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## *Communal lands and social capital: A case study*

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# Communal lands and social capital: A case study

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Preliminary version – Comments welcome

Abstract

This paper explores the link between the historical presence of communal goods and the emergence of social capital. I conduct a survey to compare individuals from a town where communal lands have persisted since medieval times with individuals from neighboring-similar towns. I find that individuals exposed to communal lands have higher *local* social capital as they trust their neighbors more, have more local altruism, are more interested in local politics, and have a better knowledge about the town's politics and history. Importantly, the effect is mainly present in individuals with family roots in the town, and there is no evidence of a positive effect on social capital beyond the local community.

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# 1. Introduction

Social capital is considered an essential brick in a well-functioning economy and democracy (Guiso et al., 2006, 2011). It refers to "those persistent and shared beliefs and values that help a group overcome the free rider problem in the pursuit of socially valuable activities" (Guiso et al. 2011: 419). Shared cultural norms and values along with cohesive social networks reduce transaction costs and facilitate the achievement of collective action.

A vibrant literature tries to find in history the deep causes explaining the emergence and development of social capital (e.g., Nunn, 2012; Alesina and Giuliano, 2015; Guiso et al., 2016; Oto-Peralías and Romero-Ávila, 2017a). The existence of historical communal goods is one relevant factor pointed by previous studies (Beltrán-Tapia, 2012; Montolio and Tur-Prats, 2018). In essence, the community management of communal resources over a long period of time, the establishment of informal and formal rules to guarantee their preservation along with the collective enforcement of them, facilitate the generation and reproduction of social capital (Beltrán-Tapia, 2012). This view is largely based on Elinor Ostrom's extensive work on the governance of the commons (e.g. Ostrom 1990), which documents that communities with high social capital are more successful in managing and preserving their common goods.

This paper contributes to the literature by focusing on a particularly interesting historical setting where communal goods have persisted since medieval times until today. Every four years, more than 200 allotments of arable land (amounting to 3400 hectares in total) are raffled among the neighbors of the Andalusian town Vejer de la Frontera, in southern Spain. The winners of the draw perceive the rents of the plots during four years. This practice, with some transformations, has persisted since the Middle Ages, when the town was conquered and resettled by the Kingdom of Castile by the end of the 13$^{th}$ century. The long persistence of these communal lands has not been without difficulties. On the contrary, neighbors have had to fight during eight centuries against opportunistic and selfish behaviors both from insiders and outsiders (Morillo Crespo and Muñoz Rodríguez, 2017). By analyzing in deep a successful example of communal resources management, I aim to gain new insights and be able to better explain the relationship between communal goods and social capital.

The empirical approach consists of comparing inhabitants from Vejer with inhabitants from nearby similar towns, following other recent historical case studies such as Ramos-Toro (2023) and Karaja and Rubin (2022), among others.[1] I conduct a specific survey to measure several dimensions of the multifaceted concept of social capital such as trust, social networks, interest in politics, altruism, etc. The results indicate that people from Vejer trust their neighbors more, have more local altruism, are more interested in local politics, and have better knowledge about the town's politics and history. They are also very aware of the importance of their communal goods for the historical development of the town. Other results

[1] Ramos-Toro (2023) compares residents in a former Colombian leper colony with inhabitants from two neighboring towns to analyze the effect of historical social exclusion on prosociality. Karaja and Rubin (2022) compares individuals from three Romanian villages, two of which laid on the Austrian side and one on the Ottoman side from 1775 to 1919, finding that participants on the Austrian side with family roots in the village trust outsiders more.

indicate that they participate more in non-religious non-political associations, trust relatively more in the town council (in comparison to the national and regional governments), are more conservative (right-wing), participate more in demonstrations, and seem to have a more market-oriented and entrepreneurial culture. Interestingly enough, the results are largely driven by individuals with strong family roots in the town. The latter points to the importance of the intergenerational transmission of cultural traits and provides reassurance that the results are not due to confounding factors not related to the town's historical development.

Contrary to expectations, there do not seem to be spillovers beyond local social capital in the sense that Vejer's residents do not trust outsiders more, do not have more general altruistic attitudes (in terms of blood donation and willingness to help, donate and punish unfair behavior) nor they trust more in non-local institutions. They do not have either more sense of life-control or political empowerment. These results are in line with recent research documenting that the different dimensions of social capital are only moderately correlated (Durante et al., 2023). This case study shows that historically-locally rooted social capital do not necessarily generate other more interpersonal and general forms of social capital, highly beneficial for well-functioning modern societies.

The rest of the paper is organized as follows. Section 2 provides the historical and institutional background. Section 3 presents the empirical approach while Section 4 the results. Finally, Section 5 concludes.

## 2. Historical and institutional background

### 2.1 The conquest of Vejer and the Battle of the Strait (1275-1350)

Vejer de la Frontera is a southern Spanish town located near the Strait of Gibraltar, in Andalusia (Figure 1). Our area of interest was conquered by Castile in the second half of the 13$^{th}$ century. After taking control of the Guadalquivir Valley, King Ferdinand II captured several cities and towns in modern-day Cádiz, including Jerez, Medina, Alcalá, and Vejer, around 1250. With the exception of the Nasrid Kingdom of Granada, almost all of the Iberian Peninsula was now in Christian hands. The Muslim population was initially allowed to stay and preserve their goods. The King merely deployed a small military garrison in the new towns gained to maintain their control. However, in 1264 there was a large-scale revolt of the Muslim population, backed by Granadian troops, by which the insurrects retook Vejer and several other towns. After crushing the rebellion, Castilian King Alfonso X ordered the expulsion of the Muslim population from all this area, who moved to Granada and North Africa. From this point onward, this large territory had to be colonized exclusively with Christians from other parts of the kingdom (Laredo Quesada and González Jiménez, 1977; Oto-Peralías and Romero-Ávila, 2017b).

The first period of Christian control was marked by a very high military instability and frontier warfare due to the Granadian and Marinid incursions. Between 1275 and 1350 took

place the so-called Battle of the Strait, which profoundly conditioned the initial years of Christian colonization. After being requested for help by the Emir of Granada, the Marinid army crossed the Gibraltar Strait looting and devastating fields and towns across Andalusia. During a long period of 75 years, Vejer and the area near the Strait suffered decades of warfare and destruction. In this context, it was extremely difficult to attract settlers to these lands (Laredo Quesada and González Jiménez, 1977).

Following previous practice in frontier areas, King Sancho IV issued a repopulation charter to attract Christians through the concession of land allotments and generous fiscal exemptions (Morillo Crespo and Muñoz Rodríguez, 2017). Despite the Crown's attempts to repopulate the town, the hardship of frontier life, with continuous attacks (including a three-month siege), kept a very low population in Vejer, with only a few dozen people. The first repopulation conducted in 1288 attracted 176 settlers, but as many as 51 of them left the town. Further repopulation attempts were carried out between 1296 and 1307, with land allotments being distributed according to the settlers' status, either noblemen, knight, or commoner. The town was granted to the frontier protector hero Alfonso Pérez de Guzmán in 1307, a lineage that would later become the powerful Duchy of Medina Sidonia (Laredo Quesada and González Jiménez, 1977).

The Battle of Río Salado (1340) was a definitive turning point in the wider Battle of the Strait. A Castilian-Portuguese coalition managed to defeat a larger Marinid-Granadian army, near Tarifa, which supposed the end of the Marinid power and its return to Africa. During the next ten years, Alfonso XI continued the frontier war against Granada, notably conquering Algeciras in 1344 after a two-year siege. The dead of Alfonso during the siege of Gibraltar in 1350 due to the outbreak of the plague put an end to the Christian expansion and stabilized the Granadian Frontier, making it easier the proper resettlement of our area of interest.

## 2.2 The *Hazas de Suerte*: the arable communal lands of Vejer

Settlers of frontier towns like Medina, Alcalá, Tarifa, and Vejer enjoyed extensive rights and freedoms. It could not be otherwise, as these were dangerous areas. Settlers also received generous land allotments according to their social status and, additionally, they had access to large communal resources. The particularity of Vejer is the existence and persistence of *arable* communal lands, which were raffled every three (and later four) years among the townspeople. They were arguably the result of the combination of shortage of population, abundance of land and, crucially, a spontaneous practice by the town council. Its importance lies in that no other town is known to have had arable communal lands periodically distributed among the population.

The access and exploitation of these communal lands by the population has not been without difficulties. The main threat came from the Duke of Medina Sidonia, who tried to usurp the townspeople from accessing these lands. Vejer's neighbors, led by who would later become a local hero, Juan Relinque, stood up to the ducal house through a number of

lawsuits, assuming high financial and personal risks.[2] The judicial conflict, which lasted several centuries, was finally settled in the 19th century through an agreement by which the Duke received the full property of other communal resources and the town got full property of the arable communal lands known as *Hazas de Suerte* (Morillo Crespo and Muñoz Rodríguez, 2017).

The *Hazas* consisted of approximately 400 allotments of good-quality arable land, which meant a large number for a population of about 1000 families at the beginning of the 16th century. Each allotment had enough size to sustain a family (14 hectares). Globally, the *Hazas* represented one quarter of the total arable land of the town's jurisdictional area. This important communal resource, to which all neighbors with a minimum capital had access, contributed to promote certain entrepreneurial culture across town's farmers and helped them to consolidate small-medium landholdings (Morillo Crespo and Muñoz Rodríguez, 2017).

