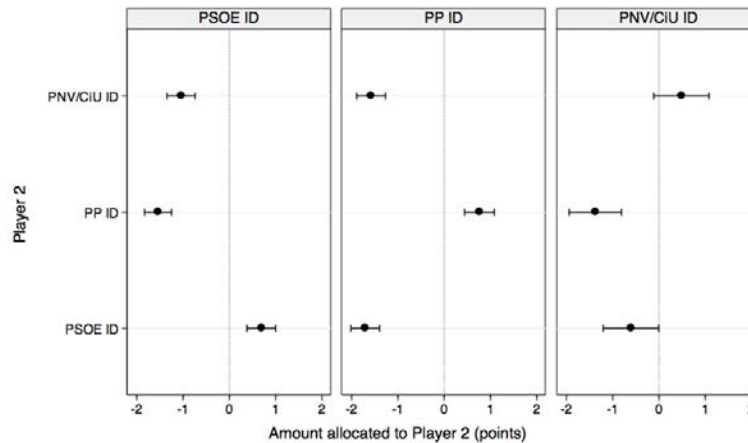


Figure 3.2: Trust and the average effect of partisanship by party identities in Portugal and Spain (reference: baseline trust in strangers - dotted line)

a) Portugal



b) Spain



*Note:* The dots are the average marginal effect estimations for the panel tobit models with random effects on the observed outcome in the anonymous and partisan games (Portugal: N=208, Occasions= 1034; PS= Socialist Party; PSD= Social-Democratic Party; CDS-PP= Centre and Social-Democratic-Popular Party; PCP= Portuguese Communist Party; Spain: N=223, Occasions= 878; PSOE= Spanish Socialist Party; PP= Popular Party; CiU= Convergence and Union; PNV= Basque Nationalist Party). The bars are 95% confidence intervals.

When considering the two countries together, party identifiers of the main state-level political forces in Spain (PSOE and PP) outperform those of the main parties in Portugal (PS and PSD) in terms of in-group and out-group trust discrimination. Moreover, in Portugal the largest gap is found

among identifiers of minor left-wing PCP while the largest gap overall is found among Spanish identifiers of the major state-wide right-wing party PP. Thus, our second hypothesis (H2) is partially supported as the in-group/out-group discrimination applies to all considered parties, but the magnitude of the gap seems not to differ according to the party size or ideology (see Tables A3c. 7-10 in the Appendix A3).<sup>13</sup>

To check the robustness of the partisanship effect in both countries we analyse the set of games involving the already discussed minimal group treatment. As noted, group-based discrimination might be induced only providing a piece of information to be used as a reference point. The ‘colour’ treatment created trust discrimination, indeed. Nonetheless, the differences between the two colour teams are much smaller than those observed for partisanship, suggesting that party labels induce a more profound group-based form of discrimination (see Table A3c.11 and Figures A3c.1-2 in the Appendix A3).

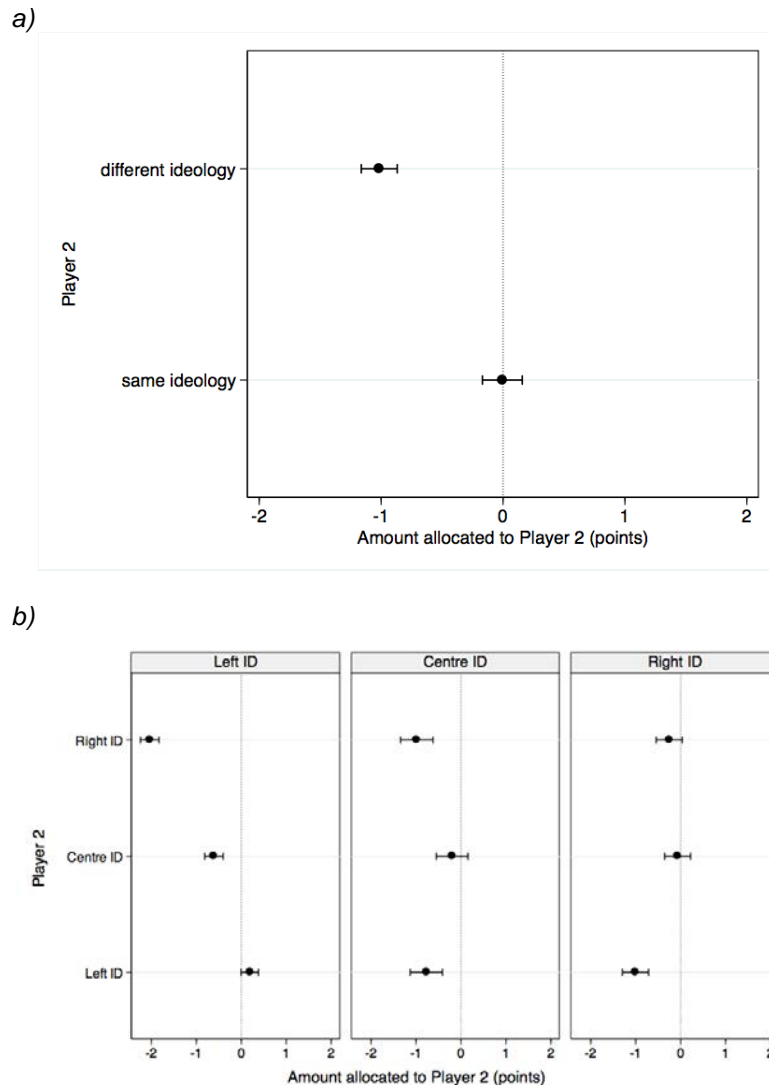
### *3.5.2 Study 2: The effect of other political divides on interpersonal trust*

Spain is a political community split by deep political, cultural and social cleavages that might also have an effect on trust behaviours and cooperation. The political clash among the main ideological families has been traditionally present in Spanish politics, and it is still the most important predictor in voting behaviour. Additionally, the centre/periphery conflict has also been historically relevant (Linz and Montero, 2001). Independence movements have a long tradition in the Basque country, which has experienced violence and terrorism. In Catalonia, the separatism cause is deeply rooted and it has increased its importance during the last decade, despite an initial low tone after the transition. Currently, the issue of regionalism-nationalism is particularly salient in Spain (Orriols and Balcells, 2012). Finally, social class cleavages still seem to play a role in voting behaviour in Spain (Chhibber and Torcal, 1997). Are these political and social conflicts relevant to explaining the decision to trust? Are they as important as party identification?

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<sup>13</sup> We have also run an analysis on the full sample (see results in Figure A3c.3 in the Appendix A3) or adding, also, socio-demographics (analyses available on request). In both cases we have not found relevant differences in the results.

Figure 3.3: Trust and the average effect of ideology in Spain (reference: baseline trust in strangers - dotted line)



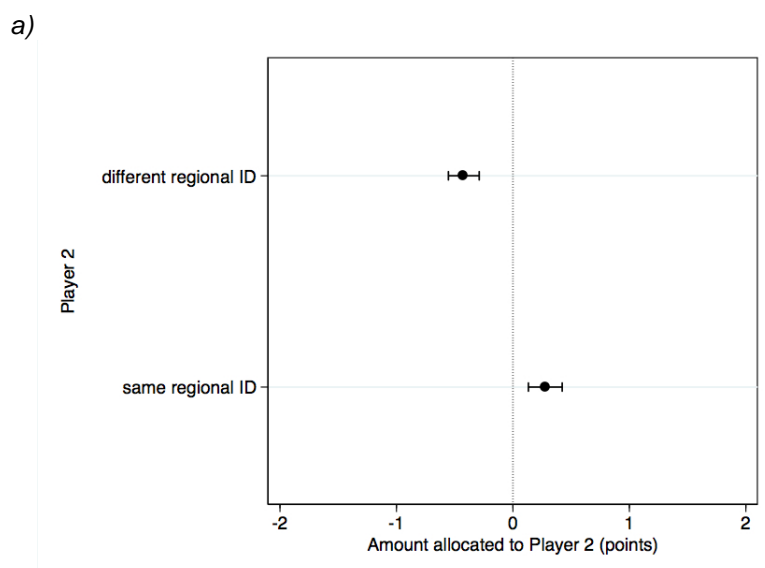
*Note:* The dots are the average marginal effect estimations for the panel tobit models with random effects on the observed outcome in the anonymous and ideology games ('Left' vs. 'Centre' vs. 'Right'; N=389; Occasions= 1556). The bars are 95% confidence intervals.

Figure 3.3a shows results of a model estimating the impact of ideological orientations on trust behaviours. The first thing that we can notice is that while ideology favours discrimination towards people with a different orientation, it does not result in strong bonding trust among members of the same ideological group. Indeed, allocations of points towards same-group identifiers is not statistically different from our baseline measure (-0.01; s.e. 0.08;  $p < 0.945$ ), while when a subject is confronted with a person

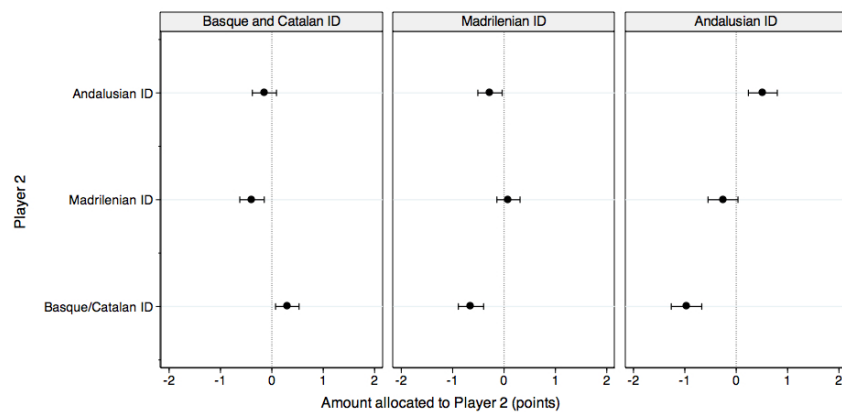
showing a different orientation his/her allocations drop compared to our control group (-1.02; s.e. 0.08;  $p < 0.001$ ). Thus, we find a gap between same and different identities (-1.01; 0.08;  $p < 0.001$ ), but this is substantially smaller than the one observed for party identification, and it is mostly driven by the negative effect of out-group ideological differences. As it can be seen from Figure 3.3b, the effect is driven in particular by Left and Right identifiers while subjects who identify with the “ideological centre” acted as genuine moderates, as far as they make similar decisions when they interacted with right-wing and left-wing players.

Figure 3.4a contains the results of the effect of national identities on trust behaviours. As we can observe, the effects in this case are present for both in-group (0.28; s.e. 0.07;  $p < 0.001$ ) and out-group identities (-0.42; s.e. 0.07;  $p < 0.001$ ). These results give support to the divisive role of national identities in Spanish society in terms of cooperation and trust, and it complements previous research (Criado et al., 2015; Westwood et al., 2015). The gap due to national identities is, however, lower than those produced by the ideological and partisan conflicts (-0.70; s.e. 0.07;  $p < 0.001$ ). Figure 3.4b shows trust allocations by main regional groups. As it can be seen, trust behaviours follow territorial lines mirroring divisions between the main cultural minorities, namely Basques and Catalans, and the Castilian group, that is Madrilenians and Andalusians, who expresses greater levels of attachment to Spain.

Figure 3.4: Trust and the average effect of the regional/national divide in Spain (reference: baseline trust in strangers - dotted line)



b)



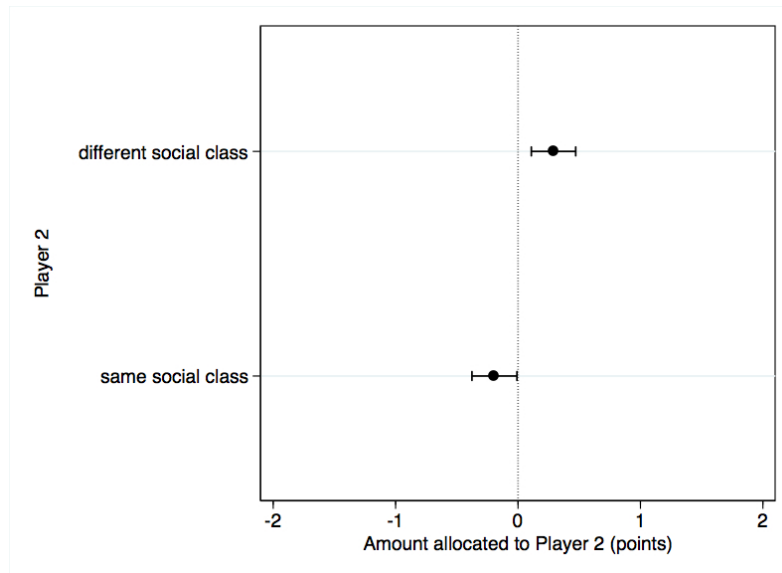
*Note:* The dots are the average marginal effect estimations for the panel tobit models with random effects on the observed outcome in the anonymous and regional games ('Basque identifiers'/'Catalan identifiers' vs. 'Madrilenian identifiers' vs. 'Andalusian identifiers'; N=240; Occasions= 960). The bars are 95% confidence intervals.

At this point, it is worth asking whether social class produces the same pattern. Figure 3.5 shows that group discrimination is almost absent. With the exception in particular of subjects from lower social class, people do not discriminate their trust along social class lines. On the contrary, the subjects were inclined to send more to people from a different social group (0.48; s.e. 0.10;  $p < 0.001$ ). This result may be in line with the secondary role that the class conflict has had in Spanish politics since the restoration of democracy, despite its increasing importance since the end of the 1990s (Chhibber and Torcal, 1997). This might also be due, at least partially, to existing social norms of fairness which may prevent discrimination and reduce in-group and out-group discrimination based on class (Iyengar and Westwood, 2015) (see Tables A3c.12-23 in the Appendix A3).

These results show that in a politically divided society people tend to bias their trust according to the most relevant political identities. This is true for partisanship and to a lesser degree for those social and political conflicts such as the ideological and the territorial conflict which are highly divisive in contemporary Spain. Our last hypothesis (H3) is thus partially supported, since in-group/out-group discrimination applies to other basic identities, but their effect is lower than the one produced by partisanship. Additionally, it does not hold for the social class division. We can, thus, conclude that political and social conflicts affect interpersonal trust in different ways and with varying strength, and that partisanship is the strongest source of trust bias across groups, at least in Spain. This goes beyond and it is far more divisive than ideology (Malka

and Lelkes, 2010), despite the latter being the label *par excellence* to describe political competition in Europe.

Figure 3.5: Trust and the average effect of the social class divide in Spain (reference: baseline trust in strangers - dotted line)



*Note:* The dots are the average marginal effect estimations for the panel tobit models with random effects on the observed outcome in the anonymous and social class games ('Low' vs. 'Middle' vs. 'High' social class; N=627; Occasions= 1235). The bars are 95% confidence intervals.

### 3.6 Discussion and conclusions

Democratic life is structured around political competition among different societal groups. People joining groups acquire a system of attitudes and cognitive schemes which facilitate decisions and participation. The main actors responsible for this process are political parties, which mobilize group identities. However, when these are distant and the underlying political identities are salient, society may divide into blocks, with problems for cooperation and trust among citizens. While previous research has considered the role of parties in hindering trust, this has mostly focused on the United States, where party identities may be more important and the conflict between the two main parties is historically rooted. Moreover, experiments have almost always been realized in labs without comparing the partisanship effect to other divides.

In this article, we have analysed two European multi-party systems and compared four of the major cleavages within a political community while

collecting data on larger national samples. In line with our theoretical expectations, we have presented compelling evidence that trust can be altered endogenously by party dynamics and competition. First, we have offered evidence in favour of the partisanship effect in more diverse party settings in which multiple parties and coalition dynamics make party identity more complex and even undermine loyalty towards a single party. This effect is robust, although it varies across national party systems, probably due to polarization of the political system. This finding merits further investigation, in that it might imply that while polarization helps voters by enhancing the distinctiveness of the electoral offer and increase group political cohesion, it may also lead to collective action problems due to a deficit of trust when opposing party identities come into play. Second, we have shown that the effect involves all the considered political parties despite their size and ideology. However, trust among different partisans tends to mirror the pre-existing interparty positioning in a multi-party system.

Finally, we have provided some evidence that party affiliation is a stronger basis for differentiation and affective division at least in terms of trust than other subjective political identity such as ideology, national and territorial identities, or social class. This is another finding which substantially updates current knowledge concerning the importance of cleavages in creating negative effects on cooperation. This is the first step in this direction and it is done in a context where long-established cleavages may have prevailed.

We hope future research on the impact of political and social conflicts on trust will be extended to considering other countries, comparing them by applying a supra-national research design to test, for example, the effect of party or national identities on trust among Europeans. The European Union debt crisis has led to a collective action problem requiring national parliaments to approve austerity reforms with high social costs. Resolving the crisis and preserving the Euro may depend on trust among political elites and their constituencies. To understand the possibilities of cooperation in speeding up EU integration we need to study how politicized identities might affect their trust. The next steps could also be to test whether major EU political events activate more super-ordinate cooperative cross-national identities and reduce discrimination among subordinate national party identities in trust games.

This study might be refreshing, or at least challenging, for the prevalent normative visions of democracy. The classic social capital literature praises the importance of political parties in bringing people together. However, when identification processes are strong and political systems

are polarized, the benefits could be counterbalanced by a reduction in the ability of citizens to cooperate and trust across party divisions.



#### **4. Trusting and protesting: does trust really matter for political mobilization?**

##### *Abstract*

*Trust is considered essential for civic engagement and political participation. However, evidence is still scarce when it comes to forms of unconventional participation and the few existing contributions have some important limitations. Using data from a trust game embedded in a online panel survey conducted between 2012 and 2013 in a national sample in Spain, this paper addresses problems in previous analyses and provide a test of the trust hypothesis. When contrasting the impact of trust with other explanations related to the collective and selective incentives of political mobilization as grievances, political efficacy, party identities and social networks, we find no evidence supporting the hypothesis that trust encourages participation in protest actions. We do this by comparing different modes of unconventional participation, and looking at the trust effect for the magnitude of protest. Overall, this paper calls for a reevaluation of the relationship between trust and protest.*

## 4.1 Introduction

Trust among people is often considered essential for civic engagement and political participation. However, despite burgeoning social capital literature has given a central position to this important cooperative resource, empirical evidence is still scarce, especially when it comes to forms of unconventional participation and protest. Moreover, the few existing contributions have some important limitations. So, what factors are related to people's propensity to take the street and voice their needs? Does trust among people come into play when citizens assess costs and benefits of participatory acts such as being involved in political rallies and public demonstrations?

Classical rational choice model constitutes a valuable tool to study individual behavior and decisions and it has been a standard framework in participation research for a long time, as far as it relies on parsimonious assumptions based on self-interest and utility (Downs, 1957; Olson, 1965; Aldrich, 1993). However, this approach has some limitations and it is often unable to explain why people engage in collective action. Participation is, in fact, a costly behavior, which frequently exceeds personal benefits. Following this view, the probability that an individual contribution will affect the final outcome is very low, so citizens eventually abstain and take advantage of other people's efforts. Participation would be even less certain in more demanding acts as protest activities.

To provide a solution to this social dilemma and to explain existing trends in participation, trust has often been mentioned as a fundamental prerequisite, which might outperform other potential factors (Almond and Verba, 1963; Putnam, 2000; Warren, 2001). The argument relies on the fact that any protest activity mostly requires some interactions with unknown people with no previous relationships. In this respect, trust in strangers has been considered to reduce social uncertainty and it emancipates people from the security of stable relations, making them more available to engage in risky social action (Yamagishi, 2001). Moreover, high trusting people will also hold more positive expectations about the likelihood of success in participation, since they have more optimistic estimates about the actions of others and of potential benefits (Benson and Rochon, 2004).

