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Social and Environmental Filters to Market Incentives: The Persistence of Common Land in Nineteenth-Century Spain

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The regional diversity of communal persistence in nineteenth-century Spain has been well documented by historiographers. Although the explanation of this divergence has been attributed to the social and environmental context, together with the prevailing market incentives, that characterized the different rural societies of this period, there has been no clear assessment of the role played by each of these factors. Through a comparative study of the historical data at the provincial level, this paper analyses the relative contribution of these elements to that divergence. The results diminish the significance of market signals and show how the social and environmental conditions interacted to limit, or promote, the dismantling of the common lands. Apart from the greater need to resort to the commons when it was necessary to increase agricultural production in dry regions, this paper highlights the role of unequal levels of access to land in promoting enclosure. The Spanish case illustrates the limitations of the theories that predict the inevitable drift towards individual property rights.

Keywords: Spain, nineteenth century, common lands, privatization, socio-ecological context

INTRODUCTION

The economic literature addressing the dissolution of the communal regime relies on the argument that, as land becomes scarce, private property rights will be increasingly more efficient (Baland and Platteau 1998).[1] Population growth and/or growing commercialization of agriculture increase the pressure on the resource and force local communities either to regulate user-rights more tightly or to divide it and establish individual property rights. Communal or collective management involves transaction costs, such as negotiating agreements and monitoring and enforcing such agreements,[2] which can be avoided by private ownership, so the latter institutional arrangement will often be preferred. However, two considerations may offset these costs. First, private property rights also suffer from transaction

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[1] These ideas were originally developed by proponents of the New Institutional Economics (Demsetz 1967; Alchian and Demsetz 1973; North and Thomas 1978).

[2] These transaction costs are likely to be higher in larger and/or more heterogenous groups (Baland and Platteau 1998, 645).

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costs: negotiating, defining and enforcing those rights, which tend to be higher the larger the physical resource.[3] Second, common property resources also enjoy some advantages themselves in terms of economies of scale and risk-insurance mechanisms. In this regard, while collective herding reduces supervision costs, common property regimes provide insurance mechanisms, thus protecting farmers against spatial variations in yields. Likewise, since these institutions guarantee a certain level of access to these resources, equity considerations may play out in favour of communal regimes (Runge 1986). In any case, the property rights theory predicts that, unless the dismantling of the communal regime remains too costly, as increasing competition over the available land enhances its value, the gains from privatization will eventually overcome the potential advantages of collective agreements. This process consequently translates into a growing demand for a redefinition of property rights.

These considerations have been extensively applied to the analysis of historical commons, especially in the British case. Even though the commons may have been an efficient institution in a distant past when land was abundant, the intensification of economic pressures inevitably led to its substitution for 'modern' property rights, or in other words, individual private property.[4] This strand of thought is complemented by the idea that communal property rights encouraged over-exploitation, prevented individual entrepreneurship and impeded the diffusion of agricultural improvements (Chambers and Mingay 1966; McCloskey 1975). The drive towards more efficient institutional arrangements in the form of enclosures would have therefore laid the foundations for agricultural development. However, recent research has re-evaluated the role of the commons in pre-industrial societies. On the one hand, open fields were not that inefficient with respect to enclosed fields in terms of agricultural productivity (Allen 1992; Clark 1998a). On the other hand, the communal regime offered economies of scale, lower transaction costs and risk-insurance mechanisms (De Moor 2009).[5] The role of the commons in mitigating inequality has been seen as another advantage in order to explain why this institutional arrangement persisted in spite of its supposed inefficiency (Humphries 1990; Neeson 1993; Clark 1998a, 75). In addition, although it is true that some spontaneous waves of enclosure took place, both in the British Isles and on the Continent, the privatization of the commons was always decisively sponsored by the state, through the enactment of different forms of enclosure acts or compulsory sales (Clark and Clark 2001; Demélas and Vivier 2003).[6] Moreover, despite the efforts of the emergent liberal states to dismantle the communal regime, large tracts of common lands survived.

This paper attempts to revisit these issues by analysing the factors behind the dissimilar persistence of the communal regime in Spain. Since common lands constituted a source, among other different goods and services, of pasture, wood, fertilizer and fuel, together with the possibility of temporary cropping, they were a key component in the organic-based

[3] Runge (1986, 624–5) forcefully defends that 'the social overhead required by assigned, defined and transferable private property rights and the capacity to support this superstructure through legal fees and taxes often goes unrecognized' and 'may be prohibitively costly compared to customary arrangements'.

[4] Boserup (1965) argues that, by increasing land values, population growth and agricultural intensification promote the redefinition of property rights. Likewise, in the absence of insurance markets, the open field system was relatively efficient because, although hindering efficiency due to higher transport and transactions costs, scattered landholdings provided a risk-insurance mechanism for farmers (McCloskey 1975, 1991). However, this institution would be no longer necessary as modern markets for savings and insurance developed.

[5] Importantly, this research shows that common lands were not the open access resources depicted by Hardin (1968), but were tightly regulated. While a body of informal and formal rules (bylaws) established access rights and a system of graduated fines, formal and informal monitoring and enforcement mechanisms secured the proper functioning of the system.

[6] State intervention, generally responding to the wishes of the landowner elites who controlled parliaments, has been seen as a way to redistribute income from the poor to the richer classes (Allen 1992, 2001).

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Spanish pre-industrial economy (Iriarte 2002).[7] Although the rural societies were not characterized by an equitable access to resources, the collectively used land provided certain mechanisms of social cohesion that preserved the continuity of the system. Therefore, the existence of common lands was a way of guaranteeing the accumulation process of the upper classes, while simultaneously allowing the less favoured sectors of the population to obtain supplementary rents that were needed for their own reproduction. However, the transformations brought about by the transition to capitalism that European economies experienced threatened the kind of property and management that these collective lands had been developing throughout the centuries, upsetting the traditional balance that characterized these economies. The communal regime in Spain was not immune to these trends and suffered, from the end of the eighteenth century, a transformation process that affected both its property regime and the way these resources had been traditionally used. On the one hand, local communities had to adapt to growing population pressures and the increasing role that markets were beginning to play. On the other hand, the establishment and consolidation of the new liberal state involved an attempt to not only accelerate the process by trying to privatize communal resources, but also to exert influence over the management of those lands that remained under the control of the rural community through an increasing interventionism. Both processes led to the dismantling of the communal regime, thus deeply transforming the Spanish economic landscape. Interestingly, neither the pressures created by the market nor those generated by the state were completely successful, and the outcome of the privatization process was quite different, both in pace and intensity, depending on the geographical area (GEHR 1994, 1999).

