

Sociedad Española de Historia Agraria - Documentos de Trabajo

DT-SEHA n. 10-05

Junio 2010

www.seha.info

**THE MANAGEMENT OF AGRICULTURAL ESTATES IN
CATALONIA IN THE 19th AND EARLY 20th CENTURIES. AND
APPROACH THROUGH BOOKKEEPING**

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Abstract: The aim of this study is to analyse the management of rural estates during the 19th century and the first half of the 20th century using basically the expenditure registered in bookkeeping records. The information collected proceeds from eight private archives, and from them we have reconstructed a total of ten series of bookkeeping records which describe a group of farms spread throughout the main agricultural zones of Catalonia (Spain). The changes in the quantities provided by the landowners towards the running costs can help us to understand their role in the processes of growth and intensification of agricultural production. We show that, while the level of investment they made was modest, the landowners did not behave like absentee landlords or idly live off their rents. The examples analysed give us some insight into the rationale behind some of the landowners' decisions and the diverse responses that they adopted according to the circumstances and the prevailing social and environmental conditions on their estates. The accounting records have proved to be a valuable source in this sense.

Resumen: El objetivo de esta investigación es analizar la gestión de la propiedad agraria durante el siglo XIX y la primera mitad del siglo XX, a partir, básicamente, de los gastos de explotación registrados en contabilidades agrarias. La información recopilada procede de ocho archivos patrimoniales, que han permitido reconstruir un total de diez series contables, correspondientes a un conjunto de fincas que cubren las principales zonas agrarias de Cataluña. La evolución de las aportaciones de los propietarios en los gastos de explotación puede permitirnos conocer su comportamiento en los procesos de crecimiento e intensificación de la producción agraria. Demostramos que, a pesar que su esfuerzo inversor fuera limitado, el comportamiento de los propietarios no se correspondía con formas estrictamente rentistas o absentistas. Los ejemplos analizados nos permiten penetrar, hasta cierto punto, en la racionalidad de sus decisiones y en la diversidad de respuestas que dieron según las coyunturas y las condiciones ambientales y sociales donde se localizaban sus fincas. En este sentido, las contabilidades agrarias han constituido una fuente de apreciable utilidad.

Keywords: landowners, sharecropping, management of rural estates, bookkeeping records, agriculture, Catalonia.

JEL: O13, Q12, Q15, R14.

The management of agricultural estates in Catalonia in the 19th and early 20th centuries. An approach through bookkeeping¹

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1. Introduction

European agriculture was affected by important changes during the 19th century and the first half of the 20th. The long period of expansion that took place in the 19th century ended in a crisis of surplus production which obliged the sector to make profound changes in techniques and production methods. New forms of specialization were developed, new techniques were devised for making agricultural land more productive, and certain labour-saving tools were introduced. These factors came together to effect a widespread transformation of the agricultural sector in the first half of the 20th century.

The statistical information available to us gives us a broad idea of the extent of this transformation, but does not allow us to reconstruct how these changes took place or to identify the social groups that took part in them or how they did so.² The answers to these questions must be sought in sources that are often highly idiosyncratic and difficult to extrapolate other settings. Clearly, this raises the question of how representative they are.

The bookkeeping records of agricultural holdings are a notable example of such sources. Documents of this kind provide invaluable information on the different forms of administration, the details of the forms of tenancy, the techniques employed, the changes in production, the level of wages and the different ways in which people were employed, how closely the holdings followed market trends, and the degree to which the landowner shared in the expenses and investments, and so on.

Obviously, the vision the bookkeeping records offer is based on individual cases, and we cannot treat the particular characteristics of one landholding as if they were representative of general practices. It must also be borne in mind that the keeping of account books was never widespread, and the existence of these documents may produce a distorted view of the society as a whole because they were kept only by a certain type of landowner or farmer. Even so, with these provisos in mind, it is reasonable to assume that the accumulation of cases and the repetition of patterns and developments in the analysis of these documents can allow us to make general conclusions on certain questions.³

¹ This paper is part of the research projects HAR2009-13748-C03-01/HIST and HAR2008-02960/HIST, financed by the Spanish Ministry of Science and Innovation

² On the possibilities and use of Spanish statistical sources relating to the agrarian sector, see Grupo de Estudios de Historia Rural (1991).

³ Many historians have made use of Catalan bookkeeping records in recent years. Among them Pascual's study (2000) of the Torelló family and Pujol's study (1999) of the Cordoniu landholding

Among the many types of document that could be included under “agricultural bookkeeping records”, we shall only be concerned with the ones that provide information on major landowners. Our intention is to analyse the management of rural estates during the 19th century and the first half of the 20th century using basically the expenditure registered in this type of documentation. Our analysis focuses on Catalonia, a Mediterranean region in the north-east of the Iberian Peninsula which underwent significant industrial development and profound changes in its agricultural sector in the period under examination.

The information collected proceeds from eight private archives (corresponding to the Sentmenat, Coll, Nuix, Bru, Negre, Maspons, Riba and Güell families)⁴, and from them we have reconstructed a total of ten series of bookkeeping records, most of which cover more than sixty years, and which describe a group of farms spread throughout the main agricultural zones of the region.⁵ Overlapping these series we have data covering the period from 1821 to 1945. As a result, in our opinion, our sample is large enough, and diverse enough, for a study of this kind.

