

1 **From Feudal Colonization to Agrarian Capitalism in Mallorca:**  
2 **Peasant Endurance Under the Rise and Fall of Large Estates (1229–**  
3 **1900)**

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7 *The colonization of Mallorca gave rise to a late-feudal agrarian society*  
8 *that evolved towards capitalism based on large estates owned by*  
9 *noblemen who hired large numbers of wage labourers from among*  
10 *smallholders living in agro-towns, the dispossessed remnants of a*  
11 *formerly wealthier peasantry. These well-off peasants originated from*  
12 *when the colonization frontier was open in the 13<sup>th</sup> and 14<sup>th</sup> centuries, but*  
13 *had been defeated when three peasant-plebeian revolts were crushed.*  
14 *Afterwards, Mallorca followed a latifundist transition towards agrarian*  
15 *capitalism similar to southern Italy or Spain, in sharp contrast with the*  
16 *middle-peasant paths seen in Catalonia or Valencia. Land rent rose while*  
17 *agricultural wages fell from 1659 to 1800. Peasant families could not*  
18 *survive, and had to supplement wages with the products of their own*  
19 *plots. This set a socio-agroecological limit to growth in this agrarian class*  
20 *structure. The agrarian crisis at the end of the 19th century bankrupted*  
21 *the Mallorcan nobility. Bankers bought much land and sold it on as small*  
22 *allotments. This expanded the intensive cropping formerly limited to*  
23 *agro-town belts, giving rise to a new 'peasantization'. Despite their*  
24 *subordination, Mallorcan peasants had survived and created complex*  
25 *agroecological landscapes endowed with a rich biocultural heritage.*

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27 **PEASANTS MAKE THEIR OWN HISTORY... EVEN UNDER A LONG-**  
28 **LASTING LATIFUNDIST AGRARIAN CLASS STRUCTURE**

29 From the 1960s to the end of the 1980s there was an thought-provoking debate between  
30 Marxist and Liberal historians on the transition from feudalism to agrarian capitalism  
31 focused on the way agrarian class structures led to different paths towards economic

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1 development or underdevelopment (Moore 1967; Sweezy et al. 1976; Brenner 1976;  
2 Kriedte 1983; Aston and Philpin 1985; Duplessis 1997). The ‘agrarian question’  
3 discussed at length within Marxism (Akram-Lodhi and Kay 2010a, 2010b) was  
4 broadened and deepened by this debate, which included contributions from a third  
5 stream of heterodox scholars who vindicated the role of peasants and rejected the idea  
6 that their fate had to be the ‘dump of history’ or the ‘backwardness of  
7 underdevelopment’ (Polanyi 1977, 2001; Wolf 1966, 1982; Shanin 1971, 1972; Scott  
8 1998).

9 However, after the fall of the Berlin Wall in 1989 many scholars considered it  
10 politically incorrect to continue talking about social classes, agrarian class structures  
11 and class struggle. Ironically, at a time when income inequality moved into a steep  
12 global rise (Atkinson, Piketty and Saez 2011; Milanovic 2011; Stiglitz 2012; Piketty  
13 2014; Galbraith 2012, 2016), very many humanistic historians refused to keep searching  
14 for empirical data on people’s material lives and resorted to fancy biographical  
15 narratives. Conversely, most economic historians moved towards a neoclassical  
16 viewpoint whereby social and political institutions only matter when considered  
17 ‘extractive’ and risk disturbing free market functioning (Acemoglu and Robinson 2006).  
18 This methodological individualism has concealed social inequality as a research issue  
19 throughout the period when it became more important worldwide, and up until the 2007  
20 Great Recession (Brenner 2006; Harvey 2010; Foster and McChesney 2012; Mirowski  
21 2013).

22 Land distribution and social inequality only continued to be studied in some  
23 heterodox scholar fringes of: Development Economics and Political Economy (Agarwal  
24 1994; Bryceson et al. 2000; Griffin et al. 2002; McMichael 2008; Byres 2009; Kay  
25 2009; Borrás 2010), Rural and Social History (Hilton 1990; Allen 1992; Vanhaute  
26 2008; Van Bavel and Hoyle 2010; Shaw-Taylor 2012), Peasant Economics (Chayanov  
27 1966; Georgescu-Roegen 1976; Ellis 1988, 2000; Griffin et al. 2004; Bhaduri and  
28 Skarstein 1997), Sociology (Bernstein 2010; Van der Ploeg 2013) and Anthropology  
29 (Scott 1976, 1998; Netting 1993). However, interest in the subject of inequality in  
30 access to land and other natural resources has experienced a recent recovery from new  
31 Socio-Ecological and Political Ecology perspectives and opens up for new approaches  
32 to inequality and its social and environmental impacts (Georgescu-Roegen 1977;  
33 Hornborg 2003; Odum 2007; Hornborg et al. 2007; Schneider and McMichel 2010;  
34 Garrabou et al. 2010; Tello et al. 2012; Foster and Holleman 2014; Neundlinger et al.

1 2017), as well for studies of long-term socio-ecological transitions from a comparative  
2 historical viewpoint (Fischer-Kowalski and Haberl 2007; Singh et al. 2013; González de  
3 Molina and Toledo 2014; Haberl et al. 2016).

4 Taking advantage of bountiful local sources, and jointly with an interdisciplinary  
5 group of historians, geographers and environmental scientists who have studied  
6 different periods and subjects, this article presents a synthesis of the socioeconomic,  
7 agricultural and environmental history of Mallorca from the Catalan feudal conquest in  
8 1229, to the financial crisis and parcelling of large landed estates of the end of the 19<sup>th</sup>  
9 century. Our aim is to offer a synthesis of the Mallorcan transition from feudalism to  
10 capitalism, which was characterized by the rise and fall of an agrarian class structure  
11 based on large estates, while pointing out the similarities and contrasts with  
12 neighbouring Mediterranean regions. This historical synthesis takes a long-term  
13 perspective unlike the specific periods or issues studied by other specialists, which are  
14 used as secondary sources. In addition, we use original data to illustrate our narrative  
15 that adopts a broader interpretive scope which aims to connect demographic, socio-  
16 economic and political drivers with environmental dimensions of land-use change.

17 We consider agroecosystems to be biophysical structures of human societies, a  
18 ‘socially-constructed Nature’ (González de Molina and Toledo 2014; Moore 2015).  
19 Transitions are seen as historical shifts in the way societies organize their land-use  
20 systems in a territory. Applying a Political Ecology standpoint, we highlight the role of  
21 social inequality and conflict as key driving forces that transform nature–society  
22 interactions through different landscapes and trade flows (Hornborg et al. 2007).  
23 Landscapes are seen as context-specific results of multiple management practices  
24 carried out by those who actually build them with their labour and knowledge, always  
25 conditioned by rules of access that arise from a series of social conflicts over land  
26 entitlements (Bisson 1977; Agnoletti 2006; Buswell 2013; Marull et al. 2015, 2016;  
27 Agnoletti and Emanuelli 2016).

28 These socio-ecological interactions lead to enduring legacies. For example,  
29 settlement and land-use patterns stemming from early colonization processes had a  
30 strong influence on resilience capacity to cope with general crises of the rural order  
31 (Bloch 1970; Curtis 2016); with new taxation systems imposed by emerging kingdoms  
32 and empires (Blickle 1997); and with the expansion of continental frontiers opened by  
33 European colonialism (Moore 2011). Different ‘windows of opportunity’ to change the  
34 prevailing agrarian class structures were opened by a series of social conflicts that arose

1 in late feudalism, whose outcomes led to diverging paths among Mediterranean regions  
2 which shared common institutions and land entitlements (Cazzola 2014).

3 The main question addressed in this long-term history is to explain how the agrarian  
4 class structures, and society–nature interactions, were transformed from one  
5 socioeconomic and agroecological turning point to the next. The chronology adopted  
6 rests on the role class conflicts played in the ensuing land ownership changes. We start  
7 with the socio-ecological rupture following the Catalan conquest of Mallorca in 1229. A  
8 second moment came about with the changes to landed property and landscape  
9 transformations resulting from the strong social struggles around feudal entitlements,  
10 tax burdens and peasant land-use rights in the Late Middle Ages. The landowners’  
11 victory led Mallorca towards a capitalist agriculture organized by large olive oil-  
12 exporting estates that, in the 1580s, became integrated in the Atlantic trade.

13 A third moment is marked by the long-term victory of land rent over agricultural  
14 wages along the transition towards agrarian capitalism in Mallorca. During the climatic,  
15 agrarian and demographic crisis of the 17<sup>th</sup> century limits arose for the first time,  
16 leading to a downturn in the land rents of the Mallorcan nobility that was mainly  
17 overcome through the export-led expansion of olive groves. A fourth moment is the  
18 outbreak of the Spanish liberal revolution with the crisis of latifundia and the emergence  
19 of a new peasantry. The combination of heavy feudal exaction and high land rents that  
20 weighed on the backs of peasants, provoked a crisis at the end of the 18<sup>th</sup> century,  
21 leading to liberal reforms during the 19<sup>th</sup> century. The crisis of olive oil exports, the  
22 indebtedness of noble families, and the steady fall of agricultural prices alongside the  
23 European agrarian crisis of the end of the 19<sup>th</sup> century led to a final process of  
24 ‘peasantization’ in the island via the purchasing of mortgaged lands by big bankers who  
25 then sold it on to small peasant families.

26 All these evolving farm systems and their distinct cultural landscapes were always  
27 shaped by peasants, either in times of revolt or by means of their everyday resistance  
28 (Scott 1976). Despite their own heterogeneity, and thanks to their farming ingenuity that  
29 took advantage of site-specific agroecological possibilities, the Mallorcan peasantry was  
30 able to endure the hoarding of land in the hands of large landowners over four centuries  
31 and to shape the contemporary landscapes of the island. In the following sections we  
32 outline the main dynamics and outcomes of each period, and we conclude highlighting  
33 the importance of the biocultural heritage of this Mallorcan peasantry.

1  
2 **LAND USE PATTERNS AND LEGACIES OF THE ISLAMIC MAYÛRQA**

3 The colonization of the island by *Al-Andalus* from the seventh century up to 1229  
4 organized *Mayûrqa* as a tribal society with a strong local state based on taxation, and  
5 integrated into a dense network of Mediterranean trade. The leaders and the majority of  
6 the population were Muslim, but integrated with other cultural and religious minorities.  
7 Intensive cropping of irrigated orchards held by family farmers and communities was  
8 combined with extensive livestock raising of sheep, oxen, horses and mules across the  
9 tracts of arid land, with cultivation of grains, vines and olives in between. Population  
10 density was very low (estimated about 13.7 inhab./km<sup>2</sup>), and the settlement pattern  
11 consisted of small inhabited nuclei scattered across the island and the single big capital  
12 town *Madîna Mayûrqa*, where half of the island's inhabitants lived (Rullan 2002). The  
13 most salient feature of *Mayûrqa*'s landscape was the polarization between highly  
14 intensive farming of small irrigated areas and a highly extensive and multiple-use  
15 farming of the remaining arid land (Glick 1995; Guichard 2010).

16 Mallorca is a karstic limestone island with no rivers where underground water was  
17 collected using wells and cisterns in flat areas, and by the *qanât* system in steeper  
18 territory – i.e. an excavated gallery with enough gradient to transport water from the  
19 aquifers down to vegetable gardens and orchards by gravity (Barceló 1998; Kirchner  
20 2009). The small scale of these irrigation facilities was within the work capacity of a  
21 typical *Al-Andalus* village community (*alqueria*) or even of an extended family unit  
22 (*rahal*). Together with these irrigation techniques adopted from the Arabic-Muslim  
23 civilization, another important trait was the variety of introduced fruits and vegetables  
24 of Mediterranean, Mesopotamian and Indian origin (Glick 1996; Watson 1997; Decker  
25 2009). An important legacy of the horticulture of *Mayûrqa* was a diet much richer in  
26 vegetables, fruits and fibre than any other in Europe at that time (Kirchner and Alshqour  
27 2011; Mas and Soto 2015).

28 The Christian feudal conquest by the Aragon Crown in 1229 led to a deep rupture  
29 with the former land-use pattern of *Mayûrqa* – as the later Spanish colonization of pre-  
30 Columbian America did on a larger scale. Throughout the following centuries of  
31 feudalism a new rainfed crop pattern of grains, olive groves and vineyards expanded  
32 across the island, while the Catalan king created a network of inland agro-towns to  
33 house peasant settlers. However it took several centuries to establish a completely new  
34 land use pattern, and to consolidate the novel agrarian class structure, in line with the

1 pace of a growing population density that increased from 13.7 inhab./km<sup>2</sup> in 1229 to  
2 26.3 inhab./km<sup>2</sup> by the end of the 16<sup>th</sup> century (Rullan 2002: 168; Jover and Soto 2002).  
3 This process depended on immigration of Catalan settlers, attracted by the colonizing  
4 frontier that remained open up until the Black Death (1229–1348). Working with  
5 different local natural resource endowments, migrant settlers established the distinctive  
6 traits of new regions in the island (Figure 1).

7

8 [Insert *Figure 1* here]

9

10 The *Tramuntana* Mountains that stretch from southwest to northwest, and the  
11 *Llevant* Mountains in the northeast corner were mainly devoted to olive groves,  
12 forestry, and summer pastures for sheep. The arid *Migjorn* in the southeast corner was  
13 allocated to winter pastures, together with some cereal plots and vineyards. In the inner  
14 plain, the *Pla*, rainfed cereal growing started to replace extensive livestock rearing. The  
15 Muslim hydraulic infrastructures were mainly located in the piedmont region known as  
16 *Raiguer*, between the *Tramuntana* Mountains and the *Pla*, supporting an intensive  
17 polyculture system where vegetable gardens, irrigated plots and arboriculture were  
18 associated with vineyards and grains. Two wetland areas located in the Palma and  
19 Alcudia bays were used for livestock grazing, and could not be converted into irrigated  
20 farming until the drainage processes undertaken in the 19<sup>th</sup> and 20<sup>th</sup> centuries. The city  
21 of Palma became a mercantile centre within the Catalan commercial system, which  
22 helps to explain the size and importance of the city in contrast with Mallorca's  
23 countryside economy (Riera 1986; Abulafia 2002; Buswell 2013).