This paper focuses on further understanding the role of trust in strangers, namely the standard estimate of the trustworthiness of the average person one may get in touch with (Coleman, 1990; Glanville and Paxton, 2007), in increasing the likelihood of taking part in social protests. We do this by

acknowledging both theoretical as well as empirical problems. First, there might be alternative logics that can connect trusting and protesting. Protest participation, in fact, does not come out of a vacuum and generally it is a competition between groups in which conflict develops over specific issues and interests and often this is sustained by distrust for certain members of other social and political groups. Thus, it is necessary to contrast the effect of trust on participation with the one of other potential factors, which might take the form of selective and collective incentives proposed by the literature on participation. Then, most of the studies consists of cross-sectional analyses predicting retrospective information on past behavior from trust levels gathered at the time the survey is handle, with a problem concerning the temporal order of the variables involved (Finkel and Muller, 1998). Moreover, the reported trust effect may be due to a reciprocal relationship, as the connection between political beliefs and actual individual behavior may come in both directions (Quintelier and van Deth, 2014). Lastly, scholars mostly use common survey-based measures of trust, which have been questioned because they are unable to capture trust in action (Durlauf, 2002; Nannestad, 2008).

We test the impact of trust towards unknown others on the individual propensity to engage in political protest by using data from a trust game embedded in a online panel survey conducted between 2012 and 2013 in a national sample in Spain. This is one of the first attempts to combine a longitudinal research design with behavioral measures of trust, so that we address limitations in previous analyses and provide a comprehensive test of the trust hypothesis. When contrasting the impact of trust with other main explanations related to the collective and selective incentives of mobilization as grievances, political efficacy, party identities and social networks in the form of membership in social and political organizations, we find no evidence supporting the hypothesis that trust encourages participation in protest actions. We do this by comparing different modes of unconventional participation as signing a petition or joining a public demonstration, as well as we look at the trust effect for the magnitude of protest. Spain constitutes a perfect scenario, as far as, in the last few years, levels of contentious politics and the distance between citizens and institutions have increased and the country has experienced harsh economic conditions. All in all, this paper calls for a reevaluation of the relationship between trust and protest participation.

## 4.2 The calculus of protest and the trust hypothesis

Unconventional forms of political participation go beyond the party

system and the electoral process and consists of expressing specific demands for reform by means of non-institutionalized forms of action, which not necessarily question the political order and the stability of the democratic systems (Barnes and Kaase, 1979). This set of tactics may include consumer participation such as boycotts of certain products to show support for a specific political message or other individualized forms of action as petitioning (Stolle et al., 2003; Pattie et al. 2004; Stolle and Micheletti, 2013). Then, they can take the form of protest activities as demonstrations and strikes to express disagreement with policies (Teorell et al., 2007). Lately, protest and unconventional forms of participation have increased their importance, becoming common procedures to take part in the political process (Norris et al., 2006). But, under what conditions do people get involved in these forms of participation?

The idea that citizens take into account costs and benefits when deciding whether to participate in a specific political activity were first applied to voting behavior (Riker and Ordeshook, 1968; Aldrich, 1993) to explain aggregate levels of turnout and later extended to other forms of participation as party activism (Whiteley, 1995) as well as protest (Chong, 1991). The assumption is that people aim at maximizing their personal utility and believe that others will do the same. In formal terms, an individual gains a benefit  $B$  from participating in politics, if the preferred candidate or party wins or the political action succeeds. Then, the individual participation will bring about the collective good or it will decide the election outcome with a probability  $P$ . Finally, the single act will entail a cost  $C$ , usually represented as the amount of material and cognitive resources which are needed in order to contribute to the collective good. Hence, the individual will participate if  $P * B > C$ , namely if the utility derived from participation will exceed the costs.

The problem arises from the fact that  $P$  is usually considered to be very small, as far as the chance that the individual contribution will be determinant is actually very reduced, both in large population elections (Edlin et al., 2007) and in unconventional activities where the goal is to gather a large amount of people to call for a change in some policy issues. The condition for participation is, therefore, unlikely to be met and this seems to be less probable for risky and more costly type of actions, as attending a demonstration, also because, in case of success, expected collective benefits of unconventional participation, as a change in a policy, are eventually distributed to the whole population. Thus, participation is a social dilemma, namely a situation in which independent individuals choose action and at least one outcome yields higher returns for all participants. Nonetheless, rational participants are predicted to select strategies based on a calculus that maximizes short-term material

benefits to the self and lead to inefficient results for the collectivity (Ostrom, 1998). Scholars have tried to revise the model by proposing alternative solutions and relaxing some of the underlining assumptions. This has involved the necessity to overcome pure instrumental rationality and include other incentives to the individual calculus apart from hard material resources.

In the last three decades, the social capital model of participation has focused the attention on the notion of trust and its potential in facilitating collective action and political participation (Putnam, 1993, 2000). The basic principle is that when people are able to trust each other they will also be likely to cooperate and participate in order to solve collective problems. In its basic form, trust involves a relationship between two individuals in which a 'truster' relies on a 'trustee' in order to do something and achieve a specific goal 'X' (e.g. Coleman, 1990; Bacharach and Gambetta, 2001). In this respect, trust involves the expectation that the act will pay off in terms of the truster's objectives. As a result, the truster accepts the willingness to engage in some type of uncertain relationship and the possibility of being cheated. Thus, when taking a trust decision, we perform an evaluation of the probability that the trustee will be trustworthy and that the other person will not harm us (Yamagishi and Yamagishi 1994; Offe, 1999).

Trust is usually considered to be more beneficial for modern societies when this extends beyond the boundaries of face-to-face interaction and it incorporates people out of a personal setting, including strangers. Higher levels of trust towards strangers reduce transaction costs by allowing the use of informal agreements, instead of complex contracts and their costly enforcement (Arrow, 1974; Coleman, 1990). A large number of survey-based studies have positively connected trust to economic development (Fukuyama, 1995), trading activities (Guiso et al., 2009) as well as democratic governance (Paxton, 2002). In this respect, trust is seen as necessary condition for the sustainment of democratic systems as it promotes civic engagement and political participation (Almond and Verba, 1963; Putnam, 2000). Some have also connected new participatory trends in more advanced democracies to a turn in cultural values of which trust is one of the important assets (Inglehart and Welzel, 2005). In this view, people may have different underlying propensities to participate in protests and this difference may be related to their levels of trust.

However, while in the last three decades, there has been an increasing attention towards the notion of trust and its potential for citizens' involvement into politics, there are surprisingly few published empirical studies centered on this relationship, and, above all, results are often

mixed. In an early cross-national analysis of nine West European countries, for instance, Kaase (1999) reports only weak positive correlations between trust towards unknown people as measured by common survey questions and participation in unconventional activities. Benson and Ronchon (2004) further develop this link arguing that trusting individuals make resolute cost-benefit calculations. In their view, positive expectations on other people's participation would reduce uncertainty, while increasing the probability of the final success. Moreover, the effect should be higher for more demanding forms of participation as demonstrations. However, while their analysis of thirty-three countries confirm that more trusting people are more likely to engage in protest, the assertion that the relationship between trust and participation increases with the intensity of protest is indeed not corroborated. The irrelevance of trust for demanding forms of protests has been confirmed by more recent studies (Norris et al. 2006; Winters, 2008). Lastly, in a recent multilevel analysis on a large number of countries, Roßteutscher (2010) finds in democratic systems a general positive association between interpersonal trust and unconventional forms of participation study. The same applies to a recent study by Delhey et al. (2011) which confirm an association at the aggregate (country) level between collective action and trust. Conversely, in Britain, Pattie et al. (2004) finds negative relationships vis-à-vis collective forms of protest at the individual level.

Although the logic connecting trust and protest participation is appealing, it should not be taken for granted. Democratic politics is first and foremost a contest between different social and political groups, which compete among each other on the basis of interests and social protest organization is not an exception to this pattern. Therefore, as defended by Claibourn and Martin (2000), while it is likely that trust encourages political participation, it is also possible, though, that distrust for certain group members may also push people to join a cause or a particular organization. Moreover, trust also largely depends on information and it has been often argued that individuals during trust interactions use their capacity to read signs of trustworthiness by looking at some trust-warranting qualities of the partner in the form of group traits or cultural dispositions (Bacharach and Gambetta, 2001).

In this respect, participating in a protest may be represented as an iterated assurance game in which existing social ties and reputational concerns may have an important role (Chong, 1991, 31-73). So, from trusting to joining there might be other important middle-level factors, which are decisive in the decision to mobilize and may have to do with group mechanisms or other personal and motivational resources. Pure trust in stranger may actually be *per se* not sufficient or even not relevant *vis-à-vis*

other mechanisms. Following seminal research (Pattie et al. 2004), we need a comprehensive test of alternative explanations to assess the net role of trust.

There are also methodological problems that cast doubts on the observed trust effects on protest. The first relates to the use of survey-based measures of trust that have been often criticized as far as they are generic and they do not give any reference to the group or the issue at stake, making it difficult to understand what people have in mind when formulating their answers (Miller and Mitamura, 2003; Sturgis and Smith, 2010; Delhey et al., 2011). Moreover, most of the available contributions consist of cross-sectional studies so that one important source of bias comes from the temporal order of the conditions being examined (Finkel and Muller, 1998; Bäck et al., 2011). Survey questions on political participation usually ask to report whether the respondent has participated in a list of activities during a limited time-period prior to the interview. The risk is, therefore, that observed relationships are actually the result of a process of *ex-post* rationalization. Another source of inconsistency of cross-sectional analysis is the potential endogeneity between trust and participation. In this respect, threat to validity may come from reversal causation between political beliefs and actual individual behavior (Quintelier and van Deth, 2014). In this paper we will try to address the theoretical concerns over the relationship between trust in strangers and protest activity while proving an original solution to each one of the technical problems above. To sum up, the three hypotheses we are going to evaluate are:

*H1: Higher levels of trust in strangers will increase the chance of taking part in social protest.*

*H2: The trust effect will be different depending on the mode of protest and this will be more important for more intense types of unconventional participation.*

*H3: Trust shapes the magnitude of protest, namely the higher the trust, the higher the number of protest actions realized by the individual.*

### 4.3 The role of selective and collective incentives as alternative solutions

There are other sets of solutions that need to be considered if we want to achieve a stronger test of the role of trust for protest participation. The first class of factors refers to *selective incentives*, which are independent

to the outcome and entail a personal sense of satisfaction connected to the social obligation and duty of participating in public life. Hence, the act of participation has a social value and individual mobilization is promoted by internalized norms or partisan preferences (Riker and Ordershook, 1968; Opp 1986; Finkel and Muller, 1998; Bäck et al., 2011). Two elements seem to be particular important in this respect.

First, scholars have emphasized the role of *social networks* in motivating people to take action, as far as incentives are facilitated and enforced by external sources and people may benefit by conforming to group participatory norms. The idea that there is actually a correlation between civic engagement and political action is indeed well rooted in the civic voluntarism model of political participation and later developed by social capital theorists (Verba et al. 1995; Van Deth, 1997; Putnam, 2000). The core assumption of this perspective rests on a social mechanism: by involvement in small-scale associations and especially in voluntary organizations, individuals learn civic skills with a higher chance of getting involved in different political activities. Although this relationship is likely to be reciprocal, since both socialization and selection mechanisms may be in place, associations still contribute to democratic societies by facilitating and reinforcing social capital and mobilization (van der Meer and van Ingen, 2009). The importance of groups for protest participation is deemed to be essential also in social movement theories especially as far as recruitment processes are concerned. As McAdam and Paulsen (1993) have shown in an empirical application of their microstructural account of recruitment, when people engage in formal or informal networks they also begin an interactive process that redefines their frames on a given issue and facilitates the creation of identity and a disposition to participate.

Political parties may represent another influential force which promotes mobilization by providing a strong source of identification. Specifically, *party identification* constitutes a sense of psychological attachment to a political party, which is transmitted over generations and results in a deeply affective bond (Green et al., 2002). Parties are represented as connected to specific social groups, values and expectations, which act as a frame of reference for citizens during their lifetime. As many have argued, party identification is a social identity, so that people are usually able to distinguish others who share the same party attributes as ‘in-group’ members and individuals who do not share them as members of the ‘out-group’ (Greene, 2004). Partisanship may also be a powerful tool to interpret social reality. Political parties’ positions summarizing relevant details can, in fact, operate heuristically, guiding opinion-formation and political behavior (Rahn, 1993). In this light, participation is seen as the



result of a mechanism of expression of a partisan view, which imbues political engagement. Recent contributions have extended and tested this argument from voting to unconventional forms of participation and protest (Finkel and Opp, 1991; Torcal et al., 2016). As it has been shown, party organizations encourage certain forms of action and establish preferences with respect to public goods, so that participation gives a way to show loyalty by identifiers. It is important to note that, however, identification may be related either positively or negatively to participation and protest, depending on the type of organization and its ideological profile.

The second class of incentives that motivate people to participate in public life are *collective incentives* suggested by the collective interest model (Finkel et al 1998, 39). One underlying principle maintains that individuals are able to evaluate the current provision of goods. Specifically, this approach emphasizes that *political dissatisfaction* has a strong independent effect on mobilization. Grievance theories of rebellion actually have long tradition in the study of protest. Following this view, at the core of every protest there are feelings of relative deprivation, namely the perception of the discrepancy between the goods and life conditions people are capable to get and keep and those they actually find themselves to live with (Gurr, 1970, 24). The argument is supported by a psychological mechanism, which predicts discontent to arise from a mismatch between one's own expectations about the economic situation and their material conditions. Shortly, the greater the difference, the more likely it is that protest will occur. This position seem to be even more relevant in democratic systems where people are more able to express social unrest and they expect the system to be responsive, providing for higher standard of living and prosperity (Thomassen 1989). Although evidence of the role of economic conditions and deprivation is mixed, this thesis is still worth to be considered (Norris et al., 2006).

One common argument against the importance of deprivation is that this exist in all societies, thus, it might be too pervasive to be able to predict actual collective action. In this respect, another important assumption hold by the collective interest model is that people will not perceive the importance of their own participation in a collective effort as negligible. On the contrary, citizens will vary with respect to personal sense of influence. Hence, they will take part in protest actions if they believe that collective efforts may succeed and that a single individual action may actually have a chance of increasing the likelihood of success with his or her own participation. *Internal political efficacy*, namely the capacity of the person to understand about politics and perceive his or her action as having an effect (van Stekelenburg and Klandermans, 2013), may be very important. Van Zomeren et al. (2008) seem to confirm the importance of

political efficacy by reporting consistent effects on collective action as a result of a meta-analysis of 162 studies from the existing literature.

## 4.4 Research design

The main purpose of this paper is to provide a more comprehensive test of the effect of trust on protest participation, trying to solve main problems coming from common cross-sectional analysis. We do this by employing a behavioral measure of trust to gauge people's actual trust decisions in specific situations with monetary incentives and real persons involved. Then, the use of two-wave panel data allows us to solve the problem of temporal-ordering of the variable involved in the analysis and to reduce the potential endogeneity and simultaneity. Thus, our design provides a more rigorous test of the effects of trust and of the other selective and collective incentives on individual's decisions controlling for past-behavior.

### *4.4.1 Trust behavior in a game-theoretic perspective*

To elicit behavioral trust towards strangers, we employ an adapted version of the one-shot trust game designed by Berg et al. (1995). In this game, usually two subjects are given an initial endowment, usually a fixed amount of money. Player 1 is asked what portion of this endowment (if any) he/she would like to pass on to Player 2. The researcher triples any amount given to Player 2 who is asked to choose whether to transfer any money back to Player 1. The amount sent by the truster/Player 1 is an indication of trust, while the amount returned by the trustee/Player 2 is an indication of trustworthiness. In this framework, gains can be achieved through cooperation, although the sub-game perfect equilibrium would imply no transfer from Player 1 and no returns from Player 2. In spite of this, a recent meta-analysis of 162 trust games has showed that Player 1s are used to transfer positive amount of money to Player 2 who often return an even larger amount (Johnson and Mislin, 2011). The trust game has the advantage to elicit trust in action, framing the type of situation, the stakes and the actors involved in the interaction (e.g. Glaeser et al., 2000; Camerer, 2003).

We conducted our experiment online and this was embedded in a broader survey questionnaire. By following seminal research (e.g. Fehr et al., 2003), this has allowed to combine a good trust measurement with main strengths of the survey method, namely the possibility of collecting information at the individual level on population samples. Instead of real cash, both players began the game with an amount of virtual money equal

to 5 points (convertible to goods available online).<sup>1</sup> Before the completion of the task, subjects were given a series of questions regarding payoff calculations and information clarity to check for their understanding of the game. Additionally, the role in the game has been randomized in order to prevent selection being driven by participants. Lastly, Player 1 received no information on the other player nor could they exchange any during the whole implementation of the game. This has allowed us to measure baseline trust in strangers; in our case the generic group consisting of people living in Spain and participating in the game. At the end of the game, participants were administered different survey questions. In this way, it was possible to collect information on the main dimensions of interest.

We coordinated our sequential games online by presenting every Player 2 with a randomly assigned decision drawn from a prior uniform distribution of player 1 moves. This procedure allows conducting the games simultaneously and to match real players ex-post. The two-player one-shot trust game is not free from criticism. It has been often argued that it does not include any direct relation between the individuals involved in the form of sanctions and the possibility of communicating intentions. However, these are the same reasons why the game requires 'pure trust' and it is a useful benchmark for more complex interactions (see on this Camerer, 2003). In this same respect it is worth noting that behavioral trust in games correlates highly with more specific questions on trust in strangers, suggesting the game to elicit this type of other-regarding preferences towards unknown people (e.g. Glaeser et al., 2000; Fehr et al., 2003). To conclude, contributions in our game are in line with other replications of the trust-game confirming the reliability of the measure employed (Johnson and Mislin, 2011).

#### *4.4.2 Context of the study*

The Spanish political system in the period between 2012 and 2013 may be a context particularly useful for our investigation. After the economic crisis started in 2008, the country has experienced dramatic political transformations. The national executive came under great stress, as it had to implement harsh financial cuts in order to deal with a loss of

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<sup>1</sup> The procedure has been managed by NetQuest, which employs its own system of incentives and rewards. This is based on virtual 'points' so that it has been ideal to realize the game online. The online implementation of the experiment may have also helped in reducing any experimenter effect and preventing decisions guided by social desirability. On the positive role of web-surveys in improving the level of reporting of sensitive information and reporting accuracy please refer for instance to Kreuter et al. (2008).

international market confidence (Armingeon and Baccaro, 2012). Among others, one result was the defeat of the Spanish Socialist Party (PSOE) and the return of the centre-right People's Party (PP) (Bosco and Verney, 2012). Confidence in main political institutions and satisfaction with democracy have also decreased likely due to the perception of low system performance (García-Albacete et al., 2013; Torcal, 2014). Then, a wave of mobilization has heated the country as social movements and protest have spread against the austerity, turning the country to one of the most contentious in Europe (Anduiza et al., 2014). This has transformed the political landscape with new parties entering the electoral arena and marking the end of a competition based on two main pivotal parties. Spain also is a country with high overall level of protest, which has increased in the last years (García-Albacete and Martin, 2010; García-Albacete et al., 2013; Torcal et al. 2016). This guarantees enough variation to carry out our research. All these characteristics make Spain a relevant case for testing the different mechanisms beneath social protest and the role of trust in strangers.

#### *4.4.3 Data*

Our data comes from a two-wave panel survey realized on February-March 2012 and on November 2012-January 2013 on an online national sample in Spain. Respondents were recruited by active invitation among the registered users. Self-registering was not allowed, so the problem of self-selection was more limited. Moreover, the sample was extracted by using gender, age, education, and size of habitat quotas and includes a range of people between 18 and 65 years old. Despite the entire two-wave panel dataset comprises 946 subjects, we only consider the information for the decisions taken by the respondents acting as Player 1 in wave 1 which also participated in the subsequent wave 2. This makes 468 subjects in total (for a comparison of sample characteristics to other face-to-face survey please see the Appendix A4).