The practice of periodically distributing these arable communal lands evolved over time, adapting to the changing social and economic circumstances. Up to the 19th century, the land was raffled among farmers who had the means to cultivate them. To avoid opportunist behaviors, not all "legal" residents were entitled to benefit from these communal lands. It was required (and still is) the continued residence in the town for at least 20 years.

An interesting feature of the management of these communal lands was that, for much of the time, their use was far from equitable. Not only its access was restricted to people with resources to cultivate the land but also, among them, those with more financial capacity received more lands. This aligned the interests of the (non-noble) median and upper-median classes of Vejer with the preservation of these communal resources.[3] Another interesting practice was that the town council, in charge of raffling the allotments, kept some of them vacant to attract doctors, teachers and other needed professionals, paid with the rents from these vacant plots (Morillo Crespo and Muñoz Rodríguez, 2017).

While the management of these communal lands were largely based on consuetudinary norms, Vejerians decided to write them down in the second half of the 19th century. The main reason was to document the social value and use of these lands in order to avoid their sale in public auction during the disentailment of council resources stipulated by the Madoz Act of 1855. A regulatory body, the *Junta de Hazas*, was also created to oversee and enforce the correct application of the regulations. This new regulation extended the right to benefit from the *Hazas* to all heads of families, including the poor ones. It also established two raffles, one for cultivating the allotments and another for getting the rents. Each raffle had an associated register, one with neighbors with the right to get the rents, and another with those requesting to cultivate the allotments. Neighbors awarded with rents in a raffle are

[2] According to local historians Morillo Crespo and Muñoz Rodríguez, (2017), "without Juan Relinque there would not exist the *Hazas de Suerte* today in Vejer" (p. 44).

[3] With the pass of time, by the 19th century, the right to participate in the raffle extended to neighbors without economic means. However, they could not cultivate the land but to lent it to perceive the rents. The possibility to rent allotments was attractive to rich farmers who managed to accumulate as many as 20, illegally surpassing the limit of three leases (Morillo Crespo and Muñoz Rodríguez, 2017).

excluded from subsequent raffles until all neighbors in the register have been awarded.

While in the past tenants of *hazas* had to pay in kind (certain amount of good-quality wheat), today the payment is in cash, amounting to about 1200 euros annually. One hundred years ago, being awarded with a *haza* meant a great relief for poor and modest families. "Still today, the emotion is shared by the public attending to the raffle, especially, when the crier announces a name and the winner is an old man, a relative, a neighbor or a friend" (Morillo Crespo and Muñoz Rodríguez, 2017: 104).

A major reform of the regulations was made in 1948 to correct some misuses and adapt them to the social and economic reality of the time. The reform stipulated the land to be distributed among farmers who would become permanent tenants, while the rents from these leases to be raffled among all Vejer's neighbors with the proper right to participate (i.e., those with continued residence). This change introducing permanent tenants favored the small and medium farmer families against the large landowners, which through fraudulent means used to accumulate allotments. It also favored the tenant incentives to invest in improving the land.

After the segregation of the locality of Barbate from Vejer, today there are 232 *hazas*, amounting to a total of 3,378 hectares. Most of them are devoted to rainfed agriculture (cereals, sugar beet, sunflower, chickpea, and others), and secondarily, to livestock and hunting (Morillo Crespo and Muñoz Rodríguez, 2017). A curious feature of the allotments is their geometry, forming long rectangles, a shape that favors all having the same quality (part of the parcel may be on low-quality land but due to its long shape another part lies on a high-quality land) (Bernabé Salgueiro, 2006). Figure 2 shows how this pattern makes the *hazas* an easily recognizable element of the landscape.

Historians and anthropologists who have studied this historical institution give great economic and symbolic importance to it. The persistence of the *Hazas* is the consequence of judicial battles, social mobilization, community resilience, and adaptation to historical changes and adverse events. In economic terms, the availability of this communal resource has favored the establishment of a middle-class society of farmers and has allowed to better resist the periodic crises of the Andalusian agriculture. The 1787 Census reports a much larger share of farmer families in Vejer than in neighboring towns as well as a lower presence of daily workers.[4] In turn, the development of a society of farmer families favored the emergence of certain entrepreneurial culture (Morillo Crespo and Muñoz Rodríguez, 2017). Interestingly enough, the 2001 population census reflects a larger share of self-employed and entrepreneurs, particularly in the agricultural sector, than in the surrounding towns (see Table 2 below).

Concerning the symbolic dimension, there is a strong identification and social awareness of Vejerians with their communal lands, a feeling of belonging and community, and the believe in the importance of preserving them (Bernabé Salgueiro, 2006). The heroic figure and champion of their communal resources Juan Relinque, properly commemorated with a statue

[4] As shown below in Table 2, the share of farmer families in Vejer was 17.9%, a value much higher than in the surrounding towns (6.4%). The other side of the coin was a lower percentage of daily workers (83.4 vs 92.2%).

in a prominent place in town, stands out in the local culture as an example and inspiration of the fight for the common good (Morillo Crespo and Muñoz Rodríguez, 2017). It is also worth mentioning that both Juan Relinque and the *hazas de suerte* themselves are commemorated in Vejer's streetmap, with two streets named after them. Also in the symbolic sphere, the town council, following the initiative of the *Junta de Hazas* in 2013, started the process for the inclusion of the *Hazas de Suerte* as UNESCO Intangible Cultural Heritage.

## 3. Empirical approach

The main empirical approach to analyze the impact of historical communal resources on local social capital is through a survey to compare people living in Vejer de la Frontera with people living in neighboring towns.[5] This section discusses the sample of municipalities included in the study and presents the econometric model.

### 3.1 Sample selection and municipality-level data

The sample includes 400 respondents from Vejer de la Frontera (the "treated" town) and 600 respondents from neighboring municipalities (the "control" towns). The latter are Medina Sidonia (200), Benalup-Casas Viejas (100), Alcalá de los Gazules (100), Conil de la Frontera (100), and Tarifa (100). Within each town, respondents were selected randomly.

These towns represent the best possible comparison group to Vejer. Their proximity and common historical origins are the main reasons for their selection. Importantly, all of them were conquered and colonized during the same period and exposed to the same circumstances (i.e., frontier warfare within the context of the Battle of the Strait). Therefore, settlers in these towns received generous fiscal exemptions, freedoms, and land allotments.

Medina Sidonia is arguably the most comparable town to Vejer, and for this reason it weighs more within the control group. In 1440 it became a lordship of the Guzman lineage, therefore sharing the same jurisdictional owner as Vejer. It also had a similar although slightly larger population. Benalup-Casas Viejas is a locality segregated from Media Sidonia, thereby sharing the same historical development of the latter. Alcalá de los Gazules was also a frontier town, smaller in size, that became a lordship in the 1440s. Conil de la Frontera was a locality of Vejer that gained independence in the early 16$^{th}$ century, remaining a jurisdictional possession of the same noble house. Finally, Tarifa, conquered in 1292, remained a royal town most of the time, except the interval 1448-1596.[6]

Table 1 presents some demographic data depicting the historical evolution of the

[5] The preregistration of this research project is available at https://doi.org/10.17605/OSF.IO/XQYPB.

[6] The neighboring town of Barbate, segregated from Vejer in 1938, is not included in the control group because this municipality received *Hazas de Suerte* from the matrix municipality. Besides, it is a town that, being originally fairly small, developed very fast during the 1920s and 1930s due to the growth of the fishing sector. It is therefore a town not comparable to the others. Its inclusion would likely accentuate the differences between Vejer and the control group, despite having *Hazas*. In this regard, the relevance and local importance of the *Hazas* for the population and the town council is much lower (Bernabé Salgueiro, 2006; Morillo Crespo and Muñoz Rodríguez, 2017).

population in Vejer and the comparison towns. All these localities have medium-size populations and similar demographic trends, although coastal towns such as Conil and Tarifa have experienced faster growth during the last decades (but at moderate levels). As mentioned, Medina-Sidonia and Vejer are fairly similar in population dynamics and size (they both had the largest population in the 16$^{th}$ century and are now experiencing stagnation). Therefore and importantly, all these are comparable towns from a population size perspective, which is a crucial dimension when measuring local social capital.

Table 2 provides some socio-economic indicators depicting the demographic, economic and social characteristics of Vejer and its comparison group, as well as of the province of Cádiz and the region of Andalusia. Naturally, Vejer and the comparison group of towns are not identical and they do not need to be for the validity of the analysis, as part of the differences may be due to the legacy of the commons. Yet, they are quite similar in most of the indicators. I use the 2001 population census, the last census with full data on the whole population. The percentage of people born in the municipality is virtually the same to the comparison group. This is an important indicator as it can have a large impact on local social capital. The average age of the population, the labor force participation rate and the education level of the population are also fairly similar between Vejer and the comparison group. The same applies to the sectoral composition of employment, with a slightly greater importance of agriculture in Vejer, which is consistent with *hazas de suerte* historically promoting the development of farmer families. Regarding the professional status, Vejer features more self-employed and entrepreneurs (20.8 vs 15.4%). The difference is particularly salient considering agricultural entrepreneurs, which is again consistent with the legacy of *hazas de suerte* discussed in Section 2.2.