2. The failure of “agricultural capitalism”

The organization of agricultural work has been considered one of the basic issues in the development of the sector. Adam Smith and many economists of the 19th century held that the different forms of tenancy were crucial in boosting capital investments and in the incorporation of more productive technical innovations. In accordance with these principles, it was believed that a large estate which was administered directly by the landowners or leaseholders using salaried labour was the best way to stimulate agricultural growth. Sharecropping, in contrast, was regarded as a less efficient contractual arrangement and its continued existence was considered an obstacle to the development of the rural economy, given that the peasants lacked the capital and the knowledge required to introduce innovation.⁶

Literature and the press in Catalonia did much to spread these ideas throughout the country. However, no major modifications in the forms of tenancy used on large rural estates have been detected, and while direct farming of the estate was never entirely absent, sharecropping and other indirect forms of exploitation were invariably predominant throughout the 19th

are particularly interesting. In Spain, the contributions of Pérez Picazo (1991) and Carmona (1995; 2001) should be mentioned along with the studies included in the two collected volumes published by Casado & Robledo (2002) and Robledo & López (2007), respectively.

⁴ These consist of a number of properties covering different types of major landowners. They include estates that had their origins in feudal nobility, such as that of the Marquis of Sentmenat, estates belonging to the lesser nobility of the region (Nuix, the barony of Perpignan), properties acquired by public officials (Coll) or families of peasants which emerged as a dominant group in many areas during the 18th century (known as *hisendats*).

⁵ Previous studies have made use of these accounting records, namely: Garrabou, Saguer and Sala (1993); Garrabou, Planas and Saguer (2001a and 2001b); Planas (1994 and 1996); Saguer (2007)

⁶ See Koning (1994).

century. None of the landowners studied moved decidedly towards direct farming of their estates with salaried farm workers, and the overwhelming majority of their estates were leased in the traditional manner to tenant farmers (*masovers*) and sharecroppers, sometimes beneath the strict control of an administrator.

Although sharecropping had a long history in Catalonia, it was used not simply due to the weight of tradition, but because it also offered advantages. The Coll estates are a good example of this. Tomàs Coll was a customs official in Barcelona who bought a number of farms after the ecclesiastical confiscations (*disentailment*) of the first half of the 19th century. He was, therefore, a new landowner for whom tradition counted little; as such he was in a position to choose the form of land tenancy that would provide him with the greatest return on his investment. For this reason, he initially considered the option of direct farming of the estates with salaried labourers, only to decide, after examining the alternatives, that “the desire and necessity of increasing income” obliged him to maintain the sharecropping system.

Attempts to apply direct farming to an estate, or even part of it, inevitably produced poor results. Convinced that close attention would yield better results than the sharecropping system, the Marquis of Sentmenat tried to introduce direct farming on his estates in Urgell. But the experience did not bear out his expectations and the outcome of the seven-year experiment (1873 – 1879) was a loss of 12,000 pesetas. As a result, he returned to the ancient system of land use. The Maspons family’s experiment with direct farming also ended in disappointment. In 1912 the landowner planted fruit trees (especially almonds and hazelnuts) in the expectation of high profits, and employed salaried farm workers in some of their plots. The poor results were undeniable. The landowner himself, after analysing his accounts, noted that his profits would have been greater had he leased out the land, and decided that the cause of his failure had been the cost of the wages.⁷

Experiences like these help to explain why sharecropping and other forms of indirect exploitation not only persisted after the crisis at the end of the century but actually strengthened their position as basic systems for managing large estates.⁸ This situation is confirmed in several reports commissioned by the authorities and in an abundance of literature from the mid-19th century onwards discussing the best system of tenancy for large estates.

In our opinion, the fundamental reason for this decision was technological. Landowners farming directly were unable to provide their workers with significant better equipment than that available to tenants or sharecroppers. And in the absence of higher technology, the theoretical advantages of direct farming could be outweighed by problems in the control and organization of labour. Efficient management of the estates could be hampered by distance or by ignorance of the social conditions and techniques used in exploiting the

⁷ Pascual (2000) describes a similar experience.

⁸ An exception that can be attributed to the integration of a farm in an agro industrial business in Pujol (1999).

land, and in some cases proved impossible.⁹ Even in those cases where the landowner was technically proficient and aware of the social situation of the workers, or delegated the running of the estate to an able, honest administrator, the expense of maintaining permanent and temporary labourers placed such a burden on the current accounts that direct farming was not a viable option.

The use of *masovers* or sharecroppers provided the landowner with sufficient manpower while reducing the cost of administration and without sacrificing his capacity to dictate the farming practices. These forms of contractual farming entailed a certain degree of external control, for while the greater part of the day-to-day decisions were taken by the farmer, they also provided many opportunities for intervention: the landowner could decide on the use of the land, the technical means available for carrying out the tasks, whether to maintain or increase the productive capacity of the estate, and so on.

