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TRUST AND RECIPROCITY BETWEEN NEIGHBOUR COUNTRIES. Morocco, France and Spain

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CONFIANZA Y RECIPROCIDAD ENTRE PAÍSES VECINOS. Marruecos, Francia y España

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Abstract
This article examines an intra- and international trust game experiment between Moroccan, French and Spanish participants. Before making decisions, the participants knew the nationality of their partner. We find that, on average, subjects from Morocco exhibit a higher level of trust. Furthermore, they trust French more than Spanish subjects. Regarding reciprocity, subjects from Spain were the least trustworthy. Additionally, we do not observe country differences in reciprocal behaviour.

Keywords
Cross-country; Experiment; Reciprocity; Trust; Trust game.

Resumen
Este artículo examina un experimento internacional basado en el juego de la confianza entre participantes marroquíes, franceses y españoles. Antes de tomar decisiones, los participantes conocían la nacionalidad de su pareja. Nuestros resultados muestran que, en promedio, los sujetos de Marruecos presentan un mayor nivel de confianza. Además, confían más en los participantes franceses que en los españoles. En cuanto al comportamiento recíproco, los sujetos españoles fueron los menos fiables. Cabe destacar también que no observamos diferencias entre países en cuanto a la reciprocidad.

Palabras Clave
Confianza; Experimento; Juego de la confianza; Multipaíses; reciprocidad.

Introduction

A large part of the total population of Moroccans (approximately 5m out of 38m) lives abroad. Among these, over 1.5m live in France and 0.8m in Spain. It has often been argued that, due to a variety of reasons, Moroccan emigrants in these two EU countries have been economically and socially discriminated in comparison to other, equally qualified workers from the EU. The ongoing debate concerning the integration of non-EU immigrants into the societies of host EU countries makes the case of Moroccan immigrants a very interesting case study, among other reasons, because the experience from the contact between immigrant and native host populations shapes their attitudes towards each other. Following Smith's (2010) insightful review on trust across racially different populations, people belonging to discriminated minorities may eventually mistrust others.

Empirical studies based on surveyed respondent's stated beliefs concerning the trustworthiness of "others" uniquely address the degree to which a person trusts another, where lacking the ability to control for the "other's" trustworthiness is understood as behaviour reciprocal to the trust received. Recently, the experimental paradigm has been used to address both trust and reciprocity in economic contexts (Alesina and La Ferrara 2002) within and across culturally homogeneous groups (Fershtman and Gneezy 2001; Barr 2005). As a result of continuing economic, political and social globalisation, economic interactions increasingly take place not only within particular cultures, but also between individuals from different cultures. The prospects for this type of international economic integration may depend, among other things, on cultural factors. Guiso et al. (2006), for example, showed that foreign direct investment and trade of goods and services, as well as portfolio investment at the national level, are affected by the prevailing attitudes citizens have towards a partner country.

The objective of this paper is to investigate trusting and reciprocating behaviour at the intra- and international levels. In particular, we focus on three Mediterraneanneighbour countries: Morocco, France and Spain. The three countries are located in geographically proximate areas. Spain shares a border with France, whereas the border between Spain and Morocco (fourteen kilometres across the sea at the nearest point and land borders in the Spanish cities of Ceuta and Melilla on the African continent) is one of the most unequal in terms of GDP among all the OECD countries. Moreover, during part of the twentieth century (from 1912 to 1956) Morocco became a protectorate of both France (most of the country) and Spain (some northern and southern zones). From the international trade perspective, France is Morocco's largest trading partner, followed by Spain; while Morocco is a marginal trading partner for the two European countries. Concerning the trade relations between France and Spain, they are less asymmetric than those of any of the two with Morocco: Spain stands as France's fourth trade partner, while France is the country with the largest weight in Spanish external trade (CEPII 2011). Therefore, their narrow commercial relationships, historical ties and cultural diversity make them an interesting case study.

The three countries have some significant differences. Morocco is a developing African country in which Muslims make up a majority of the population, whereas France and Spain are developed European countries with a majority of Catholics. According to the IMF (2013), France and Spain are ranked 24th and 28th in terms of GDP per capita, while Morocco ranks 114th. In this sense, France and Spain constitute the high-income countries of our sample, while Morocco may be classified as a low-income country.

Another interesting distinction among these countries that could influence their behaviour is the way in which people interact within the society and with those from other societies. Concerning the interdependence within a society, Hofstede (2009) proposed an individualism index that reflects how people look after themselves and their direct family only. According to this index, Morocco's individualism index is lower than those of France and Spain.[1] With regard to trust in other societies, the World Values Survey (WVS hereafter) Wave 5 measures the extent to which people trust others of another nationality. Compared to France (27.8%) and Spain (6.3%), a lower ratio of respondents in Morocco (1.8%) chose the answer "Trust completely". Similarly, a higher ratio (31.6%) of Moroccan respondents chose the answer "No trust at all" (compared to 13.1% in Spain and 5.7% in France).[2] These results seem to indicate that people from Morocco are less willing to trust people of another nationality than are Spanish and French respondents. Indeed, according to the WVS, in an index ranging from -100 (no trust at all) to +100 (trust completely), France obtains +56, Spain -1 and Morocco -55.

We follow the experimental design of Bohnet and Zeckhauser (2004) using a modified version of the trust game by Berg, Dickhaut and McCabe (1995). Over the last two decades, the trust game has been widely used to experimentally measure trust and trustworthiness around the world. Our paper is related to the literature that investigates trust and reciprocity at the intra-national and international levels. For instance, Fershtman and Gneezy (2001) identified ethnic stereotypes to be the cause of discrimination in the Israeli Jewish society towards subjects of Eastern origin. Willinger et al. (2003) found that the amount that Germans invested in France is higher than that invested by French people in Germany; however, the amount that Germans return to the French is not different from the amount the French

return to Germans. In their study on Turkish and Belgian small businessmen, Bouckaert and Dhaene (2004) found that trust and reciprocity do not depend on the ethnic origin of the trust donor or on the ethnic origin of the receiver. Hennig-Schmidt et al. (2008) implemented an intercultural trust game experiment between Germans, Israelis and Palestinians. They found that Israeli senders make lower transfers (to all subjects) and, in contrast, Palestinian senders make high transfers. Bornhost et al. (2010) ran an experiment in which students of different European nationalities were divided into five-member groups and had to repeatedly choose with whom, within their group, they would like to play a trust game. They found that participants tend to trust those they trusted before and who trusted them. They did not find evidence of regional discrimination *per se*. Finally, Akai and Netzer (2012) found that the intra-national trust levels in Japan and Austria are identical. However, while the international trust for Japanese groups is lower than that of Austrian groups, the international reciprocity for Japanese groups is greater than that of Austrian groups.