Finally, the bottom of the table shows some historical agricultural data. The presence of farmer families in 1787 was notably larger in Vejer than in the comparison group (17.9 vs 6.4%). This reflects the wider access to arable land of Vejer's residents thanks to the existence of their communal lands, which goes hand in hand with a lower prevalence of latifundia. The percentage of daily laborers in 1787 was therefore lower in Vejer (83.4 vs 92.2%), as well as the proportion of arable land in large landholdings in 1982 (36 vs 50.4%).[7]

To sum up, Vejer and the comparison group of towns are fairly similar along many relevant dimensions. Those in which they are different are arguably consequence of the existence of the *hazas de suerte*.

## 3.2 Survey sample data

The survey was conducted by a specialized company in May 2022. Interviews were conducted mostly by phone (landline and cell phones), complemented with in person to reach the preestablished number of questionnaires in each municipality. Table 3 compares respondents who reside in Vejer with those who do not. There is a good balance between both groups. For

[7] The low percentage of farmer families and the high presence of daily workers in the area of study, compared to the whole Andalusia, is due to the widespread incidence of latifundia in this former frontier territory (Oto-Peralías and Romero-Ávila, 2017b).

the large array of indicators included in the table, there is only a minor difference in the number of children in households and in the share of population with primary or lower education. In any case, these variables are properly controlled for in the regressions below.

## 3.3 Econometric model

To analyze whether communal resources affect social capital, I employ OLS regressions of the following form:

$$Y_{i,m} = \alpha + \beta \cdot CL_m + \delta \cdot X_{i,\mathrm{m}} + \varepsilon_{i,\mathrm{m}} \qquad (1)$$

where $Y_{i,m}$ is a variable related to social capital of individual $i$ living in municipality $m$, $\alpha$ is a constant term, $CL_m$ is a binary variable capturing whether the respondent resides in a municipality characterized by the presence of communal lands (1 for Vejer de la Frontera and 0 otherwise), $X_{i,\mathrm{m}}$ is a vector of socio-demographic variables (sex, age, age squared, marital status, educational level, number of children and interview method (landline, mobile or in person)), and $\varepsilon_{i,\mathrm{m}}$ is the error term. The coefficient of interest is $\beta$, which captures the effect of communal lands on social capital.

I also use a variant of this model by introducing the interaction between the variable of interest ($CL$) and a variable capturing whether the individual has strong family roots in her town.

$$Y_{i,m} = \alpha + \beta \cdot CL_m^{(0)} Roots_{i,m}^{(1)} + \gamma \cdot CL_m^{(1)} Roots_{i,m}^{(0)} + \eta \cdot CL_m^{(1)} Roots_{i,m}^{(1)} + \delta \cdot X_{i,\mathrm{m}} + \varepsilon_{i,\mathrm{m}} \quad (2)$$

where $Roots_{i,m}$ is a binary variable that takes the value of 1 if the father, mother and grandparents of the respondent are from the town of residency. The equation includes the four possible combinations of $CL$ and $Roots$: 1) $CL_m^{(0)} Roots_{i,m}^{(0)}$: the individual lives in a town without common lands and does not have strong family roots. This is the reference group, in the constant term. 2) $CL_m^{(0)} Roots_{i,m}^{(1)}$: the individual lives in a town without common lands and has strong family roots. 3) $CL_m^{(1)} Roots_{i,m}^{(0)}$: she lives in a town with common lands and does not have strong family roots. 4) $CL_m^{(1)} Roots_{i,m}^{(1)}$: she lives in a town with common lands and has strong family roots. The coefficients of interest in this model are $\gamma$ and the difference $(\eta - \beta)$, both of which refer to comparable groups. The former ($\gamma$) captures whether people residing in Vejer *without* strong family roots have different attitudes or values than people *without* strong roots residing in other towns. The latter $(\eta - \beta)$ shows whether people residing in Vejer *with* strong family roots have different attitudes than people from other towns also *with* strong family roots. The coefficient $\gamma$ helps us gauge whether local culture is transmitted horizontally (through neighbors, friends or local institutions) whereas $\eta - \beta$ whether it is transmitted vertically (inter-generationally), through family socialization.

# 4. Results

## 4.1 Main findings

Table 4 reports the results of models (1) and (2) for interpersonal trust and membership of

organizations. Column 1 shows that the historical presence of communal lands does not increase generalized trust. It does not increase either trust in family members, known ones, or people met for the first time. The only group for which there seems to be an effect is neighbors (column 4). The coefficient for trust in neighbors is larger although not statistically significant at conventional levels. This may be due to heterogeneity depending on the ties of the respondent with the town, which affects the exposition to historical communal lands and, more generally, to local culture.

Model (2) reported in Panel B considers this source of heterogeneity. First, the positive coefficient on $CL^{(0)}Roots^{(1)}$ in column 4 indicates that people with strong family roots in their town trust their neighbors more. Second, the small and insignificant coefficient on $CL_m{}^{(1)}Roots_{i,m}{}^{(0)}$ indicates that people living in Vejer but without strong family roots do not trust more their neighbors. Third, among respondents with strong family roots in their towns, those from Vejer trust more their townspeople (being the difference $\eta - \beta$ significant).

This set of results is interesting. First, the historical management and defense of communal lands have increased trust within the local community, but not within the family or the known ones. Second, there is no evidence of trust spillovers beyond the local community. Third and importantly, the link between communal lands and trust in neighbors is only observed for individuals with strong family ties. Therefore, it is family socialization what drives the cultural channel and not horizontal socialization. This is consistent with Ramos-Toro (2023) and Karaja and Rubin (2022), who find that what matters to explain pro-sociality and trust is having an ancestry exposed to the "treatment".

Columns 6 to 9 provide the results for membership to different types of organizations, another key dimension of social capital. Vejerians tend to affiliate less to political parties. This goes hand in hand with their lower trust in them, as shown below in Table 5. Similarly, they join labor unions and business associations less frequently, although the difference is not significant at conventional levels. Differences regarding membership to religious groups are not significant either. Considering the most common type of civic organizations (a category including all other groups, in column 9), Vejer's neighbors are more likely to belong to them, the difference being economically relevant (0.08 vs an average value of 0.42) and statistically significant. Moreover, the effect is again driven by individuals with strong family roots.

Table 5 provides the results for confidence in different types of institutions. Focusing on Panel B, among people with strong family roots in their towns, those from Vejer trust more in the Church and in the press, but less in political parties and in the national government. They also have less trust in the regional government, although the difference is not statistically significant. Interestingly enough, the last column shows that they trust relatively more in the local government compared to the national and regional governments.

Table 6 reports the results for interest, knowledge, and participation in politics. Columns 1 to 3 show that whereas there are no differences regarding interest in national and regional politics, Vejer's neighbors are more interested in local politics, an effect driven by those with strong family roots. Columns 4 and 5 show that they also have more factual knowledge about local politics. Vejerians answer more correctly two questions related to local politics, namely, which party is ruling the city council and whether it has absolute majority of councilors.

Concerning participation in politics, Vejer's residents are more likely to have participated in a demonstration. The effect is again driven by those with strong family roots. For the other types of political participation there are no differences, maybe due to the lower trust of Vejerians in politicians, as shown above.[8]

Table 7 shows the results for variables related to prosocial attitudes and behaviors. Column 1 uses a variable capturing the importance given to unselfishness in the education of children at home. Vejer's neighbors are more likely to answer that promoting unselfishness is very important for children. In this case, this is true both for residents with and without family roots.[9] They are also more likely to have done some voluntary work in the last six months. While the difference $(\eta - \beta)$ is economically significant (0.05 relative to an average of 0.23), it is not statistically significant at conventional levels ($p$-value of 0.137). Columns 4 and 5 show absence of differences in willingness to donate to those in need and help a stranger. Column 6 indicates that Vejer's residents are less prone to punish an unfair behavior. While the latter is consistent with the two previous columns, it is to some extent counterintuitive, given the long tradition of collective fight to preserve their communal lands. Column 7 shows that there are not significant differences in terms of blood donation.

The two last columns of Table 7 introduce an incentivized question of donating to local charities. We first invite respondents to participate in a raffle of 500 euros, as a gratification for taking the survey. About one third of the respondents decided to participate. In this first step, there are no differences in the decision to participate depending on the respondent's town. Second, among those giving their consent to participate, we provide the opportunity to donate, in case of being awarded, part of the money to a local charity. Overall, 33.5% of respondents committed to donate part of the money. Column 8 shows that a larger share of Vejer's residents with strong family roots agree to donate. The difference $\eta - \beta$ is large, 0.10 percentage points (pp.) against an average of 0.33, although not statistically significant at conventional levels ($p$-value of 0.17), arguably because of the modest sample size. Column 9 reports that Vejerians with strong roots committed to donate 30€ more on average to local charities in case of being awarded, the difference being statistically significant.[10]

To sum up, these results show that Vejerians have more local (ingroup) trust than respondents from neighboring towns, but do not trust more outsiders or people in general. They participate more in civic organizations other than political parties and labor unions.