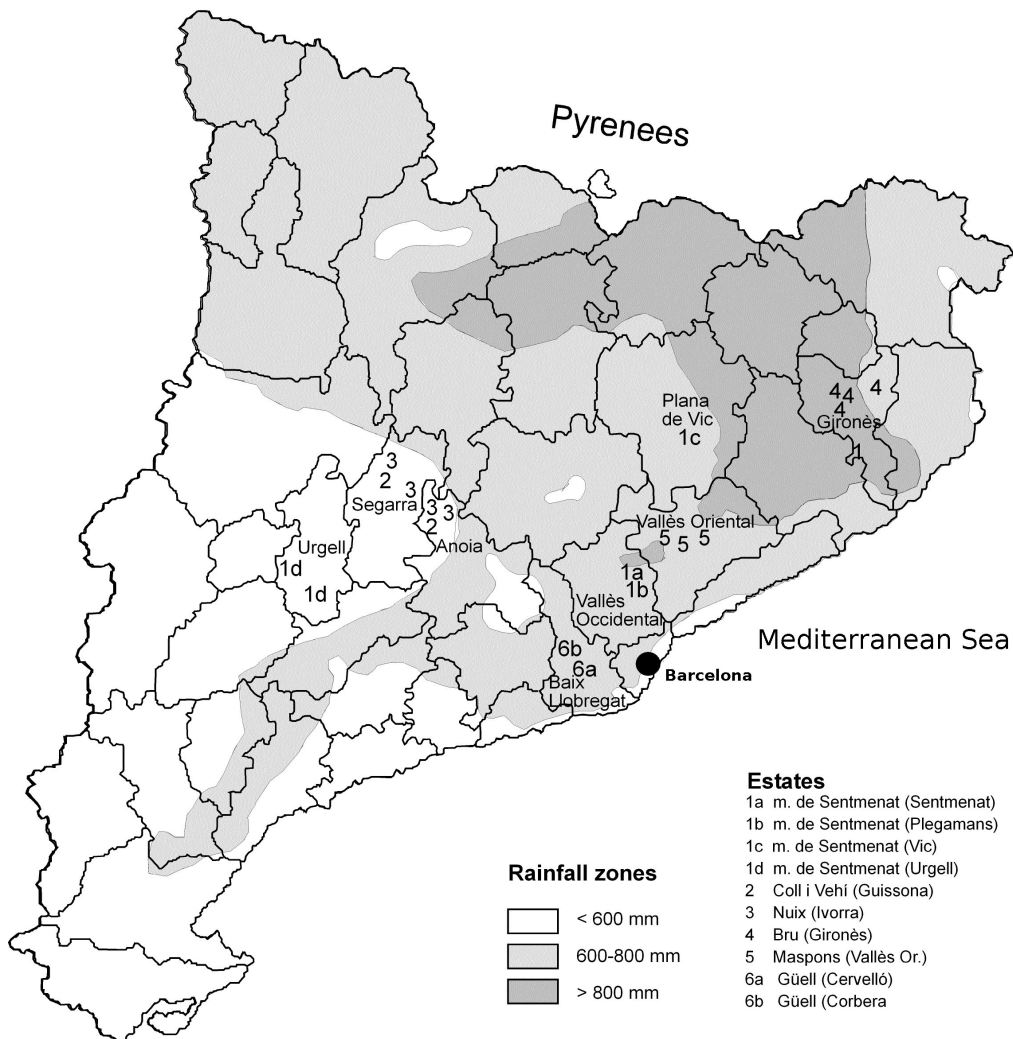
The practice of purely monetary leases on estates was practically non-existent in Catalonia. Such income registered in the account books under this concept is due to the lease of small plots, the rent paid by the sharecropper for his home and other activities not related to agriculture such as grazing land and quarries. Sharecropping continued to form the backbone of the management of large land holdings. The figure of the *masover* was essential, not only because of the produce of his labour, but because he was also responsible for collecting the rent from small plots, keeping watch over the woodlands and exerting a degree of control over the poorer farmers who worked smaller plots.

3. The management of large agricultural estates through the analysis of their running costs

The estates analysed are all different in many ways – in their size, the number of farms and the use of the land, and so on– but we are particularly interested in contrasting data from a wide range of sources in order to find common features. We start by distinguishing between **(a)** the estates located in the humid areas of Catalonia (Gironès, Vic, Vallès Oriental, Valles Occidental, Baix Llobregat), where the typical form of rural settlement was the isolated farmhouse (*mas*) and the most common type of contracts were those of *masoveria* – a form of sharecropping that included housing for the tenant – in which the landowner received one third of the harvest and played little part in the cost of running the farm, and **(b)** the estates in the dry areas (Urgell, Segarra, Anoia) where the conditions were more arid and the form of settlement was more concentrated in villages. The form of sharecropping practised here was called *mitgeria*, in reference to the fact that the landowner received half of the harvest. In this case, because of the lower productive capacity of the land, the landowner had a greater participation in the running costs in order to achieve an acceptable return.

⁹ On the importance of efficiency in control and organization of labour for economic growth, see Toharia, 1984.

Map 1. Location of the estates analysed

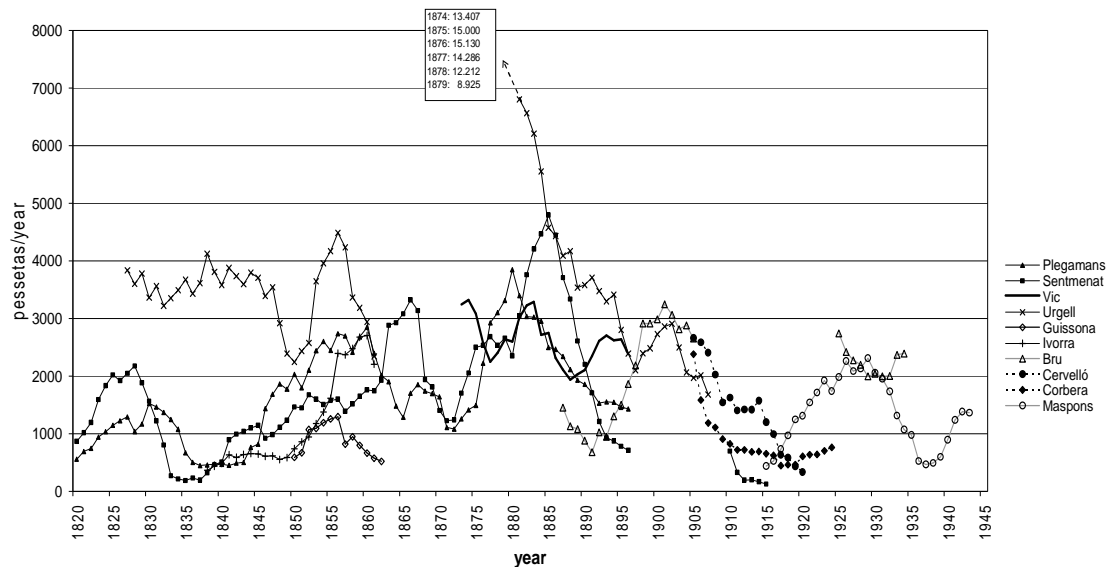


In any case, the sharecropping contracts, *masoveria* included, were a central element of all these estates, and the account books register only the parts of the running costs that the landowner paid a share of. They omit the most important production costs, especially those related to labour and basic inputs such as seeds and fertilizers, which were usually provided from the reuse of farm produce. Even so, the landowners made regular financial contributions, although the quantities involved were usually small. One part of these payments went towards what we could call the current expenditure, while the other part, which we call extraordinary expenses (the maintenance and investment expenditure), was spent on the upkeep and expansion of the productive capacity of the farms. The remainder consisted of tax payments, land charges and loans to sharecroppers, which we will disregard for now.