Regarding African countries, Johnson and Mislin (2011) conducted a meta-analysis for a large sample of trust game results in order to identify, among other issues, the effect of geographic variation on this behavioural measure of trust and trustworthiness. The authors found evidence that subjects send less in trust games conducted in Africa than those run in North America.[3] Additionally, Burns (2006) examined the impact of racial identity on behaviour in trust games played by high school students in South Africa. The study found a systematic pattern of distrust towards Black partners, even by Black proposers. According to Burns (2006), these results reflect the impact of socio-economic inequality rather than ethnic differences on subject behaviour. Similarly, Ashraf et al. (2006) found that Black players receive and make lower offers than whites or coloured in the trust game, even when playing with members of their own ethnicity.

To the best of our knowledge, this is the first experimental trust game that directly examines whether the trade relationship between Morocco and its two historical neighbours and partners, Spain and France, is reflected in the levels of trust and reciprocity among them.

Overall, our results show that participants from Morocco exhibited the highest level of trust and reciprocity, whereas participants from Spain the lowest ones. These results suggest that there is a connection between reciprocal and trusting behaviour. To some extent, individuals expect that other participants from other countries behave like they do. In this sense, the high (low) level of trust observed with Moroccan (Spanish) might be explained by the high (low) level of reciprocity exhibited by their compatriots.

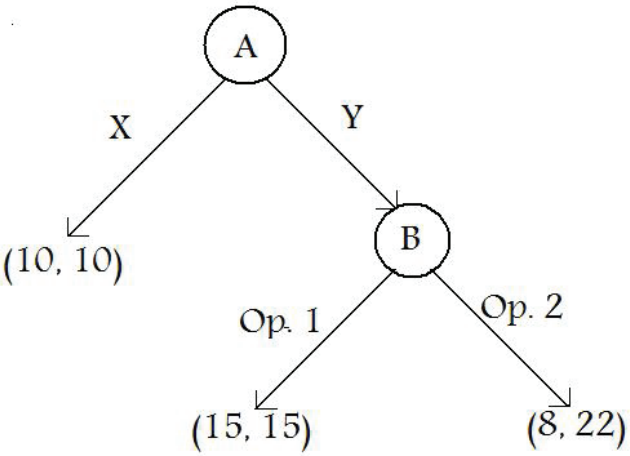
Regarding the importance of historical and trade relationships on levels of trust and reciprocity in bilateral relations, we do not observe positive discrimination towards participants from their own country either in trust or reciprocal behaviour in any country. Finally, we find that Moroccan subjects display a higher level of trust for French than for Spanish ones. However, we do not find evidence of discrimination among countries as far as reciprocal behaviour is concerned.

Experimental design and procedures

Following the game introduced by Bohnet and Zeckhauser (2004), we focus on a binary-choice, two-player trust game in which the principal has to choose between X and Y. X results in a certain outcome, whereas Y may yield the principal either a higher (Option 1) or a lower payoff (Option 2) than option X.

In this game, choosing Y means the principal allows the agent to determine the principal's (hereafter, player A) earnings and those of the agent (hereafter, player B). Figure 1 presents the binary-choice trust game.

Figure 1.
Binary-choice trust-game.



A money-maximizing player B would prefer 22 monetary units to 15. If player A considers that player B will behave in this way, player Ashould choose the certain alternative (X), therefore receiving 10 rather than 8 monetary units. This is the Perfect Nash Equilibrium of the game. However, player A may consider that player B has other-regarding preferences and would act reciprocally. In this case, player A may choose the trusting alternative (Y) if he/she expects—if not with certainty at least with a sufficiently high probability—that player B will choose the egalitarian outcome (15, 15).

The binary-choice trust-game experiment was run in three different countries: France, Morocco and Spain. A total of 180 university students participated in the experiment: 60 students from each country (University of Granada, Spain; University of Rabat, Morocco; University of Paris, France). Any Spanish, Moroccan or French participant played the binary-choice trust game with one member of his/her own country as well as with one member of the other two countries. All matchings were played one-shot. The type of design we used raises the issue of possible order effects. In order to avoid order effects in the decision-making, we collected data using random ordering. That is, the order of matching across subject pools was completely random. All participants knew the university of origin of the participant with whom they were paired. Participants kept their player type throughout the experiment.

In each country, the instructions of the experiment were read aloud and explained in detail to the experimental subjects by a native research assistant. To ensure that the subjects understood the instructions, they were asked to answer a questionnaire after the instructions had been read aloud to the group and just before the experiment began. All of the subjects answered the questions correctly.

Participants played the game against a counterpart from each subject pool without being informed about their earnings from the game before the very end of the entire experiment. Subjects made their decisions in complete anonymity.

The strategy method (Selten 1967) allowed us to elicit decisions from player B independently from the decisions of player A. By having player B state his decision in the case that player A chose the trusting alternative, the sequential two-person, two-stage game is converted into a two-person, normal-form, one-stage game for each player. These correlated games can be played independently at different locations and different points in time. The experiment was run using pen and paper. This procedure made the experimental design independent of equipment and ensured software compatibility across countries. In each of the three countries, we ran two sessions with 30 participants for each player type.