24

## 25 **FROM MAYÛRQA TO MALLORCA: SOCIOECOLOGICAL RUPTURES** 26 **ENSUING FROM THE FEUDAL CATALAN CONQUEST (1229–1348)**

27 The feudal colonization of Mallorca laid down new forms of land entitlement and  
28 labour control, which entailed a true socioecological rupture (Bartlett 1993; Glick 1995;  
29 Soto and Jover 2003). The invasion, led by the Catalan king with a troop of peasant and  
30 citizen soldiers steered by feudal lords, was very violent. Most of the Muslims defeated  
31 in 1229–31 refused to surrender, and survivors were enslaved and sold as war booty.  
32 Slavery became a salient feature of the new economy of Mallorca up to the 16<sup>th</sup> century  
33 (Soto 1998; Mas 2012; Munney 2016). After the military conquest land was distributed  
34 among the victors. However, as landscape transformation was very slow, some major

1 features of the inherited rural landscape remained for almost a century. The new  
2 colonial power replaced the Muslim population with Catalan peasant settlers who were  
3 granted certain privileges (Mas and Soto 2015). A typical colonization frontier dynamic  
4 was put in motion, driven by five main forces. First, the feudal pyramid of power  
5 superimposed on peasant land concessions led to the typical dual land entitlement of  
6 emphyteusis: the king, the nobility and the church got a domain called ‘eminent’ that  
7 granted them the collection of tithes and feudal rents paid by the holders of the other,  
8 ‘use’ domain, land, together with other manorial charges and prerogatives derived from  
9 their position. Second, the water infrastructure, buildings, roads, place names, seeds,  
10 crops and agricultural know-how inherited from *Mayûrqa* was kept alive by the slaves  
11 and by other Muslims who had converted to Christianity in order to survive. Third, the  
12 royal privileges vested upon the new agro-towns, and on the city of Palma. Fourth, the  
13 gradual extension of rainfed grain cultivation, vineyards and olive groves under  
14 emphyteusis, which required peasant settlers to pay feudal rents to the lords, taxes to the  
15 king, and municipal levies to the city councils in return for the ‘use’ domain of the land.  
16 The final driver was the high social mobility and frequent failures ensuing from chain  
17 migration, while population densities remained low and the colonization frontier open,  
18 followed by a growing inequality when the frontier dynamic was closed in the 14<sup>th</sup>  
19 century (Riera 1986; Portella 1998; Soto 1999; Jover and Soto 2002).

20 The king, the bishops and the feudal magnates left Mallorca shortly after conquest,  
21 and kept collecting tithes, manorial rents and taxes as a long-term reward for the  
22 resources invested in the invasion. Barons and knights stayed on the island and obtained  
23 the so-called ‘landed estates of a knight’ (*cavalleries*), divided into manor demesnes  
24 directly managed by their administrators and the rest of the land, where the ‘use’  
25 domain was given over to peasants who paid seigneurial rents. These ‘*cavalleries*’ were  
26 endowed with manorial jurisdictions that these local knights were more eager to exert  
27 than the absentee feudal magnates (Montaner 1986). The Mallorcan manors were much  
28 less fragmented than the Catalan lordships from where this nobility came, but their  
29 coercion capacity was weaker than in Catalonia due to the privileges that had been  
30 offered to peasant settlers during the long-lasting open frontier. Former irrigation  
31 facilities were kept, usually privatized into the hands of noblemen or wealthy farmers,  
32 and many of them were adapted to propel manorial grain mills. The former Muslim  
33 dispersed housing pattern changed into more concentrated settlements in agro-towns

1 where most of the peasants lived, with large isolated noble houses and manors  
2 (*cavalleries*) situated in the countryside around.

3 Out of the former, extensively used, Muslim land use division between small  
4 irrigated areas and larger arid zones, a new one was born, with large noble estates  
5 surrounding the agro-towns and orchard belts intensively cropped by small peasants.  
6 The history of the Mallorcan landscape was, from then onwards, driven by the social  
7 entitlements and conflicts between these two opposing land users: the large estates in  
8 the ownership of noblemen and the remaining patchwork of parcels left in the hands of  
9 peasant families living in agro-towns (Soto and Jover 2003). While the population  
10 density remained low and the agricultural frontier open, feudal powers competed to lure  
11 in new settlers. Barons and knights had to reduce their pressure on peasants, and the  
12 king granted some liberties to agro-town dwellers in the form of certain privileges set  
13 down in writing in 1300 in the ordinances (*Ordinacions*) enacted by King Jaume II. The  
14 open colonization frontier gave the first colonizer-peasants an opportunity to prosper,  
15 giving rise to a stratum of well-off peasants who even had their own slaves. Whereas  
16 many of the first-comers were able to obtain larger farm units with irrigation facilities  
17 and mills, that combined cereal crops with vineyards and arboriculture, latecomers had  
18 to settle on smaller and poorer rainfed plots exclusively used for staple grains (Soto  
19 1999; Mas and Soto 2015).

20 A distinctive trait of the polycultural farming of these middle and well-off peasants  
21 was the spread of vineyards and other Mediterranean arboriculture. The payment of  
22 tithes and feudal rents in kind, together with family sustenance, required cultivating a  
23 certain amount of grains. Cash crops allowed peasants to obtain the additional monetary  
24 income needed either to pay taxes to the king or to accumulate and invest. Accordingly,  
25 grain crops were combined with other cash crops like wine and olive oil and, especially,  
26 wool obtained from rearing flocks of sheep. Indeed, woollen textiles became one of the  
27 most important commodities of medieval Mallorcan trade (Deyà 1997; Abulafia 2002).  
28 The fate of this wealthy peasantry was linked to the opening and closing of the  
29 colonization frontier. While it remained open, nearly half of the population lived in the  
30 city of Palma, and the rest dwelled mainly in a great number of settlements along the  
31 valleys of the *Tramuntana* Mountains and the *Raiguer* piedmont, whereas the inner  
32 plain and the coast were highly depopulated. The well-off peasants of the inner *Pla* kept  
33 using most of the land for livestock rearing and transhumance, while intensive farming



1 was mainly practised in the irrigated areas inherited from Muslim times (Jover and Soto  
2 2002).

3

#### 4 **THE LATE MEDIEVAL AGRARIAN CRISIS AND AFTER: FROM** 5 **MANORIAL *CAVALLERIES* TO LATIFUNDIST *POSSESSIONS* (1348–1580)**

6 The agrarian crisis of the Late Medieval Period, and the strong social and political  
7 conflicts it brought, greatly determined the different paths opening up for agrarian  
8 capitalism all over Europe (Brenner 1976; Hilton 1990; Byres 1996, 2009). Mallorca  
9 stands out as an exception to the general trend that unfolded in the northwestern  
10 Mediterranean region – i.e. from the kingdoms of Valencia and Catalonia, to the north  
11 and centre of Italy, as well as the Languedoc and Provence in France – where  
12 agrosystems and cultural landscapes evolved towards the consolidation of peasant  
13 family farms. Despite differences in land ownership entitlements and tenancy contracts,  
14 in these regions a stratum of middle peasants and a growing number of smallholders  
15 developed a complex polyculture that combined diverse cash crops with staple foods  
16 produced for their own sustenance, usually supplemented with rural crafts and small  
17 industries. These diversified rural economies were able to sustain a dense network of  
18 commercial urban centres (Congost et al. 2003; Furió and García-Oliver 2010; Cazzola  
19 2014).

20 The fate of Mallorca was very different to these middle-peasant paths that  
21 characterized the northeastern Iberian regions, and notably Catalonia where Mallorca's  
22 colonizers came from (Vilar 1963; Congost 2015). On the island a latifundist agrarian  
23 class structure became consolidated, more in line with the paths followed by other  
24 Mediterranean regions of southern Italy and Spain. Indeed, after the Catalan conquest  
25 the island became part and parcel of the Crown of Aragon, and then of the Spanish  
26 Empire which up until the 18<sup>th</sup> century also included the kingdoms of Naples, Sicily and  
27 Sardinia. For these absentee monarchs and emperors Mallorca was basically considered  
28 a place from which to extract taxes for the royal treasury, in order to defray increasingly  
29 expensive wars or to cover the costly dowries required to make matrimonial alliances  
30 among the European crowns.

31 When the internal colonizing frontier contracted in the second half of the 14<sup>th</sup>  
32 century, the royal tax burden on the plebeian families increased. Moreover, the local  
33 nobility – who were exempt from paying direct taxes – also strove to increase their own  
34 manorial charges, which were constrained by the straitjacket of the original allotments

1 that granted peasants with an almost perpetual emphyteutic usufruct of the land. Even  
2 before the Black Death hit the island in 1347–1348, many town councils had gone into  
3 debt, as had many well-off peasants and smallholders, with many of them falling into  
4 bankruptcy as a result of an ever greater levy of royal taxes (Cateura 2003, 2009). The  
5 situation became unsustainable when nearly 20% of the population died during the  
6 plague, and the population shrank from some 53,000 to 43,000 inhabitants.

7 After the Black Death the number of households fell by a quarter across rural areas,  
8 and the gross agricultural output was reduced by a similar proportion. As a result the  
9 feudal burden per inhabitant fell in the aftermath of the Black Death and until the end of  
10 the 15<sup>th</sup> century, and only started to grow steadily after the mid 16<sup>th</sup> century (Duran  
11 1982b, 66–67; López-Bonet 1990, 86–87, 93–94 and 2008; Portella 1993). All over  
12 Europe the population decrease led to higher wages (Allen 2001, 2003; Allen et al.  
13 2005; Pamuk 2007), so slaves became proportionally cheaper in the Mediterranean  
14 (Heers 1981; Mas 2012). In a context of a dearth of labour, the stagnation and decrease  
15 of wheat prices from 1375 to 1500 further squeezed the net incomes of wealthy farmers  
16 who needed to hire farmhands. Indeed, in the prelude to the general feudal crisis of the  
17 Late Middle Ages, the tax burden per inhabitant extracted by royal levies from Mallorca  
18 grew more than agricultural productivity, cutting into the profit margins of wealthy  
19 farmers. Hence, it was not only the load of feudal rents that crushed peasant economies,  
20 but also the growing weight of a new set of royal taxes imposed on commercialization  
21 of agricultural goods (Cateura 2003, 2006, 2009). This added an extra levy on farm  
22 incomes that went beyond the reproductive capacity of most rural families. While in  
23 other parts of Europe the overpressure of manorial charges triggered a general crisis of  
24 feudalism (Bois 1978, 1984), in Mallorca the Late Medieval Agrarian Crisis was mainly  
25 unleashed by this set of royal levies added to church tithes and other feudal burdens, all  
26 exacted from a decreasing or stagnant agricultural surplus (Figure 2).

27  
28 [Insert *Figure 2* here]

29  
30 The shortage of free labour during the population downturn also spurred the local  
31 nobility towards grabbing more peasant land in order to shift to labour-saving livestock  
32 rearing. The onerous levy of tax charges and tithes extracted by the king and a handful  
33 of absentee magnates, and the void left by the population decrease, offered them an  
34 opportunity to do so. A fierce conflict over tax burden distribution broke out between

1 the powerful noblemen and patricians who lived in the city, and the rest of the  
2 (plebeian) taxpayers who inhabited the agro-towns of the inner parts of the island. This  
3 was similar to the fiscal subjection developed by north and central Italian cities over  
4 their surrounding rural areas (or the *contado*). The inhabitants of the inner agro-towns  
5 and rural nuclei called themselves the '*Part Forana*' in Catalan, i.e. 'outsiders' or even  
6 'foreigners' from the city of Palma de Mallorca that was inhabited by a patrician elite of  
7 merchants and bankers who paid the royal levies and manorial charges to the king and  
8 feudal magnates in advance, and then administered the local collection of tithes and  
9 other manorial duties paid by the peasantry and craftspeople all over the island  
10 (Quadrado 1986[1895]).

11 The powerful patricians of the city displaced the tax burden on their own business  
12 onto the inner agro-towns. The town councils of these latter were in the hands of  
13 wealthier peasants who had arrived first at the colonizing frontier and accumulated more  
14 and better land. In 1315 they had founded and led a union, the '*Sindicat Forà*', through  
15 which the inner agro-towns (*Part Forana*) obtained representation of the 'common  
16 people' in the parliament of the Kingdom of Mallorca (*Gran i General Consell*). Below  
17 these well-off peasants was a throng of poorer smallholders and craftspeople who  
18 suspected that their local authorities were displacing the tax burden onto them. Indeed,  
19 some wealthy farmers did take advantage of their pecuniary shortages, by acting as  
20 moneylenders, in a similar way to how some of the bankers of the city did with peasant  
21 private lands. Many town halls had to privatize part of their common lands to reduce the  
22 onerous debts that mortgaged the public finances of the Mallorcan agro-towns (Cateura  
23 2009).

24 Hence, far from a simple dichotomy between lords and peasants the conflict involved  
25 at least five main stakeholders: the absentee king and feudal magnates, the local barons  
26 and knights, the merchant patricians of the city, the wealthy farmers, and the rest of the  
27 small peasants and craftsmen. Violent wrangling among noble families through gangs  
28 fighting each other (*bandositats*) added to these conflicts. At the same time, financial  
29 and marriage alliances were set up between merchant patricians and knights. The final  
30 outcome would depend on the strengths and weaknesses of the possible alliances among  
31 all these stakeholders.

32 In 1391 a revolt initially started as a pogrom against some Jewish lenders that ran  
33 simultaneously with pogroms in Seville, Cordoba, Toledo and Barcelona following the  
34 deliberate policy of the new Castilian monarchs to make Jews the scapegoat for social

1 unrest (López-Bonet 1989; Valdeón 2000; Maíz-Chacón 2010). However, in Mallorca it  
2 soon escalated into protest against the local nobility and patricians who enjoyed fiscal  
3 privileges and who, as managers of the Mallorcan public debt, had accumulated a large  
4 amount of mortgage annuities (*censals*) that made the tax burden even more oppressive  
5 for taxpayers. The uprising ended in a bloody repression (López-Bonet 2008).