[8] While a demonstration does not need to involve politicians, a political rally and contacting one obviously do. I have also checked that there are no differences in voting behavior, except for the fact that Vejer's inhabitants (with strong roots) participate less in national elections. In addition, there are no differences in self-assessed political competence. The latter has been tested through three items asking for the respondent's opinion about whether i) the government cares about what people like her thinks, ii) she has a clear idea about political topics, and iii) most of politicians are in politics for their interest. There are no differences either on their opinion about whether the town council manages public money well.

[9] The questionary also asks for the importance of other values such as tolerance, independence, hard work, imagination, and obedience. For none of these there are differences.

[10] The questionary also gave the possibility to donate part of the money to a national charity. Only 9.1% of those participating in the raffle decided to do so. Given that this only represents 29 individuals, I have not analyzed this question further, as any result would hinge on this small number.

They also trust more the Church and the press, relatively more the local government, but less the national and regional governments. Vejer's residents are more interested (only) in local politics, and are better informed about it. They participate more in demonstrations but not in other forms of political activism (generally related to political parties). They give more importance to generosity in the education of children, but this altruism is only oriented towards their community. Therefore, the results consistently indicate that Vejerians have more *local* social capital. The community-based source of social capital (i.e., the collective management and defense of communal lands) has generated a *local form* of it but has not evolved towards a more "generalized" social capital. Finally and interestingly, the effect generally only exists among individuals with strong family roots in their towns, which means that family socialization (the intergenerational transmission of culture) is arguably the main mechanism.

## 4.2 Other cultural dimensions

Table 8 reports the results for other theoretically relevant variables, which according to the historical discussion above can be influenced by the accumulated experience of managing communal lands. Columns 1 to 3 show how much respondents are identified with their towns. Vejer's residents are slightly more identified with their town, but the difference is small and insignificant. There are no differences either regarding identification with Spain and Andalusia.

Columns 4 and 5 introduce two indicators related to the importance of effort vs luck, and life self-control. Vejer's residents with strong family roots are less likely to agree with that it is luck and connections, rather than effort, which leads to success. The effect is economically relevant and highly statistically significant. Regarding the degree of freedom of choice and control about their lives, Vejer's respondents give a lower score, although the difference is small. The latter, despite not statistically significant, is consistent with Vejerians being a more traditional community, as reflected by their higher religiosity and their conservative and less polarized ideology, reported in columns 6 to 8. Arguably, history in Vejer weights more than in other towns, and historical inertia is related to traditionalism and conservatism. Moreover, as mentioned in Section 2, the existence of arable communal lands has allowed the development of a middle-class community and has alleviated economic privation, which may also contribute to a more conservative and less extremist ideology.[11]

Finally, columns 9 to 12 of Table 8 use variables related to market-oriented attitudes and work. In the hypothetical case of winning one million euros in the lottery, Vejerians are less likely to stop working and more likely to set up a company (the latter being only marginally significant). I also ask respondents which of the following three labor situations they prefer: i) civil servant earning 1300 €/month; ii) private-sector employee earning 1700€, or iii) self-

[11] The more conservative political view of Vejerians is not something new. General election data since the re-introduction of democracy in the 1970s consistently show that right wing parties get a higher vote share in Vejer than in its neighboring towns.

employed or entrepreneur making 2200€.[12] Interestingly, Vejer's residents with strong family roots are less likely to prefer to be civil servant, the least market-oriented job, while there are no differences in choosing being an entrepreneur. Overall, these results suggest that Vejerians have more market-oriented attitudes, which is consistent with historically having a larger middle-class of farmer families.

## 4.3 Explaining the effect of communal resources on local social capital

The results above indicate that it is not simply the fact of residing in a town what matters. What makes a difference to be affected by the cultural legacy of communal lands is to have family roots in a town. The local culture is therefore transmitted intergenerationally rather than horizontally (via peer groups or local institutions). To further analyze the importance of family socialization in the transmission of values and narratives in our setting, column 1 in Table 9 explores whether Vejerians with strong family roots have better historical knowledge about their town. To do so, I ask respondents whether they know the type of jurisdiction of the town in the Ancient Regime, either noble or royal. This is a relevant question because narratives about the persistence and defense of communal lands should be accompanied by information about one of the main threats and offenders, the Duke of Medina-Sidonia, lord of the town. Interestingly, Vejer's residents with strong family roots are better informed than all other groups. The difference $\eta$ - $\beta$ is large (0.09 pp.) and statistically significant.

The questionary also contains a question about whether the respondents think that communal goods have been important in the historical development of the town. Column 2 shows that Vejerians are much more aware of the importance of these goods for the town's history, particularly those with strong roots. I further ask to those answering yes (315 respondents) why they think so. In this open-ended question, 62.5% gave unrelated answers, did not know or did not answer. The proportion of valid answers was almost double for Vejerians and, among them, 11 pp. larger for those with strong family roots, as shown in column 3. While the qualitative nature of this open-ended question prevents a deeper quantitative analysis of the answers, it still provides interesting information. Many replies of Vejerians are related to the perceived fairness in the distribution of allotments, the equality that it promotes among neighbors, and the overall benefit for the community. There are also some answers pointing out salient features of the local culture fostered by the existence of communal resources. These includes the historical defense of their communal goods ("citizens of these towns defended this for years"), in-group trust ("helps foster camaraderie among neighbors"), the development of a middle-size farmer class ("it generated agricultural families"), and sense of uniqueness ("only municipality that has communal lands such as *hazas de suerte*" or "it has already approved as World Heritage").

To dig deeper into the mechanisms, we can further split the sample of Vejerians with strong roots to test for heterogeneity in the effect depending on the sector of activity of the

[12] The average gross salary in Andalusia in 2021 was 1914.75 monthly (IECA, 2023).

respondent's parents. As the communal resource is arable lands, we can hypothesize that individuals whose parents were farmers have been more exposed to Vejer's communal lands and their narratives. Column 4 shows that Vejerians from farmer families trust more their neighbors, but the difference is not statistically significant. In columns 5 and 6 I test whether this group is better informed about the town's history and gives more importance to their communal resources. The results indicate absence of differences, which suggests that what matters is having ancestors from the town rather than the sector of activity of the family. On the one hand, all neighbors participate in the rents of the communal lands, not only farmers. On the other hand, since the 1948 reform of the statutes, allotments are rented for life to farmers, so the chance of their parents having worked one of them is limited. Overall, the results suggest that the differential cultural traits originated from the collective management of communal resources are widely shared among the population, beyond any specific group or sector.

## 4.4 Discussion

The historical discussion and the evidence reported indicate that the historical management and defense of communal lands have generated a distinctive local culture, characterized by a higher trust in neighbors, higher local altruism, and more interest and knowledge in local affairs. This local culture is also more conservative in terms of religion and ideology, and more market oriented, which goes hand in hand with a social structure historically featuring a larger middle class. These cultural traits are largely transmitted intergenerationally, with neighbors being better informed about the town's history and aware of the historical importance of their communal resources.

What follows makes a number of remarks about the interpretation and validity of the results. My analysis uncovers differences in social capital attributed to the historical presence of communal resources, but they are of moderate size. The comparison group of towns are very similar to Vejer, also culturally. Considering one of the central findings, Vejerians with strong family roots trust their neighbors 0.14 standard deviations more than the analogous group with strong roots. This difference is non-negligible although it is not large either. For other variables more directly related to the historical narratives of communal resources differences are larger, such as the knowledge about the town's history and the importance of communal goods. The moderate effect found in a setting where communal goods are a particularly salient historical feature of the collectivity calls for caution regarding finding large effects in other cross-sectional analyses of similar or related topics.

More importantly, while my analysis reveals differences in social capital which are consistent with the historical discussion and the theoretical prior, the nature of the empirical approach posits some limitations. First, Vejer can differ in something else than communal resources, and this might be driving the results. Part of this threat to my interpretation of the results is neutralized given the fact that differences are generally only observed among respondents with strong family roots in their towns. Additionally, the comparison group of towns are very similar to Vejer. For instance, a very relevant indicator that can affect in-

group trust is the percentage of people originally from the town, and this proportion is virtually the same, as shown in Table 2. Therefore, differences in social capital are arguably due to some historical features of the towns, transmitted intergenerationally. Yet, towns might differ in some other historical dimensions, not just the presence of communal lands. The selection of towns for the analysis is again very important here. All towns share very similar historical characteristics, all being conquered and resettled under similar circumstances in the Middle Ages.

Perhaps, the main candidate as an alternative interpretation is religion. People in Vejer are actually more religious (in the sense that they believe more in God), which could explain the observed differences. This is nevertheless unlikely. Using data from the European Value Survey, Dingemans and Van Ingen (2015) find that religious people are not more trusting in general. The only dimension of religiosity related to trust is integration in religious communities and Vejerians with strong roots do not differ in this regard (column 8, Table 4). In addition, regressing trust in neighbors on the indicator of religiosity employed in the analysis renders a very small and insignificant coefficient, both with and without control variables.