Participants in each country randomly drew a personal identification code constituting a predefined order of matching across subject pools not noticeable for participants. The code also ensured full anonymity by a double-blind procedure. Subjects then made their choices on decision sheets marked with their code number and displaying their counterpart's country. Once all sessions were completed everywhere, the experimenters collected the data, computed the payoffs and transferred this information to all the experimenters in the other countries. Finally, subjects were paid out by the local experimenters a week after the end of the last session.

Sessions lasted for about 40 minutes including the reading of the instructions. On average, subjects earned €14.

The international character of this research warranted that we control for country- or culture-specific variables that could influence our results. Specifically, we addressed the following issues as suggested by Roth et al. (1991).

a) *Controlling for subject pool equivalency.* Subjects were all undergraduate students and were paid for their earnings in the experiment.

b) *Controlling for currency effects.* We controlled for purchasing power parity by choosing denominations such that monetary incentives relative to subject income and living standards were approximately equal across countries (as in Kachelmeier and Shehata 1992). The exchange rates were: 1 experimental point = €1 in France and Spain; and 1 experimental point = 10 dirhams in Morocco.

c) *Controlling for language effects.* To control for any nuances in language which may impact results across countries, the instructions for the experiments were translated into the native language.[4]

d) *Controlling for experimenter effects.* Various measures were taken to control for differences among the experimenters in the different countries. First, in each country, the lead experimenter was a native professor from that country. Second, an extremely thorough experimental protocol was used in all three countries. Finally, an experimenter was present in the data recording room while each experiment was being conducted.

e) *Controlling for comprehension of the experimental task.* To ensure that the subjects in each country understood the experimental task after reading through the instructions, the subjects completed a series of comprehension checks prior to engaging in the actual task. The experiment monitors checked each student's answers before the experiment was allowed to proceed.

As regards the composition of the sample, some tables to describe the main characteristics of respondents by country and for the whole sample are included in the appendix. All the subjects were university students. Therefore, they were all older than 18 and most of them had completed 1-4 years of education after undergraduate school. Concerning religion, almost all the respondents from Morocco were Muslim, two-thirds of Spanish respondents were Catholic and the others indicated they were non-religious. More heterogeneity was found in France, with approximately one quarter of subjects being Catholic, one quarter Muslim and less than half non-religious. Finally, the sample was balanced in terms of gender.

Results

We first analyze players A's decisions and subsequently focus on players B's decisions. We denote the trusting alternative of player A as "trust" and the egalitarian option of player B as "reciprocity".

a) Players A's decisions: trusting behaviour

First, we examine whether subjects from each of the three countries made different trusting choices regardless of their partner's country. Figure 2 shows the percentage of players A trusting players B for each country.[5] As can be observed, on average, Moroccan subjects exhibited the highest level of trusting: 56% of Moroccan subjects trusted, while only 43% and 37% respectively of French and Spanish subjects did.[6]

To check whether these differences are significant, we performed an econometric exercise. We estimated an ordered probit model to explain the number of times each subject trusts (the variable *TRUSTSUM* can take a value from 0 to 3) by a set of individual characteristics and the subject's country of residence. Each column displays the results of the same model but the omitted dummy indicating the subject's residence differs from one column to another in order to control for any possible country-pair specificities. The results displayed in Table 1 confirm the results in Figure 2. We do find a significant impact of the country of residence: participants from France and Spain display a significantly lower level of trust than Moroccan subjects (column 1) and reciprocal, Moroccan display a higher level of trust than French subjects (column 2) and Spanish subjects (column 3). This finding leads to our first result.

***Result 1**: Subjects from Morocco exhibit a higher level of trust than subjects from France and Spain.*

The results also contain another important message since we do not find any significant effect of subject characteristics (age, gender and religion). Obviously, the size of the sample is not large enough to consider extrapolating any conclusions but indicates that trust in different cultures and/or nationalities is more a matter of social preferences than of individual beliefs. More work is needed to explain the formation of trust among countries.

Next, we turn to disaggregate data by country. This allows us to examine whether subjects discriminate among origins and if this is the case, which partners they discriminate against or in favour of. According to Figure 3, the French do not seem to discriminate among origins, choosing to trust in 40% of the cases, regardless of the partner's place of residence. Moroccans and Spanish seem to trust more or less depending on the origin.

Figure 2.
Share of subjects A who trusted players B.