6 In 1450–1453 the rebellion of the *Part Forana* broke up when the so-called ‘minor  
7 hand’ (*mà menor*, meaning the poorer share) of the ‘*Sindicat Forà*’, together with the  
8 craftsmen of the city, rose up against the knights and patricians. The rebels besieged the  
9 city and sent a delegation to Naples to negotiate with Alfons el Magnànim, from where  
10 he then ruled a Mediterranean empire as King of Catalonia, Aragon, Valencia, Mallorca,  
11 Sicily, Sardinia and Naples. The monarch refused to negotiate and sent Italian  
12 mercenaries to quell the revolt with the help of the local troops of the nobility. An  
13 onerous fine was imposed on Mallorcan agro-towns, deepening even further the  
14 indebtedness of their inhabitants and councils (Morro 1995). This violent repression of  
15 the Mallorcan rebellion of 1450 by King Alfons el Magnànim sits in contrast with the  
16 reaction of his nephew, Ferran el Catòlic, to the Catalan peasant revolt (1462–1485).  
17 The Catalan Peasant War, led by a Union of Serfs (*Sindicat Remença*), ended with a  
18 royal arbitration that in 1486 liberated peasants from servitude by paying compensation  
19 to the lords, and hereafter weakened feudalism to a greater extent than in Mallorca  
20 (Vicens 1978; Vilar 1963; Freedman 1993; Congost 2015).

21 Another Mallorcan plebeian delegation was sent to complain again about the  
22 distribution of the tax burden in 1512, and this time Ferran el Catòlic ordered that a  
23 cadastral record be compiled to set up a fairer tax distribution. This prompted strong  
24 social tension in the island again, where the local nobility divided into gangs, bringing  
25 about a third revolt. The *Germania* (i.e., ‘brotherhood’) of 1521 was the last chance the  
26 Mallorcan plebeians had to alter the balance of forces. It began when several leaders of  
27 the craftsmen were imprisoned in the city of Palma, and duly liberated by an armed  
28 crowd shouting ‘those who ought to must pay’ (*‘qui deu que pac’*) (Duran 1982a; Mas  
29 2013). The uprising received the active support of the peasantry of the *Part Forana*,  
30 including demonstrations by many women (Bernat 2005). This third Mallorcan revolt  
31 was concurrent with the Valencian *Germania* (1519–1522) and the *Comuneros* in  
32 Castile (1520–1521), and preceded the Great German Peasant War (1524–1525). The  
33 new Spanish king, the Emperor Charles the Fifth, reacted to all of these by ordering  
34 violent repressions. He sent an army to Mallorca and, after several battles, the revolt

1 was crushed in 1523 (Seguí-Beltrán 2016). Heavy fines were imposed upon the agro-  
2 towns, and the cadastral record ordered by the previous king in 1512 would not be  
3 compiled until the 1580s.

4 In these three Mallorcan revolts the main issue was tax distribution, as well as the  
5 interest rates of the fixed annuity of mortgages (*censals*) paid as a result of the heavy  
6 public indebtedness derived from the levies paid to the king, which latter were only  
7 increased by the fines imposed after each defeat. Indeed, the financial assets of the  
8 Mallorcan public debt meant a significant share of the wealth was in the hands of the  
9 new local aristocracy. The peasantry rebelled against the city merchants and bankers,  
10 against the absentee landowners who contributed very little or nothing to the overall tax  
11 burden, and against the increasing alliance among those financial patricians and landed  
12 noblemen. In the background was a peasant struggle to preserve their 'use' dominion  
13 over the lands granted under emphyteusis against the increasing grabs of local nobility  
14 and citizen patricians (Duran 1982b).

15 The compulsory annuities paid on mortgage debts (*censals*) widened the land market  
16 with the many forced sales and evictions from peasant lands they entailed (Mas 2008).  
17 Most wealthy farmers that survived the plagues went bankrupt. Their lands were taken  
18 by lenders or knights, who entered into very convenient marriage alliances. Municipal  
19 debts accumulated by town councils of inner agro-towns forced them to split and sell  
20 common land. Many land usages traditionally held in common as customary rights, and  
21 regulated by local ordinances on firewood collection, grazing, water troughs, rights of  
22 way or hunting, barely survived amongst the smallholders' puzzle of tiny plots (Barceló  
23 1997; Brunet 1991). This enabled a new landed aristocracy to turn the former manorial  
24 *cavalleries* into new latifundist *possessions*, which were simultaneously kept in the  
25 'use' and the 'eminent' emphyteutic domain (Bisson 1977; Jover and Morey 2003;  
26 Jover and Pons 2012, 2013). The distinctive feature of the new agrarian class structure  
27 was the land hoarding practiced by large noble estates and merchant patricians up to the  
28 end of the 19<sup>th</sup> century.

29 A comparative historical view of the contrasting socioecological paths taken in  
30 Catalonia and Mallorca after the social agrarian crisis of the Late Middle Ages is very  
31 revealing. In Catalonia, besides the softening of late feudalism, medium and wealthy  
32 peasants obtained control over the abandoned land after the plagues (Congost 2015). In  
33 Mallorca the later colonization frontier had prevented serfdom; land distribution under  
34 emphyteusis had also prevented a rise of manorial charges, and the most profitable part

1 of local manors held by barons and knights (*cavalleries*) were the demesnes under a full  
2 ownership entitlement that encompassed the former ‘use’ as well as the ‘eminent’  
3 domains. The patrician–nobility alliance, taking advantage of the socioeconomic and  
4 political crisis brought about by the royal tax burden, joined their forces and assets so as  
5 to gain control over most of the former peasant ‘use’ domain of the land.

## 6 7 **MALLORCA IN 1580: OLIVE OIL EXPORTS FROM LARGE ESTATES ON** 8 **THE BACKS OF SMALL PEASANTS**

9 The cadastral records prompted by the plebeian revolts were finally compiled in  
10 1576–1581, a source that provides a good picture of the agrarian structure of Mallorca  
11 after the landowners’ victory. Table 1 summarizes its most salient features,  
12 differentiated among the rural regions of Mallorca, and excluding the city of Palma  
13 where the new landed class lived. However, this is a very complex cadastral source,  
14 which estimated taxpayers’ wealth by recording net incomes to then capitalize them by  
15 using different interest rates according to the character and amount of each income. The  
16 wealth evaluated in this complex manner was allocated to where taxpayers lived, rather  
17 than to where their lands and assets were located. As a result some counter-intuitive  
18 data can be obtained, such as lower inequality indices in those municipalities where  
19 absentee landowners grabbed more land, leading to a greater disappearance of wealthy  
20 and middle peasants and making the remaining smallholders more ‘equal’ amongst  
21 themselves. To avoid confusion and present a broad and clear picture, Table 1 uses the  
22 proportion of total wealth recorded in each region that had been appropriated by the  
23 landed aristocracy living in the city of Palma as an inequality indicator. This data can be  
24 compared with the different cropland and livestock patterns according to the  
25 composition of tithes paid in each region, taking into account their different extents,  
26 population densities, and share of total wealth recorded in rural areas.

27  
28 [Insert here *Table 1*]

29  
30 In the last quarter of the 16<sup>th</sup> century more than a third of rural wealth was  
31 concentrated among large citizen landowners, which corresponded to more than half of  
32 Mallorca’s land (Montaner and Morey 1989: 259–271). Therefore a large share of the

1 island was under a regime similar to what has been described as ‘agrarian capitalism’:  
2 large ownership, short-term leasing contracts to manage them, and hired labour  
3 (Brenner 1976; Epstein 2007; Van Bavel and Hoyle 2010). The epicentre of those large  
4 *possessions* was the *Tramuntana* region, with 40% of rural wealth in the hands of big  
5 landowners. Olive oil was 34% of land produce there, and represented 94% of the  
6 island’s olive crop. Livestock produced another 23% of income in the *Tramuntana*  
7 region, 27% in the *Llevant*, and some 20% in the arid and isolated *Migjorn* where  
8 middle peasants could survive a little better.

9 The second area where big landowners grabbed up to 27% of total wealth was the  
10 inner *Pla*, mainly devoted to growing grains (79%) and rearing sheep (linked to the  
11 mountains through transhumance – 16%). The lowest share of rural wealth taken by  
12 citizen landowners was from the *Raiguer*, by far the most densely populated region, as  
13 described by Binimelis (2014 [1593]), with the most diversified landscape that  
14 combined wine (24%), vegetables (11%), grains (48%), olive groves (5%) and livestock  
15 (13%). Indeed 63% of all wine, and 35% of all vegetables were produced in this  
16 reservoir of middle peasantry. The data makes apparent the dual character of the  
17 agrarian class structure that emerged after the crisis of feudalism, with a dominion of  
18 large *possessions* and a precariously surviving impoverished peasantry. Both farming  
19 systems gave rise to very contrasting but interlinked agroecosystems.

20 Under the new latifundist dominion a wealthy peasantry could only survive in certain  
21 towns of the *Tramuntana* Mountains (Pollença, Sòller), in some remote areas of the  
22 *Migjorn* (Felanitx) and the *Pla* (Porreres), and to the greatest extent throughout the  
23 *Raiguer* piedmont, better endowed with small irrigation facilities. Large *possessions*  
24 were managed by farmer-leaseholders (*amos de possessió*), usually coming from the  
25 former wealthy peasantry. This gave rise to true genealogies of farm managers, some of  
26 whom stayed in the same possession from the 16<sup>th</sup> century onwards (Moll and Suau  
27 1979, 1986; Suau 1991). They became another crucial channel that kept reproducing a  
28 biocultural legacy of peasant know-how – as shown by an important book on Mallorcan  
29 agriculture published in 1747 by a peasant farm-leaseholder named Montserrat  
30 Fontanet: *L’Art de Conrò* (Ginard and Ramis 2015).

31 Under these circumstances landowners followed a management strategy of their  
32 *possessions* aimed at keeping wages low enough so as to ensure a substantial share of  
33 rent over the land products through the following three rules: 1) carrying out a more  
34 extensive farm management than that practised by small family farms around the agro-

1 towns, so as to spare hired labour; 2) avoiding permanent leases of small plots to  
2 tenants, so as to prevent the rise of the opportunity cost of smallholder peasants in the  
3 labour market; and 3) establishing the so-called ‘strict settlement’ (*fideicomis* in  
4 Catalan, *mayorazgo* in Spanish) according to which the legacy inherited through  
5 primogeniture became inalienable for the first-born heir who, as a tied-up trustee, had to  
6 convey the inheritance to his descendants preserving its patrimonial integrity. This legal  
7 framework protected the *possessions* from voluntary sales or forced evictions in case of  
8 indebtedness and bankruptcy (Morey 1999). From the 16<sup>th</sup> century onwards these rules  
9 locked the socio-demographic and agroecological dynamics of Mallorcan farm systems  
10 into a strong conservative straitjacket. They framed the rumbling peasant resistance  
11 along the transition towards agrarian capitalism in Mallorca, which eventually emerged  
12 in a more open manner with the start of the liberal reforms of the 19<sup>th</sup> century (Moll and  
13 Suau 1979; Grau and Tello 1985; Morey 1999).

14 In addition, major changes in the labour market were introduced. Accordingly, in the  
15 15<sup>th</sup> century, as a response to labour scarcity following the Black Death, the new  
16 Mallorcan landed class devoted a large share of their newly grabbed land to sheep  
17 rearing, taking control over the transhumance system previously dominated by well-off  
18 peasants. For as long as wages were higher than the cost of keeping slaves, big  
19 landowners resorted again to slavery. The replacement of slaves by wage labour only  
20 took place during the second half of the 16<sup>th</sup> century, when the compression of peasant  
21 plots at the outskirts of the inland agro-towns, and the resumption of population growth,  
22 generated a large supply of cheaper free labour (Jover 2012). After stopping using  
23 slaves in agriculture at the end of the 16<sup>th</sup> century, the farmer-leaseholders hired  
24 domestic servants (*missatges*), other permanent farmhands and daily labourers  
25 (*jornalers, collidores*) to toil on their possessions. This workforce came from among the  
26 large numbers of smallholders that lived in agro-towns and could not sustain their  
27 families with just their own tiny plots. In some bigger towns (e.g. Manacor, Pollença,  
28 Artà) rural industries could survive and provided another alternative to supplement  
29 family incomes. From then on these two social agroecosystems, big *possessions*  
30 extensively managed as large farms, and the patchwork of plots intensively farmed at  
31 the outskirts of agro-towns, paved the way for two contrasting cultural landscapes in  
32 Mallorca (Jover and Morey 2003).

33

34 [Insert *Figure 3* here]



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Within this polarized rural landscape, land use changes were propelled by changes in regional and international markets. The estate accounts of the aristocracy show that at the beginning of the 16<sup>th</sup> century sheep rearing provided 71% of the landowners' rent, but fell to 43% by 1580. Conversely, the importance of cereal crops grew from 29% to 57% (Jover 2012). Nonetheless, the composition of tithe collection offers clear evidence that the triumph of latifundia did not mean the disappearance of peasants and their biocultural heritage, which can be tracked in the persistence of crops such as vegetables and wine (Figure 3). Vineyards and arboriculture intercropped with cereals receded but survived in some municipalities, scattered within the belts of orchards and vegetable gardens around agro-towns. These small farms became reservoirs of traditional peasant knowledge and genetic resources within a complex, patchwork landscape. The polycultural mosaic of plots, intermingled with common land and other usages, provided ecosystem services to the whole community, though its distribution was uneven and sometimes conflicting (Jover and Morey 2003).

The expansion of sheep farming linked to wool exports to Italy and Levantine regions ended at the end of the 16<sup>th</sup> century (Deyá 1998), but a new opportunity was opened by the rise in olive oil demand from Atlantic cities (Manera 1988; Bibiloni 1995). While these large estates kept exploiting forests, pastureland and olive groves, cereal crops increased either within the latifundia or on the outskirts of agro-towns, following the restoration of population growth and the upswing in wheat prices during the second half of the 16<sup>th</sup> century (Figure 3). Nevertheless, grain production could not meet local consumption and cereals had to be imported (Manera 2001a). Within the *possessions*, arable land expansion resorted once again to utilizing peasant toil and knowledge through a type of clearance contract called '*rota*'. The tenant ('*roter*') put a portion of forest or brushwood into cultivation, paying a low rent for a period of between 10 to 30 years, upon which the new cropland reverted to the large estate (Jover and Pons 2012).

## **INCOME INEQUALITY AND SOCIO-AGROECOLOGICAL LIMITS DURING 'EARLY GLOBALIZATION' (1580–1750)**

We have seen that the historically contingent results of the social and political struggles spurred by the crisis of the feudal system from the Late Middle Ages to the 16<sup>th</sup> century (when the European colonial expansion began) were decisive for the paths taken

1 afterwards. The 17<sup>th</sup> century was again a time of crisis throughout Europe, and new  
2 ‘windows of opportunity’ were opened to distinct social groups (Wallerstein 2011;  
3 Vries 2009, 2014; Duplessis 1997). During the first half of the 17<sup>th</sup> century the landed  
4 nobility took advantage of the rise in prices and falling real wages, whereas peasants  
5 became impoverished (Kriedte 1983; Yun 1998; Parker 2013). The accumulated social  
6 tensions blew up in the middle of the century. Peasant rebellions, urban uprisings and  
7 state conflicts gave rise to a new institutional and global order (Elliott 1963).