The initial research that examined the destiny of common lands in Spain attributed a leading role in their dismantling to the type of legislation introduced by the central government throughout this period (Sanz Fernández 1985; Jiménez Blanco 1991). The rising liberal state, striving for its consolidation, would be the driving force of the process and the key to an understanding of its scope. However, without denying the boost it gave to the process, a reform imposed from the centre does not explain the diversity of regional outcomes. In fact, the role played by liberal policy during the first half of the nineteenth century was restricted, since it limited itself to establishing the legal framework that allowed municipalities to freely dispose of their patrimony. It was not until the decade of the 1850s, when privatization was already quite advanced in certain areas, that the liberal state became actively involved in the process. The diversity observed in different areas of the country thus indicates the presence of local elements that conditioned the outcome of this policy. Although the explanation of this diversity has been attributed to the social and environmental context, together with the prevailing market incentives that characterized the different rural societies of this period, there has been no clear assessment of the role played by each of these factors (GEHR 1994; Balboa 1999; Iriarte 2002; Jiménez Blanco 2002).

Through a comparative study of the historical data at the provincial level, and building on previous innovative work by Linares (2004), this paper analyses the relative contribution of these factors to the different levels of persistence of common land in nineteenth-century Spain. These diverse elements constituted a complex web of reciprocal influences, where the joint interaction between social and environmental conditions prevailed over market pressures in shaping the privatization process. Apart from the greater need to resort to the commons if agricultural production was to be increased in dry regions, the results stress that high levels of

[7] These communal resources were indeed a crucial element of a system in which agricultural activity was completely integrated with cattle breeding and forestry (Wrigley 1988).

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inequality in access to land played a key role in promoting enclosure. Local communities were thus able to retain control over the property and management of collective resources to a greater or lesser extent, depending on the social and environmental context in which they were immersed, hence casting doubts on the 'inevitability' of the spontaneous emergence of private property rights.

ENCLOSING THE COMMONS

The communal regime in Spain involved two main types of access to the land: direct but regulated access for all members of the community (*comunales*), or a temporary cession of user-rights to particular individuals in exchange for a monetary income (*propios*), which constituted an important source of revenue for municipalities. The importance of the commons in the reproduction and development of rural communities in pre-industrial Spain, and their capacity for adaptation and innovation, have already been examined by extensive research (Iriarte 1998; Moreno 1998; Balboa 1999; Linares 2001; Jiménez Blanco 2002; Serrano 2005; Lana 2008). Although limited attempts were made to try to distribute private user-rights over the commons during the 1760s and 1770s, the assault on these collective resources did not politically crystallize until the nineteenth century. Its motivation was not only driven by ideological considerations, the establishment of the 'perfect property' and market mechanisms in rural areas as synonyms for greater social efficiency, but also by the fiscal problems of both the municipalities and the Crown.[8] Likewise, concerns about rapid population growth justified the promotion of arable land at the expense of the commons. The legislation that followed the liberal Constitution of 1812 allowed municipalities to sell their commons, legal dispositions that, after the successive absolutist restoration periods, were re-established first briefly in 1820–3 and then definitely in 1834.[9] During this period, municipal councils not only controlled who enjoyed user-rights over the commons, but also who benefited from the occasional sales and distributions (Jiménez Blanco 2002, 149). The triumph of the liberal vision ultimately took place in 1855, when Pascual Madoz issued the General Disentailment Act, forcing municipalities to sell their lands through public auctions.[10] Although private appropriation of common lands was intense during the period prior to

[8] For detailed summaries of the process during the nineteenth century, see Sanz Fernández (1985), García Sanz (1985), López Estudillo (1992), Balboa (1999), Jiménez Blanco (2002), Gómez Urdañez (2002) and Iriarte (2002). For a review of the policies carried out in the 1760s–1770s, see Nieto (2002, 276–9). It is worth mentioning that the private appropriation of the commons is not a new phenomenon of the nineteenth century, but can be traced back to the Modern Period, this process being especially intense in some areas of Andalusia, Catalonia and Madrid (Sánchez Salazar 1988; Bernal 1997; Congost 2002; Moreno 2002; Esteve and Hernando 2007).

[9] Despite its apparent opposite political view, this legislation was also applied during absolutist periods (Fernández Paradas 2004, 48). The liberal reforms during this initial period also actively encouraged the distribution of common lands to labourers and small landholders, together with former soldiers who fought supporting the revolution (García Sanz 1985, 22–7; Jiménez Blanco 1996). In an epoch highly marked by social and political instability, one of their aims was to gain support for the liberal revolution (Gómez Urdañez 2002, 140). This instability itself, characterized by wars, revolutions and counter-revolutions, also facilitated the illegal appropriation of collective resources (Iriarte 2002, 22).

[10] According to the legal text, 20 per cent of the sale value would directly go to the state, while the remaining 80 per cent would belong to the municipalities, but transformed into perpetual and inalienable public debt, yielding a 3 per cent annual return (García Sanz 1985, 28). Although these rents were intended to compensate municipalities for the loss of these resources, the debt quickly depreciated and the payments were not often honoured.

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1855, the decades of the 1860s and 1870s witnessed how large tracts of land became privatized at an unprecedented pace.[11]

However, even then, the legal text left the door open to municipalities to apply for exceptions to the general rule (Jiménez Blanco 2002, 153). Although the law mainly aimed to privatize only those commons enjoyed privately, the distinction between different types of commons was blurred and, therefore, local councils had to demonstrate that the commons they wished to except from the sales were enjoyed collectively (Nieto 1964, 234; López Estudillo 1992, 81–2; Moreno 2002, 147–50).[12] Furthermore, for environmental reasons, the law also exempted from sale some woodlands that were considered to fulfil an ecologically protective function: plots, larger than 100 hectares, which were dominated by pine, oak or beech trees.[13] Both concessions were actually the result of the previous parliamentary debates that showed repeated concerns about how a strict privatization would attack legitimate interests and distort the normal functioning of the rural communities in crucial ways (Gómez Urdañez 2002).[14]

The importance of the privatization process was nonetheless immense. Apart from sales and distributions carried out by legal means, illegal usurpations and appropriations also occurred (López Estudillo 1992, 83–90; Balboa 1999, 111; Jiménez Blanco 2002, 148–9). Altogether, more than 10 million hectares, around 20 per cent of the total national area, changed hands between 1770 and 1930 (Rueda Herranz 1997).[15] Interestingly, the outcome of the process was geographically uneven. The dismantling of the commons was especially intense in the southern half of the country (see Figure 1).[16] As explained above, it seems that the liberal state, instead of forcing a homogenous policy, restrained its ambitions and adapted the legislation to the local demands for privatization, which in turn depended on the economic, social

[11] The rhythm of sales slowed down from then onwards, partly in response to the end-of-the-century agricultural crises and partly because the best commons had already been sold (Sanz Fernández 1986, 164; De la Torre and Lana 2000, 82; Linares 2001, 40; Iriarte 2002, 22). Besides the Disentailment Act itself, other state interventions during this period were the creation of the Land Registry Office, the establishment of a registry of ownership (*catastro*) and the appointment of the Civil Guard, an already existent militarized police body, to watch over rural property (Iriarte 1998, 126).

