



The "Rabassa Morta" in Catalan Viticulture: The Rise and Decline of a Long-Term Sharecropping Contract, 1670s-1920s

Juan Carmona; James Simpson

The Journal of Economic History, Vol. 59, No. 2. (Jun., 1999), pp. 290-315.

Stable URL:

<http://links.jstor.org/sici?sici=0022-0507%28199906%2959%3A2%3C290%3AT%22MICV%3E2.0.CO%3B2-Z>

The Journal of Economic History is currently published by Economic History Association.

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/about/terms.html>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/journals/eha.html>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is an independent not-for-profit organization dedicated to and preserving a digital archive of scholarly journals. For more information regarding JSTOR, please contact support@jstor.org.

The “Rabassa Morta” in Catalan Viticulture: The Rise and Decline of a Long-Term Sharecropping Contract, 1670s–1920s

JUAN CARMONA AND JAMES SIMPSON

For long periods, and in line with recent theoretical literature, the *rabassa morta* sharecropping contract successfully reduced problems of moral hazard and opportunistic behavior, and provided incentives for sharecroppers to respond to market opportunities. However, from the late nineteenth century, technical change, rising wages, and weak wine prices all increased the incentives for postcontractual opportunistic behavior on the part of the sharecropper, leading to conflicts and loss of trust between the principal and agent. Under these conditions, contemporaries often considered the contract synonymous with “exploitation” and “impoverishment,” terms frequently found in the more traditional literature on sharecropping.

Historians of sharecropping in southern Europe have usually emphasized its negative effects. In France, for example, sharecropping has traditionally been considered a major cause of the stagnation of the rural economy in the seventeenth and eighteenth centuries. Neither sharecroppers nor landowners were thought to have had an incentive to make productive investments, and the sharecropping contract was thought to have led to an increase in subsistence and a decline in commercial agriculture.¹ By contrast, recent work by economic and development historians has emphasized the positive characteristics of sharecropping over a wide variety of historical and geographical settings.² Instead of considering sharecropping as irrational or

The Journal of Economic History, Vol. 59, No. 2 (June 1999). © The Economic History Association. All rights reserved. ISSN 0022-0507.

Juan Carmona is Profesor Visitante and James Simpson Profesor Titular, Departamento de Historia Económica e Instituciones, Universidad Carlos III de Madrid, 28903 Getafe, Madrid, Spain.

We have benefitted from discussions with Ann Carlos, Josep Colomé, Alan Dye, Francesco Galassi, Shawn Kantor, Jonathan Liebowitz, Belén Moreno, Gilles Postel-Vinay, Jaime Reis, and Rich Sicotte. Earlier versions of this article received useful comments at the congress on “Land, Labour and Tenure: the Institutional Arrangements of Conflict and Cooperation in Comparative Perspective” held at the University of Leicester in August 1996; at the congress on “Cambio institucional e historia económica” at the Universidad Autónoma de Barcelona in December 1996, and at seminars at the European University Institute, Florence and the Universidad Carlos III de Madrid. Joel Mokyr, Jan de Vries and two anonymous referees also made helpful comments. Kyle Brinkman greatly improved the style. The usual disclaimers apply. Finally, the authors acknowledge funding from the Spanish government (PS94-0005).

¹ Désert, “Bilan économique,” pp. 440–41; and Hoffman, “Economic Theory,” pp. 309–10, together with the sources he cites. For the Italian literature, see especially the bibliography cited in Cohen and Galassi, “Sharecropping,” p. 646, fn. 2; and Zamagni, *Economic History*, p. 70, fn. 58.

² Revision by economists and economic historians of the traditional negative interpretations of sharecropping can be dated to Cheung, *Theory*, in 1969 and Reid, “Sharecropping,” in 1973. The literature on the U.S. South has, in particular, made an important contribution to the wider debate. For

economically inefficient, this new literature stresses instead its contribution to the reduction of transaction costs for both landowner and sharecropper in the face of market imperfections. In this paper we explain why both sets of opinions about sharecropping may be correct. We argue that although sharecropping might indeed provide a successful solution to market inefficiencies in “traditional” agriculture, rapid changes associated with economic development would require significant modifications to sharecropping contracts. Increases in capital inputs and growing opportunity costs of agricultural labor because of increased urban demand would imply that, unless contracts were modified to reflect these changes, conditions for sharecroppers would be likely to deteriorate. This, we argue, explains the often-cited complaints of “exploitation” and “impoverishment” found in the traditional literature.