8 Population growth and prices stagnated towards 1650 and went down until the  
9 beginning of the 18<sup>th</sup> century. There was a change in the structure of economic  
10 incentives, given that wheat prices decreased more than the price of other agricultural  
11 products whose relative profitability improved (Abel 1980; Vries 2009). Where the  
12 prevailing land distribution and institutional settings allowed, peasants sought to profit  
13 from this new juncture, by practising ‘alternative agriculture’ to cultivating grain  
14 (Thirsk 1992). The agrarian innovations in the Dutch rural economy during the late  
15 phase of its Golden Age (Vries 1974, 1997), and the start of the English Agricultural  
16 Revolution, are two striking responses that initially grew the peasants’ and yeomen’s  
17 bargaining power, and their earnings and wages (Allen 1992, 2001, 2009). In these  
18 cases, the colder temperatures, from 1645 to 1715 along the period of climatic change  
19 known as the Maunder Minimum might have acted as an additional challenge that  
20 stimulated innovative farming responses (Vries 2014; Tello et al. 2017).

21 The Dutch trade connections with those emerging Atlantic economies where the  
22 global ‘great divergence’ started (Vries 2008, 2009; Allen 2001, 2009), together with  
23 their colonial routes, offered new opportunities to initiate processes of crop  
24 diversification and commercial specialization in vineyards and arboriculture in the  
25 Mediterranean bioregion (Llopis 2010; Sebastian-Amarilla 2013; Álvarez-Nogal et al.  
26 2016). However, the extent of these agrarian changes would depend on the prevailing  
27 socio-institutional setting in each region and kingdom (Vries 2010; Acemoglu et al.  
28 2005; Fusaro 2010). Once again the beginning of vineyard specialization in Catalonia,  
29 which led towards a less unequal rural society (Badia-Miró and Tello 2014; Tello and  
30 Badia-Miró 2011), contrasts with the latifundist character of the export-led growth of  
31 Mallorcan olive groves. Here the land rent of the large *possessions* won a long-term  
32 victory over small peasant incomes and agricultural wages along the transition towards  
33 agrarian capitalism. At the same time, this highly unequal land and income distribution

1 set some socio-agroecological limits to the reproduction capacity and growth of that  
2 agrarian class structure.

3

4 [Insert *Figure 4* here]

5

6 The trends shown in Figure 4 illustrate the growing inequality in Mallorcan rural  
7 society throughout the transition to agrarian capitalism. They show the consolidation of  
8 a latifundist agrarian class structure where land rents obtained by the new aristocracy  
9 from their large *possessions* rose 16% in real terms from 1659 to 1750. Even though  
10 land rents went down again from 1750 to 1800, they did so at a slower pace than the  
11 reduction of wages. Conversely, real wages decreased 53% from 1659 to 1800. The  
12 ensuing 48% increase of the rental-wage ratio throughout the period clearly highlights  
13 the victory of the landowner rentiers of large *possessions* over the peasantry who, due to  
14 the lack of land to reproduce their families, had to draw on the labour market.

15 Population and agricultural production slowed in the first third of the 17<sup>th</sup> century.  
16 The increasing difficulties that smallholder peasants faced to replenish soil nutrients,  
17 and keep up land yields make it apparent that their increasing deprivation of common  
18 natural resources – given that pastures, livestock and woods had been increasingly  
19 privatized – set a socio-agroecological barrier to the reproduction of their small farms  
20 (Jover 2012). The fierce droughts that became more frequent from 1591 to 1637  
21 amplified the smallholders' difficulties, rendering many precarious farms economically  
22 unsustainable (Pastor-Oliver 2001; Jover 2011). At the same time land rent increases,  
23 combined with the rise in wages when the population stagnated (Figure 4), cut off the  
24 profits of and ruined many peasant leaseholders who had been managing the same big  
25 *possessions* over generations (Jover and Pons 2012). The crisis of the reproduction of  
26 smallholder peasants who provided labour, and of leaseholder farmers who managed the  
27 large estates, ended up calling into question the whole social fabric of Mallorcan  
28 agriculture. Exports of woollen textiles collapsed from 1620 onwards, and the ensuing  
29 ruin of these manufacturers deepened further the crisis of the rural and urban economy  
30 of the island (Deyá 1998; Bibiloni 1995).

31 The Mallorcan landed aristocracy, in contrast, were able to take advantage of the  
32 new opportunities that emerged in the international market through olive oil exports,  
33 which became the main cash crop exported from the island from the early 17<sup>th</sup> century

1 onwards (Figure 5). Olive oil played a key role in the Mallorcan balance of payments,  
2 paying for grain imports, raw materials and manufactured goods from the 16<sup>th</sup> to 18<sup>th</sup>  
3 centuries (Manera 2001a). Domestic production of grains and legumes, cheese and  
4 meat, fibres and textiles, timber, firewood and charcoal covered a share of consumption,  
5 but imports were needed to fill the gap. The strategy to expand olive groves in order to  
6 export oil to foreign markets fuelled the power of the landed aristocracy of the island  
7 during the *Ancien Régime* (Manera 1988; Bibiloni 1995).

8 Most olive groves were located in the *Tramuntana* and *Llevant* mountains, which  
9 were deeply transformed with the construction of terraced fields. Terraces stretched  
10 from the limits of the inner plain to the holm oak forest, and the grasslands  
11 (*Ampelodesmos mauritanica*) located at some 600 m.a.s.l. (Bisson 1977; Ginés 1999).  
12 In these Mediterranean mountains, where droughts and heavy storms alternated  
13 seasonally and along the years, a complex drystone hydraulic system had to be built into  
14 the terraces to evacuate runoff and preserve soil from erosion (Grimalt et al. 1998). In  
15 some of the inland clay plains devoted to grain growing, drainage systems of deep  
16 furrows (*albellons*) were also built to evacuate runoff and prevent waterlogging  
17 (Estrany et al. 2010; Morey et al. 2010; Villalonga 2012; Jover 2013b). This drystone  
18 ‘landesque capital’, which remains one of the main features of the Mallorcan landscape,  
19 required a vast amount of labour supplied by the cheap workforce hired by the large  
20 *possessions* from the inland agro-towns of the island (Jover and Morey 2003).

21  
22 [Insert *Figure 5* here]

23  
24 Only a tiny proportion of the Mallorcan olive oil was sold for human consumption.  
25 Most of it was exported to France and other European countries for soap making, to be  
26 burnt in oil lamps, or used as a lubricant (Manera 2001a). This was due to the high  
27 acidity of the Mallorcan oil caused by the long interval between harvesting and pressing  
28 because of the time required to pick the olives by hand and to transport the harvest  
29 across the large distances within the *possessions*. Olives inevitably started to ferment in  
30 the meantime, an outcome that might only have been minimized through taking on  
31 unaffordable numbers of farmhands. Indeed, the wages paid for reaping olives became a  
32 key component in the bookkeeping of these big *possessions*. The task required such  
33 high numbers of oil reapers that it exceeded by far not only their permanent farmhands,

1 but the whole workforce available in the small surrounding villages of the Mallorcan  
2 mountains as well. Thousands of labourers had to migrate seasonally from the agro-  
3 towns of the inner plain for several weeks in the winter to reap the terraced olives.

4 The books of accounts of the mountain *possessions* reveal that at an early stage they  
5 resorted to hiring women from smallholder families who sent their young daughters to  
6 work as olive reapers (*collidores*). Women's wages were half those of men, and for a  
7 girl or a child were a quarter. They comprised 60% and 5%, respectively, of the daily  
8 labour hired by Mallorcan olive-exporter *possessions* (Jover 2013a, 2013b). This is a  
9 particularly relevant example of a general trait of the developing agrarian model  
10 adopted in the island under the latifundist hoarding of the land. The farm system of  
11 these large *possessions* could only remain profitable enough for the landed nobility if  
12 wages were kept very low. In turn, this meant keeping most of the rural population  
13 under conditions of poverty, and thereby prevented the growing demand that would be  
14 needed for any upsurge of 'industrious' activities (Vries 2008) to diversify the  
15 economy. Mallorca shared this fate with other regions, like the kingdoms of Naples and  
16 Sicily in southern Italy, or some southwestern areas of Spain, where cash crop exports  
17 that became highly profitable for a latifundist class precluded an advance towards  
18 industrialization. The contrast with Catalonia, where vineyard specialization reduced  
19 rural inequality and fostered the earliest industrial revolution in southern Europe, is very  
20 illustrative (Vilar 1963; Badia-Miró and Tello 2014).

21 However, when price trends changed downwards in the second half of the 17<sup>th</sup>  
22 century crisis, even the nobility's earnings went into crisis (Segura and Suau 1984;  
23 Juan-Vidal 1990; Jover 2011; Jover and Manera 2009). The absolute value of real land  
24 rents in terms of wheat decreased from 1699 to 1739, triggered by price deflation  
25 (Figure 4). The landed aristocracy reacted by expanding the output of olive groves even  
26 more, from 15% of Mallorcan land produce in 1695 to 22% in 1785 (Figure 5; Bibiloni  
27 1995; Jover 2002). This recovery strategy based on olive oil exports had, however, to  
28 face three challenges: the downturn of olive oil prices, the colder temperatures of the  
29 Maunder Minimum (1645–1715) that strongly hit olive harvests (Jover in press), and  
30 the real wage increases of 1719 to 1729, and again of 1739 to 1750, which raised costs  
31 and cut profits and land rents from olive oil production in the large *possessions*.

32 The latifundist agrarian structure was put in question, and new social possibilities  
33 emerged. The response was a massive hiring of female and child labour to reap the  
34 olives, and diversion of the exports mainly towards soap making due to the high acidity

1 of much of the oil obtained. Moreover, big landowners, pressed by their financial  
2 troubles, became obliged to reduce their land rents so as to keep their leaseholder  
3 farmers, and to search for fresh cash by offering peasant smallholders some allotments  
4 of small plots under emphyteusis (Jover and Pons 2012). Yet the Mallorcan nobility  
5 soon discovered that the short-term easing obtained in this manner also jeopardized  
6 their ruling class dominion in the mid and long-term – as shown by the reduction in the  
7 rental–wage ratio that took place from 1739 to 1750 (Figure 4).

8 Indeed, the emphyteutic land allotments of small plots spread the intensive farming  
9 of vineyards, vegetables and almond trees (Figure 5), mainly around some inland agro-  
10 towns of the *Pla*, *Migjorn* and *Llevant* regions of the island (Manera 2001a). The  
11 nobility stopped offering small allotments as soon as their budgetary situation was  
12 balanced, and they could resort to olive oil exports as the main strategy to overcome the  
13 long 17<sup>th</sup> century crisis. In addition to this strategy the Spanish monarchy made two  
14 policy interventions with the aim of salvaging the bad financial situation of the  
15 aristocracy of their kingdoms. Firstly, the Crown of Aragon issued a decree in 1750  
16 reducing the interest rate of the annuity mortgages (*censals*) from 5% to 3%. Secondly,  
17 the Spanish monarchy started to intervene in the labour markets by setting wage caps.

18 Yet, as Figure 5 depicts, a certain amount of vine-growing in Mallorca continued,  
19 together with an increasing role of two important novelties from 1755 to 1860: 1)  
20 almond, fig and carob trees grown in intercropped association with grains; and 2)  
21 leguminous crops, like broad beans (*Vicia faba*), incorporated into the crop rotations  
22 practised on arable land. They signal an intensification of land use and differentiation of  
23 agricultural produce adopted as a response to growing population density (56  
24 inhab./km<sup>2</sup> in 1860), mainly located in the peasant outskirts of agro-towns (Grau and  
25 Tello 1985; Manera 2001a; Jover and Manera 2009). These agricultural innovations,  
26 which sprang from the other side of the dual agrarian class structure of Mallorca, reveal  
27 that, standing alone, the landed estates could never have been socio-agroecologically  
28 sustainable. To put it bluntly, the majority of the population would not have survived on  
29 the wages paid by the big *possessions*, which did not cover the full reproduction of the  
30 hired workforce. The whole social fabric of rural Mallorca could only be maintained  
31 owing to the fact that, below the landed estates of the nobility, there remained a peasant  
32 stratum of smallholders striving to survive from their small plots. How far could such a  
33 dual agrarian class structure grow?

1 From 1595 to 1860 the overall agricultural product grew in real terms at a similar  
2 pace as did the two-fold population increase (Figure 6). The agricultural population only  
3 multiplied by 1.67, meaning an increase of about 20% in the output per agriculturally  
4 active inhabitant. This happened particularly when the demographic, socioeconomic and  
5 climate crisis of the 17<sup>th</sup> century was overcome from 1655 to 1755, due to a first wave  
6 of peasant allotments under emphyteusis, and again from the late 1700s until 1860.

7  
8 [Insert *Figure 6* here]

9  
10 The different trends of the cropland product per inhabitant, and per agriculturally  
11 active inhabitant, highlight a modest increase in the non-agriculturally active population  
12 that earned a living through rural and urban industrious activities. However, after the  
13 demise of the local wool textile industry in the Late Middle Ages the island became a  
14 net importer of luxury manufactured products. Craftsmanship in agro-towns remained a  
15 complementary and usually part-time activity, only undertaken to provide for basic  
16 needs of the local poor rural population (Suau 1991; Manera 2001a). We came to the  
17 conclusion that the onerous compression of family incomes endured by peasant  
18 smallholders due to the land rent burden of the large *possessions* imposed strong limits  
19 on this mode of agricultural and industrious growth. This is apparent in the stagnation of  
20 the real agrarian product per inhabitant during the crisis of the 17<sup>th</sup> century, and again  
21 with the downturn of land rents measured in terms of wheat equivalent from the mid-  
22 18<sup>th</sup> century to 1800 (Figure 4).

23 The way out of the 17<sup>th</sup> century crisis adopted by the Mallorcan big landowners  
24 raises an interesting question: how could such a latifundist farm system react when  
25 encountering diminishing returns? It is obvious that wages could not be reduced *ad*  
26 *infinitum*. When the biophysical surpluses obtained from the available land and  
27 livestock started to stagnate or decrease, the share taken by the upper classes could no  
28 longer stay the same. The land rents extracted by the landed nobility of the island, the  
29 tithes and feudal rents taken by feudal magnates from outside, and the tax burden of the  
30 Spanish king piled up on the backs of the peasants. A clear sign that the prevailing  
31 mode of agrarian growth had reached a socio-agroecological limit would be the  
32 outbreak of a fight among these participants over the peasant surplus, so as to retain  
33 their share of a diminishing amount.