[12] The requested criterion for land to be declared exempt was extremely restrictive and the final resolution was in the hands of the provincial Treasury agencies (*Delegaciones Provinciales de Hacienda*), which had a vested interest in the fiscal aspect of privatization (GEHR 1994, 435). The processing of these files and its final resolution was extremely slow, and it has not been possible to track the fraction of the commons that survived thanks to these applications (GEHR 1991, 70).

[13] An initially more ambitious environmental criterion, involving around 2.5 million hectares more, was dismissed, mainly because of fiscal considerations (Sanz Fernández 1985, 209–16). There is evidence showing that, forced by fiscal needs, there were uplands that ended up being privatized even though they had been legally declared exempted, either for environmental reason or for being subject to collective uses (López Estudillo 1992, 79–81; Linares 2001, 31–2). In 1896, a more rational Woodland Classification protected uplands, taking into account their potential forestry and environmental externalities, the so-called *montes de utilidad pública* (Jiménez Blanco 2002, 154).

[14] Other contemporary warnings can be found in the 1840s report from the *Sociedad de Amigos del País* or the 1851 questionnaire, where almost every village that answered it stood against disentailment (Del Moral Ruíz 1979: García Sanz 1985, 28; Sanz Fernández 1985, 206; Sánchez Salazar 1995; Gómez Urdañez 2002).

[15] Several authors have stressed the importance of the sales and private appropriations carried out during the first half of the nineteenth century (Iriarte 1992; Cabral 1995; Jiménez Blanco 1996; Lana 2006). According to Rueda (1997, 61), while around 6.7 million hectares became private between 1855 and 1924, the 'silent' disentailment witnessed the private appropriation of around 5.3 million hectares. Furthermore, not only the amount of land privatized was extremely significant, but also of superior quality, thus enhancing the importance of that period (Cabral 1995; Lana 2006).

[16] The regional picture was definitely more complex. For a more detailed description by region, see GEHR (1994). Although the dismantling of the commons also implied the privatization of user-rights (González de Molina and Ortega 2000), the aim of this paper is to focus on the redefinition of property rights.

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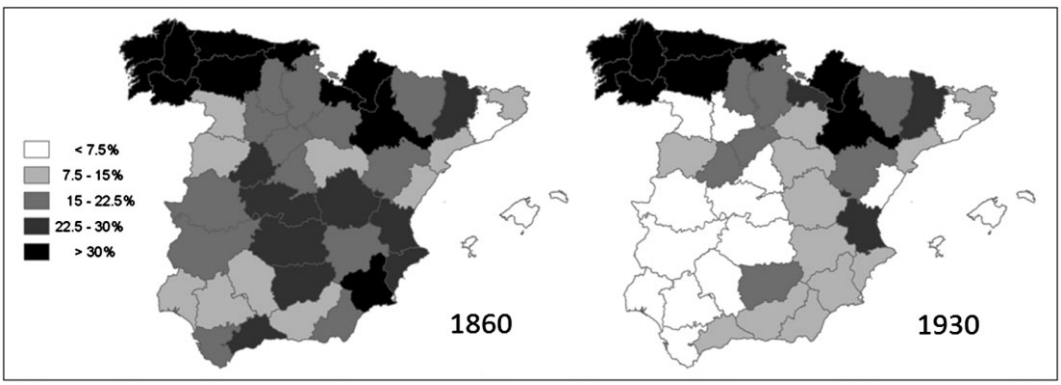
Figure 1 Stock of common lands in Spain, 1860-1930 (as a percentage of the total area)



Source: Artiaga and Balboa (1992), GEHR (1994) and Gallego (2007). No data for the Basque Country is available.

and environmental context of the local communities (GEHR 1994, 132; Iriarte 2002, 23).[17] Not only did the liberal state give freedom to municipalities to control privatization during the first half of the nineteenth century, but also the legal text in 1855 was indeed clear on this issue: the sales would be carried out by putting the plots on public auction 'as it was required by the potential buyers'.[18] Therefore, if the tempo of enclosure was ultimately left to the demands of local communities, analysing why the success of privatization was so geographically uneven allows for a deeper understanding of the driving forces behind this process.

SOCIAL AND ENVIRONMENTAL FILTERS TO MARKET INCENTIVES

Considering the diversity of the privatization outcome, it is clear that not every region responded equally to the guidelines drawn up by the central government. Rural societies had a significant response capability to direct the process, which led to either reinforcement or dilution of the liberal aims, depending on the context in which they were implemented. But, if this was the case, what were the conditions that led some villages to get rid of their commons, while others managed to preserve them? And to what extent did these conditions matter? Although the different economic, social and environmental factors involved formed a complex web of reciprocal influences, for the sake of clarity, they are analysed separately.

First, reflecting Boserupian-like concerns and the predictions of the theory of property rights, the importance of demographic pressures and market incentives in the dismantling of the commons occupies a central place in Spanish historiography (Sanz Fernández 1985; Herr 1988; GEHR 1994; Iriarte 2002). A growing population and slow but gradual economic growth increased the demand for agricultural products and raw materials such as timber, resin, cork and esparto grass during the period under analysis. At the same time, the influence of

[17] From a different perspective, the liberal government only sanctioned what was already being arbitrarily implemented or imposed by the local elites (Congost 2002, 327).
[18] My translation (quoted in Iriarte 1998, 126). It is true nonetheless, as is shown later, that the Madoz Act dramatically altered how the privatization was being carried out (Jiménez Blanco 2002, 150).

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market mechanisms was also expanding in the rural areas. In general, it is argued that the connection to national and international agrarian markets encouraged farmers to increase their production capacity by resorting, among other things, to the ploughing up of common lands. These processes reinforced each other and were reflected in increasing land prices and rents, thus translating into what has been referred to as land hunger. However, the longing to get access to land by small farmers and labourers should not be confused with the motivations behind large landowners to consolidate and expand their holdings. Moreover, land was not only a purely economic asset but a status good, since it conveyed prestige and position in society (Bernal 1988, 236).[19]

Second, the literature has also analysed this issue as a clash between two institutions. The liberal state, on the one hand, would try to speed up the transition to capitalism through the privatization of the commons. The local communities, on the other hand, would try to adapt to the new situation, either by defending their collective assets or by taking an active part in their dismantling. Rural societies were embodied by different social groups and by the municipalities that represented them politically. These local communities did not constitute a homogenous body, but had their own contradictions, generally derived from the conflict between a landowner elite, frequently allied with the liberal state, and the peasant population, the latter having very limited political power, but some degree of room to manoeuvre.[20] Although the allocation of the user-rights on the commons benefited the upper classes to a greater extent, the entire community profited from them. In fact, the commons fulfilled an important social function, since the less-favoured groups obtained supplementary rents that secured their reproduction. In this sense, the protests against the selling of collective property had a fundamental prominence throughout the whole period (González de Molina and Ortega Santos 2000). Since this opposition was widespread in the country, and those individuals with lesser resources had less possibility of benefiting from the privatization process, the problem lies in explaining why landowner elites in certain areas shared this interest and did not take advantage of the potential sales or appropriate the commons through other means.