In Catalonia, in northeastern Spain, both landowners and sharecroppers were convinced that the local sharecropping contract, the *rabassa morta*, had played a major role in the expansion of commercial viticulture in the region from the late seventeenth century until the late nineteenth century.³ The *rabassa morta* was unusual in that its duration was often for the life of the vineyard, which effectively implied that the contract was indefinite. For several centuries this institution was sufficiently flexible to adapt to changing factor markets and the wider changes taking place within society. From the late nineteenth century, however, the increasingly capital-intensive nature of viticulture and the divergence of wages and wine prices significantly raised the possibilities of postcontractual opportunistic behavior on the part of the sharecropper, and eroded the trust, or social capital, that had developed over the previous centuries. Although sharecropping continued to be used, the conflicts that developed between the principal and agent in their attempts to adjust to the new situation raised transaction costs and therefore reduced significantly the efficiency of the *rabassa morta* contract.

The article is divided into three sections. After a brief examination of the theory of sharecropping and its relevance to viticulture in the first section, the second shows why the long-term nature of the *rabassa morta* contract was suitable to the conditions of Catalan viticulture prior to the late 1880s. The final section considers both why landowners continued to use sharecropping contracts after the widespread destruction of viticulture by the disease phylloxera, and why, especially after the First World War, the contracts were much less efficient in providing stable conditions for viticulture in the region.

a recent and easily available general survey of the sharecropping literature, see Otsuka, Chuma, and Hayami, “Land and Labor Contracts,” pp. 1965–2018.

³ See, for example, the editors’ (Bernaldo de Quirós and Aragón Montojo) report for the Instituto de Reformas Sociales (hereafter IRS), *La “rabassa morta,”* pp. 9–10.

SHARECROPPING AND VITICULTURE

In an important paper, Benjamin Klein, Robert Crawford, and Armen Alchian argue that after a specific investment has been made, creating appropriate quasi rents, the possibility of postcontractual opportunistic behavior “is very real.”⁴ Vines are highly specialized to land, and not only is output sensitive to the quality and timing of labor inputs, but vines are easily and permanently damaged if the pruning, ploughing, and hoeing operations are badly carried out.⁵ Close monitoring of wage labor in traditional viticulture—to reduce the risks of opportunistic behavior—was costly, and would have been unprofitable for most landowners because the vast majority of wines produced were of poor quality and sold cheaply. Furthermore, prior to the twentieth century, there were few economies of scale in the production of either grapes or wine. Only with a handful of wines, such as the high quality sherries, ports, and clarets which, for example, sold for eight or ten times more than “ordinary” wines on the London market in the 1860s, was there an incentive for landowners to establish wine estates and use wage labor.⁶ Instead, most vineyards in the Mediterranean basin were small and worked by landowners using family labor.

The use of rental contracts would have resolved landlords’ monitoring problems by allowing tenants to enjoy all the benefits from improved cultivation in the form of increased output. Yet rental contracts were rarely found in viticulture because of the possibilities of postcontractual opportunistic behavior and moral hazard. In the first instance, in the advent of a tenant claiming to be unable to pay the rent, the landowners faced difficulties in determining whether a poor harvest was the result of climatic factors, or of the agent’s idleness.⁷ In viticulture, this problem was made even more difficult than with most other crops by the frequently inverse relationship between harvest size and quality. Second, tenants with contracts lasting only a few years would be tempted to increase output through a light pruning, an action which shortened the productive life of the vine. Even with long-term contracts, the landlord ran the risk of receiving back a dying vineyard once the tenant’s lease expired.⁸ Only indefinite contracts would give tenants a long-term economic interest in the vineyard. However, indefinite contracts based on a fixed annual payment were likely to lead to distributional con-

⁴ Klein, Crawford, and Alchian, “Vertical Integration,” p. 298.

⁵ Galassi, “Tuscans,” pp. 78–83. See also Hoffman, “Economic Theory.”

⁶ See Pan-Montojo and Simpson, “El comercio internacional.” For example, in Jerez, the Domecq estate had 200 acres (80 hectares) of vines in 1831. Busby, *Journal*, p. 17. In Bordeaux, Château Margaux in 1922 had 227 acres of vines. Faith, *Château Margaux*, p. 51.

⁷ Bardhan, *Land*, p. 161; Galassi, “Tuscans,” p. 82; and, Hayami and Otsuka, *Economics*, p. 3.