Second, I have considered so far that communal resources affect social capital through the collective management and defense of them, which leads to more frequent interactions among neighbors, the creation of networks and organizations, shared experiences of community fights for the common good, etc. Yet, alternative mechanisms could also account for the effect on social capital, prominently land inequality. The historical existence of large tracts of communal lands limited the expansion of latifundia in Vejer, compared to neighboring towns. This reduced the percentage of landless workers and, therefore, inequality and poverty. As land-based inequality is related to lower trust (Oto-Peralías and Romero-Ávila, 2017a), it might be lower inequality what explains the effect of communal resources. However, land inequality is found to reduce blood donation and social capital in general, rather than *local* social capital (Oto-Peralías and Romero-Ávila, 2017a).[13] As we do not observe any effect on blood donation or social capital in general (beyond the local community), lower land inequality is unlikely to be the intervening mechanism to account for the effect of Vejer's communal lands.

## 5. Conclusions

This paper contributes to the literature on the determinants of social capital by analyzing an attractive historical setting that sheds new lights into the relationship between communal resources and social capital. I use original survey data to compare residents from Vejer de la Frontera, a town with historically large communal lands, with nearby similar towns. The results consistently indicate that Vejerians have more *local* social capital. Thus, they have more local (ingroup) trust, they are more willing to donate to local charities, and participate more in civic organizations other than political parties and labor unions. They are more

[13] Relatedly, using large-scale cross-national survey data, Kim et al. (2022) find that lower social class predicts lower interpersonal trust.

interested in local politics and are better informed about it. However, this local form of social capital has not evolved towards a more "generalized" social capital in the sense that they do not have higher trust in people outside their community, are not more interested in general politics, and are not more willing to help strangers.

Interestingly, the effect is largely driven by people with strong family roots, pointing to the intergenerational transmission of culture as a key mechanism to explain the historical legacy of communal resources on social capital. Consistent with this, individuals with strong roots are better informed about the town's history and give more importance to their communal resources in the development of the town.

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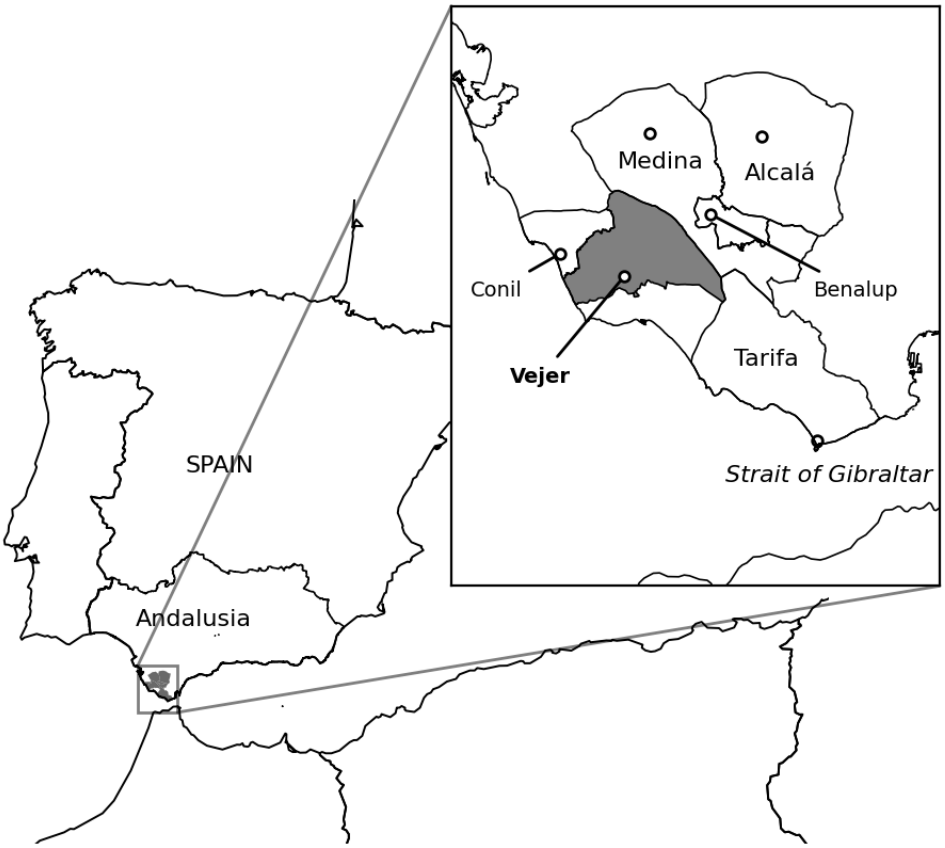


**Figure 1: Geographic context**

**Figure 2: Spatial structure of current cadastral parcels in Vejer**

**Table 1. Historical evolution of the population of Vejer and the comparison group of towns**

| Year | Unit | Vejer de la Frontera | Alcalá de los Gazules | Benalup-Casas Viejas | Conil de la Frontera | Medina Sidonia | Tarifa |
|---|---|---|---|---|---|---|---|
| 1528 | Taxpayers | 922 | 576 | .. | 166 | 875 | 613 |
| 1591 | Taxpayers | 884 | 670 | .. | 325 | 1,381 | 846 |
| 1591 | Neighbors | 968 | 724 | .. | 331 | 1,433 | 863 |
| 1752 | Neighbors | 1,318 | 1,132 | .. | 826 | 2,135 | 1,607 |
| 1787 | Inhabitants | 5,191 | 4,604 | .. | 3,504 | 11,338 | 7,548 |
| 1842 | Inhabitants | 8,360 | 6,116 | .. | 3,542 | 10,534 | 8,116 |
| 1877 | Inhabitants | 10,919 | 9,004 | .. | 5,550 | 12,278 | 11,925 |
| 1900 | Inhabitants | 11,309 | 8,799 | .. | 5,624 | 11,003 | 11,730 |
| 1920 | Inhabitants | 14,941 | 9,947 | .. | 6,808 | 13,500 | 12,034 |
| 1940 | Inhabitants | 11,455 | 9,736 | .. | 9,142 | 12,686 | 13,422 |
| 1960 | Inhabitants | 13,732 | 11,382 | .. | 10,046 | 16,697 | 17,469 |
| 1980 | Inhabitants | 12,114 | 5,913 | .. | 13,406 | 14,857 | 14,173 |
| 2000 | Inhabitants | 12,540 | 5,735 | 6,573 | 18,057 | 10,728 | 15,670 |
| 2011 | Inhabitants | 12,825 | 5,525 | 7,223 | 21,755 | 11,843 | 17,732 |
| 2021 | Inhabitants | 12,656 | 5,227 | 7,160 | 23,497 | 11,739 | 18,564 |

Notes: Benalup-Casa Viejas gained independence from Medina-Sidonia in the 1990s. Vejer seggregated one of its localities (Barbate) in the 1930s.

**Table 2. Socio-economic characteristics of Vejer, the control group of towns, Cadiz and Andalusia**

| | Vejer de la Frontera (1) | Comparison group (2) | Province of Cádiz (3) | Andalusia (4) |
|---|---|---|---|---|
| **2001 population census:** | | | | |
| Population born in the municipality (%) | 57.1 | 57.0 | 62.5 | 60.7 |
| Population average age | 36.9 | 35.5 | 36.2 | 40.0 |
| Labor force participation rate (%) | 66.2 | 68.9 | 72.4 | 72.8 |
| Education (%): | | | | |
| a) No literate | 7.0 | 6.3 | 6.2 | 6.0 |
| b) Without studies | 24.0 | 21.7 | 21.1 | 24.8 |
| c) Primary | 26.0 | 25.3 | 25.7 | 24.5 |
| d) Secondary | 37.0 | 40.7 | 40.4 | 37.9 |
| e) Higher | 6.0 | 5.7 | 6.7 | 6.9 |
| Sectoral composition of employment (%): | | | | |
| a) Agriculture and fishing | 20.0 | 17.2 | 14.5 | 22.7 |
| b) Industry | 5.0 | 6.8 | 11.8 | 11.7 |
| c) Construction | 27.0 | 26.0 | 21.3 | 17.0 |
| d) Services | 48.0 | 50.0 | 52.4 | 48.7 |
| Profesional status (%): | | | | |
| a) Self-employed with employees | 6.3 | 5.6 | 5.9 | 6.6 |
| b) Self-employed without employees | 14.5 | 9.7 | 10.1 | 13.4 |
| a)+b) Entrepreneurs | 20.8 | 15.4 | 16.0 | 19.9 |
| Agricultural entrepreneurs (over total) | 8.0 | 2.7 | 2.9 | 5.1 |
| Agricultural entrepreneurs (over total in agric.) | 40.0 | 17.9 | 18.7 | 25.9 |
| c) Employees - permanent contract | 25.9 | 29.0 | 32.9 | 29.1 |
| d) Employees - temporary contract | 53.0 | 55.2 | 50.3 | 49.5 |
| e) Contributing family workers | 0.2 | 0.3 | 0.3 | 0.9 |
| f) Cooperative members | 0.1 | 0.2 | 0.5 | 0.6 |
| **Historical agricultural data:** | | | | |
| Farmer families in 1787 (%) | 17.9 | 6.4 | 11.9 | 24.5 |
| Dailty workers over agric. pop. 1787 (%) | 83.4 | 92.2 | 85.5 | 72.5 |
| Arable land in holding ≥ 250 ha (%) (1982) | 36.0 | 50.4 | 34.2 | 13.0 |

Notes: The comparison group (column 2) is calculated as the weigthed average of the municipality values of Benalup-Casas Viejas, Alcalá de los Gazules, Conil de la Frontera, Tarifa and Medina Sidonia, where the latter weights double. Columns 3 and 4 are calculated as the simple average of all municipalities of the province and region, respectively.