#### *4.4.4 Dependent variables*

In order to test the impact of trust across different forms of unconventional participation and on the overall intensity of participation of the respondent we perform analyses on two different dependent variables. These measures elicit individual levels of protest in each panel wave and have been created by the number of activities the respondent had engaged “in the previous year”. The activities include a more common and low-risk type of unconventional participation, such as “having signed a petition”. The other is a more demanding and militant form of protest, namely “attending a political rally, lawful demonstration

or protest”. This allows us to contrast the importance of trust in different situations and achieve a more exhaustive study. Moreover, differently from common questions on retrospective participation which allows the subject to express multiple choices among different activities, in our case, responses were registered by using the following categories: “0”; “1/2”; “3/4”; “5 or more”. Apart from measuring actual political protest and not potential protest (Marsh and Kaase, 1979: 59), the main advantage is to elicit the intensity of the specific unconventional act of participation, enabling us to discriminate not only whether the subject was active but also his/her degree of engagement. Table 4.1 reports descriptive statistics for the two dependent variables included in the analysis. There is also fairly high instability at individual level as far as protest participation is concerned. Indeed, regarding the act of signing a petition nearly 54% of the sample did not vary his behavior during the period, while for the act of joining a demonstration this value equals 63% of the subject (see descriptive statistics of transitions in Tables A4.2-3 in the Appendix A4).

Table 4.1: Descriptive statistics of main variables included in the analyses (2012-2013)

	Mean/ Proportion	SD	Minimum	Maximum	N
Signing a petition (w2)	1.21	1.13	0	3	468
Attending a demonstration (w2)	0.71	0.99	0	3	468
Behavioral trust in strangers (points sent - w1)	2.61	1.27	0	5	468
Member in organizations (index; w1)	0.50	0.71	0	3	468
Close to opposition party (w1)	0.52	-	0	1	468
Dissatisfaction government performance (index;	0.66	0.13	0	1	468
Internal political efficacy (w1)	0.51	-	0	1	468
Job loss (w1)	0.38	-	0	1	468
Income loss (w1)	0.70	-	0	1	468
Female (w1)	0.47	-	0	1	468
Age (w1)	37.85	11.46	18	65	468
Education level (1-6) (w1)	4.96	1.05	1	6	468

#### 4.4.5 Explanatory variables

The most important explanatory factor to test our hypotheses is trust in strangers measured as the proportion of money sent by player 1 to player 2 in the trust game. Table 1 displays also the other control variables used in the study, which have been included also to test the alternative explanation for protest participation. Regarding selective incentives we add a measure of membership in five different organizations (parties, trade unions, voluntary organizations, religious organizations and other professional organizations). To capture the potential effect of social

networks and multiple memberships an additive index has been created from a battery of five dichotomous questions. Then, to consider the ability of parties to mobilize people we include also a dichotomous indicator detecting whether the respondent identifies with an opposition party. Regarding collective incentives, we use an additive index of dissatisfaction with government performance constituted by five different items measuring (alpha Cronbach=0.86): (PP) government responsibility for the current economic situation; dissatisfaction with the way the (PP) government was doing its job; agreement with two statements concerning government ability to reactivate the economy during its mandate or whether it was doing the structural reforms in order to speed up the economic recovery; agreement with a statements regarding whether the policies made by of the government were the only alternative to get out of the economic crisis or these were making the crisis even worse. The additive scale has been created after having rescaled each single indicator from 0 to 1. The last variable for collective incentives is the internal political efficacy perceived by the respondent. This is measured with the classic indicator, which elicit whether he or she thinks that politics is too complicated to understand. This is also a dichotomous variable.

To conclude, we follow previous research by adding other variables related to traditional socio-demographic predictors of inequalities in protest participation (Verba et al., 1995; Gallego, 2007; Marien et al., 2010). More specifically, we include gender (reference category: “man”); age in years; educational level (a 6-point scale from “primary or lower” to “tertiary education”). We also consider the context in which we carried out the research, that is the fact that the country was in the middle of a harsh economic crisis. We do this by adding indicators of economic shocks in a dichotomous format: whether the respondent or a member of his/her household has experienced a job loss and an indicator of income drop (jointly composed by two variables measuring “salary freeze” or a “salary cut”). For an exhaustive description of the question wording, the operationalization of the variables, please see Appendix A4.

#### *4.4.6 Model specification*

Panel data offer several advantages over cross-sectional analysis especially in the particular case of political participation. In cross-sectional analysis, in fact, predictors and the dependent variable are observed at the same time. Moreover, the temporal order is actually opposite the one we assume, as far as participation refers to a time-range, which is antecedent to time the survey is completed. In the context of our research, panel data allows solving this shortcoming since the unit of time to which participation is referred match the interval between the two panel

waves. Therefore, following previous research (Finkel and Muller, 1998; Bäck et al., 2011), all the analyses are based on predictors measured at time ‘ $t-1$ ’ (wave 1 realized in 2012) to predict reported participation at time ‘ $t$ ’ (wave 2 hold in 2013).

Our dependent variables measure the intensity of protest across different categories. While we know the ordered category into which each observation falls, we cannot be sure about the exact value of the observation. In this case, interval regression would be the default option as far as it allows modeling outcomes that have interval censoring. However, as more precise examination reveals (see Figure A4.1 in the Appendix A4), our variables are asymmetrically distributed, so that ordered probit regression seems to be more appropriate (Wooldridge, 2002; 508-509). The central idea is that there is a latent continuous metric underlying the ordinal responses observed. In our change model, the latent continuous variable  $y_{it}^*$  is a linear combination of some predictors,  $x'_{it-1}$ , plus a disturbance term that has a standard Normal distribution:

$$y_{it}^* = x'_{it-1}\beta + \varepsilon_i, \quad \varepsilon_i \sim N(0,1), \quad i = 1, \dots, N, \quad t = 1, \dots, T_i$$

The observed ordinal variable,  $y_{it}$ , takes on values 0 through  $m$  according to the following expression:

$$y_{it} = m \text{ if } \alpha_{m-1} \leq y_{it}^* < \alpha_m, \text{ for } m = 1, \dots, M$$

The cut-points,  $\alpha_1$  through  $\alpha_{M-1}$ , corresponding to the different ordinal categories, are assumed  $\alpha_0 = -\infty$  and  $\alpha_M = \infty$  and they are estimated. As our variable has four categories, the relationship between the latent and the observed variable is determined by:

$$y_{it} = \begin{cases} 1 \Rightarrow 0, & \text{if } \alpha_0 = -\infty \leq y_{it}^* < \alpha_1 \\ 2 \Rightarrow 1 \text{ or } 2, & \text{if } \alpha_1 \leq y_{it}^* < \alpha_2 \\ 3 \Rightarrow 3 \text{ or } 4, & \text{if } \alpha_2 \leq y_{it}^* < \alpha_3 \\ 4 \Rightarrow \geq 5 \text{ or more,} & \text{if } \alpha_3 \leq y_{it}^* < \alpha_4 = \infty \end{cases}$$

When  $y_{it}$  falls into the category  $m$  the ordered probit model is:

$$\Pr(y = m | x) = \Phi(\alpha_m - x_{it-1}\beta) - \Phi(\alpha_{m-1} - x_{it-1}\beta)$$

where  $\Phi(\cdot)$  is the standard normal cumulative distribution function with unit variance.

Any observational data runs the potential risk of omitted variables. Another potential strength of panel data is that they also permit to

investigate the dynamic structure of the phenomenon controlling for past participation. This would guarantee that the alternative factors we are testing are not due to a joint effect of prior levels of participation in wave 1 and subsequent levels in wave 2 (Finkel, 1995). This implies, however, strong assumptions on the nature of the relationship between past and current rates of participation, which needs to be causal. If this is not, the inclusion of a lagged term for the dependent variable may include additional bias to the model (e.g. Achen, 2000; Johnson, 2005; Allison, 2009), by overestimating the effect of past participation and underestimating the importance of other predictors. We decide to report both specifications with and without the lagged dependent variable. We run a series of model, testing the effect of trust while we add in a stepwise fashion the different selective and collective incentives as well as all socio-demographic factors in the following models. Lastly, in a final estimation we add the term for the lagged dependent variable measured at time ' $t-1$ '. All the models are checked for multicollinearity via variance inflation factors.

## 4.5 Results

Let us now look at the results. Table 4.2 shows estimates for a series of ordered probit regression models performed for having signed a petition. We can clearly see that, against expectations derived from consolidated theoretical literature on social capital (e.g. Putnam 2000; Inglehart and Welzel, 2005), trust in strangers measured by means of the trust game in 2012 is unimportant in predicting the probability of having signed a petition in the subsequent year, regardless the model specification being considered. As it can be seen from all estimations reported below, the trust coefficient is not significant and the standard errors are large.

We can go on looking at the other factors, starting from selective incentives. In this respect, both being a member of several organizations as well as being close to an opposition party increases the probability of having signed a petition (model 1-4). The effect of networks and partisanship on petitioning holds true even when we control for the lagged term of the dependent variable ( $p < 0.05$  and  $p < 0.01$  respectively; model 4), although the importance of political identities seems to be larger in magnitude. Also dissatisfaction with government performance and high perception of internal political efficacy (e.g. personal influence on the political process) seem to matter (model 2-3), though their effect disappears when controlling for past participation (model 4).



Table 4.2: Predicting “signing a petition” in Spain (2012-2013): change model with lagged dependent variable (ordered probit regression)

	(1)	(2)	(3)	(4)
<i>Cut-points</i>				
$\alpha_1$	-0.027 (0.135)	0.759*** (0.227)	1.645*** (0.450)	0.904* (0.465)
$\alpha_2$	0.806*** (0.137)	1.612*** (0.232)	2.509*** (0.455)	1.908*** (0.469)
$\alpha_3$	1.282*** (0.143)	2.106*** (0.239)	3.007*** (0.460)	2.501*** (0.474)
Lagged dependent				0.590*** (0.056)
<i>Behavioral trust in strangers</i>				
Points sent	-0.020 (0.041)	-0.028 (0.041)	-0.006 (0.042)	-0.039 (0.043)
<i>Selective incentives</i>				
Member in organizations (index)	0.352*** (0.073)	0.359*** (0.074)	0.362*** (0.078)	0.175** (0.082)
Close to opposition party (ref. incumbent/no party)	0.543*** (0.104)	0.399*** (0.115)	0.427*** (0.117)	0.314*** (0.120)
<i>Collective incentives</i>				
Dissatisfaction government performance (index)		0.612*** (0.207)	0.587*** (0.213)	0.345 (0.219)
Internal political efficacy (ref: low)		0.325*** (0.103)	0.368*** (0.106)	0.146 (0.111)
<i>Economic shocks</i>				
Job loss (ref: no)			0.072 (0.109)	0.040 (0.111)
Income loss (ref: no)			0.058 (0.116)	-0.008 (0.119)
<i>Social position</i>				
Female			0.298*** (0.110)	0.236** (0.113)
Age			0.003 (0.005)	0.000 (0.005)
Education level (1-6)			0.031 (0.052)	-0.027 (0.054)
Pseudo R-squared	0.050	0.060	0.070	0.160
N	468	468	468	468

Note: Entries are unstandardized regression coefficients with standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All predictors are measured at t-1.

Table 4.3: Predicting “joining a demonstration” in Spain (2012-2013): change model with lagged dependent variable (ordered probit regression)

	(1)	(2)	(3)	(4)
<i>Cut-points</i>				
$\alpha_1$	0.709*** (0.147)	1.831*** (0.253)	2.462*** (0.494)	2.008*** (0.508)
$\alpha_2$	1.414*** (0.154)	2.574*** (0.263)	3.212*** (0.500)	2.911*** (0.515)
$\alpha_3$	1.940*** (0.164)	3.138*** (0.275)	3.779*** (0.509)	3.631*** (0.526)
Lagged dependent				0.687*** (0.068)
<i>Behavioral trust in strangers</i>				
Points sent	0.001 (0.044)	-0.008 (0.045)	-0.012 (0.046)	-0.023 (0.047)
<i>Selective incentives</i>				
Member in organizations (index)	0.264*** (0.075)	0.280*** (0.076)	0.244*** (0.081)	-0.032 (0.088)
Close to opposition party (ref. incumbent/no party)	0.698*** (0.113)	0.456*** (0.124)	0.461*** (0.126)	0.210 (0.133)
<i>Collective incentives</i>				
Dissatisfaction government performance (index)		1.086*** (0.230)	1.134*** (0.237)	1.059*** (0.244)
Internal political efficacy (ref: low)		0.359*** (0.112)	0.342*** (0.115)	0.118 (0.120)
<i>Economic shocks</i>				
Job loss (ref: no)			0.158 (0.117)	0.190 (0.120)
Income loss (ref: no)			0.117 (0.127)	0.031 (0.131)
<i>Social position</i>				
Female			-0.089 (0.119)	-0.154 (0.122)
Age			0.000 (0.005)	-0.001 (0.005)
Education level (1-6)			0.124** (0.057)	0.126** (0.058)
Pseudo R-squared	0.055	0.087	0.095	0.200
N	468	468	468	468

Note: Entries are unstandardized regression coefficients with standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All predictors are measured at t-1.

Results are somewhat similar when we consider a more militant and costly form of protest, namely being willing to join a demonstration. Indeed, as it can be seen from Table 4.3, selective and collective incentives seem to be more important in explaining protest participation than behavioral trust in unknown people which is again not significant. Against any expectation, although we consider a more risky and costly type of participation which by theory should require a higher propensity to trust unknown people, we find no effect of trust on demonstrations. This basically suggests that the individual propensity to trust unknown others is not connected to unconventional forms of political participation and it is not a sufficient force able to mobilize people to social protest. This disconfirms much of the unconditional positive value given to this type of trust at least for these two types of participation in the Spanish context. As a consequence, our first two hypotheses (H1 and H2) should be rejected, as higher levels of trust are not associated to higher chances of taking part in social protest, nor we encounter a different effect across different types of unconventional participation.

At the same time, we can draw some distinction when describing evidence regarding the other alternative explanations. While selective incentives seems to be more important for individualized forms of political actions (both factors pass the test when the lagged dependent variable at  $t-1$  is introduced), collective incentives in the form of dissatisfaction with government policy is by far the most important predictor of attending a public demonstration. This effect is robust, highly significant and it remains almost unchanged even when we consider the lagged model ( $p < 0.01$ ; model 4), confirming most recent research on the importance of grievance theories for protest participation (Kern et al. 2015; Grasso and Giugni, 2016). At the same time, the importance of internal political efficacy disappears when we introduce prior participation, so that we provide only a partial confirmation of the collective interest model at least if we consider more demanding forms of protest (Finkel and Muller, 1998).

We conclude this overview by considering the role of economic shocks. None of the two factors seem to be relevant when trying to explain participation in forms of protests. The lack of an effect of losing one's one job is not completely surprising as it might appear, as far as recent contributions using panel analysis in Spain from 2010 to 2012 have suggested that unemployment may have a null or even detrimental effect both on interest and participation, leading to political disconnection (Muñoz, 2013).

Overall, although we have considered two different kinds of participation, a more common and individualized type of unconventional participation and a more militant and costly form of protest, the effect of trust remains irrelevant, contrasting previous empirical research (Kaase, 1999; Benson and Rochon, 2004). What it is even more important is that both our dependent variables not only are able to measure actual participation but also how the respondent was active during the period, eliciting the intensity of protest. Therefore, our findings lead us to reject also our third hypothesis (H3), as we are not able to confirm an effect of trust for the magnitude of protest. All in all, our results point at other personal and collective incentives, which may play a different role, depending on the specific act we are considering.

## 4.6 Discussion and conclusions

The aim of this article is to contribute to the debate on the political consequences of trust in strangers especially with respect to its potential to facilitate collective action. In the last years, social capital literature has exploded and there has been an increasing interest towards the importance of social preferences and in particular to the individual propensity to trust others. As far as trust among people is considered a key-element of cooperative behavior and an important lubricant of interpersonal relationships under informal conditions, this has been almost always connected to any type of social and political externality and acknowledged to solve any type of social dilemma, of which, collective action and political participation are two of the most relevant.

However, as this preliminary analysis seems to suggest, pure trust is not *per se* a sufficient condition to mobilize people. This claim is supported both when we compare different modes of unconventional participation as well as when we look at the trust effect for the magnitude of protest. It is also possible to believe that actually people participate in politics by organized groups so that their motivations may also rely on a lack of group trust and animosity towards other groups (Loewen, 2010). Moreover, participating in a protest may rely on trust built through existing social ties and developed through reputation (Chong, 1991).

We have come to these conclusions by addressing some of the concerns in previous empirical research and using a longitudinal research design and behavioral measures of trust. This has allowed a more robust test of the alternative mechanisms able to explain mobilization. At least in the Spanish context we might confirm that depending on the type of protest different incentives are important. In this respect, selective incentives are

more connected to individualized forms of political action while the collective interest model is more adapted to explain participation in demonstrations (Bäck et al., 2011). If we consider our overall measure of protest we might conclude that the most important mechanism is political discontent and in particular a perceived dissatisfaction with government in managing the harsh economic situation started in 2008. This is another additional finding which focuses the attention on how a lack of responsiveness of the systems in hard times may both effects on activism as well as on attitudes towards institutions (García-Albacete et al., 2013; Torcal, 2014).

This work is not without limitations. The most important of this consists in the small number of subjects and time points considered. This has affected the number of variables to be included into the models. Then, the problem of selection may not be completely solved as far as the sample is not probabilistic. Another point to be stressed concerns the fact that we have only considered two types of unconventional participation. However, as far as this problem is concerned, we have at least considered two very different modes referring to both individualized forms of action and more demanding social protest, which are perhaps the two of the most relevant and diffused strategies to dissent (Teorell et al., 2007; Torcal et al., 2016).

On the other hand, this study raises also several interesting questions for future research. We hope research on the impact of trust on political participation to employ the empirical strategy adopted in this article. It might be helpful to compare different country in a longitudinal cross-national approach. Our focus on a single country in the middle of a harsh economic crisis may limit generalization. In this respect, for instance, grievance theories may be particularly relevant for protest action in exceptionally negative economic conditions (Kern et al. 2015). Moreover, as many have suggested (e.g. Kriesi et al., 1995), the institutional context may indeed play a role for participation, so it would be interesting to check whether our findings are confirmed in other European political systems. Finally, it would be useful even to vary the structure of the trust game employed in order to check whether the results reported may be replicate under other conditions. This is another point future research might investigate by using longer time periods. Finally, it might be useful to develop more the importance of trust for social and political participation thinking at whether it might have an interactive effect rather than a direct one.

All in all, this paper calls for a reevaluation of the relationship between trust and protest participation and for an additional efforts to understand whether this is conditional to other resources or contextual aspects.

## 5 Conclusion

### 5.1 The state of trust research and the purpose of this thesis

The concept of trust has a long tradition in social science research as this is considered the core of daily social exchange and cooperation. However, only in the last three decades the literature on trust has developed as an autonomous research agenda. In this way, it has been possible to identify some important lines of investigation as well as several problems that have threatened the accumulation of knowledge (Nannestad, 2008).

One of the most important is the proliferation of theoretical definitions which has led to very broad notions of trust as well as to various sub-concepts. In this case, the main division has characterized those who have looked at trust only as a personality trait driven by moral values and those who have instead conceived it only in a strict rational manner (Herreros, 2004; Rothstein, 2005; Nannestad, 2008). This has prevented empirical research to have a common point of departure reducing communication between different contributions. A related problem concerns the choice of consistent measurement which has also led to deep division between survey-based and experimental-based research programs. Neither of the two perspectives has actually provided an ideal solution for exploring trust variation at the individual level, although some innovations have been recently proposed. A last important challenge in quantitative research on trust concerns estimations problems and the need for rigorous robustness analysis and systematic replication of studies. In this respect, only in recent years, scholars have been increasingly concerned with these problems trying to solve difficulties related to endogeneity or selection bias and to correctly identify the relationships of interest by approximating the experimental template (Angrist and Pischke, 2008). In brief, at the moment, there is an important amount of evidence which is often contradictory and based on different theoretical approaches as well as on techniques of measurement.

In this thesis the main purpose has been to take into account these problems offering an original answer to each one of them. Thus, this work aims to contribute to some of the most relevant debates on the foundations

and consequences of social trust by analyzing original data and employing innovative methodological solutions. These have been thoroughly discussed in the introduction, Chapter 1, in which we have presented the main perspectives on the trust concept trying to identify the most basic components of trust in the available literature. The main goal has been to provide an overarching definition of trust which could subsume more specific sub-concepts. To do this, we have gone back to classic definition of trust involving three elements (among others Baier, 1986; Gambetta, 1988b; Coleman, 1990; Hardin, 2002): two actors and some resources. In this way, depending on the actors involved and the issues at stake trust can take different forms. Moreover, we have defined trust as a belief that the other will behave according to our expectations and that at least he or she will not act detrimentally. This involves both a rational assessment which depends on the characteristics of the context and the incentives available, but also it might be related to one's own preferences towards others, as well as on beliefs that the other person complies with some trust-warranting properties.