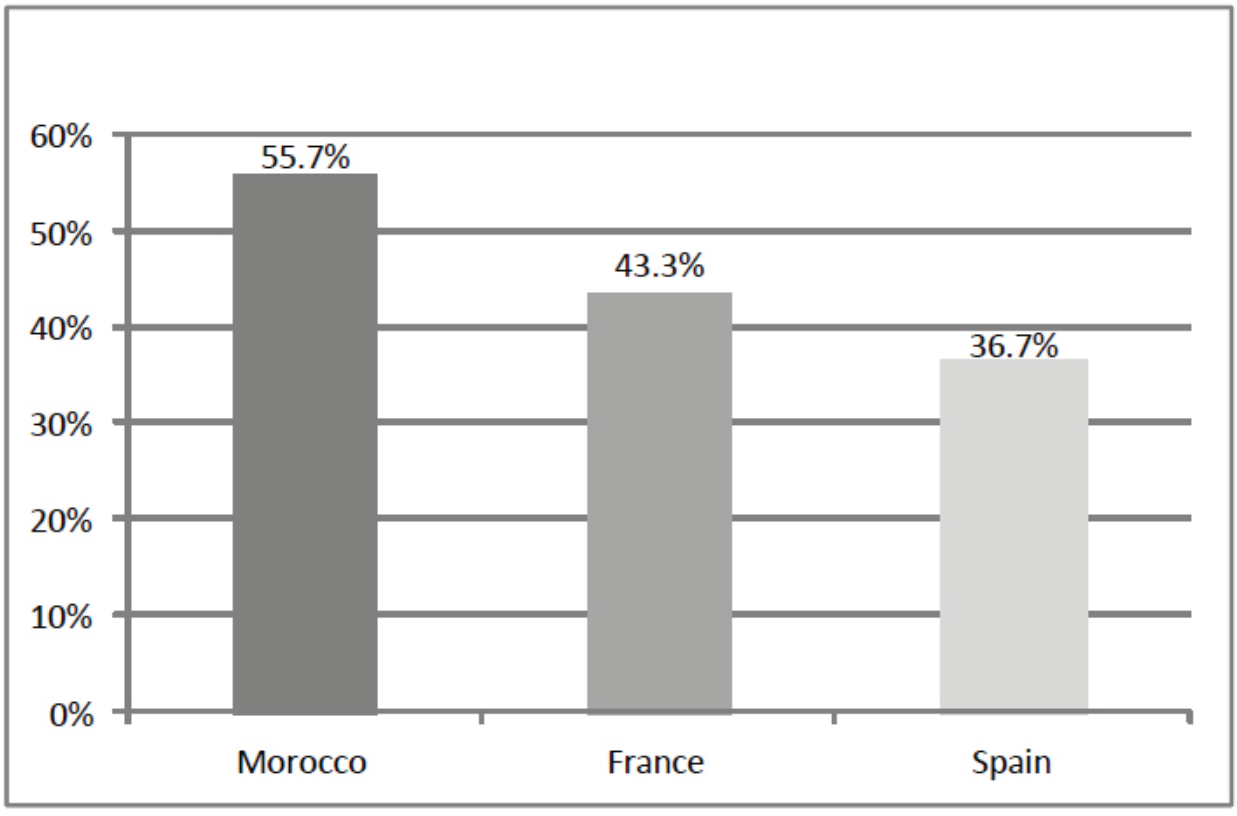
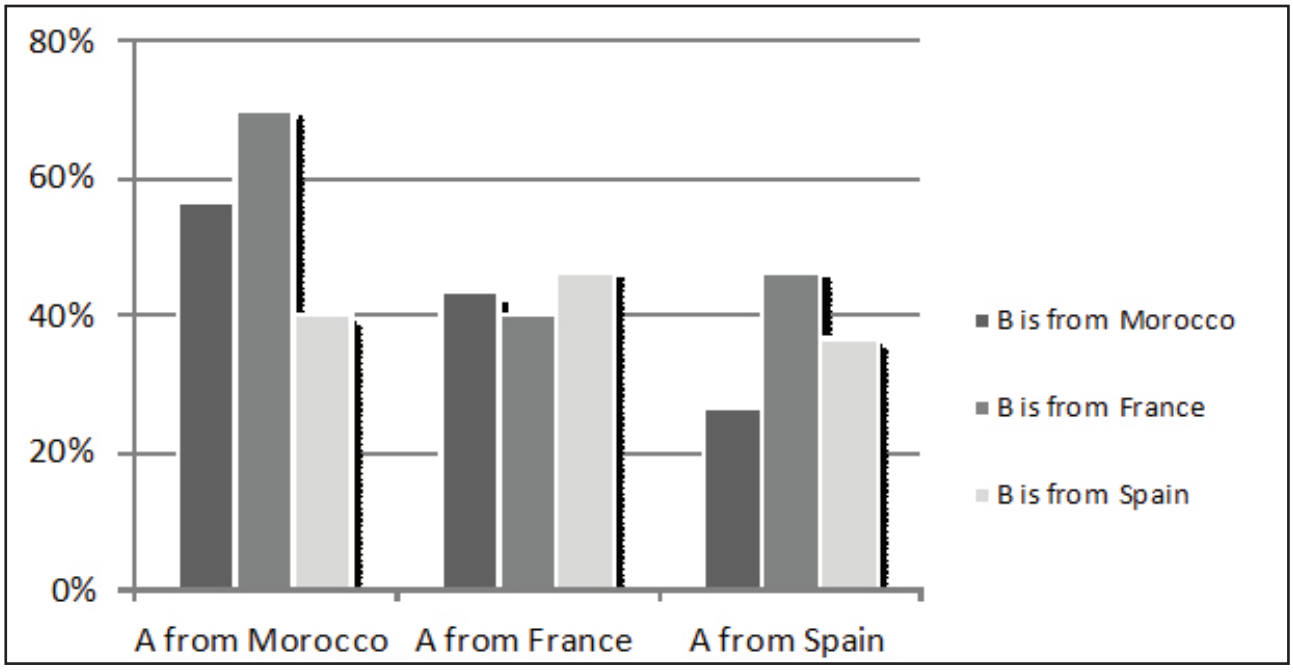


Table 1.
Ordered probit model to detect if some countries are more trustee than others.

a)	-1	-2	-3
b)	*TRUSTSUM*	*TRUSTSUM*	*TRUSTSUM*
log of Respondent's age	0.965	0.965	0.965
	[0.627]	[0.627]	[0.627]
Respondent is Female	0.143	0.143	0.143
	[0.257]	[0.257]	[0.257]
Respondent is Catholic	0.242	0.242	0.242
	[0.361]	[0.361]	[0.361]
Respondent is Muslim	-0.124	-0.124	-0.124
	[0.435]	[0.435]	[0.435]
Respondent resides in France	-0.737*		0.178
	[0.419]		[0.388]
Respondent resides in Spain	-0.914*	-0.178	
	[0.534]	[0.388]	
Respondent resides in Morocco		0.737*	0.914*
		[0.419]	[0.534]
cut1:Constant	1857	2594	2772
c)	[2.016]	[2.048]	[1.917]
cut2:Constant	2700	3.437*	3.614*
	[2.023]	[2.057]	[1.925]
cut3:Constant	3.439*	4.175**	4.353**
	[2.031]	[2.066]	[1.936]
Observations	90	90	90

Note: Standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. *TRUSTSUM* takes values from 0 to 3 and is equal to the number of times each subject had trusted in total.

Figure 3.
Share of subjets A who trusted players B, by country.



