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International migration and tourism: determinants of generalized trust in developing countries?

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Abstract.

Trust as key component of social capital has become a main topic throughout the social sciences. The paper examines what causes cross-country differences in generalized trust in 81 developing countries. We suggest that human mobility has an effect on generalized trust both through short-term and long-term relations, which are measured through international tourism and international migration, respectively. This hypothesis is tested in this paper considering other determinants of trust that have been studied in previous literature. Moreover, this is the first paper as far as we know that includes international tourism as a potential determinant of trust. The outcomes suggest that only some factors can be considered significant. Population density shows to increase trust while income inequality and linguistic diversity reduce trust. International migration has a positive impact on generalized trust whereas the effect of international tourism is not significant.

Key words: determinants, generalized trust, migration, tourism

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I. Introduction

During the last decades much literature has tried to deal with the concept of social capital, which revived interest due to Putnam (1993) and Fukuyama's (1995) studies, among others. Along all the literature we can find many definitions of social capital. Overall, everyone agrees on its function of producing collective action (Welzel et al., 2005). In brief, it can be considered as the connections between individuals that can arise from social networks or informal values and norms (Fukuyama, 1995; Putnam, 2000).

In this paper we are going to focus on one of the components of social capital, the one considered as its core (Fukuyama, 1995; Putnam, 1993; Uslaner, 2002; Freitag and Bühlman, 2009), which is trust. Trust has shown to have a positive relation with economic growth (Knack and Keefer, 1997; Zak and Knack, 2001; Uslaner, 2002; Delhey and Newton, 2003; Cardenas and Carpenter, 2008; Horváth, 2013), and it has been demonstrated that it contributes to flexibility in economic transactions (Williamson, 1973; Portes and Sensenbrenner, 1993), provision of public goods (Delhey and Newton, 2003), social integration (Coleman, 1988; Putnam, 1993; Fukuyama, 1995; Delhey and Newton, 2003), cooperation (Delhey and Newton, 2003) and democratic stability (Coleman, 1988; Ostrom, 1990; Putnam, 1993; Fukuyama, 1995; Delhey and Newton, 2003). Moreover, trust can be an explanation for differences across countries regarding institutional quality (La Porta et al., 1997; Rice and Sumberg, 1997; Knack, 2002) or subjective life satisfaction (Uslaner, 2002; Bjørnskov, 2006). Conclusively, trust has become a relevant factor to look into.

Given the explanatory power of trust, it is important to understand the determinants of trust. Several of these determinants have already been demonstrated to be significant, namely: age (Alesina and La Ferrara, 2000; Putnam, 2000; Freitag and Traunmüller, 2009), religion (La Porta et al. 1997; Zak and Knack, 2001; Uslaner, 2002; Olson and Li, 2016), GDP per capita (Knack and Keefer, 1997; Zak and Knack, 2001; Delhey and Newton, 2005; Bjørnskov, 2007; Algan et al., 2010; Olivera, 2014) or income inequality (Knack and Keefer, 1997; Zak and Knack, 2001; Uslaner, 2002; Uslaner and Brown, 2005; Leigh, 2006). Apart from these determinants, there have been many other factors contemplated as possible determinants of trust such as education (Knack and Keefer, 1997; Knack and Zak, 2002; Alesina and La Ferrara, 2000; Marschall and Stolle, 2004; Leigh, 2006; Freitag and Traunmüller, 2009), voluntary association membership

(Putnam, 1995; Brehm and Rahn, 1997; Whiteley, 1999; Paxton, 2007; Delhey and Newton, 2005; Park and Subramanian, 2012) or ethnic diversity (Alesina and La Ferrara, 2004; Bahry et al., 2005; Leigh, 2006; Hoogje et al., 2009; Mendolia et al., 2016). Together with others, all these factors have been studied extensively for years and have led to diverse outcomes in different studies, which ended in ambiguous ideas with regards to each factor's effect.

Considering the mentioned factors and with the intention of understanding what causes cross-country differences in trust we can find the research question of this paper to be **“How do long-term relations (migration) and short-term relations (tourism) affect generalized trust?”**. While we try to answer this question we will get an insight of a factor that has not been studied yet: tourism. This factor can be a potential determinant of trust relying on the idea that globalization englobes the expansion of information and foreign people (Dreher, 2003) and that through favoring human mobility, short-term relations (measured by tourism) between individuals may affect generalized trust.

In order to study the causes of the country differences in generalized trust, a cross-country analysis will be performed for a group of 81 developing countries. Moreover, to carry out this investigation, data from the World Values Survey, the Afrobarometer and the Latinbarometer will be employed to build up the information regarding generalized trust and diverse databases will be used to gather data for the other variables that complete our analysis for the determinants of this trust.

To conclude, the paper is structured as follows. In Section II we can find the theoretical framework where trust, the types of trust and the radius of trust are defined. In addition, in this Section there is a review of the literature regarding the determinants of trust, both at the individual and at the country-level. Subsequently, Section III includes the description of the data and the methodology used in the analysis run in this paper. The results of this analysis can be found in Section IV. Finally, Section V includes a discussion about some important points to be considered in this paper while Section VI concludes this research.

II. Theoretical framework

II. A. The concept of trust

Many theorists such as Locke, Tocqueville, J. S. Mill and Putnam have emphasized the importance of trust (Newton, 2001). Trust is a main component of social capital (Putnam, 1993, 1995; Fukuyama, 1995; Hearn, 1997; Coleman, 1988; Newton, 2001) which *allows participants to obtain gains from transactions which, in its absence, would not be carried out* (Arrow, 1974) and that can expand the efficiency of society by simplifying coordination (Putnam, 1993).

The definition of trust can be found across a vast amount of literature that englobes many conceptual variations and differentiations (Zucker, 1985; Lane, 1998; Uslaner, 2002; Freitag and Traunmüller, 2009), where scholars do not agree on a single universal definition (Glanville, 2016). Even though they have not come up with a single definition, there are common aspects in the conceptual variations: there is an intention to accept vulnerability based on some expectations of others' behavior (Coleman, 1988; Gambetta, 1988; Yamagishi and Yamagishi, 1994; Baier, 1994; Mayer et al., 1995; Rousseau et al., 1998; Nooteboom, 1999; Offe, 1999; Emsley and Kidon, 2007; Johansen et al., 2013; Kastberg, 2016).

Based on all the variations, trust can be defined as a helper of peaceful and collective action (Welzel, 2009) where one person puts himself in a vulnerable position that depends on the other party's behavior (Mayer et al. 1995) with the expectation that this behavior will contribute or at least not harm the well-being of the person or group (Offe, 1999). In this definition we can observe the three main elements that trust consists of according to Lane (1998): interdependence among two people, expectations with regards to the other person and the uncertainty of what the other person's behavior will be. As we have the three main elements we will keep in mind this given definition in the forthcoming.

Types of trust

As well as the given definition, it is important to acknowledge the different types of trust that we can find even though in this study we will only attend to one of them. For example, Knack (2001) mentioned that trust can influence the economic performance

through two channels: macro-political and micro-economical. So when we speak about trust, which type of trust are we referring to? If we consider these two channels, we may firstly distinguish between institutional/political trust and interpersonal trust (Luhmann, 1979; Lewis and Weigert, 1985; Kaase, 1999; Newton, 2001; Rus and Iglıc, 2005; Petrakis and Kostis, 2015; Arvanitidis et al., 2016); where political trust between citizens and political leaders is not the same as the social trust between citizens (Newton, 2001).

On one hand, institutional or political trust, which is also referred to as cognitive trust (Galindo-Pérez-de-Azpillaga et al., 2014), is the trust in institutions and organizations (Newton, 2001; Rus and Iglıc, 2005; Arvanitidis et al., 2016) that concerns laws, regulations and the judicial system (Petrakis and Kostis, 2015). In other words, it is the trust in formal structures such as social justice, politicians or police forces, which are independent of interpersonal familiarity (Zucker, 1985; Smith and Lonrke, 2008) due to that they are usually learned indirectly and at a distance through channels such as media (Newton, 2001).

This type of trust helps individuals to participate in interactions with others (Luhmann, 1988) as institutions represent the values of impartiality, justice and trust, mediating between people and sanctioning untrustworthy behaviors (Offe, 1999). In addition, authors such as Yamagishi and Yamagishi (1994) held that institutional trust is based on people's trust in the social mechanisms that they employ to facilitate the complexity of social exchanges.

On the other hand, interpersonal trust (encapsulated trust for Hardin, 1999) can be defined as one's expectancy to rely on the word or promise (oral or written) of another person or group (Rotter, 1967). Namely, interpersonal trust is the belief that most people can be trusted as they will follow accepted norms and rules in their transactions and obligations (Petrakis and Kostis, 2015). This trust that facilitates cooperation (Levi, 1998) comes from an emotional bond between individuals and a protective base given by the emotional pain that the betrayal would cost (Luhmann, 1979), which means that it relies on emotional links between people (Yamagishi and Yamagishi, 1994); representing the quality of the relationship with others (Rus and Iglıc, 2005).

Furthermore, given the two types of trust that have been described above, we can consider two additional types. These two types are derived from the interpersonal trust that can be divided into particularized trust and generalized trust (Banfield, 1958;

Yamagishi and Yamagishi, 1994; Fukuyama, 1995; Newton, 2001; Uslaner, 2002, Leigh, 2006; Freitag and Traunmüller, 2009; Newton et al., 2011).

Firstly, particularized or strategic trust (Uslaner, 2002; Galindo-Pérez-de-Azpillaga et al., 2014) can be seen as an experience-based trust as a result of past experiences with concrete people (Blomqvist, 1997; Offe, 1999; Uslaner, 2001). This trust is with a specific person, who is known by the actor (Yamagishi and Yamagishi, 1994; Uslaner, 2002), arising in face-to-face interactions (Fukuyama, 1995; Bjørnskov, 2006); relying on “strong” ties (Granovetter, 1973). Therefore, this kind of trust is enclosed to familiar people (i.e. family members, friends or neighbors) with whom interactions happen on daily basis; where the base of it is the experience of previous interactions with individuals in the person’s environment (Mendolia et al., 2016; Uslaner, 2002). Therefore, there exists a relation with the reputation (Fukuyama, 1995; Bjørnskov, 2006; Galindo-Pérez-de-Azpillaga et al., 2014) that endorses the competence of people (Galindo-Pérez-de-Azpillaga et al., 2014).

Strategic trust is functional in small, face-to-face communities where individuals interact and know each other (Gambetta, 1988; Portes and Sensenbrenner, 1993; Uslaner and Conley, 2003; Freitag and Traunmüller, 2009). In addition, based on the available evidence, this type of trust involves the rational calculation of gains and losses and evaluation of risk (Coleman, 1990; Hardin, 2001; Mendolia et al., 2016) departing from the repeated interaction mentioned (Freitag and Traunmüller, 2009).

Alternatively, generalized trust or moralistic trust (Uslaner, 2001) shows the faith in strangers that does not rest in the same perceptions as for the people you know and that could, therefore, reflect the experiences from early life rather than the ones lived as an adult (Uslaner, 2002; Uslaner, 2008). Made simple, generalized trust can be defined as the trust in people in general, where strangers are included (i.e. people on the street or people of other nations) (Fukuyama, 1995; Uslaner, 2002; Herreros, 2004; Uslaner and Brown, 2005; Delhey et al., 2011; Mendolia et al., 2016).

Concretely, Fukuyama (1995) stressed that this type of trust arises when the community shares moral values and creates a regular expectation for honest behavior towards strangers. The creation of such expectations can lead to trust in people in general, where there would be a general belief in the qualities of an individual without knowing them from before (Mendolia et al., 2016). This belief is based on “weak” ties (Granovetter, 1973) that can lead to higher payoffs (Uslaner and Brown, 2005) as

individuals make more people enter into society, which leads to social cooperation (Granovetter, 1973).