Concerning measurement we have had an overview of the available tools by highlighting both strengths and weaknesses of the survey method as well as of the experimental approach applied to trust measurement, the latter being often used in combination with the game theoretic method. While available survey questions are still problematic as far as they do not provide all aspects of the concept of trust they refer, their use in survey programs allows the collection of much information on wide representative samples. On the other hand, behavioral experiments have the advantage of fitting the basic trust situation and they are more flexible so that it is possible to frame the situation by selecting on purpose the actors and incentives involved. However, they are often considered as indirect measures of trust and they are usually employed in narrow student samples. In this work, we have tried to combine these two traditions embedding a trust game in a survey questionnaire and collecting data on a longitudinal sample of repeated subjects. We consider this solution one of the most innovative in ongoing trust research. Nevertheless, at the moment, this is mainly confined only within the field of behavioral economics, although the number of works in political science that are using behavioral measures is growing rapidly (e.g. Fowler and Kam, 2007; Carlin and Love, 2013, 2016; Criado et al., 2015; Iyengar and Westwood, 2015; Westwood et al., 2015).

When it comes to the analytical strategies employed, the present work tries to go beyond common cross-sectional analysis and try to meet claims raised by some authors in employing better design choices to deal with common problems related to model estimation of trust equations

(Nannestad, 2008). With all limits, panel and experimental designs (Morgan and Winship, 2007; Druckman et al., 2011; Wilson and Eckel, 2011) may be better suited to try to overcome common problems in the empirical literature when studying relationships between trust and other relevant factors by either considering individual change over time or offering design-oriented solutions to study treatment effects. In this respect, choices related to the type of design and the estimation strategy has been made depending on the research questions, the hypotheses and the variable being considered.

Regarding the contribution of this thesis, finally, although trust empirical research is still at its early stage, we have identified some relevant perspectives on both its foundations and consequences. The aim of the next section is to link results derived from our empirical analysis with the current debate on trust, in order to draw main conclusions on this thesis' contribution.

## 5.2 On the political foundations and consequences of trust: an overview of the findings

What are the main findings of the three studies proposed in this manuscript? What kind of conclusions we can draw from them? In this respect, we have focused on three relevant debates. The first two relates with the nature of trust, namely how trust forms and evolves. As we have noted in the previous section as well as throughout the text, the research community has been basically divided in two positions. One emphasizes the stability of trust, which is considered to be part of the one's own wider personality and driven by moral norms. Following this perspective trust is rigid and immune to later-life experiences. The other, instead, considers it as ductile so that positive experiences would change people expectations about the trustworthiness of others. In this respect, in Chapter 2, in order to test main theories on the nature of trust and its origins, we have looked at panel data collected on an anonymous trust game repeated in two waves in Spain to check first whether trust behaviors are stable over time. Then, we have checked the role of negative experiences in terms of economic shocks as unemployment and income drop in affecting propensities to trust strangers.

Our empirical test also considers other broader theories of trust formations. The first tradition consists of a society-centered approach which argues that trust develops from active participation in voluntary associations, so that individuals would learn trust other people via contact with different other people (we referred in particular to the classic work of



Almond and Verba, 1963; Putnam, 1993; 2000; Fukuyama, 1995). Moreover, we have also taken into account a more recent institutional-centered approach which claims trustworthy institutions to be fundamental in order to maintain a climate of cooperation and trust among citizens (we connected the discussion for instance to contributions proposed by Levi, 1998; Herreros, 2004; Rothstein, 2005).

Chapter 2 provides empirical evidence supporting the notion that trust in unknown people is not stable and that it might be the result of inferences on later-life events, being updated depending on experiences related to negative economic shocks. However, not all types of economic experiences play the same role as we find an effect only for more intense negative events as unemployment. So far, only few contributions have provided evidence of the importance of personal economic conditions for trust (Newton, 1999; Zmerli and Newton, 2011; Brandt et al., 2014). Hence, our findings speak out to this line of investigation, adding more longitudinal evidence. Moreover, from our analysis it comes out that higher levels of trust towards unknown people may be found among those with higher levels of perceived corruption, the only variable gauging the impact of the institutions that turns out to be statistically significant. So, another factor that may actually be of particular importance for trust in strangers seems to be the perception in terms of fairness that people have of the context they live in (Rothstein, 2005; Rothstein and Eek, 2009), rather than of the institutional responsiveness or of the confidence they have in the sanctioning system. The null association of institutional confidence with trust is in contrast with recent studies that have instead found a positive relationship both in single countries (e.g. Freitag, 2003) and in cross-national settings (Zmerli and Newton, 2008).

If both personal events as well as experiences with the wider social sphere are important for the propensity to trust, also the characteristics of the partner involved seems to play a relevant role. In this respect, trust interactions may be the reflection of profound divisions within societies so that the radius of trust expressed by an individual may actually depend on social and political fragmentation and polarization (Alesina and La Ferrara, 2002; Fershtman et al., 2005; Foddy and Yamagishi, 2009; Habyaramana et al., 2009; Michelitch, 2015).

Chapter 3 tries to test this by showing results from two survey experiments in Spain and Portugal. More specifically, following previous research (e.g. Jackman and Miller, 1998; Levi 1998; Letki and Evans, 2005; Rothstein, 2005), our argument is that trust may be endogenous to the political context and that this may be influenced by party dynamics and political competition (Fowler and Kam, 2007; Carlin and Love, 2013;

Iyengar and Westwood, 2015). As our findings seem to suggest, citizens' social trust is affected by partisanship, favoring in-group party members over out-group party identifiers. These findings seem to be robust in both multiparty systems, where loyalty towards a single party may be weaker. Moreover, the partisanship effect is stronger in Spain (the more polarized system) and it involves all political parties despite their size and ideology. These findings align and also complement existing research on the Spanish context on the impact of political conflicts for trust among people and more generally social capital (Garcia Albacete, 2010; Criado et al., 2015). At the same time, trust among different partisans mirrors interparty positioning. In short, it is reasonable to expect that where party elites are perceived to be more distant also partisans at the mass level tend to be so. This may in turn affect the potential for cooperation and trust behaviors (for preliminary evidence of this see Carlin and Love, 2016).

Lastly, by focusing on the Spanish context, we also show that the partisanship effect seems to exert a stronger effect than other more traditional political conflicts as the territorial division or political distance produced by ideological families (Malka and Lelkes, 2010). This is another important contribution as far as in the European context, partisanship is not the only lifetime attachments, rather, there are other cues such as ideological labels expressed on the left-right continuum that have been usually assumed by political socialization theories to be far more important (Percheron, 1977; Percheron and Jennings, 1981; Jennings, 1984; Fleury and Lewis-Beck 1993; Rico and Jennings, 2016). In this respect, the article provides contradictory findings, supporting the view that party labels and identities may indeed be more important at least with respect to trust relationships.

Overall, in addition to contributing to those theories that emphasize fractionalization when studying trust behaviors, Chapter 3 contends classic social capital theory which praises the role of political groups in bringing different people together and enhancing cooperation (Putnam, 2000). On the contrary, when some information on political group membership arises in a trust interaction, this takes the form of group-based trust with resulting within-group cooperation and between-group competition. In other words, political competition may influence the salience of partisan identities which in turn intensify bonding forms of social capital and translate into gaps in trust and cooperation across group lines. In this respect, our study aligns to more recent theories of the dark side of social capital which emphasizes how group-based competition in contemporary democracies may leads to several flaws (strong ties, in-group loyalty, lack of outward cooperation) (Portes, 1998; Uslaner, 2005, Maloney, 2008; Warren, 2008; van Deth and Zmerli, 2010). To conclude,

while we might be tempted to look at an “ideal” world as one in which individuals would trust regardless the characteristic of the person involved or her group affiliations. At the same time, it is also desirable a society in which people organize in groups, as political competition is fundamental for democracy and the development of societies, All in all, we cannot be sure when polarized trust and parochialism may translate in a collective problem at the societal level. Chapter 3 tries to reflect on this tension by looking at the importance of identities, conflicts, and heuristics processes, when taking trust decisions.

Now, what are the consequences of trust towards unknown people for participation? Does it have any role in favoring people’s propensity to take part in political protest? What are the main insights of our longitudinal analysis? The relationship between trust and political participation is central in the debate on how political attitudes affect political behavior (Almond and Verba, 1963; Putnam, 2000). This refers in particular to conventional forms of participation such as voting as well as to unconventional forms, namely petitioning or joining political demonstrations (Inglehart and Welzel, 2005). In this view, trust in other people, even strangers, is considered a core element of civic culture and a prerequisite of peoples’ political involvement. In broader theoretical terms, trust among people also provides a solution to the classical rational choice approach to political participation which falls short when trying to explain why people engage in collective action. While at a first glance the trust argument is appealing there might be alternative logic between trust and protesting.

As suggested by Chapter 4, trust towards other people may be easily affected by information on people we are interacting with and that it might be sensitive to group boundaries. Moreover, participation to protest is just another expression of political competition within the realm of democratic politics, which involve other important motivational factors related to political ideology, satisfaction with the political process, membership in political groups as well as issues related to the specific act of protest. In other words, both trust (towards specific groups) as well as distrust (towards other groups) may be involved at the same time when protesting, so that the general propensity to trust unknown people may be not connected at all. This is the main result emerging from the panel analysis conducted on our Spanish data and it seems to be true for both individualized forms of protest, such as signing a petition, as well as for more risky and costly form as taking part to a demonstration. Lastly, trust is not associated to the number of acts or in other words the magnitude of protest. This contradicts some of previous cross-sectional analysis (e.g. Benson and Ronchon, 2004; Winters, 2008) on the same topic and posits

some questions on the theoretical connection between trust and some forms of political behavior. Our findings point at the role of dissatisfaction with the government responsiveness, the role of social networks and the influence of party identity in mobilizing people. In any case, Chapter 4 is far from claiming that trust is not relevant for political participation but, as other authors have already proposed (Claibourn and Martin, 2000; Pattie et al. 2004), it calls for more research on its role for political behavior by studying how different types of trust are connected to different forms of participation.

We conclude this overview by considering our findings in the national context in which this research has been conducted, namely the Spanish political system. As already pointed out several times in this work, in the last few years, Spain has experienced harsh economic conditions and profound political transformations. The country has achieved among the highest levels of unemployment in its democratic history and very low levels of economic growth. The stress produced by the economic crisis was not followed by an appropriate response of the system which has been instead questioned by political scandals, diffused perception of political corruption, increasing territorial conflict between the center and the periphery of the state and high levels of mobilization (García-Albacete et al., 2013; Anduiza et al., 2014; Torcal 2014).

The time in which this research was conducted, the years 2012 and 2013, was perhaps the peak of these tensions and it constituted the prelude to the restructuring of the party system and the end of a political era dominated by one-party governments. If we consider the main conclusions of the empirical analyses in this thesis *a posteriori*, that is in the light of what happened next in terms of higher system's instability and political stalemate resulting from uncertain elections, our results are even more interesting and give us a flavor of the lack of cooperation and the climate of distrust that might be created in hard times, under some conditions of deprivation and high political polarization. In this sense, our research gives us a (though limited) picture of the state of trust in the moment in which the country was reaching a new stage in its democratic development.

### 5.3 Limits and lines for future research

At the end of each empirical chapter we have provided a discussion of the limits of the analyses proposed. Perhaps, one most important relates to the sample of participants employed. In the last few years, the use of web tools and online panels has dramatically increased (Baker et al. 2010;

Baker et al. 2013; Callegaro et al., 2015). Moreover, as in the case of this research, the majority of them are not constructed using probability-based recruiting. This of course imply problems of coverage of the general population given the fact that some still do not use Internet on a regular basis or even do not have any connection at all. Lastly, online panels may suffer from attrition rates with a problem of selection as well as it has been questioned the quality of data produced with such type of panels.

Regarding coverage problems, we have a few times referred to the level of penetration of Internet in the Spanish and Portuguese populations. As we have discussed, although the Internet diffusion rate is still complete not in both countries, their levels were already quite high at the time the surveys were held, especially in age range considered. In terms of panel attrition, this is actually a problem that affects any type of panel study, regardless of whether a probabilistic or a non-probabilistic sample is employed. However, this is not usually something that is thoroughly addressed in the empirical analysis. As discussed in Chapter 1, we have carried out analysis in order to see whether participation throughout the three waves in our Spanish sample is actually associated to some basic socio-demographic variables or even more importantly to our measures of trust. We have not found any relevant relationship, though we have always introduced such controls in every substantive analysis. Moreover, as far as the quality of data is concerned, we have already referred to some work that have assessed the quality of the estimates produced by the Netquest panel in Spain showing how this tends to approximate that of other important face-to-face surveys (Revilla et al., 2013). Also in relation with data availability, the small number of repeated cases, the use in some circumstances of time-invariant measures (in particular in Chapter 2) as well as the small number of waves (the basic two-wave panel design used in Chapter 2 and 4) may have reduced the possibility of more sophisticated analyses.

Another limit that has been already discussed in the introduction may relate to our measure of social trust. As noted, the trust game employed (Berg et al. 1995) does not provide perhaps the best solution and after an initial enthusiasm, recently some criticisms have been put forward towards this tool as well (Ermisch et al. 2009). In this respect, while being conscious of these contrasting opinions, we have opted for this type of game in order to increase comparability with previous research. Furthermore, we could have introduced other measures of trust in order to investigate more the relationship between survey and experimental measures of trust. However, the original purpose of this thesis and the project within which this has been developed was mainly on the origins and consequences of trust as measured in a behavioral game, rather than

on methodological issues. With respect to the validity of the game used and the experiment conducted in Chapter 3, we have dedicated a large discussion both in Chapter 1 as well as in the Appendix (A3). In this work, we believe the toolbox provided by behavioral game theory and experimental economics to be very useful to test theories, providing a benchmark for more complex real-life situations. A final limitation of this work is that, with exception of Chapter 3, it mainly consists of analysis on a single country, so that it should be considered a first step of more longitudinal cross-national research. The fact that we consider Spain in a specific situation characterized by close to exceptional conditions of high saliency of certain economic and political problems and polarization may have constituted a strength in order to test the proposed hypotheses but also a weakness when coming to generalization of results. Again, we praise for more research on the same topic but in different countries.

With this thesis we also opens some interesting lines of research. First of all, more investigation is needed in relation to the nature of trust, its stability, and, how experiences influence trust levels and positive expectations about other people's trustworthiness. In this respect, interesting contributions have been proposed in which both experiments and panel data have been used (Sturgis et al., 2010; Bauer, 2015; Paxton and Glanville, 2015). This is a fundamental line to be pursued in the research agenda on trust. Then, it might be also interesting to explore how different economic and political factors explain changes in attitudinal trust as measured by the survey questions and changes in behaviors in the trust game.

Another important question, which is still open, regards the problem of the types of trust (Uslaner, 2002; Newton, 2007; Freitag and Traumoeller, 2009; Delhey et al. 2011; Newton and Zmerli, 2011; Freitag and Bauer, 2013). In this thesis we have also focused on group-based trust showing that trust can be affected by political conflicts and identities. However, the question of why people tend to divide in groups and under what conditions this actually take place is still an open question. There has been some experimental research on what mechanism might explain group discrimination such as efficiency in cooperation, taste-based discrimination, shared-preferences or social pressure (Foddy and Yamagishi, 2009; Habyaramana et al., 2009; Michelitch, 2015). Moreover, survey research has started introducing new questions which distinguish trust towards more proximate and more remote groups (Dehley et al., 2011; Welzel and Delhey, 2015). In any case, much work needs to be done in this respect, as the future of research on social trust will pass through the identification of different objects and resources this is based upon.

A final topic, which needs further investigation and it is directly connected to the previous one, is the relationships between different types of trust, on the one hand, and between trust and political behavior and participation, on the other (e.g. Delhey et al. 2011). As we have seen, this is not actually so clear and self-evident as it might appear and it might involve the distinction between group-based trust, pure trust in strangers as well as institutional confidence. To the best of our knowledge, there are still not published contributions on the relationship between different types of trust and political participation, so that this might be another viable option.

To conclude, future research should take into account the possibility of using the more refined methodological tools available for measuring and analyzing trust, with the aim of increasing the robustness of the analysis and of focusing on individual change in trust by means of longitudinal and experimental designs. Without more attention on this point it might be hard to advance the research agenda on trust. Despite all possible limits, this thesis might be considered as a small improvement, or, at least, a first step, in this promising direction.

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## Appendix A1: Chapter 1

### Questions and operationalization of main trust measures

*GSS question:* “Generally speaking, would you say that people can be trusted or that you can’t be too careful in dealing with people?”: 1 “Most people can be trusted”; 0 “You can’t be too careful in dealing with people”.

*ESS questions (trust, fairness, helpfulness, respectively):* “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?” Please tell me on a score of 0 to 10, where 0 means “you can’t be too careful” and 10 means that “most people can be trusted”. “Do you think that most people would try to take advantage of you if they got the chance, or would they try to be fair?” Please tell me on a score of 0 to 10, where 0 means “most people would try to take advantage of you if they got the chance” and 10 means that “most people would they try to be fair”. “Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?” Please tell me on a score of 0 to 10, where 0 means “people are mostly looking out for themselves” and 10 means “most of time people try to be helpful”.

Table A1. 1: Pearson correlations between behavioral and attitudinal trust measures in Spain and Portugal

	Spain	Portugal
	Behavioral trust (points sent as P1 in the game)	Behavioral trust (points sent as P1 in the game)
GSS Trust question (dichotomous)	0.052 (0.194)	0.055 (0.231)
ESS Trust question (11-point scale)	0.055 (0.241)	-
ESS Fairness question (11-point scale)	0.037 (0.426)	-
ESS Helpfulness question (11-point scale)	-0.044 (0.355)	-

p-value in parenthesis.

## Samples: main characteristics and attrition

Table A1. 2: Characteristics of the sample in Spain

	Wave I (February- March 2012)	Wave II (December 2012-January 2013)	Wave III (May- June 2013)	ESS5 (2010)	ESS6 (2012)
Gender (% male)	50.27	52.54	51.99	48.74	49.57
Age (mean)	37.98	37.90	37.67	39.49	42.27
Education (%)					
Primary or no education	1.88	1.80	1.70	16.18	21.19
Secondary	60.47	60.04	59.82	55.16	55.10
Tertiary	37.65	38.16	38.46	28.68	23.71
N	1275	946	881	1299	1494

*Note:* ESS data includes subjects only between 18 and 65 years of age to easy comparability. To this end we also report information for wave 5 in which we only include people with Internet access. Data are weighted (“design weights” are used) and missing cases are excluded. For more information see: [www.europeansocialsurvey.org](http://www.europeansocialsurvey.org)).

Table A1. 3: Characteristics of the sample in Portugal

	Wave I (May 2012)	ESS5 (2010)	ESS6 (2012)
Gender (% male)	50.45	43.76	39.40
Age (mean)	37.19	41.94	43.09
Education (%)			
Primary or no education	1.54	37.02	39.46
Secondary	31.41	50.08	49.15
Tertiary	67.04	12.85	11.39
N	1005	1133	1507

*Note:* ESS data includes subjects only between 18 and 65 years of age to easy comparability. To this end we also report information for wave 5 in which we only include people with Internet access. Data are weighted (“design weights” are used) and missing cases are excluded. For more information see: [www.europeansocialsurvey.org](http://www.europeansocialsurvey.org).