To determine whether these differences are significant, we performed Cochran tests to check whether the probability that subjects from country A trust a partner from country B is the same for all countries B.[7] If the p-value of the Cochran's test is larger than 0.1, we would reject the hypothesis that subjects from country A discriminate among partners' origins. When we found some evidence that partner B'scountry of residence matters for subjects from country A, we performed McNemar's test for each pair of partners to determine if the probability of trusting people from countries B1 and B2 is the same (we accept this hypothesis when the p-value is larger than 0.1). When the results of the Cochran's test do not indicate any differences among partners, there is no point in performing McNemar's test as it would obviously confirm that the probabilities of trusting within pairs are the same. The results are displayed in Table 2.

The results of the Cochran tests indicate that only Moroccan players significantly discriminate according to their partners' origin (p-value = 0.0787). Moroccan players A trust Spanish players B less than they trust the French and Moroccan players, as illustrated in Figure 3. According to the results of McNemar's test, the difference in Moroccan trusting behaviour is only significant among French and Spanish partners (see Table 2). French and Spanish subjects exhibit similar levels of trust regardless of the nationality of players B (p-values of Cochran tests are 0.7408 and 0.1653, respectively). The results are in line with Figure 3 for French subjects: 40% of them trust to some extent regardless of their partners' country. The results are more surprising for Spanish players, since Spanish players A seem to trust Moroccan players B less than the French players (27% versus 47%).

A corollary of these results is that subjects do not show a higher level of trust towards participants from their own country than towards participants from abroad. France is the country in which subjects trust the most.

To complete the preceding analysis of bilateral relationships, we estimated three panel probit models to explain the trusting behaviour towards each of the three countries. The dependent variable ($TRUST_{iB}$) has a bilateral dimension: it takes the value 1 when subject ifrom country A trusts the partner from country B and 0 if he/she doesn't. We then end up with 270 observations corresponding to 30 subjects for each of the 3 countries A, who chose 3 times to trust or not depending on partner B's country.[8] We consider a model with fixed effects by individuals since the available individual characteristics do not have a significant impact. Model 1 focuses on the behaviour of Moroccan subjects (A) by including two dummies reflecting the nationality of subjects (B), while the third possible nationality is omitted.[9] Models 2 and 3 focus on the trusting behaviour of Spanish and French subjects, respectively.[10] The results are displayed in Table 3.

Our results confirm that subjects from Morocco trust the French more than the Spanish. The estimations do not provide evidence of any other specificity nor positive or negative discrimination in any other bilateral relationships.

***Result 2**: Intra-national trust levels do not differ from inter-national trust levels. Additionally, Moroccan subjects display a higher level of trust towards French subjects than Spanish ones.*

b) Players B's decisions: reciprocal behaviour

Figure 4 shows the percentage of players B who chose the egalitarian outcome in each country.[11] As can be observed, on average, Moroccan players reciprocate most (62%), followed by the French (39%) and Spanish players (14%). These results suggest that there is a relationship between reciprocal and trusting behaviour. That is, the high (low) level of trusting shown by Moroccan (Spanish) players A, might be explained by the high (low) level of reciprocity exhibited by their compatriots in the role of players B. It seems that players A expect that their partner B will behave as they would have.

Table 2.
Cochran and McNemartests of proportions among players A from each country towards players B.

	Cochran's test
Respondent's country A (Trust/No trust)	Partners B from all countries
France	chi2(2) = 0.60; p-value = 0.7408
Morocco	chi2(2) = 5.08; p-value = 0.0787
Spain	chi2(2) = 3.60, p-value = 0.1653

Cochran's test: The null hypothesis is that the probabilities that country A trusts in all country B are the same.

	McNemar's test		
Partners B from:	France versus Morocco	France versus Spain	Morocco versus Spain
A from Morocco	chi2(1) = 0.89 p-value = 0.3458	chi2(1) = 5.40 p-value = 0.0201	chi2(1) = 1.67 p-value = 0.1967

McNemar's test: The null hypothesis is that the probabilities that country trusts in country B1 and B2 are the same.

Table 3.
Probit models to detect possible bilateral discrimination in subjects A trusting.

	(1) $TRUST_{iB}$	(2) $TRUST_{iB}$	(3) $TRUST_{iB}$
A from Morocco, B from France	0.821**		
	[0.342]		
A from Morocco, B from Morocco	0.447		
	[0.333]		
A from Spain, B from Spain		-0.271	
		[0.335]	
A from Spain, B from Morocco		-0.562	
		[0.343]	
A from France, B from Morocco			-0.090
			[0.333]
A from France, B from France			-0.182
			[0.334]
Subject A from France or Spain	-0.002	0.075	-0.015
	[0.255]	[0.253]	[0.253]
Constant	-0.270	-0.091	-0.089
	[0.245]	[0.243]	[0.242]
Omitted dummy	A from Morocco, B from Spain	A from Spain, B from France	A from France, B from Spain
Observations	270	270	270
Number of id	30	30	30

Note: Standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Figure 4.
Share of subjects B who chose the reciprocal option.