In brief, general trust is functional in complex societies where there are countless daily interactions between unfamiliar individuals (Newton, 2001; Nannestad, 2008)- It rests on future optimism and the sense of control and not on adult experiences such as civic or political participation (Uslaner and Brown, 2005).

Finally, to make it easier for the reader we can look at Figure 1, which encloses the forms of trust that have been described previously.

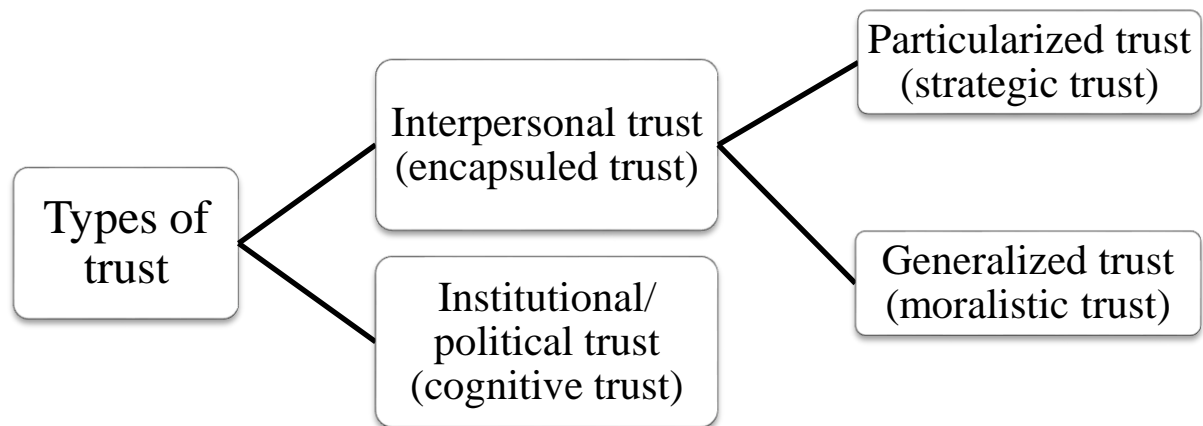


Figure 1. Different types of trust

Considering these forms of trust, we have to bring forward that we will not concentrate on particularized trust since we will not be considering the experiences with concrete individuals. Additionally, we do not focus on institutional/political trust as it models the trust between citizens and trust in political leaders. Nevertheless, even if these types are not directly used in our analysis the information given on them may be useful as they will be discussed in Section V.

Moreover, in our analysis in the forthcoming sections, our interest will be focused on how short-term and long-term relations between individuals who are strangers affect trust. As a consequence, we are going to center our attention on the generalized type of trust.

However, before being able to perform our analysis, we should consider a brief comment on the literature of the radius of trust. Understanding the radius of trust will help us to understand the critiques that there may be with the way data is gathered for our

dependent variable. Furthermore, it will serve us to get a step forward in the *Discussion* where the radius of trust will be considered.

The radius of trust

The concept of “trust radius” was developed by Fukuyama (1995) as individuals are thought to trust those who are similar to themselves or, in Uslaner (2002) words: *individuals situated within the trust radius of any person are those who belong to his or her “moral community”*.

Fukuyama’s (1999) thesis distinguished between the level of trust and the radius of trust. The first can be understood as the strength of cooperative norms while the latter defines the circle of individuals to whom the cooperative norms are effective on (Delhey et al., 2011).

With Fukuyama as a reference, Delhey et al. (2011) contemplated the importance of considering both the level and the radius of trust to assess the amount of general trust. This idea also relies on the type of question used in many surveys (Knack and Keefer, 1997; Glaeser et al., 2000; Zak and Knack, 2001; Uslaner and Brown, 2005; Beugelsdijk, 2006; Stolle et al., 2008; Olson and Li, 2016) and which we will use later to measure general trust. The question: “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with other people?” (more information can be found in Section III about this question) would be an example. Among other authors, Delhey et al. (2011) highlighted that the phrasing “most people” in the question leaves the circle unspecified, so we cannot know how wide each person images this circle when they are asked this question.

Generalized trust is one of the principal elements on which this analysis relies. Therefore, we should consider the radius of trust and the different thoughts that individuals can have when they are asked about “most people” as some authors (Bjørnskov, 2006; Delhey et al., 2011) have emphasized. The reason why we should bear the difference in mind was demonstrated in Delhey et al.’s (2011) paper where different outcomes were reached depending on the variable that was used: generalized trust or trust adjusted with the trust radius. This issue will be considered more in depth in the headland *Discussion*, in Section V.

Once we have gone over the concept of trust, its different types of trust and its radius, we can proceed to look at some of the determinants of trust that have been analyzed in the literature.

II. B. The determinants of Trust

Previous studies have tried to model the possible determinants of generalized trust. In this section we will consider some of the determinants that have shown to be significant (Bjørnskov, 2006) as the literature has considered a vast list of potential determinants (Nannestad, 2008) but has not come to a general consensus yet. These determinants can be divided into individual and country level as many studies have investigated the determinants of generalized trust in both levels (Delhey and Newton, 2003; Rothstein and Uslaner, 2005; Bjornskov, 2007).

Furthermore, we are going to analyze the results that have been obtained in different studies with regards to the relation between trust and its determinants. Firstly, we will consider the individual level determinants; followed by the country-level determinants. Before going through the literature results, two remarks have to be outlined. Firstly, some of the determinants that are going to be described below have different results among studies, which lead to ambiguous ideas with respect to the relation between the determinant and trust. Secondly, not all the determinants that have been analyzed in the literature are included in this paper, but only the most studied and significant.

Finally, in the analysis that we will perform in the following sections we will try to reach a clear idea of how some of these determinants are linked to trust even though this has already been demonstrated to be a difficult issue.

1) Individual level determinants

Firstly, we will consider the three demographic variables that have been considered in most researches: education, age and gender.

On the one hand, the educational status has shown to be a strong factor for generalized trust (Marschall and Stolle, 2004; Freitag and Traunmüller, 2009). Indeed, there is a positive relationship between education and generalized trust (Knack and Keefer, 1997; Alesina and La Ferrara, 2000; Putnam, 2000; Knack

and Zak, 2002, Leigh, 2006), where higher education leads to more trust (Uslaner, 2002; Freitag, 2003; Delhey and Newton, 2005; Stolle et al., 2008; Freitag and Traunmüller, 2009).

On the other hand and contrary to the mentioned studies, Bjørnskov (2006) showed in his analysis that education does not lead to generalized trust as he found that education was not significant contrary to what other authors had pointed out. He associated these results with the fact that previous studies results were biased due to reverse causality, which he addressed in his study. Previous to Bjørnskov analysis, Rotter (1967) already suggested that there would not be differences in trust as a function of the educational attainment achieved by a person.

Secondly, age has been found to be a decisive predictor of generalized trust (Freitag and Traunmüller, 2009), showing that higher age leads to higher trust (Alesina and La Ferrara, 2000; Stolle et al., 2008). Several studies such as the ones performed by Putnam (2000), Uslaner (2002), Freitag (2003) or Delhey and Newton (2005) have concluded that older people show greater trust.

Thirdly, with respect to gender, in western countries this factor makes little difference (Whiteley, 1999; Newton, 2001) while the women in the USA are sometimes less trusting than men (Patterson, 1999). As shown in these results, gender usually makes little difference, does not show influence at all (Freitag and Traunmüller, 2009) or it is not significant in the analysis (Marschall and Stolle, 2004).

Apart from these three demographic variables, four more variables should be considered in this individual level: income, employment, wealth and voluntary association membership. These four variables have been considered in a broad number of researches, obtaining the results that are mentioned below.

Firstly, income is positively related to trust, where lower incomes would lead to lower trust (Alesina and La Ferrara, 2000; Uslaner, 2000; Delhey and Newton; 2003, Kubovcikova, 2012). It is to be noted that there is a possibility of causality going in both directions for trust and income (Knack and Keefer, 1997). As an example, Uslaner (1995) pointed out that trust can be a result of the optimism generated by higher incomes while Knack and Keefer (1997) mention

that if trust was a product rather than a cause of higher incomes, trust should go after per capita income levels but this cannot always be observed in the data.

Secondly, employed people are more likely to trust as there is a positive relation between the two variables (Delhey and Newton, 2003; Kubovcikova, 2012), whereas unemployment leads to lower generalized trust (Putnam 2000; Sztompka 1999; Uslaner 2002).

Furthermore, when the individual's wealth is considered, all the researches got to the same results as having more wealth have shown to be positively related to trust, where wealth makes people more trusting (Banfield, 1958; Alesina and La Ferrara, 2000; Uslaner, 2000; Delhey and Newton, 2005; Freitag and Traunmüller, 2009; Delhey et al., 2011).

To prove this outcome Hooghe et al. (2009) confirmed the strong relation between the two variables stating that when an individual is wealthier, his level of trust is higher; an argument that would find support in Knack and Keefer (1997) or Inglehart (1999). Apart from these authors, Bjørnskov (2006) tried to explain this relation proposing two reasons: it could be a consequence of the reflection of the effect of trust on growth or, in an easier way that it could be caused by the willingness of rich people to take a chance in trusting strangers.

Finally, separately from these variables and back to the classic view of Tocqueville and John Stuart Mill where societies are founded upon voluntary organizations (Delhey and Newton, 2003), voluntary association membership at an individual level has become an important factor in developing generalized trust through norms, social networks and sanctions (Putnam, 1993; Brehm and Rahn, 1997; Paxton 2007; Park and Subramanian, 2012). Stolle's (2002) explanation for this factor importance is that voluntary associations create a bridge for social interactions, which may affect trust.

Considering voluntary association membership, several results have been obtained in different studies. On one hand, some researches show that voluntary association memberships are positively related with trust (Putnam, 1995; Brehm and Rahn, 1997; Paxton, 2007; Park and Subramanian, 2012) as they are a channel where individuals can expand their trust on strangers (Park and Subramanian, 2012) whereas on the other hand, some cases have found weak or no relation

between voluntary associations and generalized trust (Whiteley, 1999; Hall, 1999; Uslaner, 2002; Uslaner and Brown, 2003; Rothstein and Uslaner, 2005; Delhey and Newton, 2005).

To sum up, we can observe that at an individual level the determinants that have the same results along studies are age, employment and wealth, where the three of them increase trust. Apart from these two factors, with respect to the other determinants we can find inconclusive results as diverse studies obtained different outcomes or results that can be explained through reverse causality reasons. For the latter variables, a suggestion would be to study why the different outcomes have resulted and try to find unambiguous results. In order to facilitate reading and understanding, it is reminded that information for each variable can be found in Appendix A. 1.

2) *Country level determinants*

Given the individual level determinants, we are going to consider some of the determinants that have already been included in previous studies as factors influencing trust at a country level: income inequality, ethnic homogeneity, religion, democracy and GDP per capita (Delhey and Newton 2005; Rothstein and Uslaner 2005; Bjørnskov 2007; Park and Subramanian, 2012).

Firstly, we are going to consider income inequality and ethnic diversity as they have shown to be the two most important factors at a country level (Park and Subramanian, 2012), both of them representing a measure for social polarization (Knack and Keefer, 1997).

To begin, as Bjørnskov (2006, 2008) pointed out, most studies show that income inequality is one of the most robust cross-country determinants of trust (Knack and Keefer, 1997; Zak and Knack, 2001; Knack and Zak, 2002; Uslaner, 2002; Uslaner and Brown, 2005; Leigh, 2006). Indeed, the cross-country differences in this factor account for a big part of cross-country differences in trust (Uslaner, 2002). These differences derive from the fact that higher income inequalities significantly decrease generalized trust (Brockner and Siegel, 1996; Boix and Posner, 1998; Alesina and La Ferrara, 2000; Delhey and Newton, 2005; Leigh, 2006; Bjørnskov, 2007). To justify this, Brockner and Siegel (1996)

pointed out that the decrease in generalized trust is due to the sensation of injustice that individuals perceive. On the other hand, Leigh (2006) accredited it to the comfort that individuals feel when they interact with other people that have similar incomes, even though they do not know them.