**Table 3. Demographic and socioeconomic characteristics of respondents**

| | Vejer de la Frontera | Comparison group | Difference | Standard error | Observations |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Age | 45.453 | 44.610 | 0.843 | (0.865) | 1012 |
| Woman | 0.493 | 0.498 | -0.006 | (0.032) | 1012 |
| Children in household | 0.485 | 0.567 | -0.082 | (0.049) | 1012 |
| Born abroad | 0.015 | 0.026 | -0.011 | (0.009) | 1012 |
| Education | | | | | |
| Educ.-Primary or lower | 0.186 | 0.130 | 0.056 | (0.024) | 1012 |
| Educ.-Secondary 1º | 0.188 | 0.191 | -0.003 | (0.025) | 1012 |
| Educ.-Secondary 2º | 0.376 | 0.393 | -0.017 | (0.031) | 1012 |
| Educ.-University | 0.250 | 0.283 | -0.033 | (0.028) | 1012 |
| Civil status | | | | | |
| Single | 0.325 | 0.302 | 0.023 | (0.03) | 1006 |
| Married | 0.566 | 0.605 | -0.04 | (0.032) | 1006 |
| Divorced, widowed | 0.109 | 0.093 | 0.016 | (0.02) | 1006 |
| Labor situation | | | | | |
| Unemployed | 0.121 | 0.132 | -0.011 | (0.021) | 1011 |
| Employee | 0.438 | 0.455 | -0.017 | (0.032) | 1011 |
| Self-employeed | 0.149 | 0.133 | 0.015 | (0.022) | 1011 |
| Student | 0.057 | 0.079 | -0.022 | (0.016) | 1011 |
| Pensioner, retiree | 0.144 | 0.132 | 0.012 | (0.022) | 1011 |
| Other | 0.092 | 0.069 | 0.022 | (0.018) | 1011 |
| Number of respondents | 404 | 608 | | | |

Note: Column 3 reports the OLS coefficient on the difference between Vejer and the comparison group of towns. Column 4 reports the robust standard error.

**Table 4. Interpersonal trust and membership of organizations**

| | Interpersonal trust | | | | | Membership of organizations | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Generalized trust | Trust in family | Trust in known ones | Trust in neighbors | Trust first time | Political parties | Labor unions and professional associations | Religious | Others (sport, culture, leisure, ...) |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Panel A) | | | | | | | | | |
| Communal lands ($CL$) | -0.02 | 0.022 | 0.058 | 0.081 | -0.017 | -0.046 | -0.032 | 0.044 | 0.067 |
| | (0.032) | (0.026) | (0.049) | (0.056) | (0.056) | (0.021) | (0.026) | (0.032) | (0.034) |
| R-sq | 0.05 | 0.02 | 0.03 | 0.03 | 0.01 | 0.07 | 0.1 | 0.02 | 0.04 |
| N | 951 | 1006 | 1004 | 1004 | 987 | 1003 | 1002 | 1004 | 1005 |
| Panel B) | | | | | | | | | |
| $\beta$: $CL^{(0)}Root^{(1)}$ | -0.055 | 0.075 | 0.094 | 0.189 | 0.011 | 0.008 | 0.038 | 0.081 | -0.053 |
| | (0.044) | (0.039) | (0.071) | (0.077) | (0.073) | (0.03) | (0.035) | (0.038) | (0.044) |
| $\gamma$: $CL^{(1)}Root^{(0)}$ | -0.087 | 0.039 | 0.039 | 0.028 | -0.11 | -0.055 | -0.014 | 0.056 | 0.027 |
| | (0.056) | (0.048) | (0.085) | (0.097) | (0.092) | (0.034) | (0.044) | (0.05) | (0.056) |
| $\eta$: $CL^{(1)}Root^{(1)}$ | -0.041 | 0.094 | 0.162 | 0.31 | 0.038 | -0.034 | -0.003 | 0.133 | 0.026 |
| | (0.048) | (0.043) | (0.075) | (0.083) | (0.082) | (0.032) | (0.038) | (0.045) | (0.049) |
| $\eta - \beta$ | 0.013 | 0.018 | 0.068 | 0.121 | 0.027 | -0.042 | -0.041 | 0.052 | 0.079 |
| | (0.038) | (0.028) | (0.058) | (0.065) | (0.068) | (0.026) | (0.032) | (0.039) | (0.041) |
| R-sq | 0.05 | 0.03 | 0.03 | 0.05 | 0.02 | 0.07 | 0.1 | 0.03 | 0.04 |
| N | 943 | 998 | 996 | 996 | 979 | 995 | 994 | 996 | 997 |

Note: Variables' descriptions are provided in Table A1. The regression models include a constant term and a set of control variables, omitted for space considerations (sex, age, age squared, marital status, educational level, and number of children). Robust standard errors are in parentheses.

**Table 5. Trust in institutions**

| | Church | Press | Polit. Parties | National gov. | Regional gov. | Town council | Diff local - supralocal gov. |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Panel A) | | | | | | | |
| Common lands ($CL$) | 0.028 | 0.057 | -0.149 | -0.1 | -0.091 | 0.01 | 0.105 |
| | (0.059) | (0.053) | (0.051) | (0.052) | (0.058) | (0.058) | (0.047) |
| R-sq | 0.04 | 0.03 | 0.04 | 0.02 | 0.03 | 0.04 | 0.02 |
| N | 1000 | 1001 | 1002 | 1000 | 1001 | 998 | 995 |
| Panel B) | | | | | | | |
| $\beta$: $CL^{(0)}Root^{(1)}$ | -0.055 | 0.012 | 0.025 | 0.061 | -0.04 | -0.061 | -0.068 |
| | (0.08) | (0.073) | (0.068) | (0.072) | (0.076) | (0.076) | (0.062) |
| $\gamma$: $CL^{(1)}Root^{(0)}$ | -0.157 | -0.083 | -0.166 | -0.065 | -0.132 | -0.048 | 0.052 |
| | (0.098) | (0.088) | (0.081) | (0.086) | (0.095) | (0.096) | (0.08) |
| $\eta$: $CL^{(1)}Root^{(1)}$ | 0.08 | 0.147 | -0.118 | -0.057 | -0.112 | -0.024 | 0.062 |
| | (0.087) | (0.079) | (0.073) | (0.077) | (0.084) | (0.085) | (0.07) |
| $\eta - \beta$ | 0.135 | 0.135 | -0.143 | -0.118 | -0.072 | 0.037 | 0.13 |
| | (0.071) | (0.064) | (0.062) | (0.064) | (0.07) | (0.071) | (0.056) |
| R-sq | 0.05 | 0.03 | 0.04 | 0.02 | 0.03 | 0.04 | 0.02 |
| N | 992 | 993 | 994 | 992 | 993 | 990 | 987 |

Note: Variables' descriptions are provided in Table A1. The regression models include a constant term and a set of control variables, omitted for space considerations (sex, age, age squared, marital status, educational level, and number of children). Robust standard errors are in parentheses.

**Table 6. Interest, knowledge and participation in politics**

| | Interest in politics | | | Factual knowledge | | Political participation | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Nacional politics | Regional politics | Local politics | Party ruling the town council | Absolute majority of councilors? | Signing a petition | Demostra-tion | Political rally | Contact politician | Express opinion on Internet |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| Panel A) | | | | | | | | | | |
| Common lands ($CL$) | -0.054 | 0.003 | 0.157 | 0.038 | 0.209 | 0.037 | 0.078 | -0.032 | 0.012 | -0.022 |
| | (0.074) | (0.073) | (0.074) | (0.019) | (0.032) | (0.033) | (0.034) | (0.031) | (0.03) | (0.029) |
| R-sq | 0.08 | 0.08 | 0.06 | 0.03 | 0.07 | 0.09 | 0.05 | 0.08 | 0.08 | 0.05 |
| N | 1006 | 1006 | 1006 | 1006 | 1006 | 1003 | 1005 | 1002 | 1003 | 1005 |
| Panel B) | | | | | | | | | | |
| $\beta$: $CL^{(0)}Root^{(1)}$ | -0.297 | -0.222 | -0.123 | 0.046 | 0.029 | -0.028 | -0.014 | -0.048 | -0.032 | -0.023 |
| | (0.095) | (0.094) | (0.098) | (0.03) | (0.044) | (0.042) | (0.044) | (0.041) | (0.04) | (0.039) |
| $\gamma$: $CL^{(1)}Root^{(0)}$ | -0.276 | -0.151 | -0.004 | 0.042 | 0.174 | 0.028 | -0.006 | -0.088 | 0.001 | -0.075 |
| | (0.116) | (0.114) | (0.118) | (0.035) | (0.055) | (0.056) | (0.057) | (0.052) | (0.052) | (0.047) |
| $\eta$: $CL^{(1)}Root^{(1)}$ | -0.255 | -0.154 | 0.111 | 0.081 | 0.256 | 0.009 | 0.102 | -0.052 | -0.025 | -0.018 |
| | (0.107) | (0.106) | (0.109) | (0.03) | (0.047) | (0.048) | (0.049) | (0.046) | (0.044) | (0.044) |
| $\eta - \beta$ | 0.042 | 0.068 | 0.234 | 0.034 | 0.228 | 0.036 | 0.116 | -0.004 | 0.007 | 0.005 |
| | (0.091) | (0.09) | (0.092) | (0.021) | (0.038) | (0.04) | (0.04) | (0.037) | (0.036) | (0.034) |
| R-sq | 0.09 | 0.09 | 0.07 | 0.04 | 0.07 | 0.09 | 0.05 | 0.08 | 0.08 | 0.05 |
| N | 998 | 998 | 998 | 998 | 998 | 995 | 997 | 995 | 995 | 997 |

Note: Variables' descriptions are provided in Table A1. The regression models include a constant term and a set of control variables, omitted for space considerations (sex, age, age squared, marital status, educational level, and number of children). Robust standard errors are in parentheses.