The changes in the quantities provided by the landowners towards the running costs can help us to understand their role in the processes of growth and intensification of agricultural production. The evolution of the running costs is shown in **figure 1**, and reveals a number of common features despite the diversity of conditions and characteristics of each estate. There is a clear correspondence between the series during the 19th century, with a sequence of

peaks and troughs that reflect the expansion and contraction of agricultural production in Catalonia.

**Figure 1. Evolution of total running costs
(five-year moving averages in 1913 pesetas)**



We can identify the following phases: **1** an early period that stretched as far as the middle of the 19th century, when the crisis affecting the old social order was most severe and the new liberal institutions were established; with the exception of the Urgell estate, there is a tendency of landowners to reduce costs by sustaining or reducing their contributions; **2** a period of higher expenditures, with an important increase in the 1870s coincident with a great expansion of vineyards in Catalonia; **3** a new cycle of depression that lasted until the beginning of the 20th century, reflecting the crisis in Catalan agriculture from the end of the 1880s, during which landowners once more reduced their expenditure in line with their falling income; **4** a period of moderate recovery in terms of expenditure during the first third of the century, although with interruptions, and without reaching the level of the pre-crisis years.

We can safely assume that the periods of expansion led to a greater degree of liquidity due to the increase in gross income, which disposed the landowner to take on a greater share of the costs, but that this expenditure would shrink as income fell in periods of contraction. We see a spectacular increase in the running costs on the estate of the Marquis of Sentmenat in Urgell during the 1870s, when viticulture was in expansion, because at the time the landowner experimented with the use of salaried labour. However, with the crisis of the end of the century, the expenditure on the estate fell sharply and remained low until the early years of the following century. The estates of the Güell family also registered a decline in expenditure in the 1920s that can be interpreted as a strategy to sustain income in a period of falling agricultural prices (especially severe in the case of wine) when there was little margin for raising the land revenue. In some cases, the landowner withdrew gradually from direct involvement in the management of his estates, limiting his activity to collecting

rents and maintaining the value of the land. In other cases, such as the Bru family, the landowner had to increase expenditure to counter the effects of the crisis.¹⁰

A second observation can be made with regard to the scale of the financial resources that landowners provided. While these might increase substantially in periods of expansion, occasionally doubling or tripling the amounts from previous periods, they continued to be relatively modest. There is nothing from the records of this period to suggest any spectacular shift that might have led to radical change in the tenancy regime. The annual expenditure of most of the estates analysed varied between 1,000 and 2,000 pesetas (at 1913 value), and only rose as high as 3,000 or 4,000 pesetas in exceptional circumstances. These figures represent a relatively small outlay when compared with the gross income (25 to 30% in the humid areas and around 40% in the arid areas).¹¹ This would seem to confirm that the landowners' basic management strategy consisted of avoiding most of the running costs.

Although the criteria underlying our classification might be open to criticism, we have spread the total expenditure among different concepts in order to highlight the role of the landowner in the organization of the production process. First of all, we have grouped the items of current expenditure together, including wages and productive inputs for which the farmers were not liable, administration costs (administrator's fees, technical and legal services that were requested etc.) and a number of other payments for luxury items, charitable causes, or religious concerns, although always involving very small amounts. This expenditure may not have any direct relation to production costs, but it reinforced the social standing of the landowner and had a bearing on the smooth running of the estate.¹² Although expenditure on maintenance and investment are clearly defined in analysis, they are hard to distinguish in the account books, and so we have decided to include them together as extraordinary expenses.¹³ Adding these extraordinary expenses to the current expenditure gives us the total running cost of the estate.

As **table 1** shows, the most important part of the landowner's share lies in this current expenditure. Throughout the 19th century current expenditure accounted for between two-thirds and three-quarters of the total costs, gradually declining in the early years of the 20th century. The only estate to maintain a high level of current expenditure was the Bru family, due to the owner's participation in a livestock sharecropping tenancy (a relatively rare initiative among the large Catalan landholdings). If we consider that the total expenditure did not increase in the first third of the 20th century, this sharp decline in current expenditure might

¹⁰ The estate of the Torelló family also registered a substantial increase in landowner's expenditure in the 1920s due to the rising cost of salaries and the increased use of chemical fertilizers (Pascual, 2000).

¹¹ The expenditure of the Torelló family varied between 20 and 30% of gross income, although the estates were located in the arid part of Catalonia (Pascual, 2000 : II, 214).

¹² This group includes payments that formed part of the paternalist role that many great landowners adopted (donations, charity, sustaining religious celebrations, local festivals, etc.) With a few exceptions, the quantities involved were insignificant, except from a sociological perspective.

¹³ It was common for these two concepts to be combined in private accounts and in official documents (Perren, 1970) as well as in the reconstructions carried out by historians (Pascual, 2000).

be an indication of the withdrawal of rural landowners which we mentioned above and which was noted by contemporary observers.¹⁴ The reduction in expenditure should be seen as a response to the conditions of the agricultural sector in the aftermath of the crisis of the turn of the century, with overproduction and a tendency for prices of agricultural produce to remain stable or fall.