⁸ On occasions, such as the approach of phylloxera, landowners might wish to maximize production even if it implied destroying the vineyard. Evidence suggests that it took about five years to exhaust the vines. IRS, *La “rabassa morta,”* p. 92; see also Roig Armengol, *Memoria*, p. 179.

flicts. Future wine prices were impossible to forecast, so perpetual fixed monetary rents were impractical. Although this problem could be solved by using a fixed, annual payment in kind, landlords ran the risk that their relative share of the harvest would decline during periods of high wine prices (tenants would maximize output, but at the cost of shortening the vineyard’s life), or of losing their tenants during those of falling prices (tenants would find that the rent was higher than the marginal productivity of their labor).

Indefinite sharecropping contracts overcame the problems of monitoring and moral hazard by providing both parties with a direct interest in optimizing output over the vineyard’s life, which, if dead or dying vines were replaced, might stretch over several centuries. In Catalonia, a peculiar feature of the local sharecropping contract was that the *rabasser* (sharecropper) not only planted the vines but also legally owned them.⁹ Therefore, although contracts required the *rabasser* to cultivate the vines in accordance with the customs of the region, it was the fact that the vines were their own property, and could be sold, which provided the best incentive for their proper care.¹⁰ This offered two important benefits for the landowner: problems of moral hazard were significantly reduced, and monitoring was enforced through the market. For the *rabassers*, the fact (prior to the twentieth century) that they were allowed to keep at least two-thirds of the harvest provided a “high-powered” incentive to utilize more of their labor in the vineyards, rather than in other activities.¹¹ As a result, at times of high wine prices the landowner would also benefit from the light pruning of vines and greater care provided by the *rabasser*. When prices were weaker, the quantity and quality of the sharecropper’s labor inputs might decline, but in such conditions the landowner would have had difficulties finding better tenants. For landowners the great advantage of the *rabassa morta* was that it allowed marginal land to be planted at no expense or risk to themselves, and that it minimized monitoring costs on annual cultivation. For the *rabasser*, it provided an opportunity to

⁹ While *emphyteusis* contracts allow the tenant the possibility to sell to a third party the right to use the land (*dominium utile*), the *rabassa morta* granted ownership of the vines, but only while they were productive. The *rabassers* had no claim to the land.

¹⁰ The major constraints on vine ownership were that the *rabasser* could not sublet, and the landowner had to approve the purchaser in the event of the *rabasser* wishing to sell. This is in line with the argument in Klein, Crawford, and Alchian, “Vertical integration,” p. 320 that the “party who plants the trees or vines” also usually owns them. But it contradicts the argument of Hart and Moore, *Property Rights*, p. 1124, that “assets that are highly complementary should be owned together.” If the landlord had owned the vines, not only would the incentives for the sharecropper to invest in the vineyard have been reduced, but they might have been tempted to exhaust the vineyard and then leave. This article shows that the separation of ownership of the land from the vines provided incentives which contributed to the successful working of the contract for several centuries. Only with the changed circumstance of the early twentieth century did separate ownership create friction between the two parties in the way that Hart and Moore suggest.

¹¹ For a discussion on this problem, see Holmstrom and Milgrom, “Multitask Principal-Agent Analyses,” especially pp. 26–27 and 35–36.

obtain a capital asset, which could be sold, mortgaged, or inherited by one of his children.

One potential problem for both landlords and tenants is that of contract enforcement. Not only must opportunism be detected, but it may have to be proved before a court of law. Designing a contract which covers all future contingencies is difficult, and recourse to litigation is often slow and expensive. Yet in many traditional societies, including eighteenth- and early-nineteenth-century Catalonia, oral contracts were common. Problems of postcontractual opportunistic behavior were controlled in Catalonia not only by dividing the ownership of the land and vines and the use of the market, but also through reputation. Reputation, or social capital, was built up over time, and allowed large savings to be made in transaction costs. Residing in small villages, short-term opportunism by either party would be easily identified by others and therefore affect the opportunist's reputation within the community.¹² The cost of breaking an unwritten contract carried more than just social sanction by the local community; it also increased the risk, and hence cost, for other individuals to do business in the future with that person.¹³ So long as sharecroppers identified their economic interests as being similar to those of the landlord, and so long as the landlord wished to attract good tenants, reputation played an important role in the successful enforcement of long-term contracts. Only from the late nineteenth century would this situation start to change, with both parties' interests being increasingly directed along class lines, thereby undermining the "good will" necessary for the sharecropping contracts to operate efficiently, and raising monitoring costs.