**Table 7. Pro-social attitudes and behaviors**

| | Unselfishness very important for children | Donate to charitable causes | Volunteering in last 6 months | Willingness to donate to those in need | Willingness to help a stranger | Willingness to punish an unfair behavior | Blood donation | Want to donate to a local charity (incentivized) | Amount to donate to a local charity (incentivized) |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Panel A) | | | | | | | | | |
| Common lands ($CL$) | 0.067 | -0.036 | 0.053 | -0.052 | -0.058 | -0.177 | 0.021 | 0.024 | 8.867 |
| | (0.02) | (0.034) | (0.028) | (0.046) | (0.05) | (0.066) | (0.049) | (0.06) | (13.292) |
| R-sq | 0.03 | 0.05 | 0.05 | 0.04 | 0.03 | 0.02 | 0.05 | 0.05 | 0.03 |
| N | 1002 | 993 | 1003 | 1001 | 992 | 951 | 1002 | 318 | 318 |
| Panel B) | | | | | | | | | |
| $\beta$: $CL^{(0)}Root^{(1)}$ | 0.079 | -0.075 | -0.05 | -0.065 | 0.003 | 0.076 | 0.064 | -0.083 | -10.541 |
| | (0.031) | (0.044) | (0.038) | (0.06) | (0.068) | (0.091) | (0.063) | (0.072) | (14.778) |
| $\gamma$: $CL^{(1)}Root^{(0)}$ | 0.105 | -0.121 | 0.049 | -0.195 | -0.104 | -0.146 | 0.122 | -0.139 | -35.22 |
| | (0.037) | (0.057) | (0.05) | (0.077) | (0.086) | (0.114) | (0.08) | (0.098) | (17.534) |
| $\eta$: $CL^{(1)}Root^{(1)}$ | 0.131 | -0.073 | 0.001 | -0.047 | -0.05 | -0.127 | 0.031 | 0.017 | 19.795 |
| | (0.032) | (0.049) | (0.043) | (0.065) | (0.073) | (0.098) | (0.07) | (0.086) | (19.186) |
| $\eta - \beta$ | 0.052 | 0.002 | 0.051 | 0.018 | -0.053 | -0.203 | -0.033 | 0.1 | 30.336 |
| | (0.022) | (0.041) | (0.034) | (0.055) | (0.06) | (0.08) | (0.059) | (0.072) | (16.987) |
| R-sq | 0.04 | 0.05 | 0.05 | 0.04 | 0.03 | 0.02 | 0.05 | 0.07 | 0.06 |
| N | 994 | 985 | 995 | 993 | 984 | 944 | 994 | 316 | 316 |

Note: Variables' descriptions are provided in Table A1. The regression models include a constant term and a set of control variables, omitted for space considerations (sex, age, age squared, marital status, educational level, and number of children). Robust standard errors are in parentheses.

**Table 8. Sense of belonging, empowerment and competence in politics, and entrepreneurship**

| | The respondent feels very identified with... | | | Agree with success more related to luck and contacts than to effort | Life self-control and choice | Religion: Respondent is non-believer/ atheist | Ideology scale | Ideological polarization | If awarded with 1 million euros, how likely... | | Preferred labor situation: | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | My town | Andalusia | Spain | | | | | | stop working and live comfortably | set up a company | Civil servant | Self-employed or entrepreneur |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Panel A) | | | | | | | | | | | | |
| Common lands ($CL$) | 0.028 | 0.014 | 0.011 | -0.072 | -0.15 | -0.034 | 0.495 | -0.079 | -0.045 | 0.029 | -0.063 | 0.004 |
| | (0.03) | (0.025) | (0.032) | (0.056) | (0.12) | (0.03) | (0.153) | (0.03) | (0.034) | (0.032) | (0.034) | (0.03) |
| R-sq | 0.04 | 0.03 | 0.05 | 0.02 | 0.04 | 0.09 | 0.03 | 0.05 | 0.04 | 0.16 | 0.02 | 0.03 |
| N | 1001 | 1000 | 999 | 971 | 999 | 1001 | 900 | 900 | 991 | 995 | 991 | 991 |
| Panel B) | | | | | | | | | | | | |
| $\beta$: $CL^{(0)}Root^{(1)}$ | 0.172 | 0.08 | -0.01 | 0.19 | 0.315 | 0.016 | 0.047 | -0.101 | 0.077 | -0.017 | 0.077 | -0.085 |
| | (0.041) | (0.035) | (0.042) | (0.07) | (0.154) | (0.04) | (0.229) | (0.044) | (0.045) | (0.041) | (0.045) | (0.041) |
| $\gamma$: $CL^{(1)}Root^{(0)}$ | 0.066 | 0.052 | -0.048 | 0.23 | 0.053 | 0.036 | 0.308 | -0.083 | 0.034 | -0.03 | 0.022 | -0.038 |
| | (0.054) | (0.045) | (0.055) | (0.091) | (0.206) | (0.052) | (0.275) | (0.054) | (0.057) | (0.054) | (0.057) | (0.052) |
| $\eta$: $CL^{(1)}Root^{(1)}$ | 0.189 | 0.08 | 0.037 | -0.045 | 0.099 | -0.062 | 0.656 | -0.183 | -0.002 | 0.043 | -0.026 | -0.069 |
| | (0.045) | (0.038) | (0.046) | (0.079) | (0.179) | (0.044) | (0.241) | (0.045) | (0.05) | (0.045) | (0.05) | (0.045) |
| $\eta - \beta$ | 0.017 | 0.00 | 0.046 | -0.236 | -0.215 | -0.078 | 0.609 | -0.082 | -0.079 | 0.061 | -0.103 | 0.016 |
| | (0.034) | (0.029) | (0.038) | (0.07) | (0.145) | (0.036) | (0.174) | (0.034) | (0.041) | (0.038) | (0.041) | (0.035) |
| R-sq | 0.06 | 0.03 | 0.05 | 0.04 | 0.04 | 0.09 | 0.03 | 0.06 | 0.04 | 0.16 | 0.02 | 0.03 |
| N | 993 | 993 | 991 | 963 | 991 | 993 | 892 | 892 | 984 | 987 | 984 | 984 |

Note: Variables' descriptions are provided in Table A1. The regression models include a constant term and a set of control variables, omitted for space considerations (sex, age, age squared, marital status, educational level, and number of children). Robust standard errors are in parentheses.

**Table 9. More on the effect of communal resources on social capital**

| | Town's history knowledge | Importance given to communal goods | Communal goods: correct answers | Differentiating whether parent were farmers | | |
|---|---|---|---|---|---|---|
| | | | | Trust in neighbors | Town's history knowledge | Importance given to communal goods |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Panel A) | | | | | | |
| Common lands ($CL$) | 0.107 | 0.235 | 0.194 | | | |
| | (0.032) | (0.031) | (0.054) | | | |
| R-sq | 0.13 | 0.08 | 0.18 | | | |
| N | 1006 | 1006 | 317 | | | |
| Panel B) | | | | | | |
| $\beta$: $CL^{(0)}Root^{(1)}$ | 0.14 | 0.01 | -0.208 | 0.19 | 0.14 | 0.01 |
| | (0.041) | (0.038) | (0.086) | (0.077) | (0.041) | (0.038) |
| $\gamma$: $CL^{(1)}Root^{(0)}$ | 0.137 | 0.166 | -0.031 | 0.029 | 0.137 | 0.166 |
| | (0.052) | (0.051) | (0.098) | (0.097) | (0.052) | (0.051) |
| $\eta$: $CL^{(1)}Root^{(1)}$ | 0.231 | 0.275 | 0.087 | | | |
| | (0.046) | (0.044) | (0.087) | | | |
| $\eta - \beta$ | 0.091 | 0.27 | 0.295 | | | |
| | (0.039) | (0.038) | (0.063) | | | |
| $\eta^{(0)}$: $CL^{(1)}Root^{(1)}\text{Farmer}^{(0)}$ | | | | 0.283 | 0.241 | 0.279 |
| | | | | (0.085) | (0.049) | (0.047) |
| $\eta^{(1)}$: $CL^{(1)}Root^{(1)}\text{Farmer}^{(1)}$ | | | | 0.411 | 0.193 | 0.259 |
| | | | | (0.127) | (0.071) | (0.074) |
| R-sq | 0.14 | 0.09 | 0.2 | 0.05 | 0.14 | 0.09 |
| N | 998 | 998 | 315 | 996 | 998 | 998 |

Note: Variables' descriptions are provided in Table A1. The regression models include a constant term and a set of control variables, omitted for space considerations (sex, age, age squared, marital status, educational level, and number of children). Robust standard errors are in parentheses.