**Table 1. Current Expenditure
as a percentage of total running costs**

	Marquis of Sentmenat				Coll i Vehí	Nuix	Bru	Maspons	I. Güell López	
	Sentmenat	Plegamans	Vic	Urgell	Guissona	Ivorra	Gironès	Vallès Oriental	Cervelló	Corbera
1821-30	87.9	89.3		69.4						
1831-40	60.5	83.1		88.4		82.6				
1841-50	80.2	59.3		86.4	54.4	85.9				
1851-60	69.6	51.2		79.6	35.1	44.9				
1861-70	69.8	61.9		79.4	55.5	50.9				
1871-80	59.5	60.0	50.1	65.3						
1881-90	60.9	68.0	73.0	72.4			85.7			
1891-00	81.4	67.6	75.0	71.8			67.8			
1901-10	9.9			62.7			79.9		64.8	55.2
1911-20	51.8							43.5	50.6	50.7
1921-30							89.2	46.1		66.7
1931-36							75.7	58.1		
1941-45								27.7		

a/ Wage costs

Although wage costs amounted to a significant part of the current account expenditure on some estates, they were always small in absolute terms. The fundamental premise underlying the dominant form of tenancy was that it avoided the problems of hiring and supervising the workforce, although this premise was applied in many different ways. The landowners who possessed properties in the areas where *mitgeria* was predominant had to assume a greater burden of wage costs. These areas were less productive, and the landowners had to take a more active role in the running of these properties in order to achieve an acceptable return. The sharecropping contracts in these areas systematically included clauses which established that the landowner would contribute to the payment of labour costs during the harvest and sowing seasons. The wages for sowing, threshing and decanting made up the largest portion of the wage costs that the landowner had to provide.

In the areas where *masoveria* was predominant, cost of farm labour was practically non-existent for the landowners and the overall expenditure on wages was vastly reduced. Most of the salary costs were associated with attempts to

¹⁴ About this question, see Lana, 2010.

apply direct farming to some plots, or the management of non-agricultural resources such as woodlands, which, on the Maspons estate, for example, amounted to 46% of the running costs.

**Table 2. Wage costs
as a percentage of current expenditure**

	Marquis of Sentmenat				Coll i Vehí	Nuix	Bru	Maspons	I. Güell López	
	Sentmenat	Plegamans	Vic	Urgell	Guissona	Ivorra	Gironès	Vallès Oriental	Cervelló	Corbera
1821-30	52.2	37.4		48.2						
1831-40	52.5	34.1		37.2		93.6				
1841-50	43.9	37.8		45.0	33.0	32.1				
1851-60	27.3	26.6		42.6	21.8	19.0				
1861-70	26.7	34.9		47.5	21.5	36.6				
1871-80	36.4	13.5	9.5	65.4						
1881-90	47.8	11.9	6.1	46.8			36.9			
1891-00	17.6	1.8	6.2	48.4			35.7			
1901-10	0.0			42.2			23.3		80.3	35.0
1911-20	1.8							61.6	62.0	77.6
1921-30							15.1	54.6		54.5
1931-36							24.4	33.9		
1941-45								9.9		

In some estates (Sentmenat, Urgell) there was a steady rise in wage costs in absolute terms from the middle of the 19th century until the 1870s and 1880s, but this increase does not indicate significant changes in the share of these wages that the landowners paid. In general, this increase was related to attempts to expand and intensify the specialization in wine growing. Instead, there was a tendency for landowners to contain and reduce these expenses in the aftermath of the crisis. If we take into account the inflation and spectacular increase in salaries after World War I, on the one hand, and the need to intensify production on the other, we conclude that the landowners passed the burden of these increased production costs on to the farmers.¹⁵ Thanks to these indirect forms of land tenancy the landowners could let the producers take the strain of adjusting to these new market conditions in which wages rose sharply, but were not balanced by a corresponding increase in prices for agricultural produce.

b/ Expenditure on material inputs

As **table 3** shows, the volume of this share is far lower than the previous one. Although these expenditures grew in periods of expansion and shrank in recessions, in both absolute and relative terms, they were of little significance. The holdings in the arid area of Catalonia likewise showed a higher level of

¹⁵ On the changes in agricultural wages during the 19th century and the first third of the 20th, see Garrabou, Pujol, Colomé (1991); Garrabou, Tello (1995); Garrabou, Tello, Roca (1999).

expenditure than the area of *masoveria*, with the exception of the Bru family estate, where there was a sharecropping contract for livestock that entailed successive purchases of cattle for breeding or fattening.

**Table 3. Material inputs costs
as a percentage of current expenditure**

	Marquis of Sentmenat				Coll i Vehí	Nuix	Bru	Maspons	I. Güell López	
	Sentmenat	Plegamans	Vic	Urgell	Guissona	Ivorra	Gironès	Vallès Oriental	Cervelló	Corbera
1821-30	3.2	16.2		11.4						
1831-40	0.0	0.8		28.6		2.7				
1841-50	9.8	0.0		19.9	67.0	17.5				
1851-60	1.6	1.1		16.1	41.3	22.9				
1861-70	3.5	5.4		6.8	20.2	15.8				
1871-80	10.7	11.6	3.1	14.1						
1881-90	12.0	14.0	5.3	23.6			50.3			
1891-00	12.7	7.3	15.8	7.7			52.3			
1901-10	0.0			13.4			61.2		15.1	15.0
1911-20	0.0							9.3	31.7	17.9
1921-30							75.0	5.4		43.8
1931-36							75.2	1.5		
1941-45								0.0		