Beyond income inequality, through the literature we can find many studies regarding ethnic diversity as a determinant of trust (Knack and Keefer, 1997; Alesina and La Ferrara, 2004; Bahry et al., 2005; Leigh, 2006; Hoogje et al., 2009; Mendolia et al., 2016). With regards to this factor, diverse results have been obtained showing in some studies that ethnic heterogeneity leads to a lower generalized trust (Alesina and La Ferrara, 2004; Delhey and Newton, 2005; Pennant, 2005; Putnam, 2007; Mendolia et al., 2016) while others show that there is a positive relation between ethnic diversity and generalized trust (Bahry et al., 2005; Nannestad et al., 2008; Stolle et al., 2008). Finally, some researches have not been able to establish any relation between generalized trust and ethnic heterogeneity (Hoogje et al., 2009; Helbling et al., 2015) or have found that ethnic heterogeneity is not a significant factor (Leigh, 2006) for trust.

As a result of the inconsistent outcomes that the vast literature has led to, we will dive deeper with regards to this determinant. We are going to do this in the following Section (II. C) in order to try to go a step further than the available literature. In what remains of this headland we will analyze some more factors that can influence trust.

From these factors, a variable that has demonstrated to be significant in the analyses of trust is religion. The dominant hierarchical religions (i.e. Catholic, Orthodox Christian and Muslim) have shown to weaken trust (Putnam, 1993; La Porta et al., 1997; Beggren and Jordahl, 2006; Bjørnskov, 2008), while Protestantism is associated with a significantly higher trust (Fukuyama, 1995; Knack and Keefer, 1997; Inglehart, 1999; Uslaner, 2002; Delhey and Newton, 2005; Bjørnskov, 2007; Nannestad, 2008).

In relation with the results obtained between religion and trust, it is interesting to signalize that many researches that associate Protestantism with higher trust based their ideas on Weber's analysis of Protestantism as a rational religion (Fukuyama, 1995; Inglehart, 1999; Park and Subramanian, 2012).

In addition to this variable, other elements that have been analyzed as determinants of generalized trust are democracy and monarchy. On one side, monarchies have demonstrated to be significantly more trusting than non-monarchy countries (Delhey and Newton, 2005; Bjørnskov, 2008). On the other hand, testing for democracy as a determinant of trust has led to the conclusion that democratic countries produce trust (Uslaner, 1999; Rothstein and Stolle, 2001; Delhey and Newton, 2003; Rothstein and Uslaner, 2005; Bjørnskov, 2007) as democracies are more trusting than non-democracies (Newton, 2001; Paxton, 2007).

The outcome concerning democracy has been criticized as many authors argue that there is reverse causality: trust can create institutional development and stabilized democracy (La Porta et al., 1997; Rice and Sumberg, 1997; Uslaner, 1999; Knack, 2002; Bjørnskov, 2006). Due to this, authors such as Bjørnskov (2007) find that democracy cannot be defined as a determinant of trust.

Finally, we can consider the variable used by Delhey et al. (2011) to measure a country prosperity level. This variable is GDP per capita, which has resulted to be significantly related to trust (Knack and Keefer, 1997; Zak and Knack, 2001; Delhey and Newton, 2005; Bjørnskov, 2007; Algan et al., 2010; Olivera, 2014), being this relation positive: higher GDP per capita is associated with higher trust.

Apart from the latter determinants we can find one more factor that can be relevant in our analysis. The factor that we are referring to would be the population size. The reason why this factor can be important is because having the same number of foreign population in two countries with different population sizes will mean that the share of foreign population that both countries have is different between them. This can be important as trust seems to evolve more in small networks (Zelmer, 2003) although different outcomes can be observed among studies: in some researches the population size has demonstrated to have an impact on trust as the larger the size, the less likely individuals are to trust others (Putnam, 2000; Gächter et al., 2004) whereas in other cases it has shown to be independent of trust, which would indicate that population would not be important in the analysis of generalized trust (Knack and Keefer, 1997; Delhey and Newton, 2003; Bjørnskov, 2007; Herreros and Criado, 2009).

This last variable was included in Bjørnskov's (2007) study to address the results of the analyses such as the one performed by Zelmer (2003) that demonstrated that trust is more likely to evolve in small networks. Due to this, the population size may be an important determinant to look at.

To sum up, as it occurs with the individual-level determinants, we find diverse outcomes from all the studies that are mentioned with regards to some variables. For example, among the country-level determinants commented, ethnic diversity and population size show different outcomes through the literature analyzed, while outcomes from the variable democracy can derive from reverse causality, which would have to be addressed.

Contrary to these variables, the determinants income inequality, religion or GDP per capita have gathered the same results across studies, where higher income inequality lowers generalized trust, Protestantism has shown to increase trust and GDP per capita is positively related to trust. Equally to the individual-level determinants, in order to facilitate reading and understanding, it is reminded that information for each variable can be found in Appendix A. 2.

II. C. Migration and Tourism

In addition to the effect that the cited determinants may have on generalized trust and as mentioned before we are going to go deeper in two more possible determinants of this type of trust. The idea that underlies the necessity of doing so relies on the important role of globalization nowadays as it favors human mobility which accounted for more than 230 million of international migrants in 2013 (United Nations, 2013). This mobility can be associated with the diversity of the countries of origin and destination (Lee, 1966) and, furthermore, can derive in ethnic heterogeneity (Castles, 2000; Riggs, 2002; Wunnava et al., 2015). This heterogeneity can be created through long-term relations (migratory movements) or short-term relations (tourism) as they can be two ways to transmit ideas or information that can influence trust.

The selection of these variables is supported by the idea from Alesina and La Ferrara (2000) who stated that where everybody is transitory there should be a lower trust, maybe because social cohesion is reduced by mobility (Putnam, 2000). Indeed, some research has already been done to establish the relationship between migration and trust

(Stolle et al., 2008; Herreros and Criado, 2009; Denisen, 2011; Uslaner, 2011; Kubovcikova, 2012), but it has not been made yet for tourism (short-term relations) and trust. Due to this gap in previous researches, we will take a look at the relationship between the mentioned variables.

Summed to this, another reason for the selection of these two factors can be explained by considering the components of the index of globalization developed by Dreher (2003). This author constructed an index dividing the most important components of globalization into three groups: data on economic integration, data on political engagement and data on social globalization. For each group, the weight representing its importance can be found in the globalization index, where the data on social globalization accounts for a 38% of the total index while economic integration and political engagement account for 35% and 28%, respectively.

As a previous step, Bjørnskov's (2006) study included the analysis of economic integration through economic openness, showing that it did not affect generalized trust as it was insignificant, so we will not consider this determinant. Considering this, we give a further step and contemplate the data on social globalization (group with higher weight in the index of globalization) as it comprises the expansion of ideas, information, images and foreign people (Dreher, 2003). This group is divided into two subsections: data on personal contact and data on information flows. From these subsections, the one of interest in this case is the data on personal contact, where we can find the two factors that interest us in this analysis: international tourism and foreign population (in percentage of total population).

In concrete, we can observe that one of the components with more weight in the subsection of data on personal contact is the percentage of foreign population in total population. This strengthens the importance of the percentage of foreign population in a country, which can lead to an impact on the generalized trust caused by the ethnic diversity that we can find in the country. As a result, we will account for the effect that international migration (in percentage of total population of a country) may have on generalized trust and test if higher percentages of foreign people disrupt trust as Zucker (1985) suggested.

To summarize, we have the idea that through human mobility there can be a transmission of ideas or information that could have an effect on the trust that individuals have on strangers. As a consequence, it may be important to understand the impact that

two channels through which these ideas and information are transmitted can have on generalized trust. On one hand, through the channel of international migration it would be interesting to test if the amount of foreign people decrease trust as migration has shown in previous studies (Hooghe et al., 2009; Gundelach, 2014; Kokkonen et al., 2014; Mendolia et al., 2016). On the other hand, it can be checked if through the channel of tourism, as a reflection of being transitory, there is lower trust as previously suggested by Alesina and La Ferrara (2000).

III. Description of data and methodology

III. A. Data

III. A. 1. The dependent variable

As previously announced, the principal dependent variable in this analysis is generalized trust as we are relying on the trust that individuals have on strangers. To address the dependent variable we are going to use the type of question in which most studies (i.e. Knack and Keefer, 1997; Delhey and Newton, 2003; Herreros and Criado, 2008; Algan et al., 2010; Freitag and Bühlman, 2009; Mendolia et al., 2016) have relied on: “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?” which was ideated by Noelle-Neumann in 1948.

In this study, we are going to use the data provided by the World Values Survey (WVS) as it has been used in many studies through the years to measure generalized trust such as the ones performed by La Porta et al. (1997), Knack and Keefer (1997), Paxton (2007), Dincer and Uslaner (2010) or Delhey et al. (2011). As this database contains information for only 39 developing countries we will complement the data with the Afrobarometer and the Latinbarometer database. The use of these three databases, which use the same type of question to address generalized trust, will allow us to consider 81 developing countries. The reason to gather data from these different databases is that the increase in the number of developing countries will permit us to obtain more robust results in our analysis.

The three databases provide a binary answer that gives value one when the respondent replies that most people can be trusted and value zero when the person replies that you cannot be too careful when dealing with people. After the answers are gathered, the share of people that replied that most people can be trusted will account for the generalized trust of each country (Knack, 1999; Bjørnskov, 2012). Although there have been critiques with regards to this measure, some studies have reported that it can be a good measure for the underlying theoretical concept (Bjørnskov, 2007).

Among the critiques that this question has received, the most popular is the one already mentioned with regards to the phrasing “most people”. Authors such as Bjørnskov (2007) or Delhey et al. (2011) stressed that this wording do not define to whom individuals are thinking of, so it is not clear what data this question measures (Durlauf,

2002; Beugelsdijk, 2006). Summed to these authors, Glaeser et al. (2000) criticized it too at the beginning as they said that the survey question was vague, hard and interpreting it was difficult even though it was interesting. Against the critiques that the question may have received, some advantages that we can find are the comparability between studies or that it is a standardized survey question on trust for all countries (Park and Subramarian, 2012).

In addition, there are studies that support the validity and reliability of this question. One study that is usually mentioned is the one performed by Knack (2001), where a number of wallets were dropped in different cities and the trust scores were a good predictor of how many wallets would be returned in each country. Added to this and overcoming their first critiques, Glaeser et al. (2000) sustained the question's validity as they noted that the trust scores are a good measure of the respondents' own trustworthiness and reflect if the individual would do the right thing. This late study found support in Bjørnskov (2007) as he argued that the national scores for each country measure to which extent people are expected to do the right thing.

Once we have a better idea about the data that will be used for the dependent variable we can attend to the data concerning the independent variables that will be considered in the analysis.

III. A. 2. The independent variables

In this headland we are going to look at the different variables that will be used in the analysis apart from the dependent variable. In Appendix A. 3 we can find a table that contains information about the different sources from where the data has been gathered for each variable.

Firstly, we will consider **age**, which has been commented as an individual-level determinant, as a country-level determinant. The reason to do so is that it has been defined as a decisive factor in the analysis of possible determinants. Moreover, we would not be the first to include age as a country-level variable as Bjørnskov (2007) already used age structure in his cross-country analysis of the determinants of trust.

Furthermore, from the country-level determinants described before regarding the variable that has shown to be one of the most important with regards to generalized trust in previous studies which is income inequality; we will use the **Gini coefficient**. Based

on the Lorenz curve, this coefficient is the most used measure of inequality and it lies between 1 and 0, representing the perfect inequality and the perfect equality, respectively (Haughton and Khandker, 2009). This measure has been used in previous studies performed by Uslaner (2002), Leigh (2006), Bjørnskov (2008), Herreros and Criado (2008) or Hooghe (2007) to measure the income inequality, so it seems the most appropriate for our analysis.