The existence of relatively cohesive societies stands as the main candidate to play the role of promoting the persistence of the collective lands, since it would facilitate the participation of all members of the rural society in the management and use of collective resources, including their defence against privatization (Iriarte 1998; Moreno 1998; Lana 2008).[21] It has

[19] Furthermore, the purchasing of land was seen as a safe investment, especially in the context of the absence of a modern financial system (Saguer 1998, 692–3). The liberal state actually reinforced that role, establishing property ownership as the basic category of being a citizen and of being able to participate in elections. Interestingly, Clark (1998b) finds that the perception of land as a status good increased during the nineteenth century in England as well.

[20] Analysing the Spanish rural societies, Gallego (2007), for instance, opposes the existence of two social classes that asymmetrically interacted within the heart of the local communities: the agrarian elites and the peasant families (also in Iriarte 1998, 132).

[21] Local communities developed varied strategies in order to preserve their commons. Up to 1855, municipalities maintained legal authority over their patrimony. After the Madoz Act, villages had the possibility of taking legal action to exclude those lands that were being enjoyed collectively from the general disentailment. At times, municipalities also concealed estates, provided wrong information or refused to respond to the requests of the central government (Jiménez Blanco 2002). On the other hand, legal channels were also employed to denounce illegal ploughings or appropriations, or even to invalidate land sales (De la Torre and Lana 2000). Likewise, in several cases, peasant groups would bid collectively at auctions or would arrange the repurchasing of the commons, an adaptive strategy seeking to maintain the status quo (Balboa 1999). The neighbours themselves also acted to hinder the exercise of property rights that had been purchased by outsiders, which also served to discourage future purchases. It is worth noting that the peasant population could have also been in favour of privatization if this meant the distribution of the land (Cabral 1995). However, redistributions did often not imply privatization, but a mere allocation of the commons between neighbours without the transfer of property

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been argued that this social link would be stronger in areas with dispersed settlements, fewer social imbalances and a generalized collective use of the commons, given that they enhanced the social functionality of the commons and the incentives to protect an asset that was greatly valued by the whole community. Specifically, those rural societies where small landholdings and a lesser inequality prevailed were more successful in limiting privatization than those characterized by a strong presence of large landowners and more widespread social inequalities (Balboa 1999). These circumstances gave rise to the formation of a broad consensus against privatization, since the commons simultaneously allowed for maintaining the accumulation systems of the elites and for securing the reproduction of the peasant holdings. On the contrary, the existence of more unequal populations made control over the commons through a political negotiation (in a broad sense) difficult for the landowner elites, who promoted privatization in order to secure their privileged access to these resources (Iriarte 1998, 131–2; Jiménez Blanco 2002, 151).[22]

Lastly, the greater or lesser interest in dismantling the communal system was influenced by the environmental context and the potential productivity of the collective lands themselves. From this perspective, the natural environment conditioned the kind of rural organization that was being developed in each area, together with the function that the commons played in it, thus affecting the incentives in favour, or against, their dismantling. On the one hand, in those areas with more favourable characteristics for farming, ploughing the commons was easier (Iriarte 1992, 1998). A rougher and steeper relief not only complicates the definition and enforcement of private property rights,[23] but also slows down market exchanges, due to difficult and expensive communications, and prevents the expansion of arable land.[24] In this regard, although the GEHR (1994, 113) downplays the significance of the growth of arable land in explaining the process, other authors stress that the first use for the privatized land was to put it under the plough (Sanz Fernández 1986, 163; González de Molina and Ortega Santos 2000).[25]

On the other hand, the possibility of extending the arable land was also strongly determined by the soil and climate conditions that each area enjoyed. The most important ecological limit of the Iberian Peninsula was water, since water (or the lack of it) constituted the primary restraint on Spanish agricultural yields, especially in the dry areas; that is, across most of the country (González de Molina 2001). The availability of nutrients is determined by the humidity regime and the edaphoclimatic characteristics of the territory thus put a limit on agrarian productivity. Given growing demand, if production needed to be increased, the only

rights (Sanz Fernández 1985, 196). Interestingly, demands reclaiming the commons for the local communities were a central element of the peasants' organizations during the II Republic in the 1930s (Robledo 1996, 289–302).

[22] In areas where economic and political imbalances were more acute, small farmers and labourers increased the pressure to redistribute collective lands. Although landowner elites may not necessarily have been in favour of privatization, they may have preferred that solution as the best choice to maintain their privileged access to those resources (Jiménez Blanco 2002, 151).

[23] According to Iriarte (1998, 131), the redefinition of property rights over the land in areas where livestock and forestry predominate over cultivation is not considered to be essential. The privatization of forests and pastures would have also involved enormous exclusion costs arising from the great technical difficulty of enclosing them, and the problems derived from monitoring these spaces.

[24] A harsh weather also reduces the yields obtained from these areas.

[25] Arable land increased by more than 5 million hectares, around 10 per cent of the total area of the countryside, from 1860 to 1926 (Garrabou and Sanz Fernández 1985, 114). In the southern half of the country, the flat lands of the Ebro Valley, the Castilian plateau and the Mediterranean strip running from Castellón to Murcia, the privatization process went hand in hand with an increase of the land surface assigned to agricultural use (GEHR 1994). There is evidence, however, that, at least in some areas, the expansion of arable land was also carried out under the communal regime (Iriarte 1998, 135; Linares 2001, 43; Serrano 2005, 445).

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available choice was to expand arable land.[26] However, the lack of rainfall not only reduced agricultural yields but also biomass production in general. The lower production of natural pastures limited the territorial capacity to support livestock that could provide fertilizer and workforce, which in turn influenced the level of crop yields. The need to expand arable land was lower in humid Spain, where, without this restraint, production could be increased through a more intensive use of the territory. Given their crucial role as provider of pasture and fertilizers, the value of the commons in humid regions would thus be superior due to the larger volume of biomass that could be obtained from them, hence generating a virtuous circle between agricultural productivity and the availability of common lands. The possibility of improving agricultural yields through this positive link reinforced the already superior agricultural productivity of humid Spain and imposed even greater limits on the need to increase production through the expansion of arable land. The greater yields achieved by the commons in these regions would serve to enhance the interest in their preservation, since reducing their availability would decrease agricultural yields.[27] Therefore, the persistence of collective lands in humid Spain would be partly caused by the greater capacity of Spanish agriculture to increase production, without resorting to the expansion of arable land, and by the function that the commons themselves fulfilled to support these high agricultural yields. The diverse levels of success of the privatization process would consequently have part of their roots in the differing needs for arable lands to increase production for the market, needs that would be determined by the environmental conditions of each area. It should be noted that the productive orientation of dry Spain was not exclusively based on cereal crops, but also on stockbreeding, vineyards and olive groves. However, the important issue here is that all these crops were produced on unirrigated land, cultivated through extensive systems (Gallego 2001, 46). In fact, the cattle breeding interests from the interior of the peninsula also took part in the privatization of the commons, which led to the formation of large, extensive exploitations of land.