In these areas, where the productive capacity was lower, the landowners tended to play a more active role. The *mitgeria* contracts established that the landowner would provide a part or, in some cases, all of the seeds. While the usual practice was to use cereals from the previous year's harvest, occasional poor harvests, poor quality seeds or the advisability of renewing the seed stock made it necessary to acquire seed in the market. These purchases could represent a significant outlay, as occurred on the estates that the Marquis of Sentmenat possessed in Urgell in 1840, 1849, 1855 and 1882, when the cost of seeds made up more than 90% of the cost of inputs. The purchase of seeds is also noticeable in the series of accounts of the Guissona and Ivorra estates. These purchases could be interpreted as an expression of the owner's interest in improving productivity by following the recommendations of 19th century agronomists to renew the seed stock on a regular basis. At the beginning of the 20th century these purchases of seeds diminished in importance in comparison to the cost of mineral fertilizers, which became more widespread. The system of contracts used in the arid areas of Catalonia did not prevent the introduction of this decisive technological innovation.¹⁶

In the areas of *masoveria*, this part of the expenditure was far lower and was almost entirely related to wine growing and the expansion of viticulture. In contrast, the landowner took hardly any responsibility for the costs of cereal production, just as we have seen in the case of wage costs. On the Marquis of

¹⁶ Pujol (1998a and 1998b).

Sentmenat's estates in Vic, environmental conditions limited the spread of wine growing, and the amount of the landowner's inputs expenditure was insignificant. The only notable exception was an initial trial in the application of *guano* in 1880 and the regular purchases of significant amounts of this fertilizer from 1889 onwards.

c/ Administration costs

Although all forms of tenancy shared the common purpose of transferring the cost and control of the workforce onto the farmers themselves, the landowners had to establish mechanisms of supervision over which they could exert little personal control; on the whole, they were obliged to rely on their stewards.¹⁷ It was often the steward's job to ensure that the work of the tenant farmers and sharecroppers was satisfactory, to choose trustworthy men to watch over the harvest, to collect emphyteutical rents and other rents and to create a close relationship with the local community in order to prevent conflicts. The documents confirm the presence of this landowners' agent on many of the estates studied.

**Table 4. Administration costs
as a percentage of current expenditure**

	Marquis of Sentmenat				Coll i Vehí	Nuix	Bru	Maspons	I. Güell López	
	Sentmenat	Plegamans	Vic	Urgell	Guissona	Ivorra	Gironès	Vallès Oriental	Cervelló	Corbera
1821-30	38.2	46.4		36.5						
1831-40	21.2	61.5		29.3		0.0				
1841-50	40.3	61.2		32.5	0.0	43.6				
1851-60	58.9	67.1		40.5	32.8	39.2				
1861-70	31.3	53.2		44.9	58.3	35.3				
1871-80	48.6	60.3	80.0	18.3						
1881-90	37.3	57.3	84.0	27.1			12.8			
1891-00	66.8	62.1	62.0	39.5			12.0			
1901-10	64.1			35.0			15.5		1.7	46.7
1911-20	6.3							27.6	1.5	1.5
1921-30							9.9	36.9		0.0
1931-36							0.5	56.6		
1941-45								71.2		

The presence of a steward was relatively costly, as he would generally receive 10% of the ordinary gross income. In certain cases, he would receive a lower fee – for example, for the sale of timber or in the collection of *laudemium* or unpaid rents. The remainder of these costs comprise payments for legal services or an occasional technical report, insurance policies or small expenses such as

¹⁷ On the activities of the administrators, see Carmona (1995 and 2001); Garrabou, Planas, Saguer (2002); Carmona and Simpson (2003: 191-202).

visits to the estates by the steward or the landowner, or the building and conservation of boundaries to define the limits of the property.

Administration costs were among the most important expenditures on many of the estates analysed, in some cases amounting to over 50% of the total running costs. Although the percentage was lower in the area of *mitgeria* due to the greater importance of wage costs, the amounts paid under this concept were still relatively large, which confirms the importance that the landowners assigned to it.¹⁸

Unlike the restrictions that were applied in years of recession, administration costs remained relatively constant until the 20th century. Then they began to decline or even practically disappear, especially in moderately sized estates where the landowner could assume the task of overseeing, as the Bru family did from the 1880s onwards. In this case, as on the Maspons estate, this shift in behaviour coincided with a tendency to convert the *masoveria* into a leasehold arrangement, so that the landowner could reduce his role in managing the farm.

d/ Expenditure on maintenance and investment

Channelling the flow of economic resources into the improvement of the productive capacity, increasing the fixed capital, and introducing new crops and new technologies have been some of the ways in which contemporary agriculture has grown. One way of measuring the efficiency of a tenancy regime is to gauge the incentives or discouragement that exist for investments in productivity. It has been said that sharecropping and other types of short-term leases did not encourage the farmers themselves to invest, as the results would not be felt in the short term; the length of their contracts was uncertain, the sharecroppers capture only a part of the marginal increase in productivity and there was no legislation to ensure compensation for any improvements that they undertook themselves. The logic of the system, at least from this point of view, meant that the responsibility for investments fell squarely on the landowners. What can the bookkeeping records we have studied tell us about the behaviour of the landowners with regard to this vital aspect of the management of agricultural estates?

In most of the estates analysed there is a clear tendency for these investments to increase from the middle of the 19th century onwards. In some cases, the amounts doubled or tripled compared with the beginning of the century, but in the last decade they suffered a sharp decrease. Even so, in absolute terms the amounts were always modest, and there was no significant variation in the relative size of this expense in overall running costs. In comparison with the total of gross income, these expenditures barely reached 15%-20%, and only in very few cases reached 30%. They fell sharply after the late 19th century depression.¹⁹

The overall tendency and fluctuations of this expense closely mirror the situation for wine growing. The expansion in the early phases recorded in Sentmenat,

¹⁸ Pascual (2000: II, 178-179) came to the same conclusion in the analysis of the Torelló family estates.