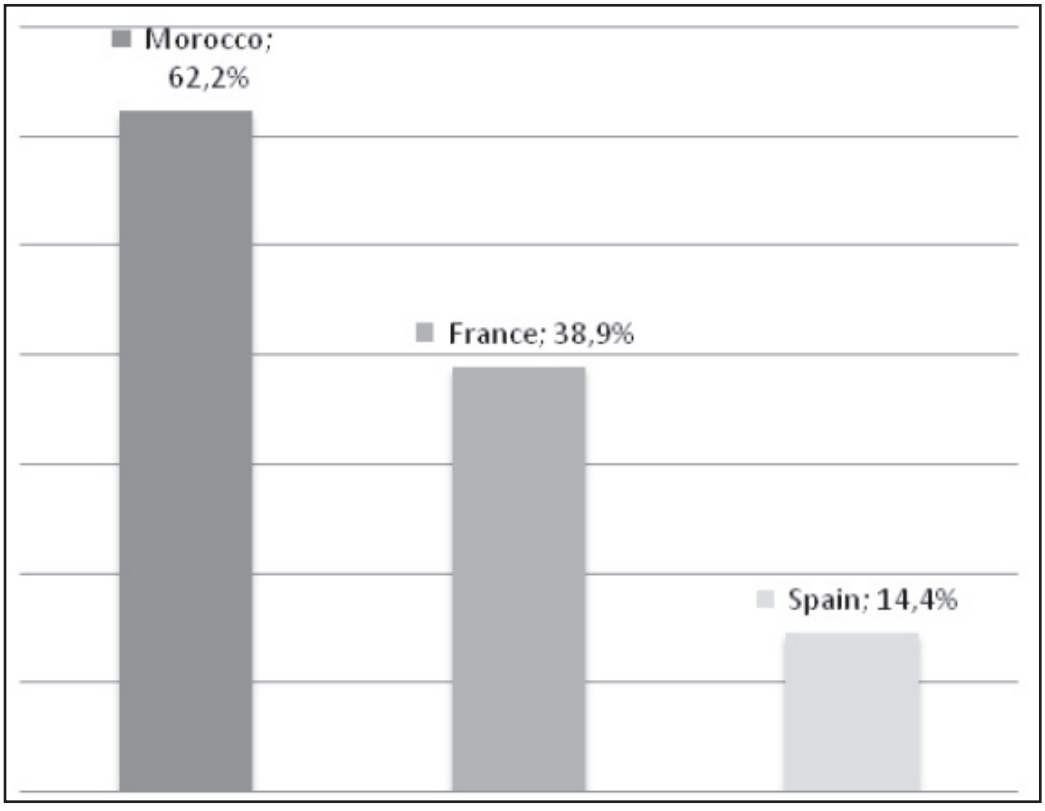


Table 4.
Ordered probit model to detect if some countries are more trustworthy than others.

	-7	-8	-9
	RECIPSUM	RECIPSUM	RECIPSUM
log of Respondent's age	0.244	0.244	0.244
	[0.708]	[0.708]	[0.708]
Respondent is Female	0.144	0.144	0.144
	[0.259]	[0.259]	[0.259]
Respondent is Catholic	0.381	0.381	0.381
	[0.367]	[0.367]	[0.367]
Respondent is Muslim	-0.067	-0.067	-0.067
	[0.579]	[0.579]	[0.579]
Respondent resides in France	-0.800	0.938**	
	[0.539]	[0.379]	
Respondent resides in Spain	-1.739***		-0.938**
	[0.657]		[0.379]
Respondent resides in Morocco		1.739***	0.800
		[0.657]	[0.539]
cut1:Constant	0.066	1805	0.866
	[2.307]	[2.194]	[2.271]
cut2:Constant	0.457	2195	1257
	[2.305]	[2.196]	[2.271]
cut3:Constant	0.885	2623	1685
	[2.308]	[2.201]	[2.274]
Observations	90	90	90

Note: Standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. *RECIPSUM Takes values from 0 to 3 and is equal to the number of times each subject B had chosen the reciprocal option in total.*

The econometric results displayed in Table 4 show two estimations concerning reciprocity. An ordered probit model is used to explain the number of times in which each respondent B has chosen the egalitarian option. The difference between the two models comes from the omitted dummy variable: in the first case we omit the dummy that indicates the subject is from Morocco and in the second model we omit the dummies for Spanish subjects. The first estimation demonstrates that the Spanish subjects are significantly less reciprocal than the Moroccan subjects and that there are no differences between the French and Moroccan participants. The second estimation shows that the French and Moroccan subjects are significantly more reciprocal than the Spanish subjects. This finding gives rise to our third result:

***Result 3**: Spanish subjects are significantly less trustworthy than subjects from the other countries.*

Now we turn to the analysis of bilateral relationships. Figure 5 displays the results disaggregated by country. The general picture shows that players B do not discriminate and exhibit similar levels of reciprocity regardless of the nationality of players A. The results of the Cochran tests displayed in Table 5 show no evidence of discrimination for any country pairs (p-value = 0.7165 for France; p-value = 0.3050 for Morocco; p-value = 0.1738 for Spain).

In order to seek possible bilateral discrimination depending on nationalities, we estimate three panel probit models in the same line as the models displayed in Table 3 for trusting relationships. Model 1 focuses on the behaviour of Moroccan subjects (B) by including two dummies reflecting the nationality of subject (A), while the third possible nationality is omitted. In this case, the bilateral relationship "A from France, B from Morocco" is used as a benchmark, while the other nationalities are aggregated in a whole dummy that takes the value 1 if subjects B are from France or Spain. Models 2 and 3 focus on Spanish and French subjects B, respectively. Their behaviour towards France and Spain are compared to their behaviour towards Morocco, the omitted variable in both cases.

The results displayed in Table 6 confirm that there is no evidence of significant discrimination among subjects A from any country, neither B's own country or the other country. Additionally, we find that the variable indicating that B comes from another country shows (model 1) that France and Spain are significantly less reciprocal than Morocco. From model 2, the coefficient of this variable indicates that the French and Moroccans are significantly more reciprocal than the Spanish, thus confirming again result 3.

Figure 5.
Share of subjects B who chose the reciprocal option, by country.