Table A1. 4: Tests for attrition in the Spanish sample: OLS model of participation in the following survey given some basic socio-demographic characteristics and trust measures

	Wave I-II	Wave II-III
Constant	0.223 (0.157)	-0.042 (0.110)
Male	0.074* (0.036)	-0.025 (0.020)
Age	-0.001 (0.001)	0.001 (0.001)
Education (ref: primary or no edu)		
Lower secondary	0.134 (0.131)	0.114 (0.090)
Upper secondary	-0.100 (0.117)	0.068 (0.091)
Tertiary	-0.070 (0.118)	0.050 (0.091)
Behavioral trust (points sent as P1 in the game)	0.001 (0.013)	0.001 (0.007)
GSS trust question	0.057 (0.157)	0.009 (0.021)

*Note:* \*p <0.05; standard errors in parenthesis

## Appendix A2: Chapter 2

### Question wording, variables coding and operationalization<sup>1</sup>

**Gender:** (1) female; (0) male.

**Age:** age of respondent between 18 and 65.

**Education:** “What is the highest level of education you have successfully completed?”: (0) *Sin estudios* (1); (1) *Estudios primarios sin completar* (1); (2) *Certificado de Estudios Primarios* (1); (3) *Hasta 5º de EGB* (1); (4) *Educación Primaria (LOGSE), Grado Elemental en Música y Danza* (1); (5) *F.P. de Iniciación* (1); (6) *Bachillerato Elemental* (2); (7) *EGB* (2); (8) *ESO* (2); (9) *F.P. Oficialía* (2); (10) *F.P. de 1er Grado* (2); (11) *Bachillerato Superior, BUP* (3a); (12) *PREU, COU* (3a); (13) *Bachillerato (LOGSE)* (3a); (14) *C.F. de Grado Medio (Técnico Medio), C.F. de Grado Medio en Artes Plásticas y Diseño, Grado Medio en Música y Danza (3b o 2)*; (15) *F.P. Maestría* (4); (16) *F.P. de 2º Grado* (4); (17) *C.F. de Grado Superior (Técnico Superior), C.F. de Grado Superior en Escuelas de Arte* (4); (18) *Peritaje, Enfermería, Magisterio, Asistente Social* (5 1); (19) *Diplomado, Ingeniero o Arquitecto Técnico, 3 años de licenciatura, Grado (Bolonia), Título Superior en Diseño* (5 1); (20) *Licenciado, Ingeniero Superior, Arquitecto, Máster (Bolonia), Título Superior en Música, Danza o Arte Dramático* (5 2); (21) *Doctorado* (5 2); (555 Otros (especificar); Recoded into: (1) Primary or lower (0, 1, 2, 3, 4, 5); (2) Secondary (4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17); (3) Tertiary (18, 19, 20, 21).

**Behavioral trust in strangers:** points sent in the trust-game by Player 1.

**Income (household):** “Using this card, please tell me which letter describes your household's total income, after tax and compulsory deductions, from all sources? If you don't know the exact figure, please give an estimate.”: (1) 760€ or less per month; (2) between 761€ and 1160€; (3) between 1161€ and 1260€; (4) between 1261€ and 1640€; (5) between 1641€ and 1750€; (6) between 1751€ and 2140€; (7) between 2141€ and 2400€; (8) between 2401€ and 2760€; (9) between 2761€ and 3700€; (10) more than 3700€.

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<sup>1</sup> The questions and response sets were taken from national and international surveys such as the ‘European Social Survey’ (ESS) and the Spanish ‘*Centro de Investigaciones Sociológicas*’ (CIS).



**Economic shocks:** “Which of the following events have happened to you or to another person in your household?” (lose job; salary freeze; salary cut): (1) yes; (0) no.

**Confidence in the justice system:** “Using this card, please tell me on a score between 1 and 7 how much you personally trust each of the institutions I read out. 1 means you do not trust an institution at all, and 7 means you have complete trust.”

**External political efficacy:** “Do you agree or disagree with the following statement: In Spain those who take decisions do not care much about what people think.”: (0) Yes, I agree (1) No, I do not agree.

**Perceived corruption of politicians:** “In your opinion, about how many politicians our country are involved in corruption? Would you say...”: (1) Almost none; (2) A few; (3) Some; (4) Quite a lot, or; (5) Almost all.

**Membership in voluntary organizations:** “Are you a member of any voluntary organization?”: (1) yes; (0) no.

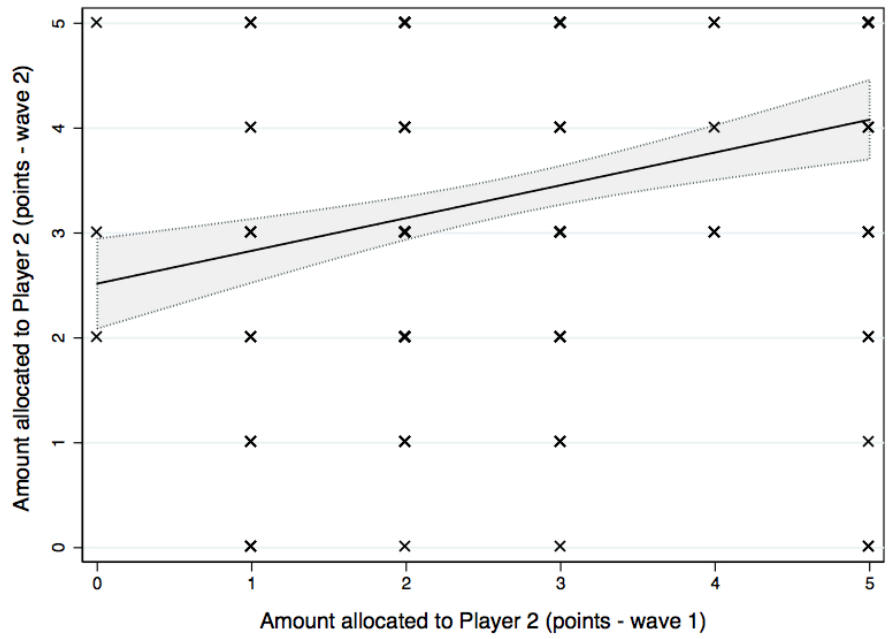
### Characteristics of the sample

Table A2.1: Characteristics of the Spanish longitudinal sample

	NetQuest Panel (2012-2013) (18-65)	ESS6 (2012) (18-65)
Age (mean)	38.05	42.27
Gender (% man)	48.07	50.40
Education		
Primary or no education	6.01	21.10
Secondary	45.92	54.90
Tertiary	51.07	23.60
Income		
Low (< 3rd decile)	42.06	35.10
Middle (4th- 6th decile)	33.48	30.50
High (above 7th decile)	24.46	19.50
N	233	1496

## Descriptive statistics and full panel models

Figure A2.1: Number of points in the trust game in wave 1 (x-axis) and wave 2 (y-axis).



*Note:* The line depicts OLS regression line ( $\beta = 0.314$ ;  $s.e. = 0.07$ ;  $p < 0.001$ ) fitted to the data

Table A2.2: Percentage of people sending different amount of points across the two waves (trust)

% respondents at time (t-1)	% respondents at time (t)						Total
	0	1	2	3	4	5	
0	0.00	0.00	33.33	33.33	0.00	33.33	100.00
1	15.38	15.38	19.23	19.23	7.69	23.08	100.00
2	1.05	5.26	28.42	28.42	10.53	26.32	100.00
3	1.59	6.35	15.87	33.33	9.52	33.33	100.00
4	0.00	0.00	0.00	50.00	12.50	37.50	100.00
5	5.26	2.63	5.26	15.79	7.89	63.16	100.00
Total	3.43	6.01	19.31	27.47	9.44	34.33	100.00

Table A2.3: Percentage of people experiencing job loss across the two waves

% respondents at time (t-1)	% respondents at time (t)		Total
	No	Yes	
No	81.56	18.44	100.00
Yes	34.78	65.22	100.00
Total	63.09	36.91	100.00

Table A2.4: Percentage of people experiencing salary cut across the two waves

% respondents at time (t-1)	% respondents at time (t)		Total
	No	Yes	
No	73.74	26.26	100.00
Yes	27.61	72.39	100.00
Total	47.21	52.79	100.00

Table A2.5: Percentage of people experiencing salary freeze in the two waves

% respondents at time (t-1)	% respondents at time (t)		Total
	No	Yes	
No	74.59	25.41	100.00
Yes	33.33	66.67	100.00
Total	54.94	45.06	100.00

Table A2.6: Panel tobit models with random-effects explaining individual change in behavioral trust in strangers in Spain (2012-2013) (full models)

	(1)	(2)	(3)	(4)	(5)
	Standard RE	Standard RE	Standard RE	Standard RE	Correlated RE
<i>Time variant</i>					
Salary freeze	-0.133 (0.178)			-0.195 (0.183)	-0.326 (0.286)
Salary cut		-0.005 (0.180)		0.086 (0.185)	0.059 (0.301)
Job loss			-0.623*** (0.192)	-0.643*** (0.193)	-0.641** (0.311)
Confidence justice	-0.015 (0.060)	-0.011 (0.060)	-0.022 (0.059)	-0.028 (0.059)	-0.088 (0.100)
Low political efficacy	-0.287 (0.269)	-0.290 (0.270)	-0.274 (0.266)	-0.259 (0.266)	-0.442 (0.393)
<i>Time in-variant</i>					
High perceived corruption	-0.739** (0.290)	-0.735** (0.290)	-0.746*** (0.286)	-0.748*** (0.286)	-0.675** (0.293)
Member of voluntary	-0.259 (0.262)	-0.250 (0.262)	-0.260 (0.258)	-0.267 (0.259)	-0.237 (0.260)
Female	-0.587*** (0.195)	-0.577*** (0.194)	-0.535*** (0.192)	-0.552*** (0.193)	-0.540*** (0.193)
Age	0.003 (0.009)	0.003 (0.009)	0.002 (0.009)	0.002 (0.009)	0.001 (0.009)
Secondary education	0.779* (0.422)	0.801* (0.421)	0.824** (0.415)	0.791* (0.416)	0.779* (0.417)
Tertiary education	0.676 (0.434)	0.684 (0.434)	0.682 (0.427)	0.659 (0.428)	0.621 (0.430)
Income	0.024 (0.034)	0.024 (0.034)	-0.011 (0.036)	-0.012 (0.036)	-0.012 (0.037)
<i>Mundlak terms</i>					
(mean)Salary freeze					0.252 (0.378)
(mean)Salary cut					0.021 (0.384)
(mean)Job loss					0.036 (0.398)
(mean)Confidence					0.098 (0.126)
(mean)Low Political					0.326 (0.541)
Constant	3.738*** (0.710)	3.662*** (0.707)	4.085*** (0.706)	4.178*** (0.715)	3.832*** (0.785)
Observations	466	466	466	466	466
Number of id	233	233	233	233	233
Wald(Chi2)	22.96***	22.43***	33.28***	34.47***	36.08***

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A2.7: Panel linear models with random-effects explaining individual change in behavioral trust in strangers in Spain (2012-2013) (linear replication)

	(1)	(2)	(3)	(4)	(5)
	Standard RE	Standard RE	Standard RE	Standard RE	Correlated RE
<i>Time variant</i>					
Salary freeze	-0.127 (0.132)			-0.177 (0.136)	-0.283 (0.215)
Salary cut		-0.002 (0.133)		0.076 (0.137)	0.068 (0.224)
Job loss			-0.480*** (0.142)	-0.498*** (0.143)	-0.506** (0.231)
Confidence justice	-0.014 (0.044)	-0.010 (0.044)	-0.019 (0.044)	-0.024 (0.044)	-0.055 (0.074)
Low political efficacy	-0.184 (0.199)	-0.188 (0.199)	-0.176 (0.196)	-0.162 (0.197)	-0.204 (0.290)
<i>Time in-variant</i>					
High perceived corruption	-0.510** (0.212)	-0.506** (0.212)	-0.519** (0.209)	-0.520** (0.209)	-0.487** (0.216)
Member of voluntary	-0.158 (0.195)	-0.148 (0.195)	-0.156 (0.192)	-0.164 (0.193)	-0.149 (0.195)
Female	-0.488*** (0.144)	-0.478*** (0.143)	-0.445*** (0.142)	-0.461*** (0.142)	-0.453*** (0.144)
Age	0.002 (0.007)	0.001 (0.007)	0.001 (0.007)	0.001 (0.007)	0.001 (0.007)
Secondary education	0.566* (0.314)	0.584* (0.314)	0.601* (0.309)	0.574* (0.311)	0.574* (0.313)
Tertiary education	0.513 (0.323)	0.516 (0.324)	0.515 (0.319)	0.499 (0.320)	0.485 (0.323)
Income	0.020 (0.026)	0.020 (0.026)	-0.007 (0.026)	-0.008 (0.026)	-0.008 (0.027)
<i>Mundlak terms</i>					0.200
(mean)Salary freeze					(0.282)
(mean)Salary cut					-0.007 (0.285)
(mean)Job loss					0.039 (0.296)
(mean)Confidence					0.055 (0.093)
(mean)Low Political					0.069 (0.397)
Constant	3.367*** (0.524) (0.537)	3.298*** (0.522) (0.535)	3.630*** (0.521) (0.534)	3.707*** (0.528) (0.541)	3.549** (0.583) (0.600)
Observations	466	466	466	466	466
Number of id	233	233	233	233	233
Wald(Chi2)	24.84***	23.94***	36.01***	37.61***	38.20***

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A2.8: Panel tobit models with random-effects explaining individual change in behavioral trust in strangers in Spain (2012-2013) (full model: within-between specification)

<i>Time-variant (within-effects)</i>	
Salary freeze	-0.326 (0.286)
Salary cut	0.059 (0.301)
Job loss	-0.641** (0.311)
Confidence justice system	-0.088 (0.100)
Low political efficacy	-0.442 (0.393)
<i>Time-variant (between-effects)</i>	
Salary freeze	-0.074 (0.245)
Salary cut	0.080 (0.238)
Job loss	-0.605** (0.248)
Confidence justice system	0.010 (0.076)
Low political efficacy	-0.116 (0.367)
<i>Time-invariant</i>	
High perceived corruption	-0.675** (0.293)
Member of voluntary organization	-0.237 (0.260)
Female	-0.540*** (0.193)
Age	0.001 (0.009)
Secondary education	0.779* (0.417)
Tertiary education	0.621 (0.430)
Income	-0.012 (0.037)
Constant	3.832*** (0.785)
Observations	466
Number of id	233
Wald(Chi2)	36.08***

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A2.9: Panel tobit models with random-effects explaining individual change in behavioral trust in strangers in Spain (2012-2013) (with interactions)

	(1)	(2)	(3)	(4)
	Standard RE	Standard RE	Standard RE	Standard RE
<i>Time-variant</i>				
Salary freeze	-0.195 (0.183)	-0.194 (0.183)	-0.196 (0.183)	-0.197 (0.183)
Salary cut	0.086 (0.185)	0.081 (0.185)	0.082 (0.185)	0.095 (0.185)
Job loss	-0.533 (0.358)	-0.598*** (0.205)	-0.761 (0.560)	-0.708*** (0.204)
Confidence justice system	-0.011 (0.075)	-0.027 (0.059)	-0.030 (0.060)	-0.034 (0.059)
Low political efficacy	-0.257 (0.266)	-0.133 (0.328)	-0.263 (0.267)	-0.285 (0.267)
High perceived corruption	-0.727** (0.291)	-0.728** (0.288)	-0.797** (0.359)	-0.769*** (0.287)
Member of voluntary organization	-0.272 (0.260)	-0.264 (0.261)	-0.282 (0.259)	-0.461 (0.315)
<i>Interactions</i>				
Job loss*Confidence justice system	-0.043 (0.116)			
Job loss*Low political efficacy		-0.356 (0.540)		
Job loss*High perceived corruption			0.131 (0.582)	
Job loss*Member of voluntary organization				0.510 (0.525)
Constant	4.100** (0.746)	3.906** (0.665)	4.243** (0.773)	4.207** (0.716)
Observations	466	466	466	466
Number of id	233	233	233	233
Wald(Chi2)	34.60***	34.78***	34.49***	35.37***

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. All the models are controlled for gender, age, education and income.

## Appendix A3: Chapter 3

### Section A: the experimental protocol; distributions of Player 1s' decisions in different games.

#### *The experimental protocol*

#### Sample Experimental Instrument for Spain<sup>1</sup>

The game order was randomized. Subjects played the role of Player 1 (Truster) or Player 2 (Trustee), but not both. The treatments (game information) varied between the two countries but the general game wording and structure did not.

#### Player 1 general instructions

##### *Description*

Thank you for participating in today's study. We are interested in how people form and interpret social preferences. In order to answer this question, we are asking you to take a short online survey. You will be asked to play a series of quick online social games followed by a series of questions regarding your background and preferences. This survey will take about 25 minutes. Approximately 1000 people from Spain will participate in the study. To start with, you will participate in a game with other people that we will assign to you randomly. You will not interact with them personally. Moreover, you will not know their identity and neither will they know yours. The person you will be assigned to lives in Spain.

##### *Next screen*

In this game, there are two players: 'Player 1' and 'Player 2'. You are Player 1. Player 2, like you, received 5 NetQuest points to participate in the study. You will not be told who this person is either during or after the survey (neither will that person be told who you are). The game has the following characteristics:

---

<sup>1</sup> This is only a draft and shorter version of the experimental protocol only encompassing the instructions for the partisanship and the regional treatments. For reasons of clarity, the questionnaire has not been included. Note that, although the games are listed in a precise order, people played them following a random process.



1. You will have the opportunity to send some, all, or none of your 5 NetQuest points to Player 2.
2. Whatever amount you send to Player 2 will be tripled before it is passed on to Player 2.
3. You must decide how many points (if any) you will send to Player 2. Any amount you keep for yourself will be given to you.
4. Player 2 then has the option of returning any portion of this tripled amount to you.
5. Player 2 will end up with the points you send to him/her (if any) plus the initial endowment, minus those points he returns to you (if any).
6. You will end up with the points you kept plus those points Player 2 returns to you (if you decide to send him/her any).
7. At this point, the game is over.

*Next screen*

To clarify how this game works, consider the following examples:

If you send:	Player 2 receives:	If Player 2 returns:	You receive: (5 - # sent + # returned)	Player 2 receives: (5 + # received - # returned)
0 points	0 points	0 points	$5 - 0 + 0 = 5$ points	$5 + 0 = 5$ points
1 points	3 points	2 points	$5 - 1 + 2 = 6$ points	$5 + 3 - 2 = 6$ points
3 points	9 points	0 points	$5 - 3 + 0 = 2$ points	$5 + 9 - 0 = 14$ points
3 points	9 points	9 points	$5 - 3 + 9 = 11$ points	$5 + 9 - 9 = 5$ points
5 points	15 points	7 points	$5 - 5 + 7 = 7$ points	$5 + 15 - 7 = 13$ points

*Next screen*

Did you understand the game?

- Yes
- No

*Next screen*

Please let us ask some questions in order to test it: Let us assume that you send 5 NetQuest points to the other player. How many points will the other player receive?

- 5
- 15
- 20

*Next screen*

Let us assume that the other player returns 15 NetQuest points to you. How many points will you end up with when the game is over?

- 5
- 15
- 13

*Next screen*

### Game 1: INSTRUCTIONS

Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to send to Player 2 and advance to the next game. You will not know the person you will be playing with (neither will the other person know you). Player 2, like you, received 5 NetQuest points to participate in the study.

- 0
- 1
- 2
- 3
- 4
- 5

*Next screen*

### Game 2: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: 'Player 1' and 'Player 3'. You are Player 1. Player 3, like you, received 5 NetQuest points to participate in the study. You will not be told who this person is either during or after the survey (neither will that person be told who you are). We have chosen to give you one piece of information about Player 3:

Player 3 identifies politically with the PSOE.

Once you understand this game and are ready to make a decision, select the amount from the options below and advance to the next game.

- 0

- 1
- 2
- 3
- 4
- 5

*Next screen*

### Game 3: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: 'Player 1' and 'Player 4'. You are Player 1. Player 4, like you, received 5 NetQuest points to participate in the study. You will not be told who this person is either during or after the survey (neither will that person be told who you are). We have chosen to give you one piece of information about Player 3:

Player 4 identifies politically with the PP.

Once you understand this game and are ready to make a decision, select the amount from the options below and advance to the next game.