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**THE FINAL CRISIS OF COEXISTENCE OF LAND RENT AND FEUDAL RENT: THE OUTBREAK OF LIBERAL REVOLUTION (1750–1860)**

An important change took place as a result of the defeat of the kingdoms that had supported the Austrian candidate against the Bourbon King who won the War of the Spanish Succession (1701–1714). The three kingdoms formerly confederated in the Crown of Aragon, i.e. Catalonia, Valencia and Mallorca, were punished in 1707–1716 with the imposition of a cadastral land tax by the Spanish Bourbon monarchs, while the Castilian Crown and the Basque provinces remained exempted until the Liberal Tax Law enacted in 1845. As this new direct land tax was introduced as war reparation, it had to be paid by the formerly exempted nobility as well. This put a pressure on the land rent share that ultimately rested on the backs of the peasantry, as well as the net income of family farms. As the overall agricultural surplus began to stagnate or even decrease, many Mallorcan smallholders faced the hard choice of either to endanger the sustenance of their own families or defraud some of the burdens they bore. Understandably, they started to dodge paying tithes and other feudal charges (Morey 2008).

Tithe evasion could be done in relative terms by shifting to lower taxed crops or to those for which it was easier to dodge tax, an option that led to increases of tithes lower than the actual growth of agricultural production. They could also defraud in absolute terms, leading to a decrease of tithe collection. The overall volume of tithes stagnated from 1695 to 1755, and started to decrease from the mid-1700s up to the end of the Napoleonic wars in 1818 (Figure 7). The tithe burden per inhabitant had already started to fall from 1695 onwards, when it experienced an even higher decrease as a result of a first wave of peasant allotments under emphyteusis, and of a greater resort to complementary industrious activities. As mentioned above, the decline in the feudal burden opened up opportunities for the expansion of new crops such as legumes, olive oil, wine, almonds, carob, figs, vegetables, and rice (in some former wetlands of *S'Albufera* bay) (Figure 5).

[Insert Figure 7 here]



1        These new crops prospered thanks to the ability of the peasants to dodge the old  
2 feudal burden, making it evident that it was the everyday resistance of many Mallorcan  
3 smallholders that opened the way to agricultural innovation (Manera 1990; Morey  
4 2006). Despite the complaints raised by bishops, who became significantly strong from  
5 the end of 18<sup>th</sup> century onwards (Romero 1989), those crops would become the main  
6 ones in small peasant tenancies during the 19<sup>th</sup> century (Cela-Conde 1979). We can take  
7 these trends in tithe collection as evidence that the prevailing mode of agricultural  
8 growth in Mallorca approached its socio-agroecological limits, once more, from 1750  
9 up to the end of the *Ancien Régime* after the Napoleonic Wars (Buswell 2013).

10        The agroecological side of the challenge was how to increase agricultural output by  
11 adopting greater land-use intensity without preventing the replenishment of the nutrients  
12 extracted from the soil, and thus opening a socio-metabolic rift that would endanger  
13 farm reproduction in the long run. Smallholders, who endured the sustenance of the  
14 whole agrarian society, had to close the biophysical cycles of their agroecosystems by  
15 internally recycling most crop byproducts and with biomass taken from uncultivated  
16 land. Accordingly, smallholders' productivity was constrained by their land availability.  
17 They had to sustain farm reproduction by closing the internal agroecological loops –  
18 such as soil nutrients and water content – in their tiny plots. According to Guzmán and  
19 González de Molina (2009) every socio-metabolic solution to farm sustainability has an  
20 associated land cost. In the case of the Mallorcan smallholders, access to livestock and  
21 soil nutrients was the main limiting factor that compelled them to carry out a heavy  
22 labour effort to supplement with other forms of organic (vegetable matter) fertilization  
23 and soil maintenance due to the scarcity of manure (Grau and Tello 1985).

24        Large estates could overcome this land cost more easily by internalizing the nutrient  
25 flows and the derived agroecosystem services within different *possessions* owned by the  
26 same landowner (Jover and Morey 2003; Jover and Pons 2012). In the *possessions*  
27 located in the mountains, olive trees associated with cereals were grown with pastures  
28 for livestock on top of the hills, and the forests in between grazed by pigs, as well as  
29 producing charcoal and timber. Sheep also fed on the green stems of olive trees and  
30 cereal stubble, leaving manure in the groves. Herds were moved in winter to inner and  
31 coastal *possessions*, thus closing biophysical flows on a greater regional scale. For these  
32 large estates, the true limits were not the land cost or the availability of organic  
33 fertilizers, but the cost of the labour they needed to hire (Jover 2013a, 2013b).

1 Taking the two sides of this agrarian class structure together, we came to the  
2 conclusion that the crucial socio-agroecological limits were actually set by the massive  
3 hoarding of land exerted by large *possessions*, which confined smallholders to fringe  
4 plots, too tiny to allow for their autonomous reproduction. Hence, the most decisive  
5 limiting factor was social. This means that agricultural production could have been  
6 increased, at least to some extent, by giving peasants wider access to land. However,  
7 this would also have endangered the landowners' strategy of keeping wages very low in  
8 order to maintain high land rents (Figures 4 and 6).

9 This dilemma was well understood by some members of the ruling classes of the  
10 island. When agricultural prices and land rents shrank during the 17<sup>th</sup> century crisis, and  
11 wages rose due to population decrease, many *possessions* became indebted and some  
12 big families went bankrupt. A reaction to this was to use parts of the legacy not subject  
13 to strict-settlement, or ask the permission of the king to do so with the ones subjected, in  
14 order to offer small allotments under emphyteusis to peasants who would then pay the  
15 urgently needed cash as rents (*censos*). We have seen how a first wave of land  
16 allotments had already started in 1680, and then was suddenly stopped when the  
17 financial situation of the Mallorcan aristocracy improved from the mid-18<sup>th</sup> century  
18 onwards. Then a debate was opened between supporters and opponents on whether or  
19 not to continue the distribution of land allotments to small farmers under emphyteusis.  
20 It was a very revealing polemic (Morey 1999).

21 On one side stood the Mallorcan followers of the most outstanding figure of the  
22 Spanish Enlightenment, Gaspar de Jovellanos (1744–1811), who was imprisoned in  
23 Mallorca from 1801 to 1808. Jovellanos advocated overcoming the stagnation of  
24 Spanish agriculture by a land reform that would distribute small plots of land to  
25 peasants so that they would increase land-use intensity, agricultural products, private  
26 rents, and public taxes. In Mallorca this reformist view was aimed at bringing the island  
27 path near to the one Catalonia followed (Badia-Miró and Tello 2014). Contrary to this  
28 reformist view, a majority of Mallorcan landowners sided with those who argued – as  
29 an anonymous report wrote in 1798 – that ‘the improvements made in Catalonia cannot  
30 be made in Mallorca because of the lack of farm hands’ (Moll 1997, 138). Yet at that  
31 time population density in Catalonia was 37.6 inhab./km<sup>2</sup>, and in Mallorca 31.2  
32 inhab./km<sup>2</sup>. Obviously the author was not talking of an absolute lack of farm hands, but  
33 rather of labour cheap enough to sustain a large enough flow of land rents to support the  
34 luxurious way of living of the Mallorcan nobility.

1 Another text, written by the Mallorcan authorities as a preamble to a royal order that  
2 established wage caps in 1753, clearly explained what was actually at stake: the  
3 growing product of land in smaller peasant plots would also increase their economic  
4 autonomy, and hence their opportunity cost in the labour market. According to the  
5 authors, such an increase in the bargaining power of labour suppliers had already given  
6 rise to ‘the audacity of day labourers’, who ‘demand excessive prices for the short and  
7 defective work they perform, breaching the deals they made’. As a result, ‘not equating  
8 the cost of reapers and labourers the price and value they may get, the total ruin of the  
9 island must follow’. Again they were actually talking about their own ruin as a class,  
10 not that of Mallorca. The royal order of 1753 established prison sentences for  
11 journeymen who refused to work for the salary cap enacted (Jover 2014, 365).

12 Only some small attempts were made in the direction claimed by the first group of  
13 enlightened reformers, such as the temporary tax incentives offered to plant vineyards in  
14 Mallorca, which succeeded in some municipalities like Felanitx and Porreres where a  
15 stratum of middle-class peasants did exist. But the actual increase of winegrowing was  
16 small (see Figure 5), and could only slightly reduce Catalan wine imports. The outcome  
17 clearly shows that having more vineyards would also require greater land availability  
18 for small vine-growers in a less unequal rural society – as happened in Catalonia  
19 (Badia-Miró and Tello 2014; Tello and Badia-Miró forthcoming). Under the socio-  
20 agroecological blockade exerted by the big Mallorcan landowners to keep their rents  
21 high, as well as the desperate feudal reaction of the bishops and absentee magnates who,  
22 taking advantage of the political restoration of the Spanish absolutist monarchy after the  
23 Napoleonic Wars, raised the collection of tithes from 1818 to 1835 (Figure 7), a social  
24 reaction was provoked that unleashed liberal agrarian reforms in the island as well as all  
25 over Spain (Morey 1999, 2008).

26 Resistance from below, peasants’ tithe evasion, and the liberal revolution (first  
27 attempted in 1820–1823, and finally carried out in 1833–1868) broke out of the former  
28 feudal straitjacket. The manorial system was abolished in 1836, and tithes in 1840. For a  
29 ruling class of Mallorcan landowners who had held their *possessions* as almost-private  
30 ownership over centuries, the Spanish liberal agrarian reform entailed very few changes  
31 at first. Landowners consolidated the legal status of their *possessions* as absolute  
32 individual property, and widened their extent by buying former Catholic Church land  
33 which was confiscated and sold by the new liberal Spanish monarchy in 1836–1851.  
34 The little remaining common land that had survived former privatization through

1 municipal indebtedness, was also confiscated and sold to wealthy landowners in 1855–  
2 1858 (Moll and Suau 1986).

3 All in all Mallorcan landowners did very well out of the Spanish liberal revolution,  
4 as shown by the Gini inequality indices of land ownership distribution recorded in the  
5 cadastres of 1818 and 1860 (Figure 8). They remained very high at 0.77 in 1818, and  
6 0.84 in 1860, on average for all available data – i.e. some ten points higher than in  
7 Catalonia (Garrabou et al. 2009; Tello and Badia-Miró, forthcoming). These Gini  
8 indices confirm that the highest inequality levels were in the *Tramuntana* (0.80 and  
9 0.83) and *Llevant* (0.87 and 0.90) mountains where most oil-exporter *possessions* were  
10 located, while the lowest were in the *Raiguer* (0.71 and 0.61) where a tiny middle class  
11 of winegrowing peasants survived. The cereal-growing inner plain remained in-between  
12 (0.75 and 0.73). Despite the different regional trends, on average inequality grew in  
13 Mallorca as a result of the liberal agrarian reforms.

14

15 [Insert *Figure 8* here]

16

17 Taking the picture given by these cadastres from 1818–1860, we may consider small  
18 farms as those having less than 5 hectares (Tello 1983; Grau and Tello 1985) while  
19 large estates or *possessions* would be those above 50 hectares. Moreover, given that big  
20 landowners concentrated several possessions, their land properties amounted to between  
21 100 and more than 1,000 hectares. The richer ones could take advantage of having their  
22 *possessions* located in diverse bioregions of the island (Bisson 1977; Cela-Conde 1979;  
23 Suau 1991; Jover and Morey 2003; Rosselló-Verger 2012).

24

## 25 **A FAILURE OF AGRARIAN CAPITALISM? THE LATE SHRINKAGE OF** 26 **LARGE ESTATES AND EXPANSION OF PEASANT FARMING (1860–1900)**

27 It was not the liberal agrarian reform as such that set in motion a deep change of land  
28 distribution and use in Mallorca. There were, however, three changes introduced by  
29 Spanish liberal governments which had a profound impact on the fate of the Mallorcan  
30 big landowners: land taxation, commodification, and financialization. The void left by  
31 tithes and other feudal charges, removed from the peasant surplus in 1836–1840, was  
32 immediately filled with the increase of public taxation after the Liberal Tax Law of  
33 1845 that ended the former exemptions of the nobility – already lost in Mallorca in 1716

1 – and extended the cadastral land tax throughout Spain. It imposed a high tax burden  
2 indeed on the island (Morey 2008). The abolishment in 1820 of strict settlement in  
3 legacies (*fideicomis* or *mayorazgo*) exposed land assets of the Mallorcan aristocracy to  
4 the vicissitudes of indebtedness and bankruptcy (Morey 1999). The new liberal law of  
5 rural credit and mortgages of 1861, and the development of a modern banking system,  
6 were going to have a great influence on the fortunes of the Mallorcan landed class  
7 (Maixé 2001).

8 The financial problems of Mallorcan big landowners were not only of political  
9 origin. Olive oil production and exports, to which they had resorted to tackle the socio-  
10 agroecological limits to agricultural growth set by the prevailing latifundist agrarian  
11 class structure, also faced increasing difficulties. From 1770–1780 onwards land rents  
12 saw a contraction (Figure 2) that, once again, contrasted with the olive oil growth  
13 experienced in other parts of the Mediterranean throughout the 19<sup>th</sup> century, as well as  
14 with the great winegrowing expansion experienced in Catalonia (Morey 1999; Morey  
15 and Molina 2016; Garrabou et al. 2009). Many of the old olive trees were destroyed  
16 during the climatic anomalies of the years 1770 and 1780, which coincided with the first  
17 waves of the Dalton Minimum (Barriendos and Llasat 2003; Wagner and Zorita 2005;  
18 Ferrer 2015). However, the question is why these olive trees were not replanted  
19 afterwards? The answer lies in the inherent problems of the latifundist base of the olive  
20 oil groves that existed on the island.

21 The Mallorcan contraction of olive oil exports coincided with the great surge in  
22 demand for lubricants by the industrial revolution that had started in England (Allen  
23 2009) and spread over the European continent and North America. Although  
24 industrialization also put an end to its use for lighting in lamps, and globalization meant  
25 a growing supply of other type of oil of colonial origin (Ramon-Muñoz 2000, 2013), the  
26 main difficulty that prevented the Mallorcan olive oil producers from taking advantage  
27 of the growing market for machinery lubricants was a very traditional feature: its high  
28 acidity (Muendel 1995). The large proportion of olive oil too acid to be edible was due  
29 to the large scale of the operation of reaping olives by hand in isolated mountain areas,  
30 and transporting the harvest to pressing facilities. Being unsuitable for use as industrial  
31 lubricant, Mallorcan olive oil production had to reorient its sales either towards  
32 domestic food consumption or to local soap-making industries (Manera 2001a).