THE EMPIRICAL EXERCISE

The arguments outlined above regarding the diverse regional persistence of common lands in Spain are tested employing the following model relating the importance of the commons to the different economic, social and environmental factors at play:

$$Commons_i = \beta_0 + \beta_1 Demand_i + \beta_2 Social_i + \beta_3 Environment_i + \beta_4 NW_i + u_i.$$

While the stock of common lands in each province is measured as a fraction over the total provincial area,[28] the importance of economic incentives is tested by using different proxies:

[26] The limits of the irrigation technology available in this period did not allow its widespread use. Although various methods of increasing agricultural production were tried anyway, the results were never going to be very different, given the environmental conditions. For a description of the strategies that were carried out and their limits, see González de Molina (2001). In his opinion, the expansion of arable land devoted to cereal farming was perhaps the only alternative to meet the growing demand.

[27] A relationship that contemporaries themselves very well knew. Multiple warnings arose throughout the nineteenth century pointing out the damage that an excessive reduction of the commons would cause to agrarian productivity, such as lower agricultural yields and the impossibility of properly maintaining livestock (Moral Ruíz 1979; Artiaga and Balboa 1992, 103; Gómez Urdañez, 2002, 158). In this regard, there is evidence that the intensification of the privatization process during the decades of 1850 and 1860 led to the reduction of livestock, since the lower availability of common lands made their support difficult (González de Molina 2001).

[28] Given the hybrid nature that characterized the concept of the 'commons' in nineteenth-century Spain, this paper, following Iriarte (2002), identifies common lands as those lands that were collectively managed at the local

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on the one hand, population density and urbanization rates consider demographic pressures, and the importance of market-oriented incentives and the demands arising from economic development; on the other hand, a dummy for coastal provinces and the distance to big cities are also included to further test the importance of market incentives.[29] Likewise, in order to avoid multicollinearity problems, the variables accounting for economic incentives are also collapsed into one single variable, using the market potential per capita. This indicator, recently developed by Martínez-Galarraga (2012, 264–5), captures the importance of market incentives by adding up the economic size of the province itself and that of other provinces and overseas markets, weighted by a decreasing function of distance and transport costs. According to the theory of property rights, stronger market incentives should be negatively correlated with the stock of common lands.

However, since the social and environmental context may have qualified the market pressures to redefine the existing institutional arrangement, different proxies accounting for these factors are included in the model. On the one hand, the social framework is characterized by levels of inequality measured by the ratio of landowners to the active agricultural population.[30] Furthermore, in order to consider the potential influence of large landowners, a proxy assessing the average size of plots is also calculated by dividing agricultural land between landowners, and is then included as an interaction term.[31] Likewise, the population settlement pattern and the importance of collective uses on the commons are also incorporated into the analysis.[32] On the other hand, environmental features are proxied using humidity and ruggedness indexes, as well as the interaction between orography and altitude to further distinguish the effects of a steep relief and extreme weather.[33] Both humidity and ruggedness are expected to be positively related with the stock of common lands. Lastly, provinces in north-western Spain constitute a special case. Before the advent of the liberal state, most commons there did not officially belong to the municipalities, but to the neighbours themselves (Balboa 1999; Jiménez Blanco 2002). It has been argued that, despite the central government's efforts to municipalize these resources, their special legal status further complicated privatization. A dummy variable for these provinces will be included in the analysis to test its potential effect on the privatization process and to further check the robustness of the results.[34]

Given the differing legislation under which privatization was implemented, the empirical analysis is carried out separately for the two periods divided by the Disentailment Act. While prior to 1855, municipalities controlled who benefited from the process, the new legislation

level, in spite of their ownership being collective, municipal or public. Although the dismantling of the common lands also implies the privatization of their uses (De la Torre and Lana 2000; Ortega Santos 2002), my aim is to focus on the redefinition of property rights.

[29] While population figures are taken from Nicolau (2005) and divided by the total provincial area (INE 2001), urbanization is measured by the proportion of population living in cities bigger than 5,000 inhabitants (Tafunell 2005). The distance to big cities is computed as the minimum geographical distance from the provincial capital to Madrid or Barcelona.

[30] This information is found in Dirección General del Instituto Geográfico y Estadístico (1863).

[31] Agricultural land, taken from GEHR (1994).

[32] While the settlement pattern refers to the number of settlements per 100 km^2 (Comisión de Estadística General del Reino 1860; Instituto Nacional de Estadística 2001), the importance of collective user-rights is measured by the fraction of total uses that were being enjoyed collectively (GEHR 1991). The average between 1860 and 1870 is used to avoid unexplained short-run variations.

[33] Following Simpson (1995, 41), the humidity index divides annual rainfall by temperature using long-term series data from Goerlich (2010). The ruggedness index quantifies terrain irregularity by comparing the altitude between neighbouring cells using GIS (Goerlich and Cantarino 2011). Lastly, altitude is measured as the fraction of provincial land over 1,000 metres (INE 2001).

[34] These provinces include Asturias, Cantabria, León and the four Galician provinces.

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established that sales would be the result of public auctions, which were more likely to end up in the hands of the richer classes.[35] There is indeed evidence that, while sales and distributions carried out during the first half of the nineteenth century often benefited small and middle-sized farmers, the subsequent dismantling of the commons mostly favoured large landowners (Jiménez Blanco 2002, 149–50). The first set of regressions in Table 1 thus refers to the first period, the so-called 'silent disentailment'. The dependent variable is the stock of common lands in 1860 and all explanatory variables also refer to the year 1860. The results in columns (1) to (3) seem to give certain support to the theory of property rights. Although population density and urbanization rates are not statistically significant, coastal provinces and/or those closer to big cities showed lower levels of persistence of common land in 1860.