Secondly, to avoid the correlation that we could find between the variables ethnic diversity and foreign population (forthcoming variable: international migration), a suggestion is the use of **linguistic diversity** instead of ethnic diversity as a possible determinant of trust. Previous studies have used the ethnolinguistic fractionalization (ELF) variable (Easterly and Levine, 1997; Alesina and La Ferrara, 2004; Marquardt and Herrera, 2015) which is calculated by one minus the Herfindahl index of ethnolinguistic group shares and shows the probability of two randomly selected individuals belonging to different groups (Alesina et al., 2003).

Even though ethnolinguistic fractionalization is used in many researches (Easterly and Levine, 1997; La Porta et al., 1997; Fearon and Laitin, 2003; Collier and Hoeffler, 2004; Alesina and La Ferrara, 2004; Marquardt and Herrera, 2015) and that many ethnologists and anthropologists include language when defining ethnicity, a separation for language can be performed (Alesina et al., 2003) and it can be used as a proxy of ethnicity (Laitin, 2000). Examples of studies that have used linguistic diversity as a factor are Laitin (1999), Alesina and La Ferrara (2004), Anderson and Paskeviciute (2006) or Olivera (2014). Taking these authors as an example, we will refer to Greenberg's Diversity Index, which ranges from 0 to 1, when everybody has the same mother tongue or when there are two people with different mother tongues, respectively (Greenberg, 1956).

Thirdly, in relation with religion, the variable that is going to be used in the analysis is the **share of Protestants** in each country. This variable has already been used to address religion by other authors such as Bjørnskov (2007), Park and Subramarian (2012) or Horvath (2013). Moreover, following the authors Delhey and Newton (2005) or Olson and Li (2016) Protestantism will be the only form of religion that will be considered as it has been demonstrated that when dummy variables are included in the regressions, only the Protestant dummy is significant (Delhey and Newton, 2005).

Furthermore, in order to account for **democracy** and **monarchy** we will use dummy variables. To consider the variable monarchy the dummy variable will get value one when countries are a monarchy and value zero when they are non-monarchy. Likewise, the dummy variable for democracy will follow the same path as monarchy, getting value one when the country is democratic and value 0 when it is non-democratic.

In order to gather the data for these two variables we will attend to the database used by Bjørnskov (2008) which is the Marshall and Jagger's Polity IV Index. The selection of this database is a consequence of the use of a scale weight that includes different factors such as competitiveness of Executive recruitment, the openness of Executive recruitment, the constraint on Chief Executive and the competitiveness of political participation; which makes the data more complete.

In relation with prosperity as it has been described in the previous sections, many studies make use of the GDP per capita variable so we will follow the same path as these studies and use data for **GDP per capita**. As the theoretical framework indicated, we expect to obtain the positive relation between GDP per capita and generalized trust that has been found in previous studies.

Moreover, equally to what happened to the variable of ethnic diversity we will use one variable that fits better our model with regards to population. On the one hand, the first suggestion to deal with population would have been to continue the path of authors such as Bjørnskov (2007) or Freitag and Bühlman (2009) and use the logarithm of population size. The reason to use the logarithm of this variable is that as larger countries can be more diverse, it can be suggested that small countries may be more trusting (Bjørnskov, 2007). As a consequence, the logarithm population size variable would address the issue where small networks are more likely to trust more, as Bjørnskov (2007) did in his analysis.

On the other hand, the other suggestion is the use of population density. Even though Knack and Keefer (1997) did not find any evidence suggesting that there may exist a connection between trust and population density, this variable could be useful in our model. In concrete, a variable that measures the people that there are per square kilometer of land area can be more interesting than the number of people that live in each country with regards to the issue that we are dealing with in this paper. The reason why this can be more interesting is that relations may happen more easily when there is higher population density in a country, which would have an effect on our dependent variable.

As a consequence of both suggestions, information with respect to the two variables was gathered. Considering the effects that both variables have, **population density** was selected as a possible determinant of trust while population size was removed. This was done for two reasons: both variables cannot be included in the model as there could correlation between them and because population density fits better our model.

Finally, with regards to the two factors that this analysis proposes in order to observe the effects that short and long-term relations have on generalized trust, we will use data derived from the World Bank database regarding **international migration** (as percentage of population) and **international tourism** (as percentage of population). Dreher (2003) used the data from the same database to develop the index of globalization. We will only consider the component of globalization for social globalization for several reasons: social globalization is the component with more weight in the index of globalization, our potential determinants are found in this component and adding more components of the index of globalization could lead to a correlation between variables.

To be able to consider these variables in our analysis, it is necessary to make some remarks before. On one hand, when considering international migration the World Bank includes the people born in a country different to the one where they were born (foreigners) and it considers the refugees. In our analysis this difference between foreigners and refugees will be taken into account.

On the other hand, to the best of our knowledge, this is the first analysis that includes the international tourism variable, which provides an added incentive to set it as a variable as it could be a possible determinant of trust.

III. A. 3. Other considerations regarding the data

Apart from the variables that we are going to use in the analysis of this study, there is some information that should be added before.

Firstly, the data for the dependent variable will be obtained from three databases. The first is the last Wave (Wave 6) of the WVS that was constructed between the years 2010 and 2014 and covers for 57 countries. The other two are the Afrobarometer and the Latinbarometer that gather data from more than 35 countries in Africa and 20 in Latin America, respectively.

Secondly, due to the available data for the dependent variable, information with respect to it has been gathered for the year 2011. This year has shown to be the one with information for more countries (81 developing countries) which allow us to increase the number of observations and increase the robustness of our results.

Finally, the countries that are going to be used in this analysis are developing countries. The information will be derived for developing countries as trust is an important factor to explain why some countries or regions develop more rapidly than others (Humphrey and Schmitz, 1998). In concrete, Algan et al. (2010) pointed out that the evolution of trust has a huge impact on the difference between developed and developing countries, so it can be interesting to take a closer look to these developing countries' determinants of trust.

In addition, in the context of globalization, migration has demonstrated to be essential to sustain development and obtain social welfare, being vital to global prosperity (Taran, 2007). International tourism is increasingly showing preference over places that are far away from what we consider "home", as experiences are different from one's own, moving from western countries to areas of South America, Asia and Africa (Azarya, 2004).

To be able to know which countries will be used in the analysis, we have considered the list¹ provided for Developing Countries by the Statistics Division of the Department of Economic and Social Affairs of the United Nations. For the countries where there was a match in the databases, the analysis will be performed. Regarding the final list of countries, which can be found in Appendix A.4, we will pay special attention to China as previous studies (i.e. Inglehart, 1999; Uslaner, 2002; Delhey and Newton, 2005; Bjørnskov, 2007) have already shown that this country is a strong outlier.

III. B. Methodology

Once we have an idea of the variables that can be used in the analysis that concerns this paper and where the data can be gathered from we can attend to the methodology that will be followed in the next headland.

¹ The list designs the labels "developed" and "developing" for statistical convenience and may not express the real judgement of the development level that each country has reached. The countries for which the analyses are run in next Section are listed in Appendix A.4 with their respective abbreviations.

Moreover, with the aim of observing the effects that the potential determinants used in previous analyses and the ones that concern us most in this analysis (migration and tourism) have on trust we will have three main regressions. In the first one we will observe the effects of tourism, in the second we will look at the influence of migration and finally, we will consider both relations (short and long-term) impact on generalized trust.

To be able perform this analysis and establish the variables that affect trust we are going to run a cross-country analysis as it has been determined as a good method to test for different determinants of trust across countries (La Porta et al., 1997; Delhey and Newton, 2003). To execute it we will use 81 developing countries from different parts of the world.

Furthermore, to run the analysis we are going to estimate the determinants by an OLS regression as previous studies have done (Bjørnskov, 2007; Algan et al., 2010; Delhey et al., 2011; Horvath, 2013; Mendolia et al., 2016). We will use this method instead of a logistic regression as we are considering a country level dependent variable, which is measured in the percentage of respondents that answer that most people can be trusted. If we would have performed an individual-level analysis, where we would have considered the answers yes or no, and we could have used the logistic regression method.

By using the OLS method, Durlauf (2002) has suggested that reverse causality problems can arise with the consequence of obtaining biased results (Mendolia et al., 2016). In addition to Durlauf, Bjørnskov (2007) commented that when using this method we are not solving the problem of endogeneity that can arise between the dependent variable and some independent variables. In case that reverse causality is found with some variables, the instrumental variable regression method can be used as Bjørnskov (2007) or Mendolia et al. (2016) did in their researches. Due to the difficulty of finding good instrumental variables to account for reverse causality, this will be addressed in a more theoretical perspective in Section IV. As a solution to the difficulty of the instrumental variable method, we will use ad hoc solutions for the endogenous variables that we find out in the model.

In other words, due to the difficulty of the instrumental variable method we will take lags for the endogenous variables and observe the results when past values of those determinants are considered. By taking lags we expect that the past values of the possible

endogenous variables to generalized trust are not subject to the same problem as the present values of the variables.

Additionally, in order to do the regressions we are going to inspect the data and diagnose if there are any problems in the regressions. The first step in our analysis will be to observe the data that has been gathered. By looking at the normality of the data, through aspects such as kurtosis or skewness, we will transform the data into the most suitable forms for our research. An example of this is the already mentioned for the variable of population size, which would be transformed into a logarithmic form if it was used in the analysis.

Beyond the inspection of the data, we will check if there are any influential countries or outliers. To carry out this step we will rely on the following measures: the studentized residual, the leverage, the Cook's distance and the DFits statistic. These measures will point out which countries we have to observe in case they are biasing our results.

Once we have looked for influential cases we can check the residuals of the regression. Following the OLS assumptions, we will look at the homoscedasticity, multicollinearity and normality of the residuals. In concrete, what concerns more us is that the residuals are homoscedastic, normal and that there is no multicollinearity.

Firstly, to look at the homoscedasticity we will perform two different tests that should give the same results, which are the Breusch-Pagan test and White's test. Secondly, to test for multicollinearity we will use the tool "VIF" where a value higher than 5 would indicate that there is an almost linear relation between explanatory variables making the standard errors of the estimated coefficients higher. In other words, if we find multicollinearity, the estimate of the regression would be less precise because the effects of the variables cannot be well distinguished between them. Finally, to attend to the normality of the residuals we will use the Shapiro-Wilk test where if the p-value is greater than the significance level (α) it shows that we have normal residuals.

To conclude with these steps, after checking for the previous criteria we will test for the model specification with two tools that will highlight if there are possible omitted variables in our model. In this case the tools that we are going to use are the "linktest" and the Ramsey RESET test. Likewise, when running the three main regressions mentioned before we are going to consider three significance levels: 90%, 95% and 99%.

Consequently, we will be able to determine which factors are statistically significant at each level for generalized trust.

Finally, after looking at the results and observing which factors affect the dependent variable we will consider the reverse causality problem. In order to do this we will perform the Durbin-Wu-Hausmann test to identify if there are endogenous variables in our model. In case that there are endogenous variables we will consider past values of these variables to solve the reverse causality problem.

IV. Empirical results

Once that we have in mind the data and methodology that will be used in our analysis we can run the regressions to establish what causes generalized trust. Before looking at the results of these regressions, some remarks have to be done. These remarks are a result of inspecting the data, which was the first step mentioned in the methodology headland.

As a consequence of the inspection of the data, some variables have been modified. Firstly, as it has been mentioned before, some of the variables that have been used in the analysis do not correspond exactly with the ones analysed in the theoretical framework. Concretely, we remind that instead of ethnic diversity and population size we use the variables linguistic diversity and population density, respectively. Y including these variables the factors observed in our analysis do not present high correlation between them as can be observed in Appendix A. 5. The reasons why ethnic diversity and population size have been replaced are the next ones.

Regarding ethnic diversity, this variable was replaced by linguistic diversity as a consequence of the high correlation that it demonstrated to have with one of our core variables, which is international tourism. By using linguistic diversity in our model we can observe (Appendix A. 5) that the correlation between it and international migration is of 0.1280 which allows us to run our analysis without correlation problems.