33 During the 19<sup>th</sup> century agricultural expansion meant an absolute reduction in  
34 livestock numbers all over Spain, which increased the price of animal fats traditionally

1 eaten, like pork lard, and set in motion a dietary transition towards cheaper  
2 vegetable/olive oil – a true late discovery of the so-called ‘Mediterranean diet’ (Scheidel  
3 and Krausmann 2011; Infante-Amate et al. 2015; Soto et al. 2016). Yet, in order to  
4 obtain greater shares of edible olive oil, landowners had to invest more in picking,  
5 transporting and storing of olives as well as in better and faster pressing machinery – as  
6 expressed by the Mallorcan agronomists and other scholars of the time (Monlau 1877;  
7 Satorras 1878; Archduke Ludwig Salvator Von Habsburg-Lorraine 1897). The greater  
8 investment required rendered the profitability of this improved olive oil production very  
9 vulnerable to any steady decrease of prices. Indeed, this is what was going to happen  
10 during the European agrarian crisis at the turn of the 19<sup>th</sup> century. It largely explains  
11 why it was then that the latifundist Mallorcan agrarian class structure, which had been  
12 established after the *Germania* defeat in 1521, went into serious bankruptcy.

13 The European-wide agrarian crisis at the end of the 19<sup>th</sup> century was spurred by the  
14 so-called ‘grain invasion’ of cheap cereals and meat imports from North America and  
15 other recently colonized global frontiers (McMichael 2009). The reduction of freight  
16 costs initiated the First Globalization of 1870 to 1914 (O’Rourke and Williamson 1999).  
17 It led to the integration of a global market of staple food with reference prices  
18 established at the Chicago Board of Trade, where a futures market was set up for the  
19 first time (Cronon 1991). This, in turn, started a worldwide trend for persistent  
20 compression of the net value added retained by farmers in an increasingly urban–  
21 industrial economy, which was going to persist throughout the 20<sup>th</sup> century. The initial  
22 protectionist reaction of most European countries that raised tariffs on foreign imports,  
23 as Spain did in 1891, could soften but not suppress the downward trend of grain prices  
24 and land rents driven by global market integration (Abel 1980; Persson 1999; Allen  
25 2011).

26 Not only did land rents of big landowners go down everywhere in Europe. At the  
27 same time land prices remained steady or even rose, shrinking the profitability of land  
28 as an asset (Offer 1991; Clark 2002). As a result, the European landed classes went into  
29 insurmountable financial troubles that led them to withdraw from agriculture and look  
30 to move their assets into other businesses. The end-of-the-century agrarian crisis gave  
31 rise to a general failure of agrarian capitalism in Europe (Koning 1994), and started a  
32 long-term process of ‘peasantization’ with or without new land reforms institutionally  
33 settled (Grigg 1989; Van der Ploeg 2008). Peasantization adopted different forms  
34 depending on the contexts. Where family farms already predominated, like in Catalonia,

1 sharecropping and cooperatives spread (Garrahou et al. 2001, 2012; Planas 2016). The  
2 Mallorcan aristocracy reacted to this third and definitive fall in their rents by selling  
3 portions of their lands, an action which significantly shrank their big *possessions* for the  
4 first time in their long history.

5 The liberal abolishment of strict settlement, and the changes introduced in  
6 mortgages and banking, played a key role in the process of spreading peasant allotments  
7 in Mallorca from the last quarter of the 19<sup>th</sup> century to the first half of the 20<sup>th</sup> (Bisson  
8 1977; Rosselló-Verger 1982; Feo 1998). The lands that indebted landed families no  
9 longer wanted as their main asset were bought at a low price by rich bankers, such as  
10 Joan March (Banco de Crédito Balear 1973; Ferrer 2000; Manera 2005), who then sold  
11 them at a profit to Mallorcan peasants in smaller plots through emphyteutic leasing  
12 contracts (*censos reservatius*) that allowed a long-term payment through affordable  
13 annuities. The buyers of these lands were either former leaseholder-managers who took  
14 the opportunity to establish farms of their own, or smallholder peasants who dared to  
15 risk their savings and intensify their family labour to pay for additional plots. These  
16 peasant allotments gave rise to a spread of arboriculture alongside grains and legumes  
17 far beyond the outskirts of agro-towns, and to some regions like the *Raiguer*, where  
18 intensive peasant farming had been practised till then.

19 Thanks to selling almonds, figs, capers and grapes, the Mallorcan peasantry could  
20 earn the cash they needed to pay the annuities to buy the land, while grains, legumes,  
21 vegetables and carob allowed them to feed the livestock and provided food for their own  
22 family consumption. Some of these cash crops started to be exported, meaning that the  
23 ongoing changes of international trade during the First Globalization also offered  
24 Mallorcan peasants new opportunities to overcome the agrarian crisis at the end of the  
25 19<sup>th</sup> century – as was happening in other parts of Europe (Van Zanden 1991). This, in  
26 turn, entailed that a commercial and financial bourgeoisie started to take the lead in the  
27 Mallorcan economy and society. All in all, the ongoing ‘peasantization’ kept Mallorcan  
28 peasants in a subordinate place in this new capitalist order. In fact, many youths from  
29 smallholder families had to emigrate to North Africa and America due to the impact of  
30 the agrarian crisis, and the savings they sent home also helped to buy land allotments.  
31 As a result, most smallholders continued to combine cash crops with the sustenance-  
32 oriented staple food produced on their farms and in agro-towns.

33 Mallorcan exports changed dramatically, from an almost unique specialization in  
34 olive oil to a more diversified production pattern reflecting the new peasant landscape

1 (Figure 2). Potatoes, capers, wine, dried apricots and figs, almonds, carob, tomatoes and  
2 others crops were exported to London, Hamburg, Bremen, Stockholm, Barcelona and  
3 other Spanish ports (Rosselló-Verger 1959a, 1959b, 1964; Cela-Conde 1979; Manera  
4 2001a). These cash crops were mainly supplied by the complex and multipurpose  
5 farming developed by new family farms that had been detached from former  
6 *possessions*. Nonetheless, given its high profitability, some large estates that remained  
7 farming incorporated these cash crops too (Suau 1991; Jover and Morey 2003). The  
8 large estates in the mountains, and the poor coastal areas, were very little affected by  
9 peasant allotments due to geographical factors like slope gradient, dryness and scant soil  
10 fertility that lowered profitability under the new farm system (Bisson 1977).

11 In addition to agricultural change, industry expanded from the mid-19<sup>th</sup> century  
12 onwards in sectors like agricultural machinery construction, food processing and  
13 finished goods such as shoemaking (Roca 1992; Manera 2001a). Two major  
14 transformations strengthened this industrial–agricultural nexus: new transport  
15 infrastructure, with the construction of a dense railway network and the enlargement of  
16 the port of Palma; and the draining of the wetlands of *S’Albufera* in Alcudia Bay and  
17 *Prat de Sant Jordi* in Palma. This gained land, plus other land put under modern  
18 irrigation systems, became a highly profitable investment as the new ‘modern’  
19 industrial inputs and techniques were first implemented with the ensuing agroecological  
20 deterioration (Rosselló-Verger 1959a; Rosselló-Verger 1964; Cela-Conde 1979).  
21 Mallorca in general, and Palma’s, population increased steadily, and house construction  
22 offered additional employment and investment opportunities. Real wages of industrial  
23 and agricultural workers grew, child mortality decreased, and life expectancy increased  
24 (Molina 2003; Moll et al. 2014).

25

## 26 **CONCLUDING REMARKS: ON THE IMPORTANCE OF PEASANTS’** 27 **BIOCULTURAL HERITAGE**

28 As we have seen, the long-term change of the agrarian class structure in Mallorca has  
29 been featured by a double movement: from peasantization to latifundism, and from  
30 latifundism to peasantization. Along this process, peasant resistance has translated into  
31 cultural landscapes that still remain today. What stands out from a comparative  
32 historical viewpoint is the clear detachment of Mallorca from the middle-peasant path  
33 from feudalism to agrarian capitalism followed in Catalonia. Why did the Mallorcan



1 offshoot diverge so much from where it originated? To find the answer it is worth  
2 comparing Mallorca with other Mediterranean kingdoms also ruled by the Spanish  
3 Empire so as to highlight similarities and dissimilarities in the way agrarian class  
4 structures evolved depending on specific dynamics of colonizing frontiers and social  
5 conflicts.

6 During late feudalism Castilian nobles enjoyed a growing share of the increasingly  
7 centralised rent extracted by Spanish monarchs (Yun 2004). After the defeat of the  
8 *Comuneros* revolt in 1521, peasants and craftsmen were heavily taxed to the point of  
9 impoverishment, emptying a formerly dynamic northern Castile (Ringrose 1983;  
10 Sánchez-León 1998; Yun 2004; Comín and Yun 2012). Colonization of the vast  
11 depopulated territories of southern Castile, Extremadura and western Andalusia  
12 remained weak, but accelerated from 1212 until the rapid military conquest of the *Al-*  
13 *Andalus* Nasrid Kingdom in 1492. Conquering vast swathes of territory in a short period  
14 allowed an oligarchic class to create large latifundia (Oto-Peralías and Romero-Ávila  
15 2016), together with large urban settlements where smallholders and labourers provided  
16 the workforce needed for shepherding, cereal growing and olive oil exports to the new  
17 Atlantic frontiers of the Spanish Empire (Bernal 1988; Yun 2004). It should be  
18 underlined that the high ‘urbanization’ rate seen here was only an expression of peasant  
19 dispossession (Sánchez-León 2001; Epstein 2001).

20 The Muslim population surrendered, and stayed in some parts of Iberia. In eastern  
21 Andalusia noblemen hoarded a lower proportion of land, and peasant communities got a  
22 greater share in more scattered settlements and diversified agricultural landscapes  
23 (González de Molina 2002; Infante-Amate et al. 2016). The Valencian *moriscos* were  
24 displaced towards poorer inland areas, where they kept up a commercial diversified  
25 farming, paying high taxes. The irrigated lands near the coast were colonized instead by  
26 Catalan settlers housed in towns and cities. When these surrendered Muslims were  
27 finally expelled from the Spanish monarchy in 1609, their lands were taken by landlords  
28 and farmed by peasants who inherited their crops and know-how (Furió and García-  
29 Oliver 2010).

30 The Mallorcan settlement in agro-towns somewhat resembles that of southern  
31 Iberia, while the permanence of defeated Muslims brings the island’s path close to that  
32 of eastern Andalusia and Valencia – although in Mallorca they could only remain as  
33 slaves, and were extinguished when landowners replaced them with hired labour.  
34 However, in Mallorca the colonizing frontier remained open for a longer period and

1 settlers were granted with privileges to a higher degree than in Andalusia. Indeed,  
2 before the general crisis of feudalism, Mallorcan peasants enjoyed a status as good as  
3 that which the Catalan peasantry would only acquire after the Late Middle Ages. So  
4 they had to be dispossessed if a latifundist agrarian class structure were to be developed.  
5 Moreover, the freedom acquired by peasants in Mallorca contrasted with the conditions  
6 of serfdom in their Catalan lands of origin. During the 12<sup>th</sup> and 13<sup>th</sup> centuries a feudal  
7 reaction imposed servitude in north-eastern Catalonia so as to hold wealthier peasants  
8 back from migrating toward open frontiers (Freedman 1991). These contrasts confirm  
9 the importance of the disjunction between the ‘exit’ or ‘voice’ options as a micro-  
10 foundation of collective behaviour (Hirschman 1970, 2001); and also the contingent  
11 character of the outcome when the ‘voice’ was raised through class struggle and  
12 uprisings.

13 Abolition of servitude became the core issue of the Catalan *Remença* revolt of  
14 1462–1472 and 1484–1485 (Vicens 1978; Feliu 2010). The organizational capacity of  
15 the Catalan peasants can be compared with the later German Peasant War (Freedman  
16 1993). Well-off Catalan peasants won this time (although a more radical wing that tried  
17 to abolish feudalism lost). Despite the persistence of feudal rents, peasant landowners  
18 became the major drivers of agrarian change there (Vilar 1963; Badia-Miró and Tello  
19 2014; Congost 2015), turning Catalonia into a paramount case of bottom-up formation  
20 of agrarian capitalism (Byres 1996, 2009). The final defeat of the Mallorcan peasantry  
21 in 1521 led in the opposite direction. In short, history matters.

22 Ironically, the Mallorcan path based on big landowners, leaseholder managers and  
23 wage labourers might be considered much nearer to the agrarian structure that finally  
24 came to predominate in England (Shaw-Taylor 2012), rather than to the Catalan peasant  
25 path – in respect of which Robert Brenner made a blatant error when he considered that  
26 Catalonia followed an agrarian path similar to the English one (Brenner 1976; Torras  
27 1983). Despite having a seemingly more ‘modern’ agrarian regime and higher  
28 urbanization rate, the product per unit of land and labour remained lower in Mallorca  
29 than in Catalonia (Manera 2001a; Jover and Manera 2009). The accumulation strategy  
30 of Mallorcan landowners rested on the appropriation of the ‘cheap nature’ (Moore  
31 2015), land and labour, through dispossession and social repression, instead of  
32 introducing innovations to raise productivity. This largely explains why Catalonia  
33 became the earliest industrial region in Southern Europe (Badia-Miró and Tello 2014),  
34 and Mallorca did not.

1        Yet Mallorcan economic growth attained levels comparable to Valencia, and  
2 outperformed the poorer levels of other latifundist agrarian structures under Spanish  
3 rule in Castile, Andalusia, Naples and Sicily (Petrušewicz 1989; Bevilacqua 1990;  
4 Llopis 2004; Sebastián-Amarilla 2013; Álvarez-Nogal et al. 2016). This highlights  
5 again that, still whilst being defeated, the Mallorcan peasantry strove to survive, resist  
6 and improve in the long run.