For an institution such as the *rabassa morta* to last over several centuries it had to exhibit considerable flexibility in the face of changing relative prices and technology. In the rest of this article we examine more closely the working of the *rabassa morta*, dividing the period into two major parts, first from the introduction of the contract with the initial planting of the vineyards in the late seventeenth century to the coming of phylloxera in the late nineteenth century, and second from the replanting of the vines following phylloxera to the major conflicts of the 1920s.

CATALAN VITICULTURE IN THE AGE OF EXPANSION, 1670s–1880s

Discriminatory taxation by Britain against French wines and spirits from the second half of the seventeenth century, and the Dutch ban on French imports with the outbreak of war between the two countries in 1672, marked

¹² In other words, "each agent needs to evaluate the effects of his current actions on his reputational capital." Hayami and Otsuka, *Economics*, p. 57.

¹³ Hayami, *Development Economics*, pp. 244–61.

the beginning of an important expansion of Catalan viticulture which lasted until the disease phylloxera devastated the region's vines in the late 1880s.¹⁴ Initially, exports from the region consisted mainly of spirits (*aguardiente*), rather than wines themselves.¹⁵ Spirits had three important advantages: they kept much better than wines, transport costs when measured by alcoholic strength were significantly reduced, and the poor quality of local wines was unimportant. The disadvantage of spirits was the lower prices producers received for their wines.¹⁶ By the early nineteenth century an increasing number of growers had successfully switched to the production and export of table wines, relegating poor quality or surplus production to the still. This change was facilitated by the building of new roads linking areas of wine production with Barcelona and other ports, which reduced transport costs. Improvements in product quality allowed an increase in urban wine consumption, and in general were achieved with existing technologies.¹⁷

Estimates of the area under vines in Catalonia before 1860 are both scarce and unreliable. The commercial expansion of viticulture appears to have taken place in a series of stages, with the production frontier located near the coast in the late seventeenth and early eighteenth centuries, before moving inland along the valleys. The mountainous interior and poor communications caused the process to be slow, despite generally favorable wine prices. Thus the major period of expansion in Vilafranca, which is about 20 kilometers from the coast and was the center of the important wine area of the Penedès, took place between the second quarter of the eighteenth and the second quarter of the nineteenth centuries.¹⁸ By 1860 the coastal provinces of Barcelona, Tarragona, and Gerona had already reached 88 percent of their maximum extension of vines. The final important movement of the frontier, which started from the early 1850s and lasted until the middle 1880s, was driven by a combination of rising international wine prices and improvements in internal communications brought about by the railways. This time it was the inland province of Lérida which benefitted most, where the area

¹⁴ For the international wine market, see especially Unwin, *Wine*, p. 238; and Nye, "Myth," pp. 35–39.

¹⁵ A few luxury wines, especially Malmsey, were also produced. Quantities, however, were small so it is sufficient for us to consider only spirits and table wines.

¹⁶ Between 1821 and 1835 the price of wine in San Pere de Ribes was about the same as *aguardiente* in Reus, in spite of the latter being around three times stronger. Colomé and Valls, "La viticultura catalana," p. 48.

¹⁷ To help conservation, wines were usually strengthened before exporting or selling in the major urban centers.

¹⁸ Moreno (*La contractació agrària*, table 1, p. 177) suggests 1740 as a starting date, while Colomé and Valls ("La viticultura catalana," table 3, p. 50) suggest expansion from about 1725. Barba i Roca (*El corregiment i partit de Vilafranca*, p. 75) complained at the end of the eighteenth century that the production of *aguardiente* in Vilafranca was restricted because of the poor road between this town and its nearest port, Vilanueva.

of vines doubled from 60,000 hectares to 120,000 hectares in just 25 years.¹⁹ By the middle 1880s, and with the beginning of the devastation by phylloxera, the four Catalan provinces had around 400,000 hectares of vines.²⁰