**Table A1. Description of survey-data variables**

| Variable | Description |
|---|---|
| **Control variables:** | |
| Sex | Dummy variable equal to 1 if the respondent is a woman. |
| Age | Age of the respondant. |
| Marital status | Set of three binary variables, for i) married (or de facto couple), ii) single and iii) separated, divorced or widow. |
| Education level | Set of four binary variables, for i) elementary education or lower, ii) secondary education 1º, iii) secondary education 2º, and iv) higher education. |
| Number of children | Number of children (lower than 18) in the household, truncated in 3 to avoid the influence of outliers. |
| **Main independent variables:** | |
| Vejer | Dummy variable equal to 1 if the respondent resides in Vejer de la Frontera. |
| Strong roots | Dummy variable equal to 1 if the father, mother and grandparents are from the same town where the respondent resides. |
| **Dependent variables** | |
| Table 4: | |
| Generalized trust | Dummy variable equal to 1 if the respondent thinks that, generally speaking, most people can be trusted. |
| Trust in family | Variable that goes from 1 (do not trust at all) to 4 (trust completely) and measures how much the respondent trusts her family. |
| Trust in known ones | Variable that goes from 1 (do not trust at all) to 4 (trust completely) and measures how much the respondent trusts her known ones. |
| Trust in neighbors | Variable that goes from 1 (do not trust at all) to 4 (trust completely) and measures how much the respondent trusts her town's neighbors. |
| Trust first time | Variable that goes from 1 (do not trust at all) to 4 (trust completely) and measures how much the respondent trusts people she meets for the first time. |
| Political parties | Binary variable that takes the value of 1 if the respondent belongs or belonged to a political party. |
| Labor unions and professional associations | Binary variable that takes the value of 1 if the respondent belongs or belonged to a labor union, business association or professional association. |
| Religious | Binary variable that takes the value of 1 if the respondent belongs or belonged to a religious brotherhood or association. |
| Others (sport, culture, leisure, etc.) | Binary variable that takes the value of 1 if the respondent belongs or belonged to a any other type of association or organization (sport, cultural, leisure, etc.). |
| Table 5: | |
| Church | Variable that measures how much confidence the respondent has in the Church, ranging from 1 (none at all) to 3 (quite a lot/a great deal). |
| Press | Variable that measures how much confidence the respondent has in the Press, ranging from 1 (none at all) to 3 (quite a lot/a great deal). |
| Polit. Parties | Variable that measures how much confidence the respondent has in Political parties, ranging from 1 (none at all) to 3 (quite a lot/a great deal). |
| National gov. | Variable that measures how much confidence the respondent has in the national government, ranging from 1 (none at all) to 3 (quite a lot/a great deal). |
| Regional gov. | Variable that measures how much confidence the respondent has in the regional government, ranging from 1 (none at all) to 3 (quite a lot/a great deal). |
| Town council | Variable that measures how much confidence the respondent has in the town council, ranging from 1 (none at all) to 3 (quite a lot/a great deal). |
| Diff local - supralocal gov. | Difference between trust in the town council and town in the national and regional government. More specifically, it is calculated as: trust_Council - 0.5*trust_NatGov - 0.5*trust_RegGov. |

**Table A1. Description of survey-data variables**

| Variable | Description |
|---|---|
| **Dependent variables *(continued)*:** | |
| Table 6: | |
| Nacional politics | Variable that measures how much the respondent is interested in national politics, ranging from 1 (not at all) to 4 (very interested). |
| Regional politics | Variable that measures how much the respondent is interested in regional politics, ranging from 1 (not at all) to 4 (very interested). |
| Local politics | Variable that measures how much the respondent is interested in local politics, ranging from 1 (not at all) to 4 (very interested). |
| Party ruling the town council | Variable to test the respondent's knowledge about local politics. It measures whether the respondent answers correctly which political party is ruling the town council. |
| Absolute majority of councilors? | Variable to test the respondent's knowledge about local politics. It measures whether the respondent answers correctly whether the political party holding the town council has absolute majority of councilors. |
| Signing a petition | Binary variable that takes the value of 1 if the respondent has ever signed a petition. |
| Demostration | Binary variable that takes the value of 1 if the respondent has ever taken part in a demostration. |
| Political rally | Binary variable that takes the value of 1 if the respondent has ever attended a political rally. |
| Contact politician | Binary variable that takes the value of 1 if the respondent has ever contacted or tried to contact a politician or civil servant to express her opinion |
| Express opinion on Internet | Binary variable that takes the value of 1 if the respondent has ever expressed her political opinions on the Internet. |
| Table 7: | |
| Unselfishness very important for children | Dummy variable that takes the value of 1 if the respondent considers that unselfishness is a very important value to be promoted at home for the children education. |
| Donate to charitable causes | Binary variable equal to 1 if, in case of winning 1 million euros in the lottery, it is very likely to donate money to charitable causes. |
| Volunteering in last 6 months | Binary variable that takes the value of 1 if the respondent has done some volunteering in the last six months. |
| Willingness to donate to those in need | Variable that measures the respondent's willingness to donate to those in need, ranging from 1 (not at all) to 4 (very willing). |
| Willingness to help a stranger | Variable that measures the respondent's willingness to help a stranger, ranging from 1 (not at all) to 4 (very willing). |
| Willingness to punish an unfair behavior | Variable that measures the respondent's willingness to punish an unfair behavior, even though it can be costly, ranging from 1 (not at all) to 4 (very willing). |
| Blood donation | Variable measuring how often the respondent donates blood, ranging from 0 (never) to 2 (usually). |
| Want to donate to a local charity (incentivized) | Incentivized question where, upon acceptance of taking part in a 500-euro raffle, the respondent commits to donate some money to a local charity (1) or does not (0). |
| Amount to donate to a local charity (incentivized) | Incentivized question that measures, upon acceptance of taking part in a 500-euro raffle, how much the respondent commits to donate to a local charity (1) or does not (0). |

**Table A1. Description of survey-data variables**

| Variable | Description |
|---|---|
| **Dependent variables *(continued)*:** | |
| Table 8: | |
| Very identified with town | Binary variable equal to 1 if the respondent feels very identified with her town. |
| Very identified with Andalusia | Binary variable equal to 1 if the respondent feels very identified with Andalusia. |
| Very identified with Spain | Binary variable equal to 1 if the respondent feels very identified with Spain. |
| Agree with success more related to luck and contacts than to effort | Variable that goes from 1 (strongly disagree) to 4 (strongly agree) and captures whether the respondent agrees with "hard work doesn't generally bring success—it's more a matter of luck and connections". |
| Life self-control and choice | Variable that goes from 1 (no choice at all) to 10 (a great deal of choice) and captures the respondent's views concerning how much freedom of choice and control she feels she has over the way her life turns out. |
| Religion: Respondent is non-believer/ atheist | Binary variable equal to 1 if the respondent is a non-believer or atheist. |
| Ideology scale | Variable measuring how the respondent places herself in the ideological scale, ranging from 0 (left) to 10 (right). |
| Ideological polarization | Binary variable equal to 1 if the respondent's ideology occupies the positions 0, 1, 2, 8, 9 or 10 of the ideological scale. |
| Stop working and live comfort | Binary variable equal to 1 if, in case of winning 1 million euros in the lottery, it is somewhat or very likely to stop working and live comfortably |
| Set up a company | Binary variable equal to 1 if, in case of winning 1 million euros in the lottery, it is somewhat or very likely to set up a company. |
| Civil servant | Dummy variable that takes the value of 1 if the respondent prefers to be a civil servant earning 1300€/month, against these two alternative options: i) private-sector employee earning 1700€, or ii) self-employed or entrepreneur making 2200€ |
| Self-employed or entrepreneur | Dummy variable that takes the value of 1 if the respondent prefers to be a self-employed or entrepreneur making 2200€, against these two alternative options: i) private-sector employee earning 1700€, or ii) a civil servant earning 1300€/month. |
| Table 9: | |
| Town's history knowledge | Variable to test the respondent's knowledge about the town's history. It measures whether the respondent answers correctly the type of jurisfiction that the town had in the Ancient Regime, either noble or royal. |
| Importance given to communal goods | Binary variable that takes the value of 1 if the respondent thinks that communal goods have been an important factor in the historical development of the town. |
| Communal goods: correct answers | Binary variable that takes the value of 1 if the respondent gives a meaningful answer to an open-ended question about why communal goods have been important. This is only asked to those answering yes to the previous question ("importance given to communal goods"). |