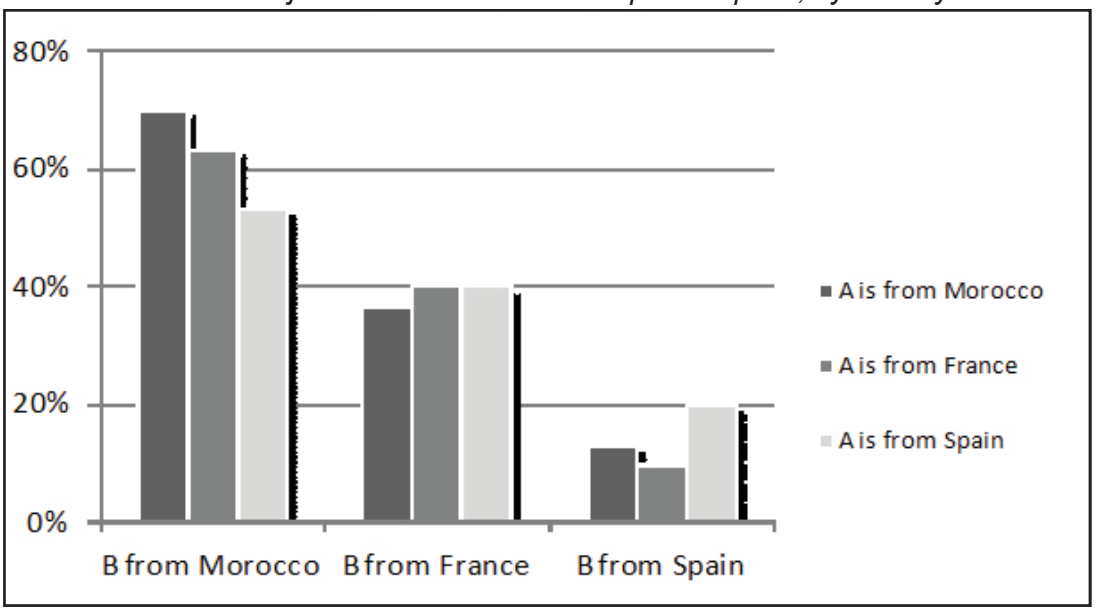


Table 5.
Cochran tests of proportions among players B.

	Cochran's test
Partners A from: Respondent's country, B (reciprocal/Selfish)	All countries
France	chi2(2) = .66; p-value = 0.7165
Morocco	chi2(2) = 2.375; p-value = 0.3050
Spain	chi2(2) 3.5; p-value = 0.1738

Note: Cochran's test: The null hypothesis is that the probabilities that country B reciprocates to all country A are the same.

Table 6.
Probit models to detect possible bilateral discrimination in subjects B reciprocating.

	-1 1 if subject B chose the egualitarian option	-2 1 if subject B chose the egualitarian option	-3 1 if subject B chose the egualitarian option
A from Spain, B from Morocco	-0.468 [0.426]		
A from Morocco, B from Morocco	0.317 [0.431]		
A from Spain, B from Spain		0.690 [0.645]	
A from France, B from Spain		-0.515 [0.753]	
A from Spain, B from France			0.283 [0.583]
A from France, B from France			0.283 [0.583]
B and A from other country	-2.252*** [0.694]	2.637*** [0.817]	0.242 [0.738]
Constant	0.691 [0.520]	-2.637*** [0.752]	-1012 [0.659]
Omitted dummy	A from France, B from Morocco	A from Morocco, B from Spain	A from Morocco, B from France
Observations	270	270	270
Number of id	90	90	90

Note: * significant at 10%; ** significant at 5%; *** significant at 1%. The null hypothesis is that the probabilities that country B reciprocates to country A1 or country A2 are the same.

***Result 4**: Intra-national reciprocity levels do not differ from inter-national reciprocity levels. Additionally, participants do not discriminate between foreign partners.*

Conclusions

Trust plays a crucial role in economic interactions. The importance of trust for a better economic outcome in a society has been emphasized by many authors, among them Arrow (1972), Fukuyama (1995), Putnam (1993), Knack and Keefer (1997) and La Porta et al. (1997). In this regard, a partner's (initial) choice, as well as the decision about the volume of activity, depends largely on the extent to which the agent trusts a potential partner. In a global environment, national diversity may have a substantial impact on agents' initial trust towards their partners. According to Verlegh and Steenkamp (1999), a product's country of origin has a significant impact on the acceptance and success of products. They disentangle this complex consumer behaviour into cognitive, affective and normative aspects of the country of origin. In particular, the affective aspect includes symbolic and emotional associations with the country of origin. In turn, consumers relate the country of origin to status, identity, national pride and past experiences; aspects that are difficult to identify. Measuring trust in different nationalities may be a way of isolating this affective aspect of country of origin effect.

Morocco, Spain and France are countries with narrow trade relationships, intense and asymmetric migration flows and historical ties, but also strong economic divergences. Furthermore, despite their geographical proximity, the fact that they belong to different continents makes them an interesting case study due to their cultural differences. This article is the first experimental study that directly examines whether the trade relationship between Morocco and its two historical partners, Spain and France, is reflected in the levels of trust and reciprocity among them. In a trust-game experiment, in which participants only knew the country of residence of their partner, we found that participants from Morocco exhibited the highest level of trust and reciprocity, whereas participants from Spain exhibited the lowest levels. Moreover, we did not observe positive discrimination towards participants of one's own country. Regarding bilateral relationships, we found that Moroccan subjects display a higher level of trust towards French subjects than Spanish ones.

Our results are apparently contrary to those of the World Values Survey, according to which Moroccans trust less in people of another nationality, as compared to the French and the Spanish. However, in the same survey, when the level of trust in the neighbourhood is analysed, a very different picture is obtained. Morocco obtains the highest ratio of respondents who trust completely. Since our experimental analysis concerns neighbour countries, this result could be in line with our findings. Contrary to the discriminated-non-trusting minority hypothesis (Smith, 2010), Moroccans´ stronger trust towards both the French and, especially, the non-reciprocal Spanish indicates that trust may be related more to the trustor´s idiosyncratic features than the actual trustworthiness of the trustee. Of course, other explanations like pluralistic ignorance could be considered, but again there seems to be no particular reason why this should only affect Moroccan subjects. The reason why Moroccans may display a higher level of trust in their neighbours than the other two countries is challenging and points to an interesting line of research for the future. In particular, our study finds that personal characteristics are not relevant in explaining either the overall level of trust or the different behaviour by partners' origin. This would indicate that trusting someone from another country is part of the social capital and not completely determined at an individual level. Hence, trust in different countries may not be explained by generalized trust (also called psychological, affective or social trust).

This study suggests that trusting behaviour might be mainly driven by two facts. On the one hand, the reciprocal behaviour of one's own compatriots: individuals could expect that participants from other countries behave like they do. The high (low) level of reciprocity exhibited by Moroccan (Spanish) subjects could explain their high (low) level of trusting. Obviously, a sample of 30 individuals by role and by country could be considered a small sample, thus calling for a cautious interpretation of our findingsbut which nevertheless points to an interesting line of research for the future.