7        When the big estates went into bankruptcy and started to sell a large share of their  
8 land at the turn of the 20<sup>th</sup> century, there was still in Mallorca a peasantry ready to buy  
9 and farm these lands in a more intensive, polycultural and integrated manner. This late  
10 ‘peasantization’ proved that, despite their defeat in the *Germania* uprising of 1521, the  
11 Mallorcan peasantry had been able to survive for four hundred years enduring a harsh  
12 latifundist agrarian class structure. No doubt the hoarding of land exerted by the local  
13 nobility and mercantile patricians set limits to the purchasing capacity within the inner  
14 market of the island. The labour intensiveness and ingenuity of peasant smallholders  
15 allowed them ‘to resist and grow’ to some extent – as Carles Manera (1990) has said –  
16 by resorting to multipurpose farming supplemented with industrious activities. Even if  
17 the scope of this economic growth was not enough, in any case, to open the way to an  
18 industrial revolution like the one that took place in Catalonia (Roca 1992; Manera  
19 2001a), the main point is that the endurance of Mallorcan peasants, and their biocultural  
20 heritage, allowed them to remain alive until the financial failure of latifundism with the  
21 turn-of-the-century agrarian crisis.

22        The Austrian Archduke Ludwig Salvatore Von Habsburg-Lorraine arrived in  
23 Mallorca in 1867, and he immediately fell in love with its landscapes and the people  
24 who had built them. He bought a beautiful estate in the *Tramuntana* Mountains, and  
25 moved to Mallorca for the rest of his life making it the base for his long navigation trips  
26 around the Mediterranean. The large list of books on different places and islands of this  
27 sea that he published contributed to spurring a first wave of German elite tourism in the  
28 region. His masterpiece was the nine-volume book *Die Balearen in Wort und Bild*  
29 published in 1897, with two of them dedicated to *Agricultural Mallorca*. The archduke  
30 had a broad scientific knowledge acquired during his youth in Tuscany, but he never  
31 dared to write a treatise telling Mallorcan farmers how to toil the land or improve their  
32 labour. What he actually did was to carefully collect and publish all that he learnt about  
33 the traditional know-how of Mallorcan peasants from observation and interviews with  
34 them, together with many official statistics and detailed engravings. His painstaking

1 anthropological research made apparent how rich, deep and wise this peasant biocultural  
2 heritage of Mallorca was (Archduke Ludwig Salvator Von Habsburg-Lorraine 1897).

3 The main lesson we draw from our long-term socioecological history is that, even  
4 under a latifundist agrarian class structure, the agroecosystems of the island were  
5 devised and run by the labour and knowledge of Mallorcan peasants. Farm leaseholder-  
6 managers, agro-town smallholders, servants, day labourers, women reapers, herders,  
7 lumberjacks and charcoal-makers were the people who created a cultural landscape  
8 endowed with a rich biocultural heritage which – besides having helped turn the island  
9 into a capitalist tourist resort during the last century (Cirer 2009) – now becomes an  
10 important resource for a fairer and more sustainable future (Farina 2000; Altieri 2002;  
11 Binimelis and Ordines 2008; IAASTD 2009; Martínez Alier 2011). In a further article  
12 we are going to address the question of how this biocultural heritage evolved and  
13 survived while enduring a capitalist mass tourist economy during the 20<sup>th</sup> century.  
14 Forthcoming research will delve deeper into this long-term environmental history, by  
15 investigating more specific socio-metabolic indicators (Manera 2001b; Ginard and  
16 Murray 2015; Ginard-Bosch and Ramos-Martín 2016) and socioecological data (Marull  
17 et al. 2015, 2016).

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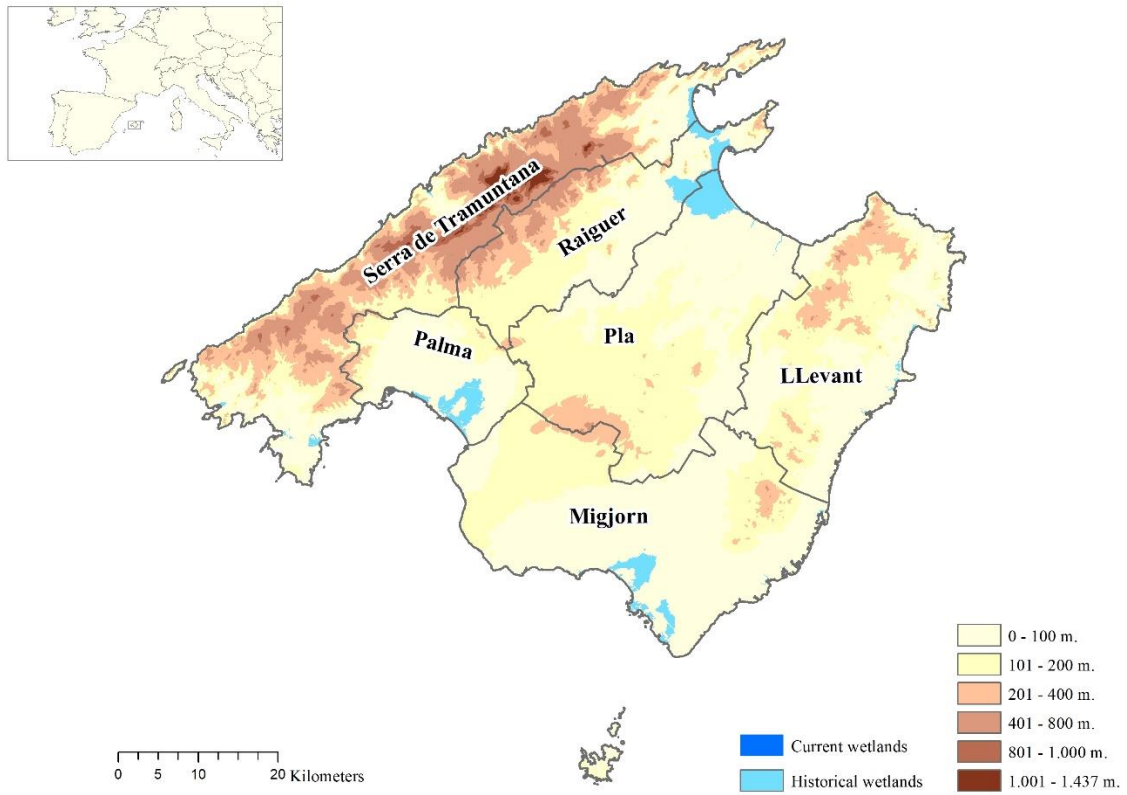
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1 **List of Figures**

2 *Figure 1* Map of the main natural regions of the island of Mallorca (Spain)

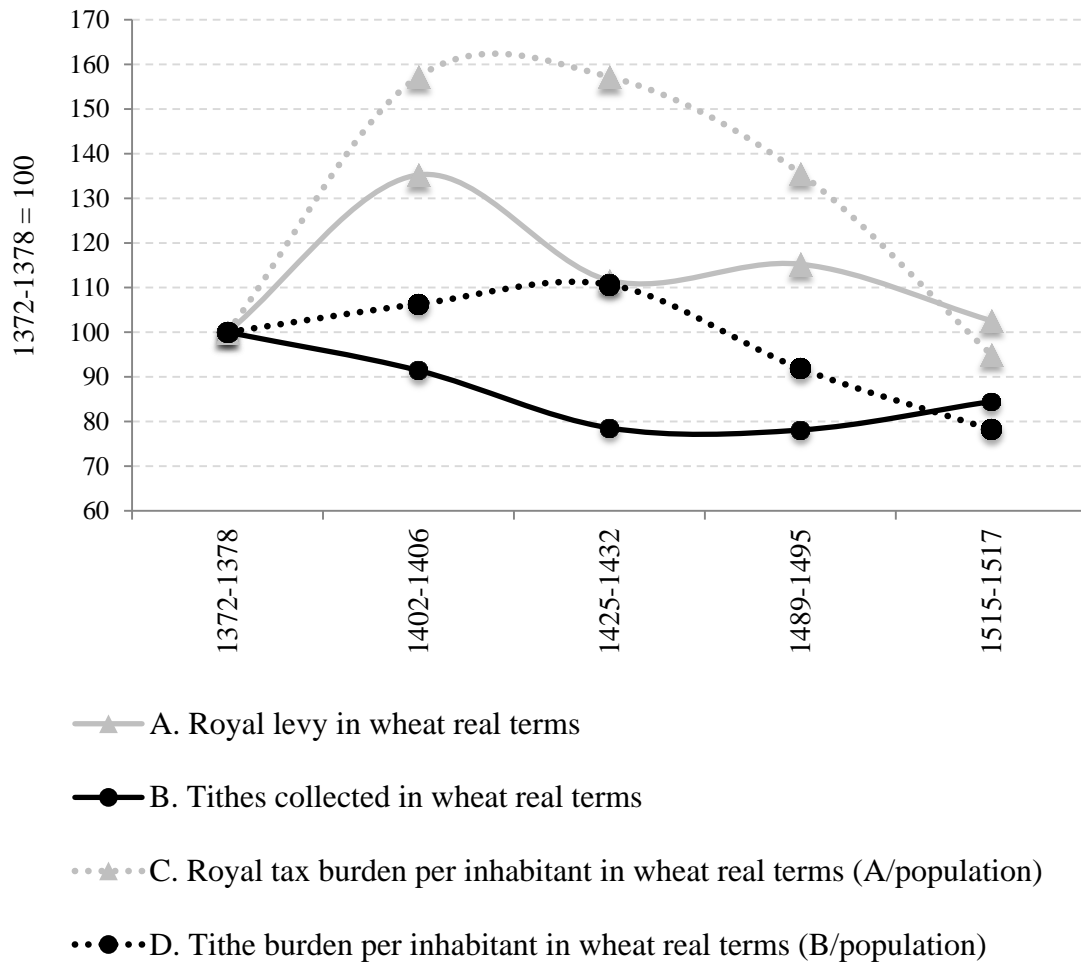


*Source:* Own data.

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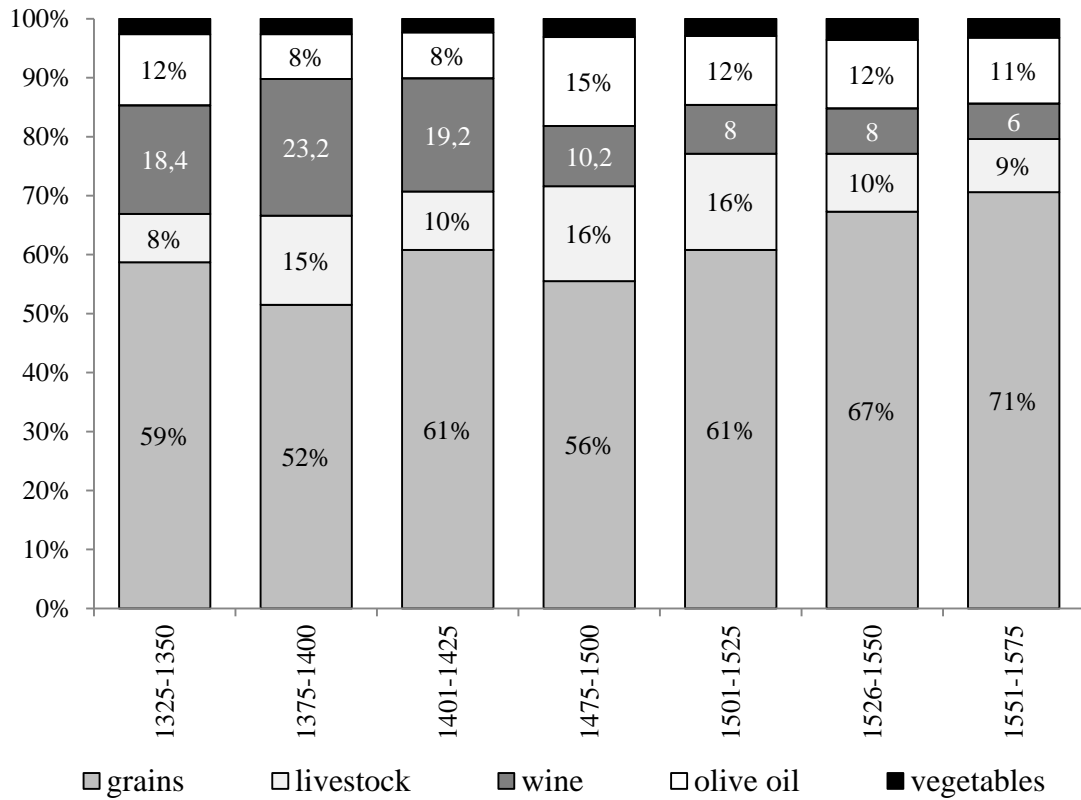
1 *Figure 2* The unleashing role of the royal tax burden in the outbreak of the Late  
 2 Medieval Agrarian Crisis in Mallorca (1372–1517)



3  
 4 *Sources:* Own data, with tithes and population data taken from López-Bonet (1990, 86–  
 5 87, 93–94, 107); Portella (1993, appendix), and Duran (1982b, 66–67); and tax data  
 6 taken from Cateura (2003, 171–172, 2006, 2008, 2009) and Morro (1995).

7

1 *Figure 3* Changes in the composition of agricultural product according to tithes before  
 2 and after the Late Medieval Agrarian Crisis in Mallorca (1325–1575)



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*Sources:* Own data, from López-Bonet (1990, 93–94) and Portella (1993, appendix).