¹⁹ Some studies of Victorian England indicate that this behaviour on the part of the investor was not an isolated historical quirk: Becket (1986), Holderness (1972), O'Grada (1975).

Plegamans, Guissona, Ivorra and, to a lesser extent, in Urgell, was closely related to the cost of planting vines.²⁰ In Sentmenat, from 1851 to 1860, the cost of planting vines represented 80% of all investment and, after a brief period of paralysis, rose again to 60% of the total in the years between 1881 and 1890. The purchase of barrels, presses and other instruments for the production of wine and the construction of cellars also formed a significant part of the investments of estates that specialized in wine production. The prospects of the wine market generated huge expectations and the expansion of wine production continued to absorb a large part of the investments made until the 1880s.

**Table 5. Maintenance and investment costs
as a percentage of gross income**

	Marquis of Sentmenat				Coll i Vehí Guissona	Nuix Ivorra	Bru Gironès	Maspons Vallès Oriental	I. Güell López	
	Sentmenat	Plegamans	Vic	Urgell					Cervelló	Corbera
1821-30	5	3		10						
1831-40	2	3		6		5				
1841-50	7	10		4	12	3				
1851-60	10	14		7	31	31				
1861-70	17	13		8	12	50				
1871-80	15	12	17	30						
1881-90	23	9	6	18			2			
1891-00	4	8	5	11			6			
1901-10	18			14			5		15	26
1911-20	2							7	8	8
1921-30							4	33	3	8
1931-36							6	11		
1941-45								26		

After the late 19th century depression, the amounts invested were smaller. In those places where investment continued to be significant, the money was used principally in improving housing conditions and had little effect on production. On the Maspons estate, for example, improving living conditions accounted for over half of the total running costs, but the greater part of this (53%) went on renovating the landowner's farm-house. While the value of the property increased, it had only a slight effect on the productive capacity of the estate, underlining its function as a reservoir of value. The owner of the Goy family estate spent a large part of the total income (about 35% of the gross income) on maintenance and investment at the end of the 1920s and at the start of the turbulent 1930s. This amount was mostly spent on improving the housing conditions of the *masovers* and on building stables for livestock, from

²⁰ This conclusion is confirmed in the Torelló family estate (Pascual, 2000: II, 196).

which the estate received no income.²¹ In this case, the social and political context was probably a major influence, as was the ideology of the landowner, who had links with the currents of social Catholicism.

In the estates analysed there was hardly any investment in agricultural machinery except for the occasional purchase of a grapes press or of tools for the mill. During the 19th century there was no guarantee that machinery would offer any great return, and in any case the continuation of sharecropping meant that the demand for machinery to replace manual labour was low. As long as the farmers were in charge of nearly all the labour costs, the landowners were understandably reluctant to pay for machinery which would provide little in the way of profits.

One final observation: a high percentage of the expenditure on investment and maintenance consisted of wages paid to farm labourers, builders, workmen and carpenters, and only a small proportion was actually spent on materials and tools. Along with the increase in wages from 1914 onwards, this helps to explain why investment was so constrained during the first third of the 20th century. The fact that most of the spending on investment was on labour costs meant that there was actually a greater potential margin of action on peasant holdings, where this resource was relatively abundant and, to a certain extent, the conditions were favourable for improvements based on the use of the workforce.

4. Discussion and conclusions

It would be interesting at this point to evaluate how useful these bookkeeping records are in analysing the different forms of management of large rural estates in Catalonia, and to ask ourselves if they allow us to establish whether these practices were appropriate for furthering agricultural development, or efficient in making profits. We have seen that Catalan landowners systematically preferred sharecropping and other forms of indirect management. Does this indicate that they were content simply to collect their rents, that they lacked entrepreneurial spirit, or that their economic behaviour was irrational?

Between the years of 1820 and 1940, agriculture in Catalonia developed in an environment of relatively inflexible credit and labour markets, in which the results of the harvest were highly unpredictable, especially in the arid regions. In these conditions, the use of hired labour or the lease of large estates to one farmer created formidable difficulties. On the one hand, few leaseholders possessed sufficient resources to run a large estate, and on the other, labour became more expensive and any improvement in productivity gained through direct farming by the landowner was outweighed by the costs of labour and problems of supervision.

The introduction of machinery to reduce labour costs also came up against technical and financial problems. On the technical side, the introduction of

²¹ The Torelló family estates provide another example: the expenditure on maintenance and investment shrank considerably in the beginning of the 20th century, and was more concentrated on improvements in the housing conditions of the sharecroppers (Pascual 2000: II, 196).

large-scale mechanization onto the farms was not really viable until the 20th century was well under way.²² On the financial side, the low income from agriculture meant that the return on capital invested in machinery might be lower than that obtained in other sectors. So, in order to obtain the best return on capital, investors would naturally direct their funds to sectors that offered higher returns than agriculture. Sharecropping and other indirect forms of land tenancy required minimal capital outlay from landowners and represented an efficient way of employing labour with low supervision costs.

The evolution of expenditure made by the landowners shows that they were reluctant to spend anything more than modest amounts. This behaviour could lead to a situation where the resources made available for farming were inadequate and less efficient than they might have been with other technologies that were available at the time. All this might lead us to conclude that the landowners had little entrepreneurial spirit and to associate sharecropping with outdated systems in which the lack of capital investment led inevitably to stagnation.

But if this had been the case, we would find a dual structure during this period, with the presence of dynamic owner-run estates on one hand and backward estates leased to sharecroppers on the other. The data from the account books does not support this thesis. On the contrary, no significant differences have been detected either in the technologies used or in the levels of productivity between sharecropper-run estates and those farmed directly by the landowner using family members or hired labourers. This suggests that the level of capital available was sufficient to implement agricultural practices which were at least on a par with those in common use and which were considered most appropriate for each area.