Furthermore, in the case of population density, as it was mentioned in the headland about the description of the independent variables, this variable has shown to fit better the model than population size. The regressions have been run including both variables separately as they are highly correlated between them (and cannot be included together in the same regression) and our model explains the variation of the dependent variable better when the factor population density is included.

Population density may be more relevant as when there are more individuals in the same place there are more chances that you meet strangers. On the other side, having a big population size does not mean that the citizens have more chances of meeting strangers as individuals can live far away from others and not meet more people, while if there is a country with small population size but where the citizens live closer these last ones will have more chances of meeting others. Consequently, in our study, population

density represents better the chances of meeting a stranger which can affect generalized trust rather than population size.

Moreover, the data for international tourism showed a strong positive skewness. As a solution, the variable for international tourism has been considered in logarithms so that it fits correctly in our model. This is the only variable that has been transformed from the whole set of variables.

Finally, with respect to the inspection of the data we have to make one more remark. As it was anticipated by other authors (Uslaner, 2002; Delhey and Newton, 2005; Bjørnskov, 2007), China has shown to be a strong outlier. To consider this we have performed two models, one with China as a developing country of our sample and without China. The comparison of these two cases (with and without China) for which the same regressions have been run are made later, after commenting the results that we can find in Table 1 that includes all the developing countries.

Once we have in mind this we can take a look at the results obtained from our analysis. They are presented in the incoming table and they are structured as follows. In column 1 we consider short-term relations (tourism). In column 2 we consider migration while in column 3 we can find the coefficients regarding migration and the refugees by country of asylum and by country of origin. Moreover, in column 4 the results for tourism and migration without considering the refugees can be found. Finally, in column 5 we can find the coefficients for all the determinants, considering the two that catch up our attention mostly in this analysis: tourism and migration, as short-term and long-term relations, respectively. All the regressions that are run in our analysis include the determinants that have been defined before in the headland for the description of data.

Summed to the coefficients of each factor, we can find information about the R-squared, the variance inflation factor (VIF) for multicollinearity and the number of observations (countries) used in the regressions.

Dependent variable: Generalized trust (%)

	1	2	3	4	5
Constant	38.0155*** (1.0941)	47.8152*** (1.0939)	48.5322*** (1.1105)	43.0933*** (1.0947)	43.7207*** (1.1112)
Population density	0.0038** (0.0016)	0.0029* (0.0016)	0.0027* (0.0016)	0.0032** (0.0016)	0.0030** (0.0016)
GDP per capita	0.3115* (0.2100)	0.2755 (0.2005)	0.2922 (0.1960)	0.3277* (0.2135)	0.3564* (0.2013)
Income inequality	- 0.2507* (0.1759)	- 0.3573** (0.1716)	- 0.3694** (0.1713)	- 0.2785* (0.1723)	- 0.2906* (0.1719)
Age structure	- 0.1164 (0.3092)	- 0.5753* (0.2927)	- 0.6286** (0.2969)	- 0.4686* (0.2815)	- 0.3587 (0.3190)
Protestantism	- 0.0372 (0.0783)	- 0.0252 (0.0784)	- 0.0261 (0.0782)	- 0.0273 (0.0679)	- 0.0243 (0.0765)
Monarchy	- 3.1047 (4.1951)	- 7.6533* (3.9302)	- 6.3409 (4.0093)	- 4.4748 (4.1465)	- 3.2093 (4.2102)
Democracy	0.2972 (2.6273)	1.1649 (2.7084)	1.7543 (2.7325)	1.8906 (2.6731)	2.4790 (2.6954)
Linguistic diversity	- 0.0515 (0.0422)	- 0.0603 (0.0433)	- 0.0643 (0.0434)	- 0.0812* (0.0436)	- 0.0849* (0.1719)
Tourism	- 2.0755 (1.0877)			- 2.2387** (1.0937)	- 2.2240** (1.0900)
Migration		0.1838* (0.1120)	0.2394** (0.2393)	0.2391** (0.1128)	0.2929** (0.1181)
Refugees by country of asylum			-0.4048 (0.3104)		- 0.3905 (0.3036)
Refugees by country of origin			1.9945 (2.1383)		2.0643 (2.0912)
R-squared	19.01%	19.33%	22.12%	23.88%	26.62%
VIF	1.53	1.47	1.45	1.65	1.60
N	81	81	81	81	81

Note: Values in parentheses are the Standard Errors. *** denotes significance at $p < 0.01$; ** at $p < 0.05$; * at $p < 0.10$

Table 1. OLS regressions for generalized trust with 81 developing countries

Before commenting the results that have been obtained for each factor and that can be observed in the previous table, we will inform about the residuals of the regressions. After running each regression, we have checked that the residuals are homoscedastic and normally distributed. Moreover, information with regards to the multicollinearity is presented in the previous table. From this information we can conclude that there is no multicollinearity.

Once we know this, we can take a look at the results obtained. Firstly, we will observe the outcomes that have been obtained for the factors that have already been analyzed in other studies and compare them with the existing literature. Following this we will focus our attention on the important aim of this paper, in tourism and migration.

The first factor that can be observed is in relation with population density. Contrary to what Knack and Keefer (1997) stated population density seems to have an effect on generalized trust. In concrete, this determinant is statistically significant in the five regressions of our analysis. This factor is positively related to the dependent variable, which means that when there is an increase of one person per square kilometer of land area there is a positive effect on generalized trust of approximately 0.003%. A possible explanation for this is that when there is a chance of meeting more people (as there are more individuals per square kilometer), the trust that people have in others increases. This can be caused by the number of different people that individuals can meet, which will affect in the number of people that they may think of when they are asked the question to address generalized trust.

Secondly, we can observe some factors which sign is in line with previous literature outcomes. We are referring to GDP per capita and income inequality. With regards to GDP per capita we can observe that it is positive while income inequality has a negative sign, both factors having the same sign as commented in the theoretical framework. GDP per capita has demonstrated to be positively related to trust as other authors (Knack and Keefer, 1997; Zak and Knack, 2001; Algan et al., 2010) suggested, which can be associated to the fact that when there is more prosperity in a country, the citizens trust more.

Furthermore, in the case of income inequality the results from our analysis confirm the well-established outcome that it causes cross-country differences in trust regardless of the countries (developed or developing) that are used in the analysis. This factor has demonstrated to be significant in all regressions which means that when there

is an increase of one unit in income inequality² there would be a decrease of approximately 0.30% on generalized trust. A possible reason of why this happens is that when there is a greater economic distance between the citizens of a country it could lead to lower trust.

Contrary to these two factors, the sign that we can find for both age structure and Protestantism are opposite to what it has been found in previous literature. Regarding age structure we can see that in the five regressions it has a negative sign which would mean that when there is an increase in the age structure there would be a decrease of up to 0.62% in trust. The reason why age structure is not statistically significant may be that age is only determinant in individual-level analysis when trust is considered for individuals and not at a country-level when we try to identify what causes country differences in generalized trust. In other words, from the results we have obtained we can see that age may be a decisive factor for individual-level analysis of generalized trust but it is not a decisive factor in country-level analysis.

Equally to age, the share of Protestants shows to have a negative relation with trust. An increase in the share would lead to a decrease in generalized trust if the coefficients were statistically significant. Due to the fact that the share of Protestants is not significant we run additional regressions to see the effects that the share of Catholics and the share of Muslims would have in our results. The idea of including this other religions in the analysis was derived from Bjørnskov (2007), who stated that Protestantism would be only interpretable when considering other religions. Contrary to this author's outcomes, when considering the different religions we did not obtain different results and the three religions resulted in not significant results. As a consequence, we may think that in developing countries religion is not a determinant of generalized trust.

In addition, we found different outcomes with regards to monarchy and democracy. First of all, none of these variables are statistically significant in our analysis. Next, while the variable monarchy has a positive sign contrary to what previous literature suggests democracy has the same positive sign that previous studies have obtained. This fact can be in line with what Bjørnskov (2007) stated in his paper as he argued that democracy should not be included as a determinant of trust as it is high-trust nations

² We are considering the Gini coefficient from 0 to 100 instead of 0 to 1.

which influence democracy and institutions. Despite the author mentioned this, we consider our model with and without the variable democracy and our results did not vary. As a consequence, we included democracy to show its coefficients and sign even though it is not significant in our analysis.

To end with the country-level determinants that have been already studied, we are going to attend to linguistic diversity. This variable which was selected to avoid possible correlation problems caused by ethnic heterogeneity show to have a negative relation with generalized trust. The negative relation can be observed in the five regressions run even though the coefficients are only statistically significant when the variables of tourism are excluded. Moreover, this result is in line with the ones obtained by authors such as Anderson and Paskeviciute (2006) and Olivera (2014) that established that when there is an increase in linguistic heterogeneity there is a decrease in trust. The reason why this may be the case is that linguistic diversity detracts social cohesion and when there is a greater social distance there is a decrease in trust.

Finally, we can observe the results of the main determinants of interest in this analysis. To begin, we can comment that refugees, independently of considering them by country of asylum or by country of origin, are not significant so they do not have an influence on generalized trust. One possible explanation for this is that the countries' refugees account for less than 0.01% of each country's population, so that as they represent such a small fraction they are not explanatory. In other words, it may be due to the fact that many citizens have not meet any refugee and they do not have an image of them.

Once we have seen that refugees do not influence generalized trust, we can take a look at the results regarding international migration. In this case we can observe that long-term relations are statistically significant, being positively related with generalized trust. In concrete, where there is an increase of 1% in international migration there is an increase of 0.20-0.30% on generalized trust. These results are contrary to previous literature that has shown that migration is negatively related to trust, such as Hooghe et al. (2009), Gundelach (2014) or Mendolia et al. (2016). Obtaining opposite results may be due to the idea of the settler model of migration where migrants progressively integrate in the nation's economic and social relations and become assimilated into the host society (Castles, 2002). In other words, the positive relation between the percentage of foreign

population with generalized trust may be a result of the migrants' integration in the economic and social relations of the host country.

Taking this into account we have answered part of our research question. We have seen that migration, measuring for long-term relations; have a positive impact on generalized trust when considering developing countries. We have to emphasize that the results are statistically significant when observing migration but not for refugees, who in addition lead to different results depending on which type we observe: by asylum or by origin.

Now that we have answer part of the issue that we are dealing with in this paper we can move forward to answer the one regarding short-term relations. In this case, tourism shows to be negatively related with generalized trust as Alesina and La Ferrara (2000) predicted that would happen. The reason why this may occur is that when individuals are transitory there is a reduction in social cohesion caused by this mobility (Putnam, 2000) which causes a decrease in trust. It has to be highlighted that this variable is only statistically significant when migration is considered in the model. This interaction may be a result of the effects of both types of relations happening at the same time, which makes that they are relevant if considered in the same model. But as we can see in regression 1, tourism is not significant so it cannot be assumed to affect trust even though the sign obtained in the analysis was the expected one.

To sum up, we can see that our results are diverse. Firstly, regarding the determinants that have been studied previously we can see that there are different outcomes. For variables such as income inequality and GDP per capita we have obtained the same signs as previous literature while the signs obtained for other determinants such as religion (Protestantism) and monarchy are the opposite ones. In this case, two variables have shown to be potential (and significant) determinants of trust, which are population density and income inequality. The first has shown a positive relation with trust while the latter has demonstrated to have a negative relation.

Moreover, in regards to the core of this paper, we have found that long-term relations are the relations that are significant in all regressions. This means that long-term relations increase generalized trust while short-term relations have shown to not be significant and have found a negative sign with regards to trust.

Finally, after commenting results, we can observe that the dependent variable is explained by these determinants by approximately a 20-25% (depending on which regression we look at). With this information and the one provided by the Ramsey RESET test, we can think that there are omitted variables that have not been considered in the analysis and can be important in explaining what causes generalized trust. This last issue will be treated in the headland *Discussion*.