- 0
- 1
- 2
- 3
- 4
- 5

[\*\*\*]

Player 2 general instructions

#### *Description*

Thank you for participating in today's study. We are interested in how people form and interpret social preferences. In order to answer this question, we are asking you to take a short online survey. You will be asked to play a series of quick online social games followed by a series of questions regarding your background and preferences. This survey will take about 25 minutes. Approximately 1000 people from Spain will participate in the study. To start with, you will participate in a game with other people that we will assign to you randomly. You will not interact with them personally. Moreover, you will not know their identity and

neither will they know yours. The person you will be assigned to lives in Spain.

*Next screen*

In this game, there are two players: you and 'Player 1'. Player 1, like you, received 5 NetQuest points to participate in the study. You will not be told who this person is either during or after the survey (neither will that person be told who you are). The game has the following characteristics:

1. Player 1 will have the opportunity to send some, all, or none of his/her 5 NetQuest points to you.
2. Whatever amount Player 1 sends you will be tripled before it is passed on.
3. You must decide how many points (if any) you will return to Player 1.
4. Player 1 will end up with the points you will return to him/her (if any), plus the initial endowment, minus the points he sent you (if any).
5. You will end up with the initial endowment plus the points Player 1 sent you (if he/she decides to send you any) minus the points you returned to him/her (if any).
6. At this point, the game is over.

*Next screen*

To clarify how this game works, consider the following examples:

If Player 1 sends:	You receive:	If you return:	Player 1 receives: (5 - # sent + # returned)	You receive: (5 + # received - # returned)
0 points	0 points	0 points	$5 - 0 + 0 = 5$ points	$5 + 0 = 5$ points
1 points	3 points	2 points	$5 - 1 + 2 = 6$ points	$5 + 3 - 2 = 6$ points
3 points	9 points	0 points	$5 - 3 + 0 = 2$ points	$5 + 9 - 0 = 14$ points
3 points	9 points	9 points	$5 - 3 + 9 = 11$ points	$5 + 9 - 9 = 5$ points
5 points	15 points	7 points	$5 - 5 + 7 = 7$ points	$5 + 15 - 7 = 13$ points

*Next screen*

Did you understand the game?

- Yes
- No

*Next screen*

Please let us ask some questions in order to test it: Let us assume that you send 5 NetQuest points to the other player. How many points will the other player receive?

- 5
- 15
- 20

*Next screen*

Let us assume that the other player returns 15 NetQuest points to you. How many points will you end up with when the game is over?

- 5
- 15
- 13

*Next screen*

#### Game 1: INSTRUCTIONS

Player 1 elected to give you  $X$  NetQuest points. We tripled the amount so that you will receive  $X*3$ .

Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to return (if any) from the total you received from Player 1 and advance to the next game. You will not know the person you will be playing with (neither will the other person know you). Player 1, like you, received 5 NetQuest points to participate in the study.

*Next screen*

#### Game 2: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: you and 'Player 3'.

You will not know the person you will be playing with (neither will the other person know you). Player 3, like you, received 5 NetQuest points to participate in the study. We have chosen to give you one piece of information about Player 3:

Player 3 identifies politically with the PSOE.

Player 3 elected to give you  $X$  NetQuest points. We tripled this amount so that you will receive  $X*3$ . Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to return (if any) from the total you received from Player 3 and advance to the next game.

*Next screen*

### Game 3: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: you and 'Player 4'.

You will not know the person you will be playing with (neither will the other person know you). Player 4, like you, received 5 NetQuest points to participate in the study. We have chosen to give you one piece of information about Player 4:

Player 4 identifies politically with the PP.

Player 4 elected to give you  $X$  NetQuest points. We tripled this amount so that you will receive  $X*3$ . Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to return (if any) from the total you received from Player 4 and advance to the next game.

[\*\*\*]

### *Regional treatment in Spain<sup>2</sup>*

Player 1 general instructions

*Next screen*

### Game 1: INSTRUCTIONS

---

<sup>2</sup> Again this is a shorter version of the regional games in Spain conducted in a different wave. It lacks the introductory instructions for the sake of clarity. Note that, although the games are listed in a precise order, people played them following a random process.

Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to send to Player 2 and advance to the next game. You will not know the person you will be playing with (neither will the other person know you). Player 2, like you, received 5 NetQuest points to participate in the study.

- 0
- 1
- 2
- 3
- 4
- 5

*Next screen*

#### Game 2: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: 'Player 1' and 'Player 3'. You are Player 1. Player 3, like you, received 5 NetQuest points to participate in the study. You will not be told who this person is either during or after the survey (neither will that person be told who you are). We have chosen to give you one piece of information about Player 3:

Player 3 is Catalan.

Once you understand this game and are ready to make a decision, select the amount from the options below and advance to the next game.

- 0
- 1
- 2
- 3
- 4
- 5

*Next screen*

#### Game 3: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: 'Player 1' and 'Player 4'. You are Player 1. Player 4, like you, received 5 NetQuest points to participate in the study. You will not be told who this person is either during or after

the survey (neither will that person be told who you are). We have chosen to give you one piece of information about Player 3:

Player 4 is Basque.

Once you understand this game and are ready to make a decision, select the amount from the options below and advance to the next game.

- 0
- 1
- 2
- 3
- 4
- 5

[\*\*\*]

Player 2 general instructions

*Next screen*

Game 1: INSTRUCTIONS

Player 1 elected to give you  $X$  NetQuest points. We tripled the amount so that you will receive  $X*3$ .

Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to return (if any) from the total you received from Player 1 and advance to the next game. You will not know the person you will be playing with (neither will the other person know you). Player 1, like you, received 5 NetQuest points to participate in the study.

*Next screen*

Game 2: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: you and 'Player 3'.

You will not know the person you will be playing with (neither will the other person know you). Player 3, like you, received 5 NetQuest points to participate in the study. We have chosen to give you one piece of information about Player 3:



Player 3 is Catalan.

Player 3 elected to give you  $X$  NetQuest points. We tripled this amount so that you will receive  $X*3$ . Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to return (if any) from the total you received from Player 3 and advance to the next game.

*Next screen*

### Game 3: INSTRUCTIONS

This game is played the same way as the first game. Like the previous game, in this game there are two players: you and 'Player 4'.

You will not know the person you will be playing with (neither will the other person know you). Player 4, like you, received 5 NetQuest points to participate in the study. We have chosen to give you one piece of information about Player 4:

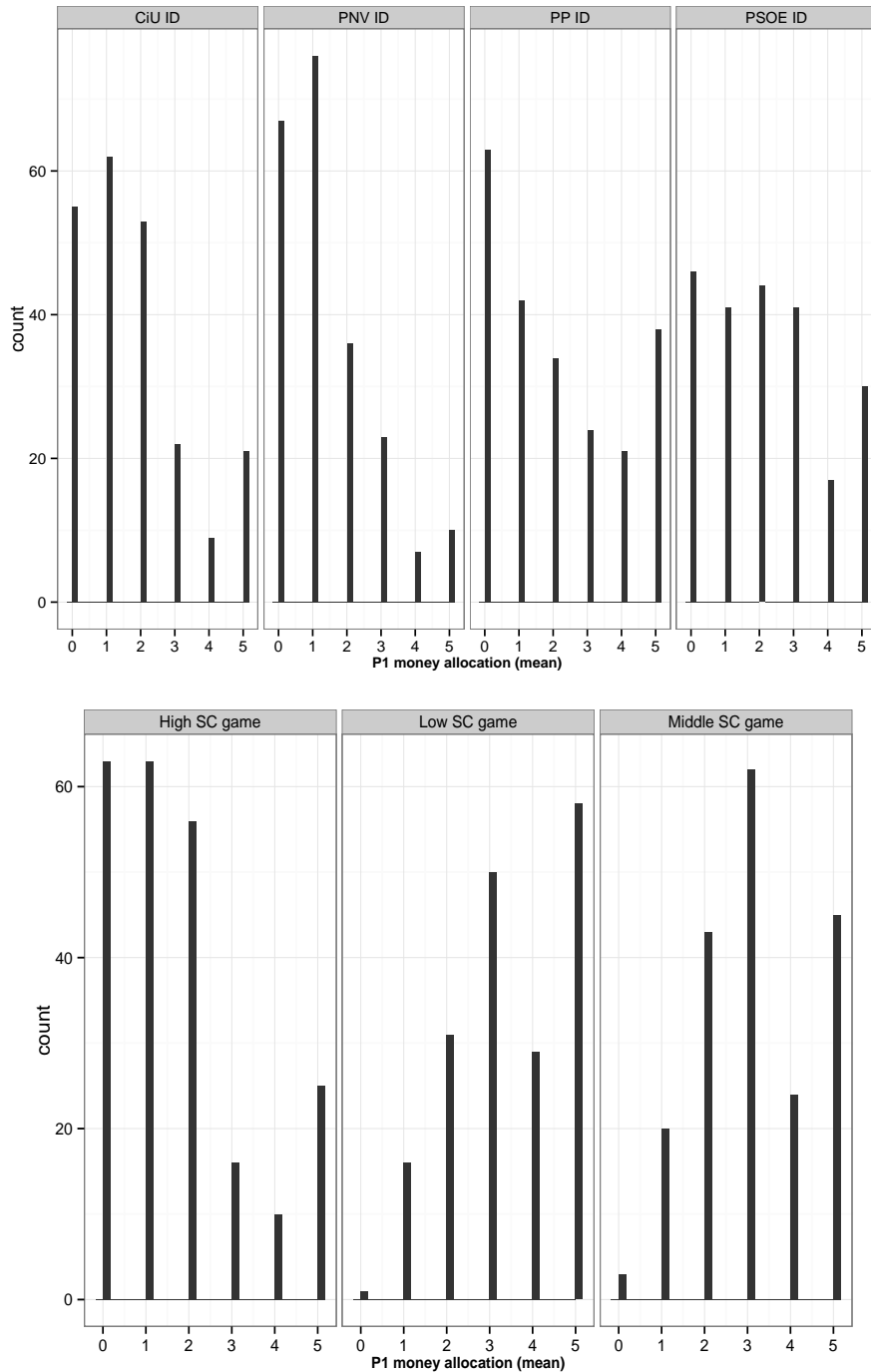
Player 4 is Basque.

Player 4 elected to give you  $X$  NetQuest points. We tripled this amount so that you will receive  $X*3$ . Once you understand this game and are ready to make a decision, please select the amount from the options below that you want to return (if any) from the total you received from Player 4 and advance to the next game.

[\*\*\*]

*Distributions of player 1s' decisions in different games*

Figure A3a.1: Trust in different games in Spain (wave 1, party and social class games)



*Note:* PSOE= Spanish Socialist Party; PP= Popular Party; CiU= Convergence and Union; PNV= Basque Nationalist Party

Figure A3a.2: Trust in different games in Spain (wave 3, anonymous, regional and ideology games)

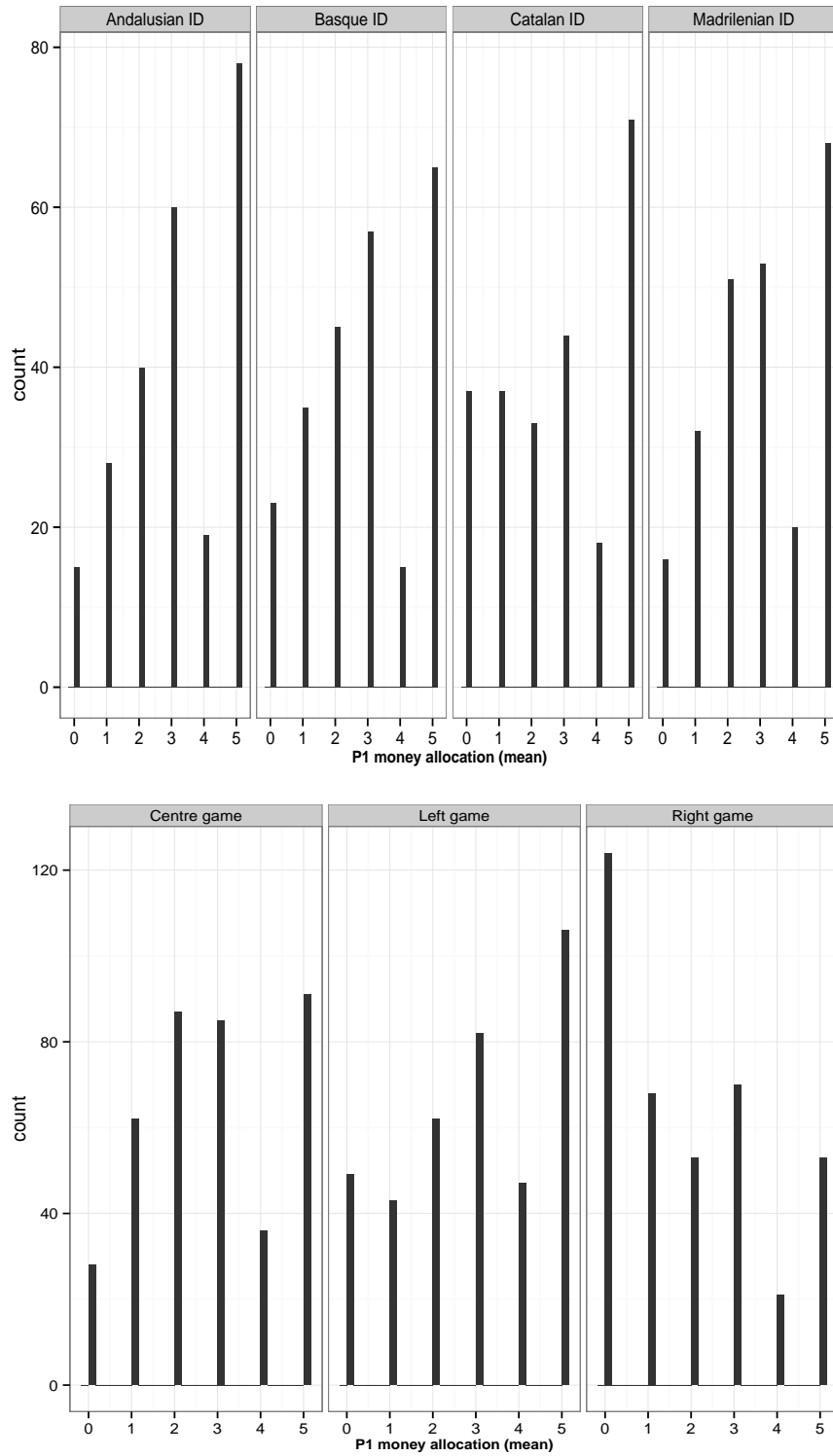
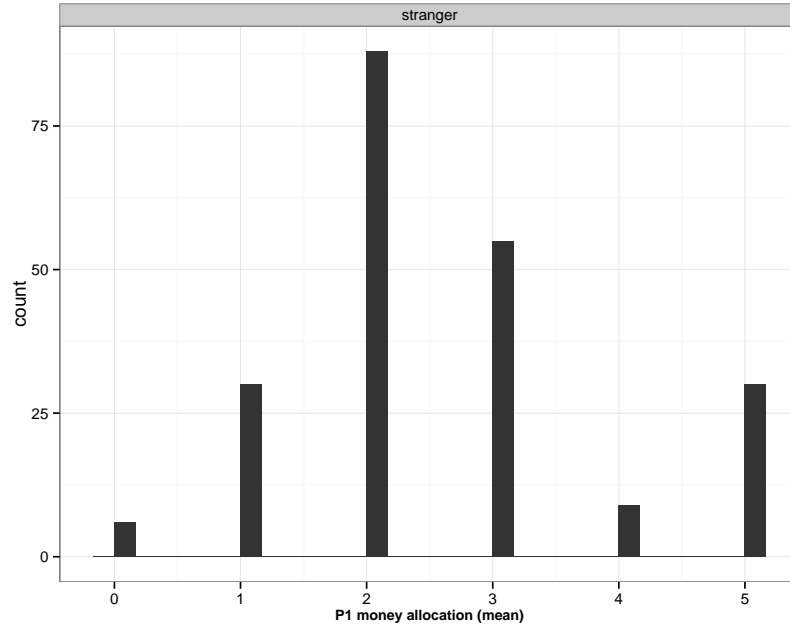


Figure A3a.3: Trust in the anonymous game in Spain

a) wave 1



b) wave 3

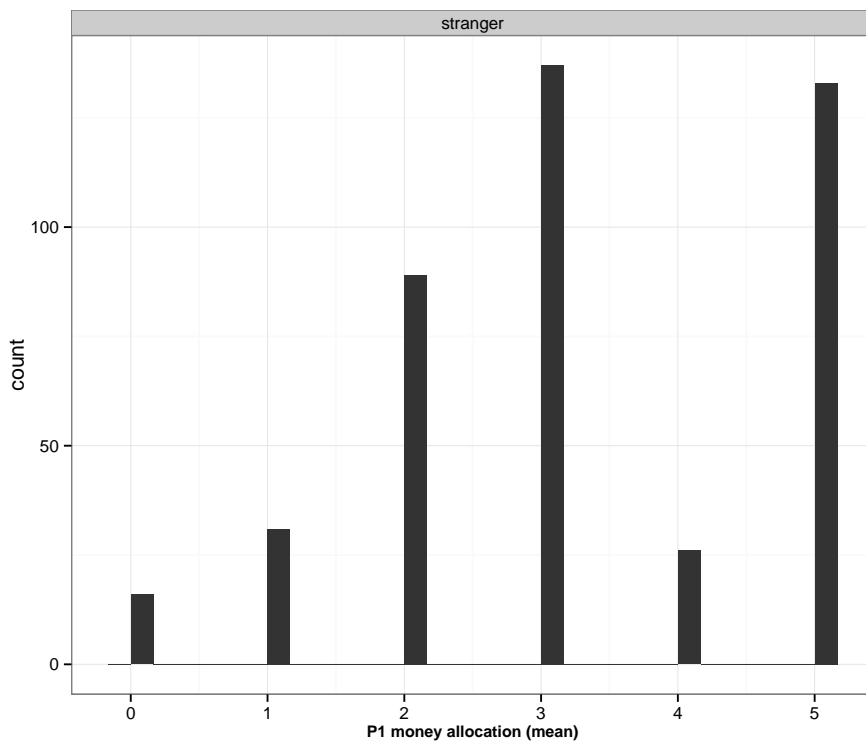
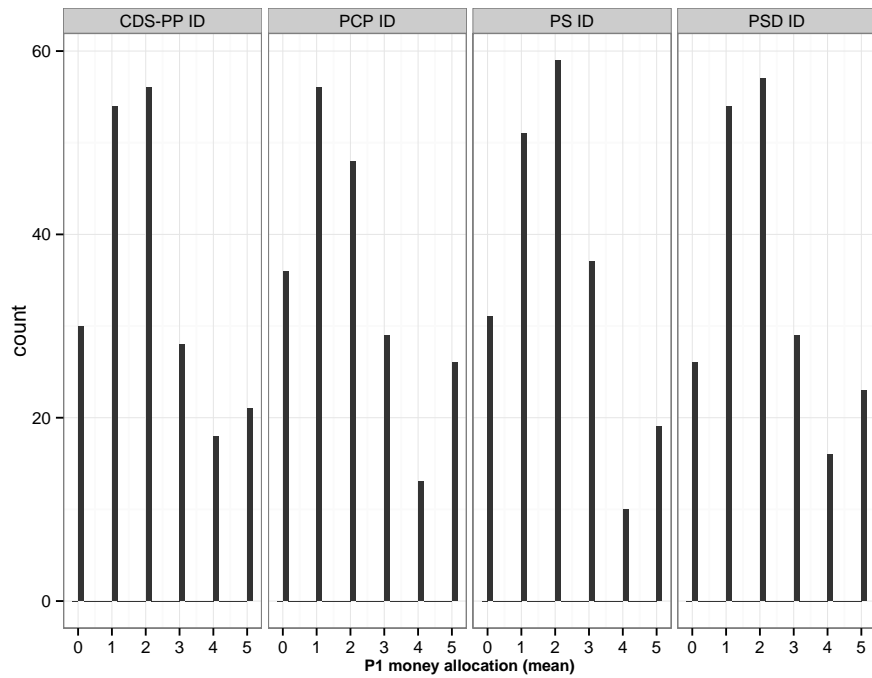
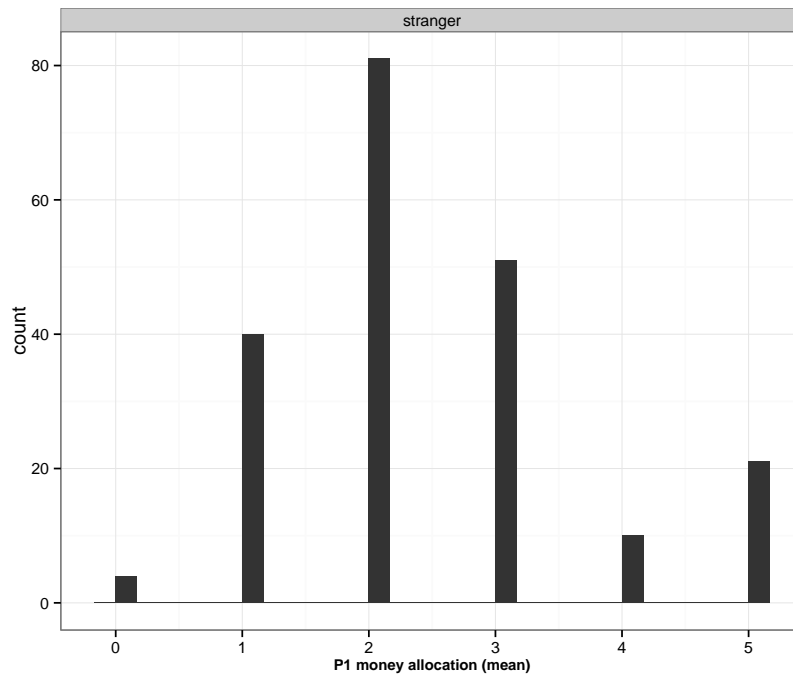


Figure A3a.4: Trust in different games in Portugal (wave 1 party games)



*Note:* PS=(Portuguese) Socialist Party; PSD=(Portuguese) Socialist Democratic Party; CDS-PP= Centre and Social-Democratic-Popular Party; PCP= Portuguese Communist Party.