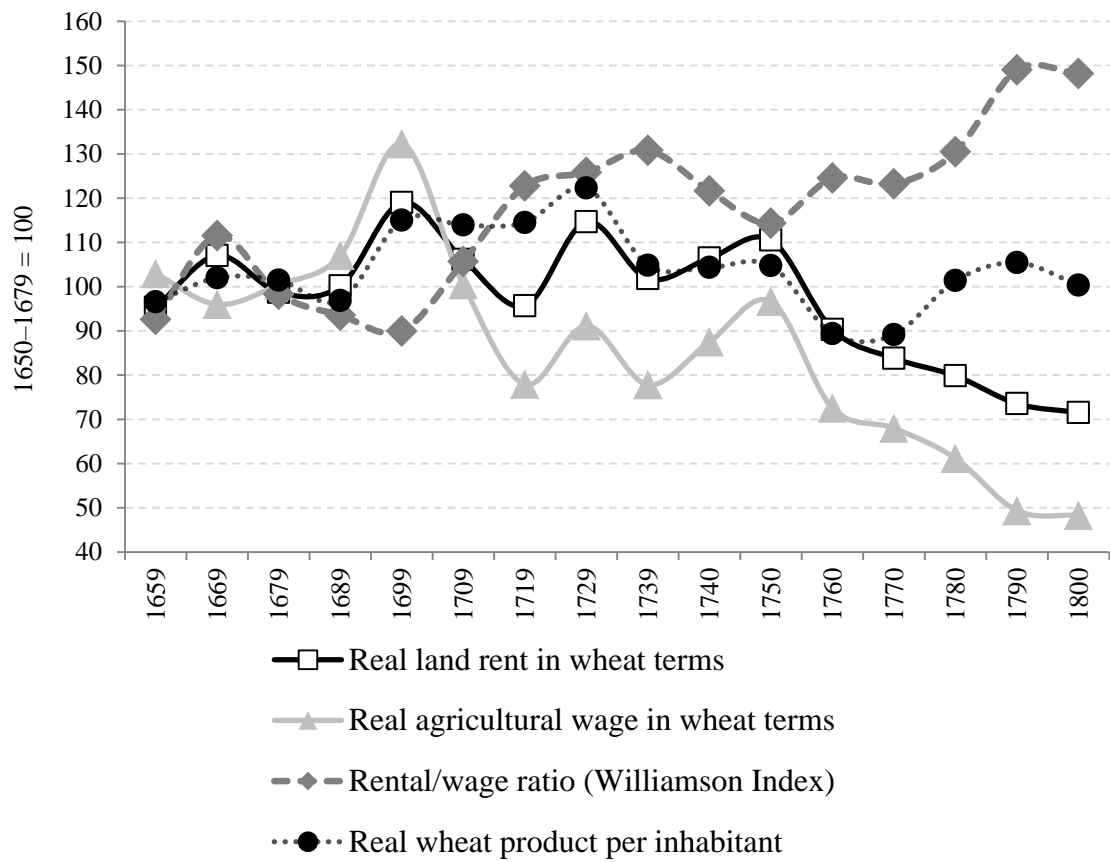
1 *Table 1 Rural wealth grabbed by the new citizen aristocracy in 1570–80 and its impact in different regions*

	<i>Share of island's extent (%)</i>	<i>Population density (inhab./km<sup>2</sup>)</i>	<i>Share of each region over the total wealth of the island (%)</i>	<i>Share of wealth of the region owned by noblemen living in the city of Palma (%)</i>	<i>Share of agricultural produce of the region</i>				
					<i>Olive oil (%)</i>	<i>Wine (%)</i>	<i>Grains (%)</i>	<i>Livestock (%)</i>	<i>Vegetables (%)</i>
<i>Tramuntana</i>	28.2	24.8	38.0	39.7	33.5	1.0	40.9	23.1	1.5
<i>Raiguer</i>	8.5	58.3	14.3	18.4	4.0	23.8	48.3	12.8	11.1
<i>Pla</i>	23.3	33.3	26.6	35.4	0.1	2.0	79.2	15.6	3.1
<i>Llevant</i>	16.1	15.7	9.1	39.7	0.2	0.9	70.5	27.2	1.2
<i>Migjorn</i>	23.9	17.1	12.0	27.2	0.1	1.5	76.4	19.7	2.3
<b>MALLORCA</b>	<b>100.0</b>	<b>26.3</b>	<b>100.0</b>	<b>34.20</b>	<b>7.7</b>	<b>3.5</b>	<b>65.8</b>	<b>20.0</b>	<b>3.0</b>

2 *Source:* Own data, taken from Binimelis (2014[1593]), Jover (1997: 241–51).

3

1 *Figure 4* The victory of land rent over agricultural wages along the transition  
 2 towards agrarian capitalism in Mallorca (1659–1800)

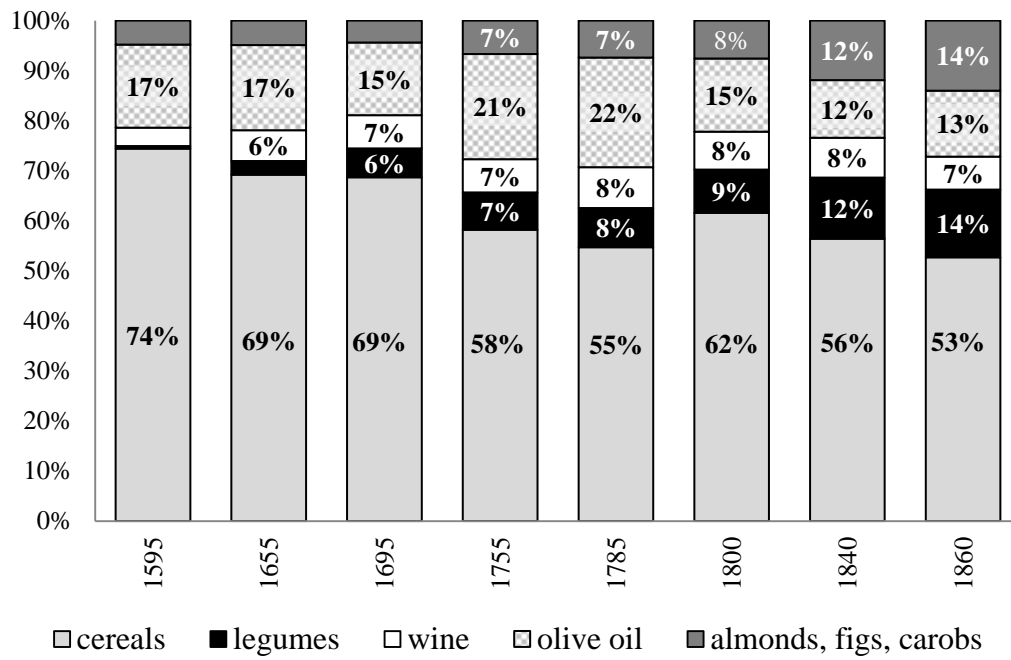


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4 *Sources:* Our own, from Jover (1997, 647–658, 679–685).

5

1 *Figure 5* Changes in the composition of gross agricultural product along the  
 2 transition to agrarian capitalism in Mallorca (1574–1860)



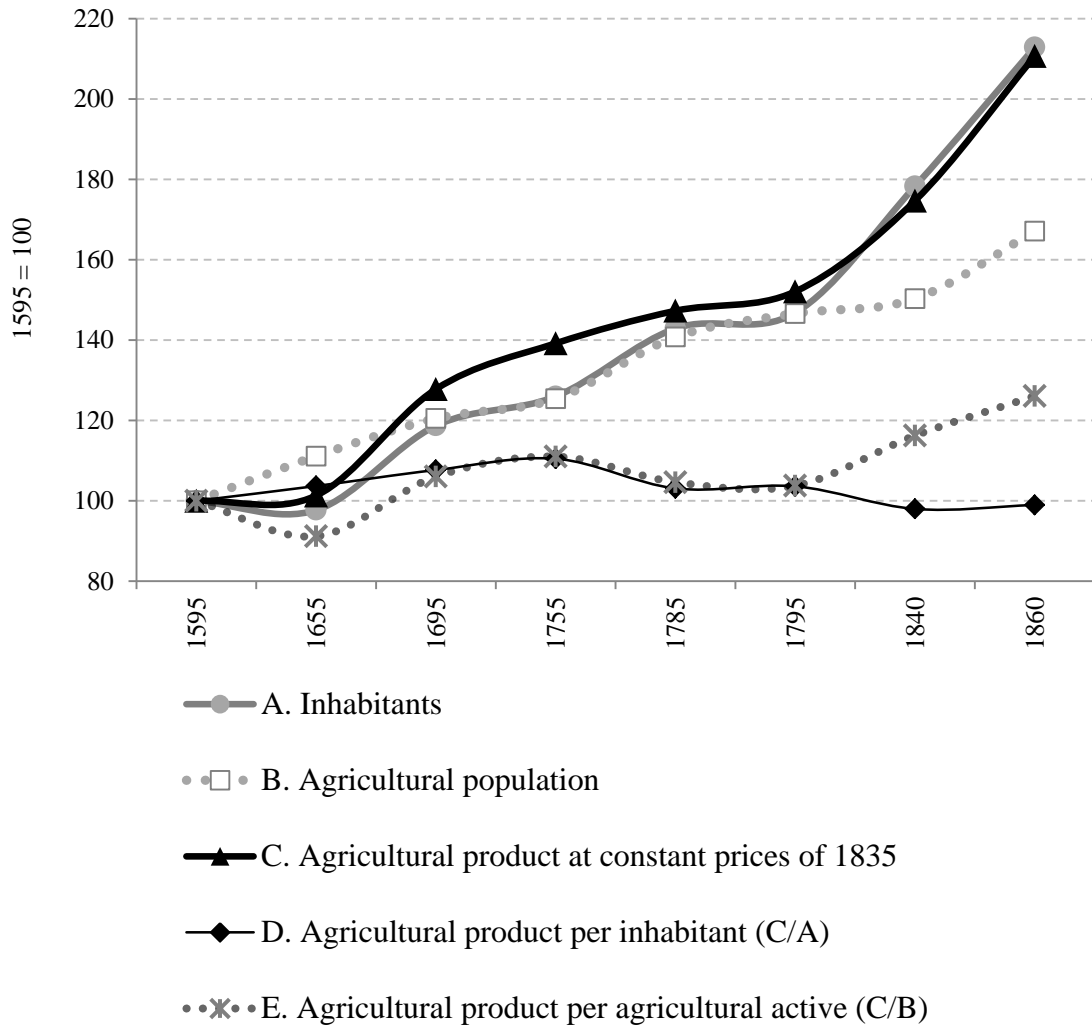
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4 *Sources:* Our own, from Jover and Manera (2009, 495).

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1 *Figure 6* Population, agricultural product and productivity during the transition to  
 2 agrarian capitalism in Mallorca (1595–1860)

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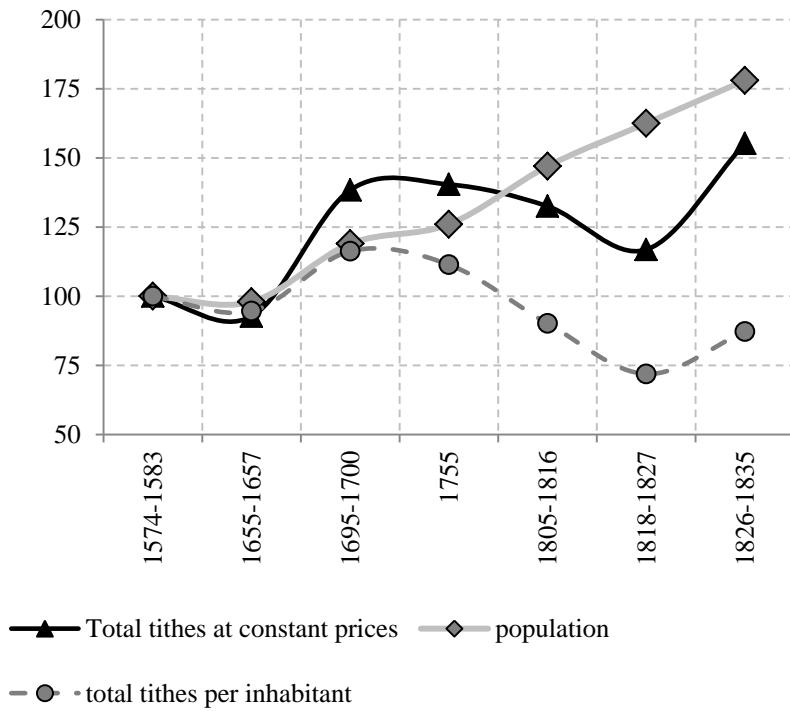


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5 *Sources:* Our own, from Jover and Manera (2009, 480).

6

1 *Figure 7* Tithes and tithes burdens per inhabitant along the transition to agrarian  
 2 capitalism in Mallorca (1574–1583 = 100)



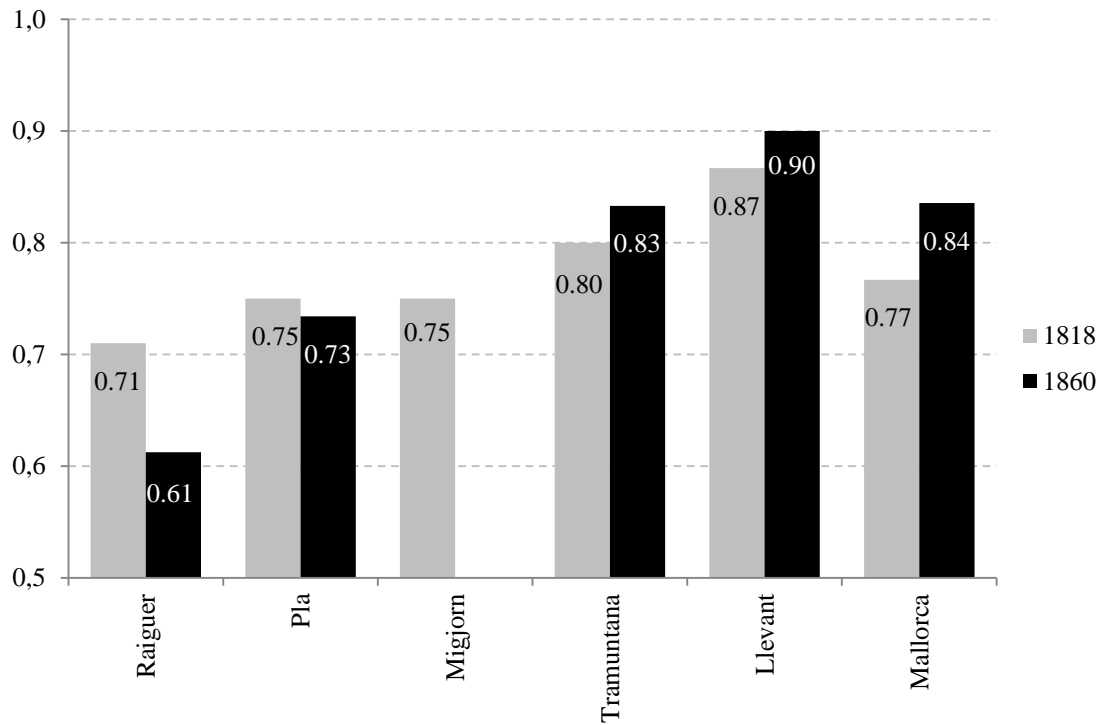
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4 *Sources:* Our own, from Jover (1997, 278–282).

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1 *Figure 8* Gini inequality indices of land ownership distribution according to the  
2 cadastres compiled in 1818 and 1860 in Mallorca



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4 *Sources:* Our own, from Suau (1991, 116–117).

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