Bearing in mind the results that can be found in the previous table and that have been commented we can move to the model that does not include China. We will only exclude China from the sample of developing countries as it has been demonstrated that it is a strong outlier in other literature (i.e. Uslaner, 2002; Delhey and Newton, 2005) and it has been signaled in our inspection of the model as a potential outlier. The results for the five regressions that have been considered in our analysis without this outlier can be found in the following table.

Firstly, we have to mention that when China is excluded from our sample we obtain certain differences with regards to the main model. This may indicate that this country is a strong outlier as it had been indicated by previous studies. Moreover, authors such as Uslaner (2002) have suggested that China's conditions may inflate its national trust survey results, which Bjørnskov (2007) confirmed by stating that China has official generalized trust scores that are around 35% higher than the predictions of the specification line. These conditions may be due to political or cultural particularities that China exhibit in comparison with other countries (Steinhardt, 2012).

As it can be observed in the table there are many factors that maintain their outcomes but we can also find two variables which results vary between the model with China and the one without it. As we can find similarities and differences between Table 1 and Table 2 we are going to consider firstly the factors which outcomes do not changed and we will continue to consider the factors for which the results are different.

With regards to the similarities we have to highlight that the sign for the coefficients are equal for all the factors considered in the five regressions. Moreover, the three factors that are statistically significant in the two models are population density, income inequality and migration, which are significant throughout. Equally, variables such as religion (considering the share for Protestants, Catholics and Muslims), monarchy or democracy are not significant in both models.

Dependent variable: Generalized trust (%)

	1	2	3	4	5
Constant	49.5922*** (0.9919)	56.1184*** (0.9699)	56.9783*** (0.9884)	52.7778*** (0.9940)	53.5337*** (1.0130)
Population density	0.0050*** (0.0014)	0.0043*** (0.0015)	0.0042*** (0.0014)	0.0045** (0.0014)	0.0043*** (0.0015)
GDP per capita	0.2783* (0.1772)	0.2291 (0.1332)	0.2861 (0.1356)	0.2981* (0.1712)	0.3239* (0.1711)
Income inequality	- 0.3155** (0.1550)	- 0.3787** (0.1478)	- 0.3889** (0.1500)	- 0.3297** (0.1484)	- 0.3396** (0.1531)
Age structure	- 0.4179 (0.2392)	-0.5164*** (0.2462)	- 0.6854*** (0.2601)	- 0.4686* (0.2815)	- 0.5170* (0.2861)
Protestantism	- 0.0374 (0.0676)	- 0.0284 (0.0684)	- 0.0302 (0.0685)	- 0.0273 (0.0679)	- 0.0288 (0.0678)
Monarchy	- 2.6665 (3.2824)	- 5.5118* (3.4639)	- 4.4867 (3.5312)	- 3.7063 (3.6792)	- 2.6818 (3.7459)
Democracy	2.9819 (2.3770)	3.7367 (2.4226)	4.0975 (2.4430)	4.0296 (2.4168)	4.4014* (2.4372)
Linguistic diversity	- 0.0812** (0.0378)	- 0.0938** (0.0386)	- 0.0971** (0.0386)	- 0.1046** (0.0389)	- 0.1071** (0.0391)
Tourism	- 0.9075 (0.9694)			-1.7446 (0.9890)	-1.7419 (0.9894)
Migration		0.1961** (0.0981)	0.2431** (0.0974)	0.2365** (0.0953)	0.2823** (0.0984)
Refugees by country of asylum			-0.3567 (0.2718)		- 0.3508 (0.2784)
Refugees by country of origin			1.1638 (1.8798)		1.2559 (1.8689)
R-squared	26.15%	27.39%	29.50%	29.32%	31.43%
VIF	1.55	1.48	1.46	1.67	1.62
N	80	80	80	80	80

Note: Values in parentheses are the Standard Errors. *** denotes significance at $p < 0.01$; ** at $p < 0.05$; * at $p < 0.10$

Table 2. OLS regressions for generalized trust with 80 developing countries (without China)

On the other side, there are two factors for which differences have to be addressed. Firstly, if China is not included in the sample, linguistic diversity is statistically significant in the five regressions. This would mean that with income inequality and linguistic diversity being statistically significant we can see that when there is higher economic or social distance between citizens, the level of generalized trust decreases.

Moreover, the other variable which results change from one model to another is the core factor of this study. In the case that China is not considered in the sample the variable for international tourism is not significant in all our regressions. This means that tourism is not a determinant of trust and that short-term relations measured through this variable do not have an impact on the level of generalized trust. This lack of influence may be explained by the fact that transitory individuals do not have an impact on this type of trust.

Finally, regarding the differences between the two models we can see that the R-squared is higher in the regressions that do not consider China. In concrete, the higher R-squared that we can observe in Table 1 is 26.62% while in Table 2 is 31.43%. This difference states that in the model without China the independent variables added in the model explain more of the variation of the dependent variable. These results are in line with what Uslaner (2002) or Bjørnskov (2007) stated. When China is included our model is able to explain less the variation of the dependent variable. This can signalize that the variation of China's level of trust is explained by more (or other) factors than those included in our analysis.

Due to this, we can see that our main model may be more representative of the developing countries when China is dropped out from the sample. This can be conclude not only from the R-squared data but also by observing that linguistic diversity demonstrates to be a potential determinant of generalized trust. In addition to linguistic diversity, we can see more clearly that international tourism is not a determinant of this type of trust.

IV. A. Reverse causality

After running the regressions with and without China and due to the possible complications that Durlauf (2002) signalized with respect to the OLS method used in this analysis, we have used the Durbin-Wu-Hausman test to check for endogeneity. This test

has revealed that two variables should be considered as endogenous variables instead of assuming they are exogenous. These two variables are population density and migration, where the latter is one of the factors that is core in this analysis. As having endogenous variables can lead to estimates that are inconsistent and inefficient we will consider lags for both variables as a possible solution. Furthermore, the lags that have been taken are for further periods (i.e. 10 or 20 years) as Knack and Keefer (1997) or Olivera (2014) pointed out that trust changes slowly over time and it can be considered a stable attitude.

Firstly, we are going to take a look at the results when considering past values for population density, which show to be statistically significant as a determinant of trust. The results presented in the following table show that population density has a positive effect on generalized trust, equally to the effect that it has shown in the previous sections. In this case, when considering population density with a lag of ten years, the effect on generalized trust is slightly higher. The effect that we can see is that when there is an increase in one individual per square kilometer of land area there is an increase of more than 0.005% on generalized trust.

Moreover, even though the results presented consider past values of ten years, results have been compared with other past values such as 15 and 20 years obtaining similar results where population density is always positively correlated with generalized trust. This can be explained by the fact that when people have more chances of meeting one person due to the fact that there are more individuals per squared kilometer, trust increases.

In addition to the effect of the past value of population density, we can observe that the results with regards to the other factors are similar to the ones that have been obtained before. For example, income inequality and linguistic diversity show the same negative (and statistically significant) relation with generalized trust as in the previous model.

Dependent variable: Generalized trust (%)

	1	2	3	4	5
Constant	49.2592*** (1.0013)	56.1597*** (0.9751)	57.1059*** (0.9935)	52.8999*** (1.0017)	53.742*** (1.0210)
Population density(t-10)	0.0058*** (0.0128)	0.0052*** (0.0133)	0.0051*** (0.0018)	0.0053*** (0.0014)	0.0051*** (0.0017)
GDP per capita	0.2896** (0.1287)	0.2295* (0.1334)	0.1986 (0.1356)	0.2089 (0.1333)	0.1771 (0.1711)
Income inequality	- 0.3072* (0.1561)	- 0.3749** (0.1501)	- 0.3857** (0.1502)	- 0.3275** (0.1537)	- 0.3381** (0.1538)
Age structure	- 0.3379 (0.2790)	-0.6437** (0.2579)	- 0.6966*** (0.2623)	- 0.4830* (0.2845)	- 0.5338* (0.2889)
Protestantism	- 0.0386 (0.0693)	- 0.0284 (0.0684)	- 0.0307 (0.0687)	- 0.0278 (0.0685)	- 0.0294 (0.0683)
Monarchy	- 2.9360 (3.7058)	- 5.7098 (3.4594)	- 4.6469 (3.5327)	- 4.0004 (3.6816)	- 2.9343 (3.7488)
Democracy	2.7913 (2.3880)	3.7012 (2.4292)	4.0735 (2.4484)	3.9700 (2.4257)	4.3536* (2.4449)
Linguistic diversity	- 0.0807** (0.0378)	- 0.0936** (0.0385)	- 0.0971** (0.0387)	- 0.1037** (0.0389)	- 0.107*** (0.0393)
Tourism	- 0.7969 (0.9742)			-1.2978 (0.9924)	-1.3015 (0.9920)
Migration		0.1560* (0.0975)	0.2036** (0.1028)	0.1910* (0.1006)	0.2386** (0.1057)
Refugees by country of asylum			-0.3667 (0.2722)		- 0.3616 (0.2709)
Refugees by country of origin			1.1604 (1.8842)		1.2503 (1.8755)
R-squared	25.15%	26.97%	29.18%	28.73%	30.95%
VIF	1.55	1.47	1.45	1.67	1.62
N	80	80	80	80	80

Note: Values in parentheses are the Standard Errors. *** denotes significance at $p < 0.01$; ** at $p < 0.05$; * at $p < 0.10$

Table 3. OLS regressions for generalized trust considering lags of population density

Apart from the regressions that we can observe with population density lags, regressions were run for the past values of migration, which can be found in Appendix A.6. Differently to what happened when considering past values of population density, the ones of migration showed to be not statistically significant. As the coefficients for the past values of migration are not significant we can conclude that migration may not be a determinant of generalized trust but that it is caused by it. A possible reason why this can happen is that individuals migrate to another country depending on the trust that they have on the people that live in that country. Another reason may be that societies that have higher levels of social capital facilitate the integration of immigrants as the citizens demonstrate to have more positive attitudes towards immigration (Herrerros and Criado, 2009).

In order to be able to confirm the idea that it is trust which causes international migration and it is not migration which causes generalized trust further research should be done with regards to this issue. An idea of how to complement the ad hoc process (taking lags) that has been considered for this issue would be an instrumental variable process.

As it has been anticipated earlier we are going to make few comments on the other possible solution for the reverse causality problem which would allow obtaining unbiased estimates. This additional solution could be considered so that we can have a stronger idea of the variables' endogeneity. To do this, an instrumental variable correlated with the endogenous independent variable and uncorrelated with the error term has to be found.

An example of this procedure with determinants of trust can be found in the paper written by Bjørnskov (2007). This author makes use of the Gastil index as an instrument of "democracy", demonstrating after that there exist reverse causality between generalized trust and this factor. As a consequence, the author suggested that "democracy" should not have been included as a determinant of trust. This argument can be in line with the results that we have obtained in our model, as democracy has shown to not be a statistically significant factor for generalized trust.

Likewise, even though it is a complex procedure due to the difficulty of finding good instrumental variables, this problem should be considered when trying to identify what causes trust. The reason why endogeneity has to be considered in further researches is that the coefficients obtained from the regressions can be biased if the problem is not addressed.

To sum up, from the two variables that the Durbin-Wu-Hausman test suggested to be endogenous in our analysis, we obtained two different results when using past values of both factors. On one side, the past values of population density are statistically significant, meaning that it is a determinant of trust. On the other side, the past values of migration showed up not to be statistically significant, which means that maybe it is generalized trust the one that causes international migration. In order to be able to assure both affirmations, instrumental variable regressions may be done to address this issue and contribute with more information.

V. Discussion

Bearing in mind the previous headlands in this paper we can point out some weaknesses that should be taken into account. In addition, we provide some possible solutions, among others, that could be considered for solving them in the future.

The first point that should be commented has also been criticized by different authors throughout the years as it has been mentioned before. We are referring to the general question used to address generalized trust where the phrasing “most” is many times unspecified. The answers to this type of question have been used in the analysis of this paper, which could lead to different results depending on which people each respondent thinks of.