Figure A3a.5: Trust in the anonymous game in Portugal



## **Section B: question wording and variable coding; sample characteristics.**

### *Question wording and variable coding*<sup>3</sup>

**Party identification:** : two questions: “Is there any particular political party you might feel closer to than all the other parties?” “yes/no”; “Which one?” (choice among a list of party labels). Recoded into two dummies for Spain: (1) PP; (0) other; (1) PSOE; (0) other. Recoded into two dummies for Portugal: (1) PS; (0) other; (1) PSD; (0) other.

**Regional identity:** “To what extent do you feel close to your Autonomous community?” (1) not at all close; (2) not very close; (3) fairly close; (4) very close. Recoded into: (1) ‘Basque/Catalan identity’ (2, 3, 4 categories crossed with respondent’s residence in Basque country and Catalonia), (0) ‘other’; (1) ‘Madrilenian identity’ (2, 3, 4 categories crossed with respondent’s residence in Madrid) and (0) ‘other’ (1) ‘Andalusian identity’ (2, 3, 4 categories crossed with respondent’s residence in Andalusia) and (0) ‘other’.

**Ideological identities:** “In politics, people sometimes talk about “left” and “right”. Where would you place yourself on this scale, where 1 means left and 10 means right?” Scale from 1 (Left) to 10 (Right). Recoded into: (1) ‘Left’ (1, 2, 3, 4), (0) ‘other’; (1) ‘Centre’ (5), (0) ‘other’; (1) ‘Right’ (6, 7, 8, 9, 10), (0) ‘other’.

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<sup>3</sup> The questions and response sets were taken from national and international surveys such as the ‘European Social Survey’ (ESS) and the Spanish ‘Centro de Investigaciones Sociológicas’ (CIS).

**Social class:**

**Table A3b.1: Social class scheme (NetQuest)**

Occupation	Education					
	No education	Primary	Lower secondary	Upper secondary	Tertiary (1)	Tertiary (2)
Farmer	E	E	D	C	C	C
Landowner	E	E	D	C	C	C
Entrepreneur (small company) agriculture sector	C	C	C	B	B	B
Entrepreneur (medium-sized company) agriculture sector	C	C	C	B	B	A
Entrepreneur/merchant (less than 5 employees)	C	C	B	B	A	A
Entrepreneur/merchant (no employees)	C	C	B	B	B	B
Entrepreneur/merchant (more than 5 employees)	B	B	A	A	A	A
Self-employed	C	C	B	B	A	A
Craftsman	D	D	C	C	C	C
Manager/Director of a public/private company (more than 25 employees)	B	B	A	A	A	A
Manager/Director of a public/private company (less than 25 employees)	C	C	B	B	A	A
Officer in company or public administration (high level)	C	B	B	B	A	A
Officer in company or public administration (middle level)	C	C	C	B	B	B
Foreman	D	D	C	C	B	B
Seller/dealer/businessperson	D	C	C	C	B	B
Office worker	C	C	C	C	B	B
Specialized worker/policeman	D	D	C	C	C	C
Worker/domestic worker	E	D	D	D	C	C
Subordinate employee	E	D	D	D	C	C

*Note:* A: High; B: Middle-high; C=Middle; D=Middle-low; E=Low

### *Sample characteristics*

To assess the importance of partisanship across the two countries and also the role of other potential conflicts, we designed a survey experiment implemented online. The survey was administered in Portugal in May 2012 to a quota sample of respondents between age 18 and 65 with a final 1005 respondents who completed both the experiment and the questionnaire. In Spain, the two studies were implemented in February-March 2012 and in May-June 2013 to respondents of the same age range and with final samples equal to 1275 and 886 respectively. The participants were rewarded with ‘NetQuest’ points, convertible into goods from the survey company. The quotas were designed to approach the actual composition of the Spanish population in terms of sex, age, and territorial areas. The survey focuses on treatment effects rather than descriptive inference. As can be seen from Tables B2 and B3, while our sample is somewhat skewed in that our respondents are slightly younger and more educated, we have adequate variation in both socio-demographic characteristics and in our main variable of interest, namely partisanship. In fact, both in Spain and Portugal we have statistics for people that feel close to one of the four parties which can be considered very similar to those provided by the European Social Survey (in Portugal, in some cases these are greater).

Table A3b.2: Characteristics of the sample in Spain

	NetQuest Panel (February-March 2012) (18-65)	NetQuest Panel (May-June 2013) (18-65)	ESS6 (2012) (18-65) <sup>a</sup>
Gender (% male)	50.27	51.99	49.57
Age (mean)	37.98	37.67	42.27
Education (%)			
Primary or no education	1.88	1.70	21.19
Secondary	60.47	59.82	55.10
Tertiary	37.65	38.46	23.71
Close to a party (%)			
PP	15.76	15.32	9.45
PSOE	15.29	15.44	12.37
CiU	3.53	2.61	1.59
PNV	0.71	0.79	0.71
N	1275	881	1494

<sup>a</sup>ESS data includes subjects only between 18 and 65 years of age to easy comparability. Data are weighted (“design weights” are used) and missing cases are excluded. For more information see [www.europeansocialsurvey.org](http://www.europeansocialsurvey.org).



Table A3b.3: Characteristics of the sample in Portugal

	NetQuest Panel (2012) (May 2012) (18-65)	ESS6 (2012) (18-65) <sup>a</sup>
Gender (% male)	50.45	60.62
Age (mean)	37.19	43.09
Education (%)		
Primary or no education	1.54	39.46
Secondary	31.41	49.15
Tertiary	67.04	11.39
Close to a party (%)		
PS	13.53	13.23
PSD	18.05	8.47
CDS-PP	7.46	1.20
PCP	4.78	2.5 <sup>b</sup>
N	1005	1507

*Note:* <sup>a</sup> ESS data includes subjects only between 18 and 65 years of age to easy comparability. Data are weighted (“design weights” are used) and missing cases are excluded. For more information see [www.europeansocialsurvey.org](http://www.europeansocialsurvey.org).

<sup>b</sup> The figure refers to the ‘Unitary Democratic Coalition’ (CDU) formed by PCP and ‘The Greens’.

**Section C: descriptive statistics and basic statistical tests of Player 1's trust allocations by political identities and treatments; tables for panel Tobit models with random effects.**

*Descriptive statistics and basic statistical tests of Player 1's trust allocations by political identities and treatments*

Table A3c.1: Mean trust allocations by different party identities and games in Portugal

Sender	Anonymous Recipient	PS Recipient	PSD Recipient	CDS-PP Recipient	PCP Recipient	N
PS	2.30 (1.10)	2.77 (1.44)	1.51 (1.27)	1.46 (1.48)	2.13 (1.47)	61
PSD	2.56 (1.20)	1.70 (1.25)	2.76 (1.46)	2.24 (1.34)	1.76 (1.50)	82
CDS-PP	2.35 (1.10)	1.65 (1.27)	2.13 (1.42)	2.90 (1.39)	1.70 (1.54)	40
PCP	2.10 (1.51)	1.62 (1.50)	1.48 (1.36)	1.48 (1.36)	3.14 (1.65)	21

*Note:* Standard deviation in parenthesis

Table A3c.2: Test of differences in mean trust allocations by different party identities and games in Portugal

Sender	Anonymous-PS		Anonymous-PSD		Anonymous-CDS-PP		Anonymous-PCP	
	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon
PS	-0.48* (0.16)	YES	0.79* (0.12)	YES	0.84* (0.16)	YES	0.16 (0.13)	NO
PSD	0.87* (0.14)	YES	-0.20 (0.12)	NO	0.32* (0.13)	YES	0.81* (0.15)	YES
CDS-PP	0.70* (0.15)	YES	0.23 (0.18)	NO	-0.55* (0.19)	YES	0.65* (0.22)	YES
PCP	0.48* (0.20)	YES	0.62* (0.22)	YES	0.62* (0.19)	YES	-1.05* (0.32)	YES

*Note:* Standard errors in parentheses; \*  $p < 0.05$  (the same criteria has been used for the Wilcoxon signed rank test)

Table A3c.3: Mean trust allocations by different political identities and games in Spain

*b) Party identities*

Sender	Anonymous Recipient	PSOE Recipient	PP Recipient	PNV Recipient	CiU Recipient	N
PSOE	2.45 (1.24)	3.15 (1.35)	1.01 (1.34)	1.29 (1.32)	1.59 (1.41)	99
PP	2.69 (1.27)	1.06 (1.24)	3.47 (1.38)	1.00 (1.05)	1.20 (1.18)	88
PNV	1.80 (1.10)	1.80 (1.30)	0.60 (0.89)	3.80 (1.10)	2.00 (1.22)	5
CiU	2.57 (1.31)	1.91 (1.56)	1.30 (1.58)	2.48 (1.44)	3.52 (1.47)	23

*Note:* Standard deviation in parenthesis

*b) Social class identities*

Sender	Anonymous Recipient	Low class Recipient	Middle class Recipient	High class Recipient	N
Low class	2.39 (1.22)	3.28 (1.40)	2.83 (1.34)	1.50 (1.20)	117/50/23/28
Middle class	2.57 (1.28)	3.61 (1.34)	3.10 (1.39)	1.49 (1.59)	205/54/101/47
High class	2.71 (1.26)	3.40 (1.31)	3.22 (1.27)	1.75 (1.62)	298/81/73/151

*Note:* Standard deviation in parenthesis

*b) Regional identities*

Sender	Anonymous Recipient	Basque Recipient	Catalan Recipient	Madrilenian Recipient	Andalusian Recipient	N
Basque	3.27 (1.74)	3.91 (1.70)	3.46 (2.12)	2.82 (1.94)	3.27 (1.85)	11
Catalan	2.91 (1.39)	3.05 (1.55)	3.42 (1.57)	2.51 (1.61)	2.73 (1.63)	84
Madrilenian	3.45 (1.37)	2.92 (1.70)	2.64 (1.81)	3.55 (1.46)	3.16 (1.59)	86
Andalusian	3.10 (1.41)	2.22 (1.59)	1.86 (1.78)	2.82 (1.51)	3.68 (1.38)	59

*Note:* Standard deviation in parenthesis

*d) Ideological identity*

Sender	Anonymous Recipient	Left Recipient	Centre Recipient	Right Recipient	N
Left	3.35 (1.33)	3.56 (1.41)	1.30 (1.56)	2.68 (1.51)	205
Centre	3.15 (1.69)	2.46 (1.71)	3.00 (1.79)	2.25 (1.80)	74
Right	2.95 (1.53)	2.00 (1.74)	2.89 (1.56)	2.72 (1.65)	110

*Note:* Standard deviation in parenthesis

Table A3c.4: Test of differences in mean trust allocations by different political identities and games in Spain

*b) Party identities*

Sender	Anonymous-PSOE		Anonymous-PP		Anonymous-PNV		Anonymous-CiU	
	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon
PP	1.64* (0.16)	YES	-0.77* (0.18)	YES	1.69* (0.16)	YES	1.49* (0.16)	YES
PSOE	-0.70* (0.14)	YES	1.44* (0.15)	YES	1.16* (0.11)	YES	0.87* (0.13)	YES
PNV	0.00 (0.55)	NO	1.20 (0.58)	NO	-2.00* (0.63)	NO	-0.20 (0.97)	NO
CiU	0.65* (0.20)	YES	1.26* (0.21)	YES	0.09 (0.14)	NO	-0.96* (0.26)	YES

*Note:* Standard errors in parentheses; \*  $p < 0.05$  (the same criteria has been used for the Wilcoxon signed rank test)

*b) Social class identities*

Sender	Anonymous-Low class		Anonymous-Middle class		Anonymous-High class	
	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon
Low class	-0.92* (0.20)	YES	-0.39 (0.280)	NO	0.82* (0.23)	YES
Middle class	-0.96* (0.20)	YES	-0.44* (0.12)	YES	1.09* (0.18)	YES
High class	-0.65* (0.13)	YES	-0.70* (0.14)	YES	0.98* (0.12)	YES

*Note:* Standard errors in parentheses; \*  $p < 0.05$  (the same criteria has been used for the Wilcoxon signed rank test)

*b) Regional identities*

Sender	Anonymous-Basque		Anonymous-Catalan		Anonymous-Madrilenian		Anonymous-Andalusian	
	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon
Basque	-0.64 (0.45)	NO	-0.18 (0.46)	NO	0.46 (0.43)	NO	0.00 (0.38)	NO
Catalan	-0.14 (0.11)	NO	0.51* (0.14)	YES	0.39* (0.13)	YES	0.18 (0.13)	NO
Madrilenian	0.53* (0.13)	YES	0.81* (0.15)	YES	-0.09 (0.12)	NO	0.29 (0.09)	NO
Andalusian	0.88* (0.18)	YES	1.24* (0.22)	YES	0.29* (0.14)	NO	-0.58* (0.16)	YES

*Note:* Standard errors in parentheses; \*  $p < 0.05$  (the same criteria has been used for the Wilcoxon signed rank test)

d) Ideological identity

Sender	Anonymous-Left		Anonymous-Centre		Anonymous-Right	
	t-test	Wilcoxon	t-test	Wilcoxon	t-test	Wilcoxon
Left	-0.21* (0.09)	YES	0.66* (0.09)	YES	2.04* (0.11)	YES
Centre	0.69* (0.19)	YES	0.15 (0.16)	NO	0.89* (0.19)	YES
Right	0.95* (0.14)	YES	0.05 (0.12)	NO	0.23 (0.15)	NO

Note: Standard errors in parentheses; \* p<0.05 (the same criteria has been used for the Wilcoxon signed rank test)

Tables for panel Tobit models with random effects for the partisanship treatment

Table A3c.5: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and (co- and rival) partisan games

	Portugal	Spain
<i>Type of game (ref: stranger)</i>		
Same party id	0.524*** (0.117)	0.829*** (0.134)
Different party id	-0.776*** (0.096)	-1.762*** (0.118)
Constant	2.467*** (0.123)	2.650*** (0.122)
Sigma (u)	1.304*** (0.081)	1.138*** (0.085)
Sigma (e)	1.147*** (0.033)	1.343*** (0.047)
Occasions	1,020	860
Number of id	204	215
Chi2 (Wald)	202.2***	520.7***

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.6: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the co- and rival partisan games, changes in the expected value of the censored outcome in Portugal and Spain (reference: baseline trust in strangers)

	Portugal	Spain
Same party	0.443*** (0.099)	0.680*** (0.109)
Different party	-0.666*** (0.081)	-1.399*** (0.094)

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.7: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and partisan games by party identities in Portugal

	<i>b</i>	<i>SE</i>
<i>Party identities (ref: PS ID)</i>		
PSD ID	0.276	(0.292)
CDS-PP ID	0.065	(0.352)
PCP ID	-0.272	(0.444)
<i>Experimental treatment (ref: stranger)</i>		
PS treatment	0.536***	(0.206)
PSD treatment	-0.995***	(0.208)
CDS-PP treatment	-1.107***	(0.209)
PCP treatment	-0.253	(0.206)
<i>Interactions (Party identity*Experimental treatment)</i>		
PSD*PS	-1.600***	(0.272)
PSD*PSD	1.241***	(0.273)
PSD*CDS-PP	0.729***	(0.273)
PSD*PCP	-0.745***	(0.272)
CDS-PP*PS	-1.404***	(0.327)
CDS-PP*PSD	0.705**	(0.327)
CDS-PP*CDS-PP	1.767***	(0.329)
CDS-PP*PCP	-0.557*	(0.328)
PCP*PS	-1.236***	(0.421)
PCP*PSD	0.090	(0.422)
PCP*CDS-PP	0.231	(0.422)
PCP*PCP	1.605***	(0.420)
Constant	2.369***	(0.222)
Sigma (u)	1.309***	(0.081)
Sigma (e)	1.104***	(0.032)
Observations	1,020	
Number of id	204	
Chi2 (Wald)	270.2***	

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.8: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the anonymous and partisan games by party identities, changes in the expected value of the censored outcome in Portugal (reference: baseline trust in strangers)

Game	Player 1	
PS ID	PS ID	0.457*** (0.175)
	PSD ID	-0.893*** (0.147)
	CDS-PP ID	-0.724*** (0.211)
	PCP ID	-0.570* (0.298)
PSD ID	PS ID	-0.819*** (0.169)
	PSD ID	0.210 (0.150)
	CDS-PP ID	-0.247 (0.215)
	PCP ID	-0.726** (0.293)
CDS-PP ID	PS ID	-0.905*** (0.169)
	PSD ID	-0.324** (0.150)
	CDS-PP ID	0.559*** (0.214)
	PCP ID	-0.705** (0.293)
PCP ID	PS ID	-0.215 (0.175)
	PSD ID	-0.840*** (0.148)
	CDS-PP ID	-0.678*** (0.212)
	PCP ID	1.136*** (0.301)

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.9: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and partisan games by party identities in Spain

	<i>b</i>	<i>SE</i>
<i>Party identities (ref: PP ID)</i>		
PSOE ID	-0.256	(0.258)
PNV/CiU ID	-0.314	(0.384)
<i>Experimental treatment (ref: stranger)</i>		
PSOE treatment	-2.165**	(0.210)
PP treatment	0.936**	(0.204)
PNV/CiU treatment	-1.965**	(0.206)
<i>Interactions (Party identity*Experimental treatment)</i>		
PSOE*PSOE	2.972**	(0.284)
PSOE*PP	-2.962**	(0.286)
PSOE*PNV/CiU	0.704*	(0.281)
PNV/CiU*PSOE	1.441**	(0.420)
PNV/CiU*PP	-2.698**	(0.429)
PNV/CiU*PNV/CiU	2.544**	(0.415)
Constant	2.806**	(0.188)
Sigma (u)	1.144**	(0.084)
Sigma (e)	1.305**	(0.046)
Observations	860	
Number of id	215	
Chi2 (Wald)	573.0	

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.10: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the anonymous and partisan games by party identities, changes in the expected value of the censored outcome in Spain (reference: baseline trust in strangers)

Game	Player 1	
PSOE ID	PSOE ID	0.672*** (0.159)
	PP ID	-1.703*** (0.158)
	PNV/CiU ID	-0.607** (0.303)
PP ID	PSOE ID	-1.560*** (0.149)
	PP ID	0.754*** (0.163)
	PNV/CiU ID	-1.380*** (0.286)
PNV/CiU ID	PSOE ID	-1.033*** (0.155)
	PP ID	-1.572*** (0.159)
	PNV/CiU ID	0.488 (0.303)

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



*Robustness checks: a minimal group test and analysis on the full sample.*

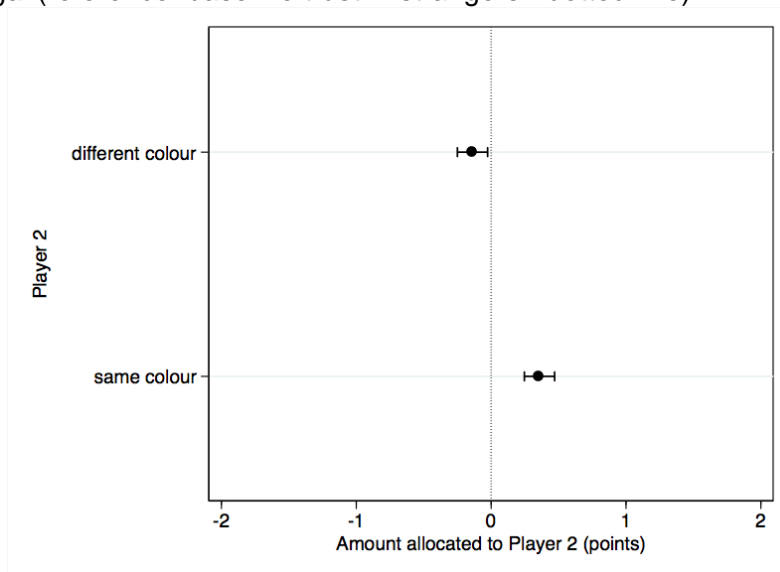
A wide range of psychological studies has demonstrated that it can be easy to induce group-based discrimination by providing any piece of information to be used as a reference point (Tajfel 1970; Tajfel et al. 1971). Thus, to check for the robustness of our results, in both countries, a subset of subjects played an additional set of games involving a minimal group treatment. Specifically, we exposed these respondents to a minimal group treatment in which they were told they were assigned to one of two groups, green and blue, and that the other player belonged to the same or to a different one. The ‘colour’ treatment created trust discrimination (0.5 in both countries;  $p < 0.001$ ) as expected by theory. Nonetheless, the differences between the two colour teams are much smaller than those observed for partisanship, suggesting that party labels convey additional information.