In contrast, it seems that the social framework did not play a significant role in explaining regional differences prior to that date. As mentioned above, the way privatization was carried out before the General Disentailment Act of 1855 left the process under the control of the local communities themselves, and there is evidence that the appropriation of the commons not only benefited large landowners, but also small and middle-sized farms (Cabral 1995; Jiménez Blanco 2002, 149–50). Therefore, since all social groups may have profited from participating in the process but the regional outcome was so different, other elements were mediating their involvement. It is also important to stress that the first half of the nineteenth century was a turbulent period, characterized by continuous political conflicts, which negatively affected municipal finances.[36] Local authorities saw privatization as a potential solution to their financial troubles, which increased the pressure on the commons independently of their social composition (Lana 2008, 176).[37] Interestingly, environmental features did play an important role. The humidity index is shown to be strongly associated with persistence of common land, which supports the idea that either the need to resort to the commons to expand arable land or to use them as a basis for intensification was conditioned by the different climates present in the peninsula. Surprisingly, the ruggedness index does not show a significant effect on this outcome. However, we should be aware that sometimes, and this is certainly one of them, this kind of regional analysis can present certain problems, arising from the fact that regional averages may conceal internal geographical differences that, in turn, may produce diverse degrees of privatization. Regional studies have clearly shown that privatization was more intense in the plains than in mountainous areas, mostly reflecting lower enclosing costs and larger agricultural potential.[38] The inclusion of the dummy for the north-western provinces in column (3) does not greatly change the results just outlined. Holding everything else fixed, these provinces nonetheless enjoyed higher degrees of persistence of common land, which points to the importance of the institutional design behind commons of this type, in facilitating their survival. It should also be noted that although humidity loses its

[35] Moreover, plots were not parcelled up and payments were required in cash, thus preventing small farmers from participating in the bids (García Sanz 1985, 28; Jiménez Blanco 2002, 150). Likewise, the use of public auctions also facilitated the participation of foreigners in the sales.

[36] The Napoleonic invasion of 1808, and the subsequent Peninsular War, was followed by revolutions and counter-revolutions, as well as by an external military intervention in 1823 and a civil war between 1833 and 1839.

[37] Political instability also favoured illegal appropriations (Iriarte 2002, 22).

[38] Iriarte (1998) shows, for the Navarran case, that the valley in the south experienced a much greater dismantling of their commons than did the upland areas of the north. In the Ebro Valley, the mountainous areas retained a great part of their common lands, while sales in the floodplain were intense (Moreno 1998). The same is apparent in the case of Castile and León or Valencia, where most remaining common lands were in the hilly areas surrounding the plateau, or in the mountainous areas of the interior, respectively (Montiel Molina 1992; GEHR 1994).

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Table 1. The persistence of common land in 1860

	Dependent variable: *Stock of common lands (%)*		
	(1)	*(2)*	*(3)*
Population Density	0.05 (0.20)	0.05 (0.20)	0.06 (0.15)
Urbanization	−0.17 (0.18)	−0.17 (0.18)	−0.17 (0.16)
d_coast	−8.82 (6.41)	−8.25 (7.26)	−12.34* (6.43)
Distance to Mad/Bcn	0.02** (0.01)	0.02** (0.01)	0.01 (0.01)
Landowners	−15.10 (27.65)	−14.37 (29.39)	−11.97 (27.42)
*Landowners*Plot Size*		0.28 (1.27)	0.16 (1.21)
Settlement Pattern	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Collective User-Rights	−7.48 (11.26)	−7.39 (11.27)	−4.65 (10.62)
Humidity	6.26*** (2.04)	6.32*** (2.18)	1.51 (2.83)
Ruggedness	0.14 (0.19)	0.16 (0.21)	0.24 (0.21)
*Ruggedness*Altitude*	−0.01 (0.00)	−0.01 (0.00)	−0.01 (0.00)
d_North-Western			25.95** (10.47)
Observations	46	46	46
R^2	0.56	0.56	0.63

Robust standard errors in brackets; *, ** or *** denote statistical significance at the 10%, 5% or 1% level; OLS estimators. All explanatory variables refer to 1860. For simplicity, the intercept is not reported.

significance, this is likely to be due to the high correlation between the north-western provinces and rainfall levels; hence distinguishing between climate and legal status becomes elusive.

However, the ordinary least squares (OLS) estimates may not only suffer from the possibility that an unobserved factor is correlated with the stock of common lands and any of the explanatory variables, but also from simultaneity or reverse causality, thus potentially biasing these results. In this sense, if the existence of market incentives may favour the privatization of common lands, their dismantling, in turn, made the penetration of market mechanisms

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easier.[39] A similar logic can be applied to population density if the privatization of the commons somewhat facilitated population growth. Likewise, and although this argument may be more valid for privatization that took place under the General Disentailment Act, a widespread argument is that the appropriation of communal resources may have increased inequality through the property concentration that sales used to entail.[40] In order to try to overcome these problems, an instrumental variable approach is carried out, exploiting different geographical sources of exogenous variation in the variables at play. On the one hand, as explained above, the different proxies used to account for economic incentives are collapsed into one single variable. The present-day size of the Spanish provinces was determined in 1833, when a new political organization was designed (Dobado 2006, 154). Apart from historical considerations, the size of the Spanish provinces was determined by taking into account their economic potentialities. Those provinces with worse geo-climatic conditions were compensated with a larger dimension, thus making province geographical area a potential instrument for market potential.[41] On the other hand, access to land is instrumented using the population settlement pattern.[42] Interestingly, when working at the provincial level, instrumenting by the suitability for growing wheat, or cereals in general, as suggested by Easterly (2007) on the basis of the arguments made by Engerman and Sokoloff (1997), does not work. In fact, the correlation goes the other way around because, in Spain, the growing of cereals is often related to large extensive *latifundia* (Gallego 2001). A different instrument is proposed here, based on the settlement pattern that emerged from the *Reconquista*.[43] The origin of the extremely large estates that exist in the southern half of the country can be partly traced back to the quick settlement process that originated with the *Reconquista* (Artola et al. 1978, 87–91). In order to reward the nobility or the urban elites who had participated in taking over the Muslim Kingdoms and to commit them to the defence of the expanding border, large tracts of land were allocated to their members (Mínguez 1989, 193; Ruiz 2002, 26; Álvarez Borge 2003, 352).[44] Given the large stock of available land, the new settlements were located relatively far from each other, which greatly contrasts with the dispersed settlement pattern existing in northern Spain, where land was more equally distributed (González Jiménez 1990, 107; Domínguez 2002, 23).[45] The results of collapsing market incentives into one single variable and the instrumental variable approach, reported in Table 2, confirm the

[39] As well as the marketing of the land factor itself, the process forced peasants to resort to the market to acquire the products that they had previously obtained from the commons and this, in turn, pushed them to sell their labour or a greater part of their production to get enough resources to participate in the market (GEHR 1999, 130–1). Furthermore, given the increasing role of the land as mortgage security, the market for credit would also enjoy a boost that, in turn, would accelerate the transmission of land (Iriarte and Lana 2007, 227).

[40] In Extremadura, Castilla–La Mancha and western Andalucía, the privatization of common lands was one of the keys to the property accumulation carried out by the local privileged classes (GEHR 1994, 120). Lana (2006, 19) indicates that more than 91 per cent of the surface area sold in Navarra from 1826 to 1860 ended up in the hands of well-off landowners, which gives some idea of how the privatization process could increase the level of social imbalances, thus reducing the social cohesion needed for the defence of the commons. However, there is some evidence showing that the dismantling of the commons during the first half of the nineteenth century also benefited small and medium-sized farmers (Cabral 1995; Jiménez Blanco 1996).