Although these forms of tenancy placed the burden of paying most of the running costs on the shoulders of the farmers, landowners were willing to increase their share of the expenditure when the occasion demanded it, as happened on the Marquis of Sentmenat's estates in Urgell. This landowner not only provided the money for the seeds and a part of the labour costs, but often gave loans to his sharecroppers for the purchase of work animals or to pay harvesters.

If we want to examine whether these tenancy forms boosted the introduction of innovative practices to improve productivity, the evidence is less clear. We have already seen how modest the scale of investment was throughout the period; although there was a slight increase in the second half of the 19th century, it declined in general in the first third of the 20th. This points to an ambiguous attitude on the part of the landowners. They were aware of the need to inject resources in order to bring about improvements, but the large sums involved made them apprehensive, and this attitude seemed to become more pronounced in the first decades of the 20th century.

The introduction of new forms of crop rotation, one of the most basic technological changes to be applied in advanced agricultural systems, is barely recorded in Catalonia. As some agronomists had warned at the end of the 19th century, the environment, and in particular the pronounced aridity,

²² Gallego (1986); Garrabou (1990); Martínez Ruiz (1995 and 2000); Simpson (1997: 204-236).

made it impossible to employ more intensive forms of rotation on a large part of the cultivated land in Catalonia. The few attempts made ended in failure and the idea was abandoned. In the more humid areas, however, the conditions were more favourable and it became possible to reduce the fallow period and introduce new rotations. Even so, the introduction of leguminous forage crops such as alfalfa or sainfoin ran into difficulties derived from the prevailing type of contracts used. It has been suggested that the clauses in the contracts between landowner and tenant farmers which insisted on the cultivation of cereals and the maintenance of fallow periods impeded changes in the rotation of crops and prevented the expansion of crops for cattle fodder, without which intensive livestock farming was impossible. The *masoveria* contracts in the humid areas of Catalonia did not encourage the adoption of these innovations, and it could be argued that they were an obstacle.

Livestock farming emerged as the most profitable branch of agriculture at the end of the 19th century, but its slow expansion was probably due to the persistence of the contracts mentioned above. Landowners rarely chose to participate actively in this form of production, preferring instead to leave it in the hands of their sharecroppers. This may also explain why the expansion of this form of agriculture was so limited throughout the period. We may wonder whether this scant interest in the livestock sector on the part of the landowners was due to their unwillingness to invest what they saw as excessive amounts of capital, or whether other factors played a part, such as the problems of supervision. The reasons for their attitude are still unclear, and the only information our documents can give us is that the landowners gradually lost interest in this type of farming, which ended up almost entirely in the hands of the sharecroppers.

As regards industrial fertilizers, the system of contracts did not impede their use or their expansion, and in many cases it was the landowner or administrator who suggested that they be introduced. This is particularly true of the arid regions, where the lack of fertilizers was one of the factors that prevented increased yield from the crops grown. The account books begin to register this type of expenditure at the end of the 19th century, when these fertilizers improved in price, quality, and efficiency. The costs were divided between the landowner and the sharecropper in the same proportion as the share of the harvests.

The importance of irrigation for their estates persuaded landowners to finance maintenance work and improvements in their reservoirs and irrigation channels and to buy pumps and other equipment. The weight of these costs was determined to a large extent by the character of each of the estates involved. In the case of the Maspons family, for example, the improvement of irrigation systems accounted for between 11% and 12% of the total spending on maintenance and investment.

Finally, we should mention the intensification of tree and shrub orchards, which proved to be the most efficient way of increasing productivity in large areas of Catalonia in the latter half of the 19th century. It was not only the vineyards that enjoyed a spectacular expansion, but also the plantations of olives, almonds, hazelnuts and carobs. The expansion in this sector called for significant investment which sharecroppers and tenant farmers were rarely willing to undertake. This attitude is perfectly comprehensible when we take into account that their contracts, while always renewable, were usually valid for

between one and five years, and offered no guarantee that they could redeem the investments they made. In these circumstances, the landowners had two possible courses of action. Firstly, they could pay all the costs of planting, or secondly, they could use other contracts that passed the costs of planting on to the farmers by giving them long-term contracts, which were normally over twenty years. We have seen from the account books that a significant part of the investments made in estates in wine-growing areas was due to the planting of new vines, but most of the landowners preferred to use long-term contracts such as the *rabassa morta*, which terminated either after 50 years or when two thirds of the original vines had died, when they wanted to increase the area dedicated to these crops. We can deduce from this that the landowners sidestepped the limitations inherent in different forms of sharecropping by taking advantage of other types of contract which were already in use in rural Catalonia.

This would seem to confirm the hypothesis that, while the level of investment they made was modest, the landowning families did not behave like absentee landlords or idly live off their rents.²³ The examples we have analysed have given us some insight into the rationale behind some of the landowners' decisions and the diverse responses that they adopted according to the circumstances and the prevailing social and environmental conditions on their estates. The accounting records have proved a valuable source in this sense, although the incomplete and highly local nature of the information they contain means that we should beware drawing hasty conclusions. However, the bookkeeping can provide a useful complement when aggregating evidence for an approximate understanding, especially in the case of Catalonia and, by extension, Spain, when we consider the scarcity and unreliability of the statistical sources for the agricultural sector. Of course, the data from these account books should never be analysed in isolation, without reference to either other property documents or the form of land tenancy. As we have seen, the predominant form of agricultural contract in any area establishes limits on the contents of landowner's account books. This means that the contracts cannot be left aside even when what is being analysed is the landowner's management, or when the account books are consulted to provide series of data on the wages, yields and other standard parameters. To sum up, the analysis of agrarian bookkeeping is an enormously laborious task, but one that can provide us with a clear picture of the rural society of a particular period.

²³ As a contrast, see Marfínez Alier (1968).

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