To have a better image of this idea we can look at Figure 3, where generalized trust is compared to out-group trust for some of the developing countries used in our analysis. This Figure and Appendix A.7 show us that there is a difference between generalized trust and trust that people have when they are asked by concrete groups of people (from another religion, from another nationality...). Moreover, another example of the differences that there may exist can be found in Delhey et al.’ (2011) paper where the authors showed the different outcomes when considering the generalized trust or the radius-adjusted trust.

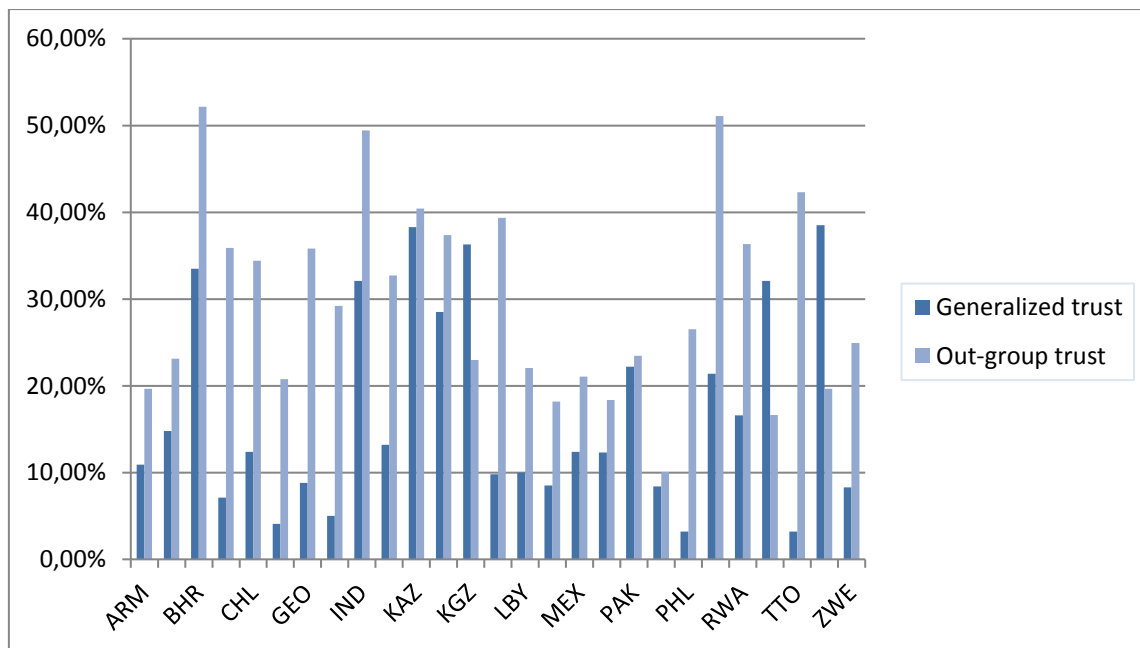


Figure 2. Generalized trust versus out-group trust

A possible solution to this difference and to the critique that has been done by many authors regarding the phrasing “most” could be the use of Christian Welzel’s battery for trust. This author developed a battery of six items which were designed to divide in in-group (particular) and out-group (general) trust (Delhey et al., 2011) where the latter relates to people that you meet for the first time, people of different religion and people of another nationality.

Additionally, Delhey et al. (2011) pointed out that it would be very useful to use the items related to the out-group trust as a proxy of the radius of trust. With the aid of van Hoorn (2014), these authors noticed that they had made a mistake and they clarified that the out-group trust could be used as a good proxy of general trust as it measures the level of trust under a wide radius of trust. As a result, the out-group trust data can be used to provide additional information with regards to trust in strangers.

In order to use the out-group trust as a proxy, we could follow a similar pattern as Delhey et al. (2011). These authors used the advantage that the WVS provides from WVS 5³ onwards as it gathers new information related to the out-group trust. This additional data is obtained from the question: “I’d like to ask you how much you trust people from various groups. Could you tell me for each whether you trust people from this group completely, somewhat, nor very much or not at all?⁴”. The answers are valued with 1, 2, 3 and 4, respectively; so that each item is rated in a four-point scale. Moreover, the answers make reference to the groups: people you meet for the first time, people or another religion and people of another nationality. To have a clear idea of this information we can attend to Figure 2.

By using the answers that respondents give to these three questions and applying them as proxies of generalized trust we would be able to have a closer idea of whom people are thinking of when they are asked how much they trust a group of individuals. In brief, this could be a possible solution to the unspecified “most people” used in the standard question that is employed to ask about generalized trust.

³ WVS 5 is Wave 5 of the WVS that was conducted between the years 2005 and 2009. The WVS counts already with six Waves, running from the year 1981 up to 2014. At this time, Wave 7 is being conducted.

⁴ This question has been copied directly from the WVS questionnaire.

“I’d like to ask you how much you trust people from various groups. Could you tell me for each whether you trust people from this group completely, somewhat, nor very much or not at all?”.

		Trust completely	Trust somewhat	Do not trust very much	Do not trust at all
Out-group trust	People you meet for the first time	1	2	3	4
	People of another religion	1	2	3	4
	People of another nationality	1	2	3	4

Figure 3. Out-group trust rated in a four-point scale from WVS 5 onwards⁵.

After analyzing the problem that can be found related to the dependent variable and providing one possible solution we can move towards the second obstacle that this paper can face. The obstacle that concerns us is the determinants that have not been included in the analysis or the measures used to account for each variable. The determinants that have been included in our regressions are the ones that have been found to be more significant and that have been studied along years (Bjørnskov, 2007). Due to this, not all possible determinants have been examined in our analysis and there may be important omitted variables in our model. Moreover, when checking for omitted variables in our regression, Stata suggested that there may be missing determinants in our model. This could be as a consequence of not considering variables that have already been studied in previous cases as the individual-level determinants, or others not mentioned in

⁵ Figure derived from Delhey et al. (2011).

the theoretical framework such as race (Alesina and La Ferrara, 2000; Marschall and Stolle, 2004; Herreros and Criado, 2008; Uslaner, 2008; Horvath, 2003), crime (Alesina and La Ferrara, 2000; Uslaner, 2001; Welch et al., 2005; Olivera, 2014; Mendolia et al., 2016) or corruption (Offe, 1999; Stolle, 2002; Uslaner, 2002; Rothsbein and Uslaner, 2005; Leigh, 2006; Delhey et al., 2011).

With regards to the not inclusion of individual-level determinants a possible solution would be to run a multilevel analysis where both individual and country-level determinants are considered. This method has already been used to examine determinants of trust by Stolle (2002), Hooghe et al. (2009), Freitag and Bühlmann (2009) or Sønderson and Dinesen (2016).

Likewise, the institutional context has shown to affect generalized trust (Herreros and Criado, 2008), which has not been included in our analysis. Considering this, the other types of trust defined in the theory may have an impact on our dependent variable. For example, Sønderson and Dinesen (2016) found out that institutional trust can affect generalized trust even though they were not able to establish if the relationship was based on reverse causality or that both types grow together. In addition to these authors, Welch et al. (2005) emphasized that institutional trust is influenced by interpersonal trust.

As a consequence of this, some research should be done to determine the relation between institutional and generalized trust. If reverse causality was found between them, the instrumental variable method may be used. Indeed, if we consider the reverse causality problem, this could explain the endogeneity of democracy, variable that can be used to represent the institutional quality of a country (Bjørnskov, 2007).

To continue, another reason for omitted variables could be that possible determinants of generalized trust have not been studied yet. An example of this could be geography, defined by Le (2013) as a determinant of trust. This factor could have an effect as it would need to have trust in unknown and distant locations that have not been experienced by the individuals (Withers, 2017). Even though Le (2013) suggested it as a possible determinant of trust we cannot mention papers where the geography has been implicitly used as determinant of trust.

A possible way to consider this factor could be the geographical unit to which each person feels he belong to. As a departing point to find a measure for it we could consider the paper written by Freitag and Bühlman (2009). These authors used the

question “To which of these geographical groups would you say you belong first of all?” with the possible answers being: town, region, nation, continent or world as a whole to measure cosmopolitan attitudes, which was used as a determinant of generalized trust, where higher cosmopolitan attitudes had higher generalized trust.

Going one step further from these authors we could use the answers for each question. An example would be to use the question of the WVS that says: “People have different views about themselves and how they relate to the world. Using this card, would you tell me how strongly you agree or disagree with each of the following statements about how you see yourself?”. This question refers to different topics such as: I see myself as a world citizen, as part of my local community, as part of my country nation or as an autonomous individual; for which each person has to answer if they strongly agree, agree, disagree or strongly disagree with each statement. With this information we could see if the geographical unit to which each person feels to belong to may have an effect on trust.

Apart from these possible determinants that have been omitted, errors in the way that the data is addressed may happen. One example of this is the data used for linguistic heterogeneity. Some authors, such as Laitin (2000) emphasized that we should not account for the probability of picking two people at random that will have the same mother tongue but that we should consider the probability of picking two people at random that have *at least one language in common*. If we considered the latter instead of the first probability our results may be different but as Laitin (2000) said this cannot be used yet as new databases are needed.

This last example can be used as reference for the other variables as by using other types of measures our results could have been different. Due to this, some of the variables selected to measure the determinants were based on previous studies, such as the use of the Gini coefficient for income inequality.

To conclude, the mentioned obstacles are the ones that the author consider more important when reading this paper. Moreover, the given solutions for each problem are only some suggestions among others that the reader may have.

VI. Conclusion

The search of the determinants of trust has become an important issue due to the explanatory power that it has as the core component of social capital. During many years a broad number of authors have tried to establish what causes trust but they have not yet been able to reach a consensus about these factors. The reason is that diverse outcomes have been obtained throughout the literature, which demonstrates the complexity of the theme.

Due to this, in this paper we have examined some of the possible causes of country differences in generalized trust. We have concentrated our analysis on developing countries as trust has a positive relation with economic growth and we consider that understanding some determinants of trust may be useful for these countries. Moreover, many of the factors included in the analysis are based on previous literature while the core of this paper tries to give an insight about a non-previously studied factor.

In concrete, even though we consider more determinants, our research question focuses on how long-term and short-term relations affect generalized trust. These two types of relations have been measured through international migration and tourism, respectively.

Firstly, our results show that regardless of the countries that we use in the analysis social and economic are negatively related with generalized trust. This can be seen through income inequality and linguistic diversity as both factors have a negative impact on the national level of generalized trust. On top of this, with regards to income inequality, we have just confirmed a well-established affirmation that when there is an increase in income inequality there is a decrease in trust.

Contrary to the previously commented factors, when considering only developing countries some determinants result in different outcomes. Examples of these factors are the variables monarchy and religion as none of them have demonstrated to be significant in our analysis. Special attention has been paid to religion by analyzing three different types (Protestantism, Catholicism and Muslim). From considering the three types we obtained negative coefficients for all so that dominant hierarchical religions would have the same effect as Protestantism, even though they are not determinant maybe because most population forms part of one of these religions.

Finally, with regards to the main research question that concerns this paper we obtained the following results. Firstly, when considering long-term relation, migration has shown to have a statistically significant positive impact on generalized trust. In other words, when there are more foreign individuals in a country population, we have an increase in trust. Although this factor has demonstrated to be a potential determinant for trust, further investigations should be carried out as problems of reverse causality have arisen. In concrete, when past values of international migration are considered they are not significant for trust which can suggest that it is trust the factor that has an impact on international migration.

Secondly, with regards to short-term relations, measured through tourism, we obtained negative coefficients in our analysis which would mean that an increase in transitory individuals would have a negative impact on generalized trust as Alesina and La Ferrara (2000) hypothesized. But even though we reached the same results that these authors predicted the results are not significant which means that the newly proposed factor as a determinant of generalized trust does not have an impact on this type of trust.