[41] Martínez-Galarraga et al. (2008, 208) have employed this strategy to instrument for regional industrial employment density.

[42] Note that this variable was not significant in the previous regressions, so it can be removed from the model and employed as an instrument.

[43] Mostly taking place from the eleventh to the fifteenth century, the *Reconquista* slowly expanded the frontier and was accompanied by the colonization of the occupied territory (O'Callaghan 2003).

[44] The Catholic Church and different Religious Orders also benefited greatly from the expanding border (Manzano Moreno 2010, 484–5).

[45] Even the fundamental differences in property structures between western and eastern Andalusia clearly reflected different patterns of population settlement (Artola et al. 1978, 88). The existence of large unpopulated

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Table 2. The persistence of common land in 1860

	Dependent variable: *Stock of common lands (%)*			
	OLS		*IV*	
	(1)	*(2)*	*(3)*	*(4)*
Market Potential	−3.10	−4.47	−8.53	−7.72
	(3.73)	(2.75)	(8.43)	(7.99)
Landowners	−11.45	1.64	−54.90	−10.89
	(18.80)	(17.69)	(44.94)	(32.89)
*Landowners*Plot Size*	0.23	0.47	−0.07	0.32
	(0.95)	(0.82)	(1.00)	(0.86)
Collective User-Rights	−6.71	−5.49	−9.60	−7.57
	(10.40)	(9.69)	(10.41)	(7.99)
Humidity	6.64***	2.54	6.97***	2.70
	(1.47)	(2.47)	(1.65)	(2.39)
Ruggedness	0.10	0.13	0.02	0.12
	(0.22)	(0.21)	(0.26)	(0.21)
*Ruggedness*Altitude*	−0.00*	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)
d_North-Western		25.57**		25.31**
		(12.09)		(11.17)
Observations	44	44	44	44
R^2	0.49	0.58	0.43	0.57

Robust standard errors in brackets; *, ** or *** denote statistical significance at the 10%, 5% or 1% level. All explanatory variables refer to 1860. For simplicity, the intercept is not reported.

importance of the humidity index and the special characteristics of the north-western provinces, but override that of market incentives.[46]

As previously mentioned, the Disentailment Act of 1855 meant an inflexion point in the privatization process. Not only did the liberal state force municipalities to put their lands up for sale, but also those transactions had to be carried out through public auctions. However, some commons were also exempted from the sales due to ecological concerns, so, apart from the economic, social and environmental factors under analysis, the importance of those exemptions is also included in the model, to assess whether the liberal state partly contributed

areas also facilitated subsequent processes of land accumulation by these elites, either through the purchase of Crown lands when royal finances were in need or, more importantly, through illegal usurpations (Artola et al. 1978, 89–91; Bernal 1988, 27–30).

[46] Reflecting geographical features, both instruments are clearly exogenous and they show a significant relationship with the instrumented variables in the first stage. The approach followed here relies on the assumption that the instruments employed only affected the stock of common lands through its influence on economic incentives and land access.

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to the persistence of the commons.[47] Also, given the already unequal stock of common lands that existed at this date, the stock of these collective resources and its interaction with the importance of collective user-rights is considered. The dependent variable is now the stock of common lands, as a fraction of the total provincial land, which ended up privatized between 1860 and 1930. In order to test for the structural reasons behind privatization, all explanatory variables refer to 1860.[48] Table 3 reports the outcome of this empirical exercise.

These results are mostly confirmed in Table 4, which collapses market incentives into one single variable and includes the same instrumental variable approach employed above to overcome the omitted variable problem. Again, while market incentives show a weak, or even negative, relationship with privatization, the importance of environmental features in driving the process is confirmed in all specifications. The dismantling of the commons was weaker in humid regions and in mountainous areas. This result confirms previous interpretations, which have pointed out that the persistence of common lands in some Spanish regions was not due to economic backwardness, but to the flexibility they provided to the agricultural system (Iriarte 1998; Balboa 1999; Serrano 2005; Lana 2008). Interestingly, the degree of land concentration now shows a statistically significant relationship with the intensity of privatization. In those regions where access to land was less widespread and large landowners predominated, the private appropriation of the commons prevailed. The General Disentailment Act of 1855 fundamentally changed the rules through which privatization was being carried out, mostly providing the well-off with a mechanism that gave them a significant advantage for privately appropriating the collective resources. Where a more unequal access to land prevailed, small farmers and labourers pushed to equally redistribute the commons. Although landowner elites may not necessarily have been in favour of privatization, they may have preferred that solution as the best choice to maintain their privileged access to those resources (Jiménez Blanco 2002, 151). In contrast, in those rural societies where small landholdings and a lesser inequality was the norm, a broad consensus against privatization arose, since the commons simultaneously allowed for maintaining the accumulation systems of the elites and for securing the reproduction of the peasant holdings (Balboa 1999). Therefore, it was not land hunger, but land greed, that partly drove the dismantling of the commons in Spain. Although this effect is slightly reduced when the instrumental variables (IV) approach is conducted, this is probably due to the increased standard errors resulting from the IV procedure itself. Furthermore, performing a Hausman test actually shows that the differences in the OLS and IV estimates are not systematic, so the OLS estimators would be preferred. The role of the landowner elites in fostering privatization for their own sake has indeed been widely recognized by the literature (GEHR 1994; Balboa 1999; Linares 2001, Iriarte 2002). It should also be noted that although, undoubtedly, the governmental decision of exempting some commons for ecological reasons put a limit on the privatization process, this policy does not contribute to explaining the different regional trends.[49] Not only were the ambitious initial criteria greatly reduced for fiscal considerations, but applying the legislation was either

[47] The information about the importance of those commons exempted for environmentally minded reasons is taken from Dirección General de Estadística (1870).

[48] This specification also allows avoidance of reverse causality problems.

[49] Although this variable shows the expected sign, it is not statistically significant. The ecological criterion defining which commons were exempted is correlated with the humidity and ruggedness indexes, so its lack of significance may be due to multicollinearity (Linares 2004). However, its large standard errors make this highly unlikely. In this sense, referring to Jérez de la Frontera, a municipality in southern Spain, Jiménez Blanco (1996, 254) argues that exemptions there were more the result of chance, arbitrariness and political influence than of the legislation itself.