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Notes

1. According to the individualism index, Morocco, in comparison with Spain and France, is considered the most collectivistic society. For more details, see the link: https://geert-hofstede.com

2. The specific question in the WVS was framed in the following way: "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, not very much or not at all? (Read out and

code one answer for each): People of another nationality". In Wave 5 (2005-2009), the number of respondents in these three countries were: 1001 in France, 1200 in Morocco and 1200 in Spain.

3. In this meta-analysis, Johnson and Mislin (2011) examined fifteen trust games run in Sub-Saharan African countries: Cameroon, Kenya, South Africa, Tanzania and Uganda.

4. Instructions were written in French for the experiment run in Morocco and France and in Spanish for the experiment run in Spain. One of the co-authors of this article is completely bilingual in these two languages and she controlled for potential undesirable language effects. In addition, a colleague from the University of Rabat also checked that the French version was ready to be used with no language effects for the Moroccan subjects.

5. This share is calculated as the number of trusting choices made by the 30 subjects of each country over the 90 choices they made (each subject made 3 choices, one for each country).

6. The significance of the differences between the three countries is not directly testable since each group includes three different answers for each subject.

7. Cochran's Q test is accurate to evaluate hypotheses about the distribution of data in two or more dependent populations when data are categorical. McNemar'stest is used to determine if distributions of categorical data in two dependent samples are the same (see, for instance, Sheskin 2003).

8. Alternatively, three estimations could have been run independently for each subject A partner but the selected method allows us to take into account not only the behaviour of each country towards its partners in general, but also pair-wise specificities.

9. In this case, the bilateral relationship "A from Morocco, B from Spain" is used as a benchmark, while the other nationalities are aggregated in a whole dummy that takes the value 1 if the subjects B are from France or Spain.

10. Their behaviour towards France and Spain are compared to the omitted cases "A from Spain, B from France" and "A from France, B from Spain", respectively.

11. This share is calculated as the number of reciprocating choices made by the 30 subjects of each country over the 90 choices they made (each subject made 3 choices, one for each country).

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Appendix I: Instructions of the experiment

(The instructions reported below are for players A. The instructions were slightly modified for players B)

Thank you for participating in this experiment. You will get 3 euros at the end of the experiment just for participating. This experiment involves students from three universities: the University of Granada (Spain), the University of Paris (France) and the University of Rabat (Morocco). Please read the following instructions carefully so you can earn a higher amount of money. Please raise your hand if you have any questions. You may ask questions at any time during the experiment. With the exception of these questions, any communication between players is prohibited. To ensure anonymity and confidentiality, you have been assigned a code at random. Please use the code at all times during the experiment.

Your code as a participant is: ____

Your earnings in this experiment depend on your decisions and the decisions of the other participants. You will receive the money you earned during the experiment in private and in cash within a week. Please keep your code, you will need it to collect your winnings. Without your code we cannot pay you.

This experiment consists of three tasks and your earnings in the experiment will be determined on the basis of these three tasks (randomly chosen). In each of the tasks you will be randomly matched to another participant. Your earnings depend both on the decisions you make and the decisions made bythe other participant with whom you will be matched.

You have been randomly and anonymously matched with another participant (called participant B).

As Participant A, you must choose between alternatives X or Y.

If you choose option X, you and participant B willreceive a payment of 10 ECU each and participant B does not have to make a decision.

If you choose a payment option, what you receive will depend on participant B’s decision. Participant B chooses between options 1 and 2:

- Option 1: 15 ECU for participant A and 15 ECU for participant B.
- Option 2: 8 ECU for participant A and 22 ECU for participant B.

The exchange rate is 1 ECU = € 1.

To ensure that you understand these instructions before you make any decisions,please answer a simple questionnaire.You will be allowed to participate in the experiment only if you answer the questions correctly.

The participant B for this task is a student at the University of Rabat (Morocco). He or she also knows which university you are attending.

Please circle the alternative you choose: Alternative X Alternative Y

Final Questionnaire

Age:_____

Sex (male/female):_____

Studies:_____

Religion: Catholic___ Muslim___ Jewish___ Non-religious ___ Other_____

Nationality:_____

With respect to the tasks, we kindly ask you to answer the following question: Which university would you have liked player B to attend?

Options: Paris (France), Rabat (Morocco), Granada (Spain).

Please rank your preferences:

1._____

2._____

3._____

Appendix II: Composition of the sample

Age	Country of residence of participants			Total
	France	Morocco	Spain	
18	10	0	8	18
19	4	1	12	17
20	7	19	17	43
21	8	20	13	41
22	3	18	0	21
23	8	2	7	17
24	4	0	0	4
25	3	0	1	4
26	1	0	0	1
27	1	0	0	1
28	3	0	0	3
29	1	0	1	2
33	0	0	1	1
35	1	0	0	1
38	1	0	0	1
46	1	0	0	1
56	1	0	0	1
57	1	0	0	1
58	1	0	0	1
61	1	0	0	1
Total	**60**	**60**	**60**	**180**

Years of education after undergraduate	Country of residence of participants			Total
	France	Morocco	Spain	
0	4	0	0	4
1	14	0	24	38
2	9	3	9	21
3	7	43	20	70
4	12	11	7	30
5	8	0	0	8
6	3	0	0	3
8	1	0	0	1
.	2	3	0	5
Total	**60**	**60**	**60**	**180**

Religion	Country of residence of participants			Total
	France	Morocco	Spain	
Catholic	15	0	44	59
Muslim	14	59	0	73
Jewish	3	0	0	3
Non-religious	26	1	15	42
Orthodox	2	0	1	3
Total	**60**	**60**	**60**	**180**

Gender	Country of residence of participants			Total
	France	Morocco	Spain	
Male	28	38	27	93
Female	32	22	33	87
Total	**60**	**60**	**60**	**180**

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