To sum up, due to the two results obtained from short-term and long-term relations with generalized trust in developing countries, we can state that while migration may be beneficial, tourism does not have an impact. As a consequence of these results, if policies were undergone in these countries with regards to trust they should be motivated by the positive impact that migration may have and be aware that tourism does not have an effect on trust.

As a final point, some ideas should be considered. Firstly, it may be useful to test the effects of the newly proposed determinant (tourism) in developed countries and observe what impact it has on trust in comparison to the results obtained in this research. Secondly, further research should be done including possible determinants that have been excluded in this analysis to have a better idea of what causes cross-country differences on generalized trust. And finally, research with regards to the reverse causality problem has to be done. An example of the areas where it can be performed is in the relation international migration and generalized trust or on finding good instrumental variables to use in the IV method. By being able to consider the endogeneity in the analysis, we would be able to identify better what causes generalized trust.

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VIII. Appendices

Appendix 1

Educational status	The majority of the researches have shown that a higher educational status increases trust; but a few have shown that this variable does not make a difference.
Age	All the studies obtained that an increase in age increases trust.
Gender	It is not a strong predictor as different studies find it not significant, with no influence or very little difference.
Income	A higher income increases trust. Reverse causality has been found between the two variables.
Employment	This variable has a positive relation with trust.
Voluntary association membership	Different results have been obtained as this variable has shown a positive relation, a weak relation or to not have relation with trust in diverse studies.

Table A.1. Individual-level determinants

Appendix 2

Income inequality	Higher income inequality has shown to decrease generalized trust.
Ethnic diversity	This variable has shown the most ambiguous results from all variables, with some studies indicating a positive relation with trust, other studies showing a negative relation or that it is not a significant factor.
Religion	Dominant hierarchical religions weaken trust while Protestantism increases it.
Monarchy	This variable has shown a positive relation with trust.
Democracy	Democracies are more trusting than non-democracies, but there might be reverse causality between trust and democratic states.
GDP per capita	The variable GDP per capita is positively related with trust.
Population size	This variable has resulted in two outcomes in different studies: positively related to trust and to not be significant.
Migration	Previous studies have shown a negative relation between this variable and trust.
Tourism	There are not previous studies between this variable and generalized trust.

Table A.2. Country-level determinants

Appendix 3

Variable	Source
Age structure	Association of Religion Data Archives: Cross National Socio-Economic and Religion Data
Democracy	Marshall and Jagger's Polity IV Index
GDP per capita, PPP (international \$)	World Bank database
Generalized trust	World Values Survey Wave 6 Afrobarometer Latinbarometer
GINI coefficient	World Bank database
Linguistic Diversity	Ethnologue Languages of the World*
Migration	World Bank database
Monarchy	Marshall and Jagger's Polity IV Index
Population density	World Bank database
Population size	Peen World Table
Protestantism	Association of Religion Data Archives: National Religion Database
Tourism	World Bank database

Table A.3. Sources for the variables used in the analysis

*The data from the *Ethnologue* is equivalent to the data from the Encyclopedia Britannica or the CIA Factbook as source for linguistic diversity (Alesina et al., 2003; Anderson and Paskeviciute, 2006).

Appendix 4

Country	Country Code	Country	Country Code
1 Algeria	DZA	42 Libya	LBY
2 Argentina	ARG	43 Madagascar	MDG
3 Armenia	ARM	44 Malawi	MWI
4 Azerbaijan	AZE	45 Malaysia	MYS
5 Bahrain	BHR	46 Mali	MLI
6 Benin	BEN	47 Mauritius	MUS
7 Bolivia	BOL	48 Mexico	MEX
8 Botswana	BWA	49 Morocco	MAR
9 Brazil	BRA	50 Mozambique	MOZ
10 Burkina Faso	BFA	51 Namibia	NAM
11 Burundi	BDI	52 Nicaragua	NIC
12 Cambodia	KHM	53 Niger	NER
13 Cameroon	CMR	54 Nigeria	NGA
14 Cape Verde	CPV	55 Pakistan	PAK
15 Chile	CHL	56 Panama	PAN
16 China	CHN	57 Paraguay	PRY
17 Colombia	COL	58 Peru	PER
18 Costa Rica	CRI	59 Philippines	PHL
19 Cote d'Ivoire	CIV	60 Qatar	QAT
20 Cyprus	CYP	61 Rwanda	RWA
21 Dominican Republic	DOM	62 Senegal	SEN
22 Ecuador	ECU	63 Sierra Leone	SLE
23 Egypt, Arab Rep.	EGY	64 Singapore	SGP
24 El Salvador	SLV	65 South Africa	ZAF
25 Ethiopia	ETH	66 South Korea	KOR
26 Georgia	GEO	67 Sudan	SDN
27 Ghana	GHA	68 Swaziland	SWZ
28 Grenada	GRD	69 Tanzania	TZA
29 Guatemala	GTM	70 Thailand	THA
30 Guinea	GIN	71 Togo	TGO
31 Honduras	HND	Trinidad and Tobago	TTO
32 India	IND	72 Tunisia	TUN
33 Iraq	IRQ	74 Turkey	TUR
34 Jordan	JOR	75 Uganda	UGA
35 Kazakhstan	KAZ	76 Uruguay	URY
36 Kenya	KEN	77 Uzbekistan	UZB
37 Kuwait	KWT	78 Venezuela, RB	VEN
38 Kyrgyz Republic	KGZ	79 Yemen, Rep.	YEM
39 Lebanon	LBN	80 Zambia	ZMB
40 Lesotho	LSO	81 Zimbabwe	ZWE
41 Liberia	LBR		

Table A.4. Developing countries and country codes considered in the analysis

Appendix 5

	Generalized trust	Pop Density	GDP pc	Age	Protestantism	Income inequality	Monarchy	Democracy	Linguistic diversity	Tourism	Migration	Asylum
Pop Density	0.2058											
GDP pc	0.1585	0.3376										
Age	0.0349	0.3530	0.3376									
Protestantism	-0.1164	-0.0748	-0.0145	-0.2042								
Income inequality	-0.2006	0.0348	0.0616	-0.0998	0.4166							
Monarchy	-0,1773	-0.0445	0.0057	0.0509	-0.0815	0.0010						
Democracy	-0.0771	-0.1330	-0.0308	0.0838	0.3083	-0.0539	-0.1674					
Linguistic diversity	-0.0190	0.0813	-0.1760	-0.3991	0.4166	-0.0807	-0.0813	-0.1142				
Tourism	-0.1827	0.2670	0.1391	0.4073	-0.0507	0.1618	0.3529	0.0888	-0.3748			
Migration	0.4963	0.3721	-0.1622	0.3389	-0.2257	-0.0510	0.2560	-0.2780	0.1280	0.4040		
Asylum	-0.1093	-0.0184	-0.0174	-0.0231	-0.0935	-0.0390	0.2847	-0.0931	0.0323	0.1297	0.2937	
Origin	0.09013	-0.0373	-0.1548	-0.1537	-0.0498	-0.0539	-0.0818	-0.1387	0.0323	-0.1239	-0.0769	0.0035

Table A.5. Correlation matrix

**Pop Density is population density; GDP pc is GDP per capita growth; Asylum is refugees by country of asylum and Origin is refugees by country of origin.*

Appendix 6

	2	3	4	5
Constant	54.3980*** (0.9632)	55.3292*** (0.9849)	51.2085*** (0.9965)	52.0600*** (1.0186)
Population density	0.0045*** (0.0133)	0.0044*** (0.0014)	0.0047*** (0.0014)	0.0045*** (0.0014)
GDP per capita	0.2476* (0.1335)	0.2132 (0.1364)	0.2308 (0.1332)	0.1958 (0.1363)
Income inequality	- 0.3652** (0.1504)	- 0.3753** (0.1507)	- 0.3203** (0.1545)	- 0.3299** (0.1549)
Age structure	-0.5794** (0.2546)	- 0.6408** (0.2614)	- 0.4247 (0.2837)	- 0.4870* (0.2901)
Protestantism	- 0.0284 (0.0684)	- 0.0323 (0.0691)	- 0.0302 (0.0685)	- 0.0314 (0.0668)
Monarchy	- 4.8810 (3.4326)	-3.8322 (3.5174)	- 3.2071 (3.6965)	- 2.1438 (3.7760)
Democracy	3.5820 (2.4646)	4.0477 (2.4945)	3.8415 (2.4665)	4.3162* (2.4963)
Linguistic diversity	- 0.0877** (0.0383)	- 0.0913** (0.0386)	- 0.0963** (0.0388)	- 0.0999** (0.0391)
Tourism			-1.1872 (0.9915)	-1.1945 (0.9923)
Migration (t-10)	0.1159 (0.1165)	0.1851 (0.1272)	0.1483 (0.1192)	0.2176 (0.1297)
Refugees by country of asylum		-0.3671 (0.2839)		- 0.3651 (0.2830)
Refugees by country of origin		1.0383 (1.8923)		1.1004 (1.8868)
R-squared	26.27%	28.29%	27.77%	29.81%
VIF	1.46	1.46	1.65	1.62
N	80	80	80	80

Note: Values in parentheses are the Standard Errors. *** denotes significance at $p < 0.01$; ** at $p < 0.05$; * at $p < 0.10$.

In this table the regression 1 has been taken out as the lags for migration are not considered in it.

Table A.6. OLS regressions for generalized trust considering lags of migration

Appendix 7

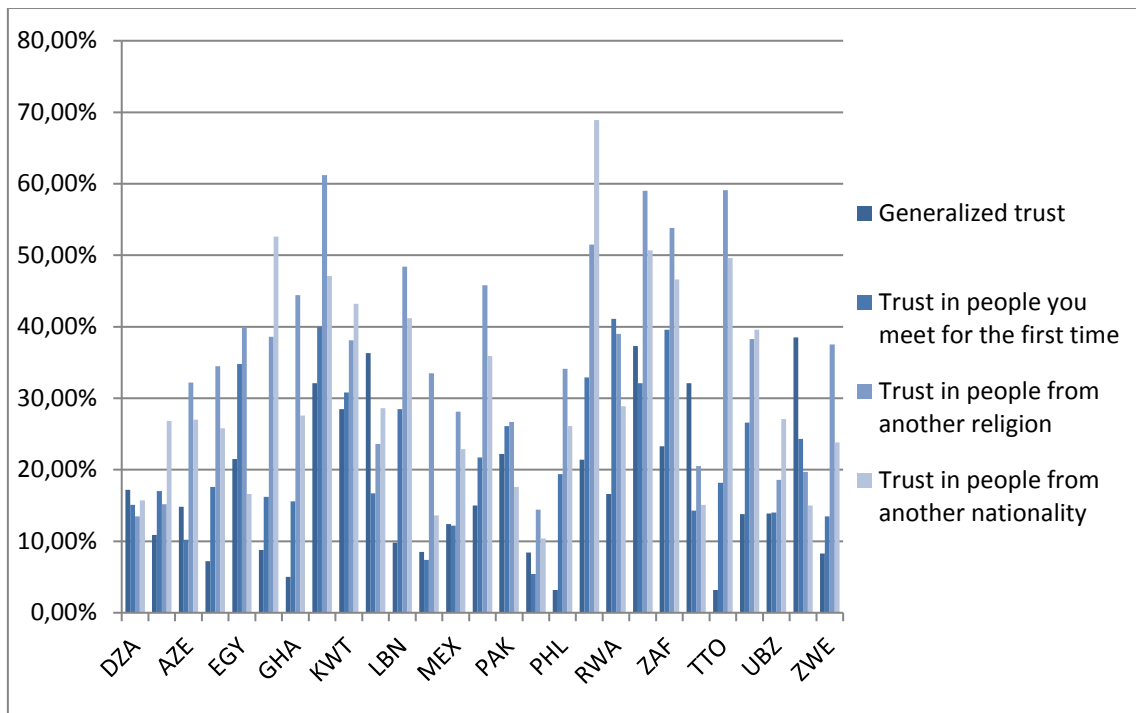


Figure A.7. Generalized trust versus out-group trust