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Table 3. Privatization of common lands, 1860–1930

	Dependent variable: *Common lands privatized (%)*		
	(1)	*(2)*	*(3)*
Population Density	0.08 (0.06)	0.08 (0.07)	0.08 (0.07)
Urbanization	–0.07 (0.09)	–0.05 (0.09)	–0.05 (0.09)
d_coast	–4.63* (2.31)	–3.00 (2.58)	–2.48 (2.74)
Distance to Mad/Bcn	–0.00 (0.00)	–0.00 (0.00)	–0.00 (0.00)
Landowners	–11.25 (9.41)	–9.99 (8.10)	–10.03 (8.24)
*Landowners*Plot Size*		0.82* (0.42)	0.83* (0.42)
Settlement Pattern	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Collective User-Rights	0.05 (0.12)	0.05 (0.13)	0.05 (0.13)
Humidity	–2.99*** (0.51)	–2.91*** (0.62)	–2.58*** (0.79)
Ruggedness	0.05 (0.07)	0.12 (0.08)	0.11 (0.09)
*Ruggedness*Altitude*	–0.00** (0.00)	–0.00** (0.00)	–0.00** (0.00)
Exempted CL	2.72 (9.54)	–5.09 (11.62)	–5.19 (12.10)
Common Lands	0.35*** (0.12)	0.36*** (0.11)	0.37*** (0.13)
d_North-Western			–2.38 (3.58)
Observations	46	46	46
R^2	0.76	0.79	0.79

Robust standard errors in brackets; *, ** or *** denote statistical significance at the 10%, 5% or 1% level; OLS estimators. All explanatory variables refer to 1860. For simplicity, the intercept is not reported.

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Table 4. Privatization of common lands, 1860–1930

	Dependent variable: *Common lands privatized (%)*			
	OLS		*IV*	
	(1)	*(2)*	*(3)*	*(4)*
Market Potential	−0.70	−0.45	−3.86*	−3.79*
	(1.42)	(1.57)	(2.12)	(2.15)
Landowners	−8.87*	−9.91**	−21.18	−23.48
	(4.39)	(4.76)	(13.76)	(14.83)
*Landowners*Plot Size*	0.93**	0.91**	0.70*	0.68*
	(0.42)	(0.42)	(0.42)	(0.41)
Collective User-Rights	0.04	0.05	−0.03	−0.02
	(0.14)	(0.15)	(0.13)	(0.14)
Humidity	−2.63***	−2.39***	−2.32***	−2.12***
	(0.49)	(0.61)	(0.52)	(0.69)
Ruggedness	0.11	0.11	0.09	0.08
	(0.07)	(0.08)	(0.08)	(0.08)
*Ruggedness*Altitude*	−0.00**	−0.00**	−0.00**	−0.00**
	(0.00)	(0.00)	(0.00)	(0.00)
Exempted CL	−7.36	−7.74	−2.66	−2.81
	(11.47)	(11.95)	(10.42)	(10.66)
Common Lands	0.37***	0.38***	0.39***	0.39***
	(0.13)	(0.14)	(0.12)	(0.13)
d_North-Western		−2.37		−1.86
		(3.96)		(3.71)
Observations	44	44	44	44
R^2	0.76	0.77	0.71	0.71

Robust standard errors in brackets; *, ** or *** denote statistical significance at the 10%, 5% or 1% level. All explanatory variables refer to 1860. For simplicity, the intercept is not reported.

extremely difficult due to the lack of personnel or was plagued with arbitrariness and irregularities (Montiel Molina 1992, 391; Jiménez Blanco 1996, 254). Therefore, many common lands that had been technically exempted ended up privatized. Lastly, although showing the expected sign, the dummy for the north-western provinces is now statistically insignificant, which suggests that the context in which the commons were immersed mattered more than their particular legal status. This outcome can also be the result of the legal changes imposed by the liberal state, and by means of which municipalities substituted the neighbours as the recipients of the officially sanctioned authority regarding the management of the commons.

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CONCLUDING REMARKS

As Runge (1986, 632) puts it, the persistence of traditional institutions should not be simply explained as the manifestation of 'backwardness' or 'irrationality', but as collective arrangements that were well adapted to the physical and social environment in which they were immersed. The explanation of such a complex phenomenon as the one analysed here cannot be reduced to a single factor, nor can it rely on a number of individual elements isolated from each other. Nonetheless, rather than ascribing purely market incentives to this process, as predicted by the theory of property rights, this paper attributes a greater explanatory power to the interaction between the social and environmental conditions that shaped local communities, which were capable, under certain circumstances, of partially offsetting the pressures coming from the market and the state. Without denying their role as the backbone of the privatization process, market incentives were increasing everywhere and do not appear to be important enough in explaining the dissimilar regional trajectories. The variety of persistence of common land throughout the nineteenth century was determined by a multiplicity of social and environmental conditions, within which a range of economic and political pressures were operating.

The need to extend arable land was strongly influenced by the climate restraints that each area enjoyed, forcing farmers to resort to an extensive exploitation of the land in order to increase production in those areas where edaphoclimatic conditions limited agricultural yields. This strategy, in addition, produced greater profits in flat areas than in mountainous areas, due to the inherent difficulties that the ploughing of arable land entailed. The functionality of the commons was superior in humid areas, given that these areas exploited them intensively through a growing integration between agriculture, stockbreeding and forestry, which allowed for the increase of agricultural production without resorting to the dismantling of the commons. By determining the productive orientation and the productivity of agriculture, and of the commons themselves, environmental conditions influenced the need to resort to the commons, either to expand arable land or to practice intensive cultivation, thus becoming a key factor in explaining the privatization process.

The attempt of the liberal state to speed up the process by forcing municipalities to sell their commons, and institutionalizing public auctions as the allocation mechanism, actually prevented the bottom sector of the population from participating in the sales and facilitated the private appropriation of those resources by landowner elites. During the preceding period, not only large landowners, but also small and middle-sized farmers took part in sales, distributions and even illegal appropriations. In fact, the level of inequality does not explain regional differences, which were mostly the result of environmental constraints and the pressure of market incentives. Besides, although the distribution of user-rights on the commons was relatively unequal, reflecting the social structure itself, some sort of political negotiation at the local level was intended to secure social cohesion, which limited the extent of unequal appropriation. The General Disentailment Act disrupted this equilibrium and triggered two different responses, depending on the existing institutional context. Where access to land was relatively balanced, societies were more homogenous and this, despite the changes in legislation, contributed to generating sufficient general consent to continue defending an asset that was greatly valued by the different groups within the community. However, where large economic and political inequalities prevailed, control over the commons through political negotiations became difficult for the landowner elites. In this context, landowning elites opted to promote privatization in order to secure their privileged access to these resources, a strategy facilitated by the changes in the rules introduced by the state.

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Although a model as described might miss the richness of detail inherent in such a complex phenomenon, it could perhaps serve as a template for future research to test its validity in the multiple circumstances that shaped the historical trajectory of the common lands. The results of this paper should nonetheless be tested further. Not only is the sample size used relatively small, but the use of provincial averages may conceal important internal differences that may have influenced the analysis. The outcome of the privatization process actually presented remarkable differences within the same province, so a finer-grained analysis, going down to more disaggregated levels – to the county or municipal level – should clarify the previous results. Likewise, the availability of more complete data, especially regarding the stock of common lands that existed at the end of the eighteenth century, would help to improve the model sketched here.

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