Table A3c. 11: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and partisan games by minimal group games in Portugal and Spain

	Portugal	Spain
<i>Type of game (ref: stranger)</i>		
Same colour	0.400*** (0.064)	0.379*** (0.088)
Different colour	-0.154** (0.064)	-0.285*** (0.087)
Constant	2.448*** (0.071)	2.661*** (0.097)
Sigma (u)	1.192*** (0.052)	1.298*** (0.072)
Sigma (e)	0.953*** (0.024)	1.055*** (0.034)
Observations	1,405	929
Number of id	469	311
Chi2 (Wald)	79.62***	57.20***

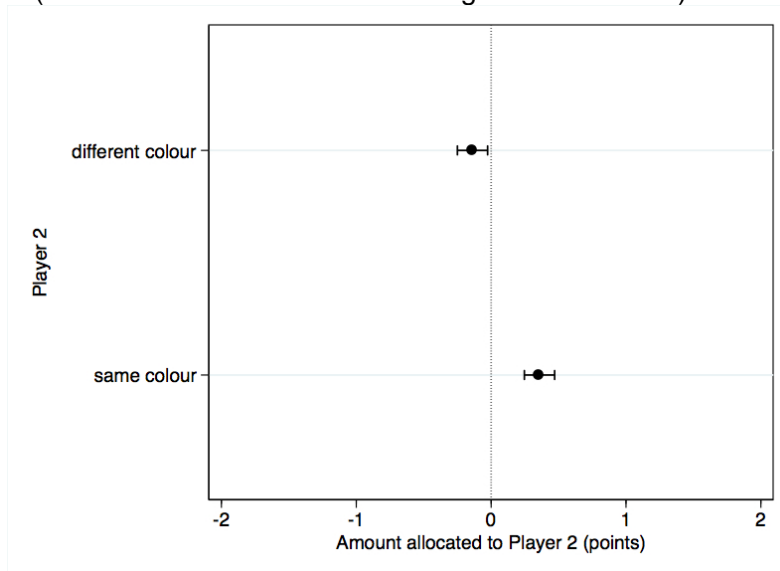
*Note:* Standard errors in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Figure A3c.1: Trust and the average effect of minimal group treatment in Portugal (reference: baseline trust in strangers - dotted line)



*Note:* The dots are the average marginal effects of the double-censored panel Tobit regression with random effects in the anonymous and the minimal group games ('Same colour' vs. 'Different colour'). The bars are 95% confidence intervals.

Figure A3c.2: Trust and the average effect of the minimal group treatment in Spain (reference: baseline trust in strangers - dotted line)

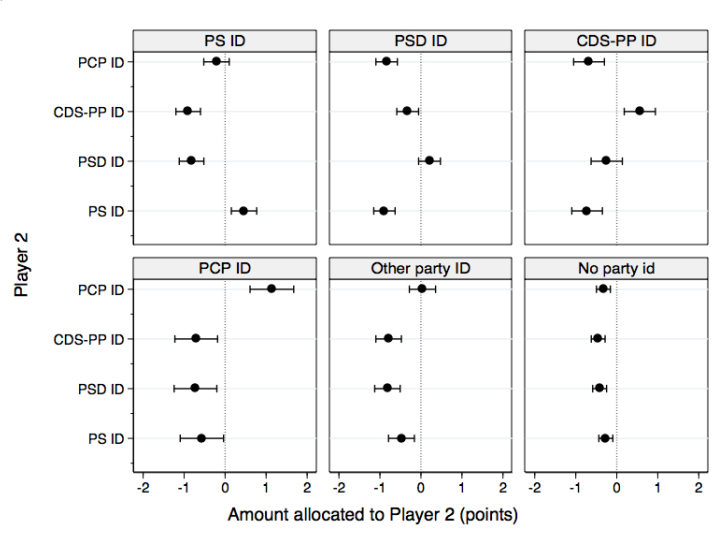


*Note:* The dots are the average marginal effects of the double-censored panel Tobit regression with random effects in the anonymous and the minimal group games ('Same colour' vs. 'Different colour'). The bars are 95% confidence intervals.

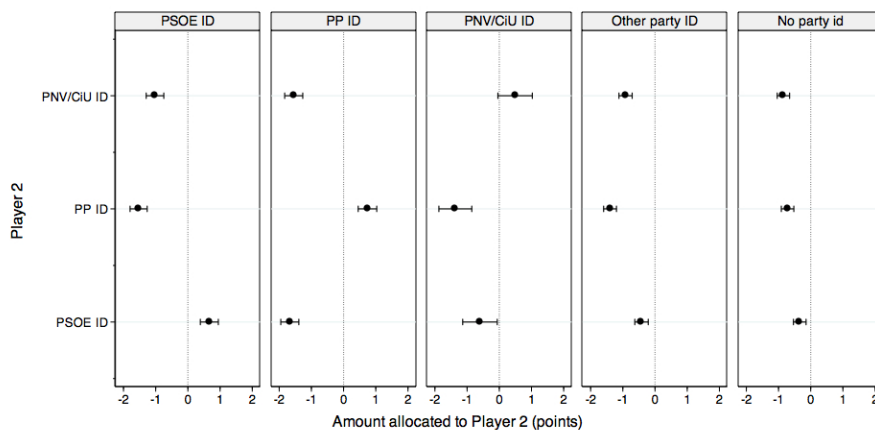
To check for the robustness of our results we have also run analyses on the full sample. As it can be seen from Figure A3c.3 results are not substantially different. Moreover, as in previous research, non-partisans give more to anonymous subjects than to other partisan targets, being the latter more an “outgroup” for anonymous subjects than the former (Fowler and Kam, 2007: 820).

Figure A3c.3: Trust allocations by party identities in Portugal and Spain (full sample) (reference: baseline trust in strangers - dotted line)

a) Portugal



b) Spain



*Note:* The dots are the average marginal effect estimations for the panel tobit models with random effects on the observed outcome in the anonymous and partisan games (Portugal: N=466, Occasions= 2330; PS= Socialist Party; PSD= Social-Democratic Party; CDS-PP= Centre and Social-Democratic-Popular Party; PCP= Portuguese Communist Party; Spain: N=610; Occasions= 2440; PSOE= Spanish Socialist Party; PP= Popular Party; CiU= Convergence and Union; PNV= Basque Nationalist Party). The bars are 95% confidence intervals.

*Tables for panel Tobit models with random effects for the ideology, regional identity, and social class treatment.*

Table A3c.12: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and (co- and rival) ideology games

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<i>Type of game (ref: stranger)</i>	
Same ideology	-0.009 (0.133)
Different ideology	-1.529*** (0.116)
Constant	3.685*** (0.135)
Sigma(u)	1.867*** (0.097)
Sigma(e)	1.699*** (0.047)

---

Observations	1,556
Number of id	389
Chi2(Wald)	259.0***

---

*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c. 13: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the co- and rival ideology games: changes in the expected value of the censored outcome in Spain (reference: baseline trust in strangers)

---

Same ideology	-0.006 (0.083)
Different ideology	-1.015*** (0.075)

---

*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.14: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and ideology games by ideologies in Spain

	<i>b</i>	<i>SE</i>
<i>Ideology (ref: Left ID)</i>		
Centre ID	-0.109	(0.345)
Right ID	-0.541*	(0.296)
<i>Experimental treatment (ref: stranger)</i>		
Left ID	0.306*	(0.160)
Centre ID	-0.912***	(0.157)
Right ID	-3.051***	(0.166)
<i>Interactions (ideology*Experimental treatment)</i>		
Centre*Left	-1.442***	(0.316)
Centre*Centre	0.612*	(0.316)
Centre*Right	1.612***	(0.319)
Right*Left	-1.755***	(0.271)
Right*Centre	0.813***	(0.267)
Right*Right	2.681***	(0.272)
Constant	3.828***	(0.176)
Sigma(u)	1.903***	(0.095)
Sigma(e)	1.481***	(0.041)
Observations		1,556
Number of id		389
Chi2(Wald)		564.7***

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.15: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the anonymous and ideology games by ideologies, changes in the expected value of the censored outcome in Spain (reference: baseline trust in strangers)

Game	Player 1	
Left ID	Left ID	0.188* (0.099)
	Centre ID	-0.771*** (0.183)
	Right ID	-1.004*** (0.149)
Centre ID	Left ID	-0.608*** (0.105)
	Centre ID	-0.197 (0.179)
	Right ID	-0.067 (0.147)
Right ID	Left ID	-2.037*** (0.104)
	Centre ID	-0.983*** (0.184)
	Right ID	-0.253* (0.148)

*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.16: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and (co- and rival) regional games

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<i>Type of game (ref: stranger)</i>	
Same regional id	0.445*** (0.118)
Different regional id	-0.629*** (0.101)
Constant	3.661*** (0.164)
Sigma (u)	2.122*** (0.131)
Sigma (e)	1.143*** (0.038)

---

Observations	960
Number of id	240
Chi2 (Wald)	118.8***

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*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.17: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the co- and rival regional games, changes in the expected value of the censored outcome in Spain (reference: baseline trust in strangers)

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Same regional id	0.278*** (0.074)
Different regional id	-0.422*** (0.068)

---

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.18: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and regional games by regional identities in Spain

	<i>b</i>	<i>SE</i>
<i>Regional identity (ref: Basque/Catalan ID)</i>		
Madrilenian ID	0.855**	(0.371)
Andalusian ID	0.115	(0.405)
<i>Experimental treatment (ref: stranger)</i>		
Basque/Catalan treatment	0.455***	(0.175)
Madrilenian treatment	-0.556***	(0.174)
Andalusian treatment	-0.212	(0.175)
<i>Interactions (Regional ID*Experimental treatment)</i>		
Madrilenian*Basque/Catalan	-1.448***	(0.260)
Madrilenian*Madrilenian	0.703***	(0.262)
Madrilenian*Andalusian	-0.229	(0.261)
Andalusian*Basque/Catalan	-1.839***	(0.279)
Andalusian*Madrilenian	0.180	(0.279)
Andalusian*Andalusian	1.031***	(0.285)
Constant	3.326***	(0.252)
Sigma(u)	2.103***	(0.129)
Sigma(e)	1.094***	(0.036)
Observations	960	
Number of id	240	
Chi2(Wald)	181.1***	

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



Table A3c.19: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the anonymous and regional games by regional identities, changes in the expected value of the censored outcome in Spain (reference: baseline trust in strangers)

Game	Player 1	
Basque/Catalan ID	Basque/Catalan ID	0.301*** (0.116)
	Madrikenian ID	-0.644*** (0.126)
	Andalusian ID	-0.968*** (0.151)
Madrikenian ID	Basque/Catalan ID	-0.387*** (0.121)
	Madrikenian ID	0.086 (0.115)
	Andalusian ID	-0.257* (0.149)
Andalusian ID	Basque/Catalan ID	-0.145 (0.120)
	Madrikenian ID	-0.274** (0.121)
	Andalusian ID	0.518*** (0.144)

*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.20: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and (co- and rival) social class games

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<i>Type of game (ref: stranger)</i>	
Same social class	-0.235** (0.114)
Different social class	0.357*** (0.115)
Constant	2.724*** (0.076)
Sigma (u)	1.088*** (0.072)
Sigma (e)	1.501*** (0.047)

---

Observations	1,235
Number of id	627
Chi2(Wald)	22.31***

---

*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.21: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the co- and rival social class games, changes in the expected value of the censored outcome in Spain (reference: baseline trust in strangers)

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Same social class	-0.193** (0.094)
Different social class	0.290*** (0.093)

---

*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.22: Double-censored panel Tobit model with random effects, DV: amount sent by player 1 in the anonymous and social class games by social class identities in Spain

	<i>b</i>	<i>SE</i>
<i>Social class (ref: Middle ID)</i>		
Low social class ID	-0.262	(0.201)
High social class	0.173	(0.158)
<i>Experimental treatment (ref: stranger)</i>		
Low social class ID	1.335***	(0.223)
Middle social class ID	0.596***	(0.167)
High social class ID	-1.434***	(0.234)
<i>Interaction (Social class*Experimental treatment)</i>		
Low social class*Low social class	-0.224	(0.323)
Low social class*Middle social class	-0.141	(0.360)
Low social class*High social class	0.429	(0.378)
High social class*Low social class	-0.502*	(0.285)
High social class*Middle social class	0.137	(0.250)
High social class*High social class	0.223	(0.270)
Constant	2.685***	(0.122)
Sigma(u)	1.199***	(0.064)
Sigma(e)	1.225***	(0.040)
Observations	1,235	
Number of id	627	
Chi2(Wald)	333.6***	

Note: Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table A3c.23: Average marginal effects of double-censored panel Tobit regression with random effects, DV: amount sent by player 1 in the anonymous and social class games by social class, changes in the expected value of the censored outcome in Spain (reference: baseline trust in strangers).

Game	Player 1	
Low-class ID	Low-class ID	0.925** (0.188)
	Middle-class ID	1.064** (0.164)
	High class ID	0.676** (0.138)
Middle-class ID	Low-class ID	0.387 (0.270)
	Middle class ID	0.499** (0.138)
	High class ID	0.598** (0.146)
High-class ID	Low-class ID	-0.831** (0.234)
	Middle class ID	-1.183** (0.180)
	High class ID	-1.021** (0.111)

*Note:* Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Appendix A4: Chapter 4

### Question wording, variables coding and operationalization<sup>35</sup>

**Gender:** (1) female; (0) male.

**Age:** age of respondent between 18 and 65.

**Education:** “What is the highest level of education you have successfully completed?” (1) Lower than primary; (2) Primary education (until 12 years of age); (3) First Lower secondary (until 12 years of age); (4) Second Lower secondary; (5) Upper secondary; (6) Tertiary education.

**Participation in protest:** “There are different ways of trying to improve things in [country] or help prevent things from going wrong. During the last 12 months, have you done any of the following?” (Political rally, lawful demonstration or protest; Signed a petition): (0); (1-2); (3-4); (5 or more).

**Behavioral trust in strangers:** points sent in the trust-game by Player 1.

**Social networks:** An additive index has been created from a battery of five questions. “Are you a member of...?": Any party, trade union, voluntary organization, religious organization; other professional organizations: (1) Yes; (0) no.

**Party identification:** two questions: “Is there any particular political party you might feel closer to than all the other parties?” “yes/no”; “Which one?” (choice among a list of party labels). Recoded into a dummy for Opposition parties: (1) PSOE, IU-ICV plus other minor parties (CiU; ERC; PNV; BNG; CC-PNC; UPyD; Amaiur; Anova, CHA; CUP etc.); (0) other.

**Dissatisfaction with government performance index:** It has been created an additive index by using the following questions after have rescaled each single indicator from 0 to 1. (A) “To what extent do you attribute the responsibility for the current economic situation to the PP government?": (1) Very much responsible; (2) Quite; (3) A Little; (4) Not at all responsible. (B) “Thinking about the current PP government, to what extent are you satisfied with the way it is doing its job?": 10-point scale:

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<sup>35</sup> The questions and response sets were taken from national and international surveys such as the ‘European Social Survey’ (ESS) and the Spanish ‘*Centro de Investigaciones Sociológicas*’ (CIS).

(1) Extremely unsatisfied; (10) Extremely satisfied. (C-D) “Agreement with the following two statements: “The government will be able to reactivate the economy during its mandate...”; “The government has been doing the structural reforms in order to speed up the economic crisis...” (1) Totally agree; (2) Agree; (3) Neither agree nor disagree; (4) Disagree; (5) Totally disagree; (E) “Which one of the two following statements represents best your opinion?”: (1) The policies of the actual government are the only alternative in order to get out of the economic crisis; (2) The policies of the government will only contribute to worsen the crisis even more.

**Internal political efficacy:** “Do you agree with the following statement: Sometimes politics and government seem so complicated that a person like me can't really understand what's going on”: (1) yes; (0) no.

**Economic shocks:** “Which of the following events have happened to you or to another person in your household?” (Lose job; Salary freeze; Salary cut. The last two have been merged in a unique measure of income loss): (1) yes; (0) no.

## Characteristics of the sample

Table A4.1: Characteristics of the sample

	NetQuest Panel (2012-2013) (18-65) Sub-sample	ESS6 <sup>a</sup> (2012) (18-65)
Age (mean)	38.19	42.27
Gender (% man)	52.99	49.57
Education		
Primary or no education	2.14	21.19
Secondary	57.91	55.10
Tertiary	39.96	23.71
Income		
Low (< 3rd decile)	39.32	32.10
Middle (4th- 6th decile)	43.16	23.40
High (above 7th decile)	25.43	26.60
N	468	1496

Note: <sup>a</sup> ESS data are weighted (design weights are used; for more information see: [www.europeansocialsurvey.org](http://www.europeansocialsurvey.org)). The income variable has been reported without excluding the missing cases.

## Descriptive statistics

Table A4.2: Percentage of people signing a petition

% respondents at time (t-1)	% respondents at time (t-1)				
	0	1	2	3	Total
0	59.38	25.00	7.29	8.33	100.00
1	24.64	50.72	15.94	8.70	100.00
2	15.52	25.86	29.31	29.31	100.00
3	6.25	10.00	18.75	65.00	100.00
Total	34.62	30.13	14.53	20.73	100.00

Table A4.3: Percentage of people joining a demonstration

% respondents at time (t-1)	% respondents at time (t-1)				
	0	1	2	3	Total
0	75.69	17.36	3.82	3.12	100.00
1	36.73	42.86	17.35	3.06	100.00
2	38.46	20.51	25.64	15.38	100.00
3	4.65	9.30	27.91	58.14	100.00
Total	57.91	22.22	10.68	9.19	100.00

Figure A4.1: Distribution of protest events: petitioning and joining a demonstration in Spain (2012-2013)