Much of the expansion of viticulture occurred in areas of low population density and on marginal land which often had been used as rough pasture or woodland.²¹ The task of land clearing and planting of vines was especially arduous, often requiring more than 250 days of labor per hectare.²² In addition, there was a wait of roughly four years before a respectable harvest was forthcoming. One estimate, which does not include the expenses for land clearing, gives depreciation and interest costs for planting as equivalent to 27 percent of total annual cultivation expenditure over fifty years.²³ This high figure, together with the uncertain annual incomes caused by fluctuating yields and prices, would have imposed a severe obstacle on the spread of the vine if growers had had to resort to capital markets. In traditional viticulture, however, virtually all the planting costs were for manual labor, and most of this could be supplied during those times of the year when the opportunity cost of family labor was low. The *rabassa morta* contracts required the *rabasser* to clear the land and to plant vines within a fixed period (usually between two and ten years), to cultivate the vines in accordance with the customs of the region (*us i costum de bon pagés*), and to hand over the previously agreed share of the annual harvest to the owner.²⁴ The *rabasser's* limited savings and difficulties in obtaining commercial loans were partly offset by the cultivation of subsistence crops between the vines until they came into production. The contracts were originally valid until two-thirds of the vines had died, hence the Catalan name *rabassa morta*, meaning "dead vine." This implied that the contracts would last for several generations, although until at least the mid-nineteenth century the contracts were effectively indefinite, for reasons which will be explained subsequently.²⁵

¹⁹ Estimates of the area under vines are based on Garrabou and Pujol, "El canvi agrari," pp. 80–82; and Ministerio de Fomento, *La invasión filoxérica*, pp. 103–20.

²⁰ Phylloxera was first noted in the province of Gerona in 1878. It initially spread only slowly, in part because the high wine prices encouraged growers to use costly chemicals to delay it. With the sharp drop in wine prices in the late 1880s, the disease spread quickly. See Iglesias, *La crisi agrària*; and Carnero Arbat, *Expansión vitícola*.

²¹ In 1730, for example, two-thirds of all land under vines had previously been uncultivated in Alt Penedès, half in Alt Camp and three-quarters in Bages. Valls, *La dinámica*, table 4.6.

²² The cost of land clearing comes from Garrabou, Pujol, and Colomé, "Estabilidad," p. 47, although they fail to give a source. Tax sources for 1879 give 438 days in San Sadurn d'Anoia and 254 in L'Anoia. Colomé, *L'Especialització vitícola*, p. 324.

²³ IRS, *La "rabassa morta,"* pp. 159–63. Costs are divided almost exactly between plowing (51.5 percent) and labor (48.5 percent). No figures are given for the purchase of manure or vines.

²⁴ Giralt, "El conflicto rabassaire," pp. 56–57.

²⁵ Continuity was guaranteed by the fact that under Catalan inheritance, property passed to a single heir (the *hereu*). Santamaría, *La rabassa morta*, p. xi.

While long-term contracts and the *rabasser*'s ownership of the vines helped to solve the problems of moral hazard, an appropriate division of the harvest was crucial in creating incentives for the *rabasser* to maximize output over the life of the vineyard. Although recent sharecropping literature has argued that the division of the harvest is commonly fixed at an arbitrary fifty-fifty split between the sharecropper and the landowner, such was not the case in Catalonia.²⁶ Catalonian landowners and sharecroppers had considerable flexibility in determining the share of the annual harvest that was payable as rent. As inputs were limited almost totally to land and labor in the pre-phylloxera period, the size of the annual payment depended on the estimated labor requirements needed to plant the vines and the potential fertility of the soil. Because of the heavy use of labor in planting, and the modest yields of traditional agriculture in this region, the initial contracts frequently required the *rabasser* to hand over only a comparatively small share of the harvest, usually between a fifth and a third. As a result, the sharecropper received a significant share of the marginal product of his labor.

Another reason for the success of the *rabassa morta* before the twentieth century was the absence of economies of scale in traditional viticulture. The size of the *rabasser*'s plots were therefore usually small. For example, in Bages *rabassers* worked on average 2.2 hectares, with two-thirds working less than 1.5 hectares, while in San Sadurní d'Anoia (Penedès) two-thirds of the *rabassers* worked less than 2 hectares, and a third between 2 and 5 hectares.²⁷ In Gelida (Baix Llobregat) in 1862, although 96 percent of vines belonged to owners who had more than 5 hectares, 78 percent of all vines were actually farmed in units of less than 5 hectares.²⁸ In Catalan viticulture ploughs were not common before the late nineteenth century (making the need to own work animals unnecessary), only a few hand tools were required (pruning knives, hoes), and until the appearance of new diseases from the 1850s no chemicals were used.²⁹ The scale of production in wine making was also small, and capital requirements consequently limited, allowing most *rabassers* to make their own wine. The size of most fermenting vats (*lagares*) was around 50 hectoliters, which corresponded to a yield of about 3 hectares, the approximate production of a single sharecropper.³⁰ Similarly,

²⁶ Murrell (“Economics”) claims that the 50 percent division served as “a golden rule” of justice. See also Hayami and Otsuka, *Economics*, pp. 78, 80–81; and Otsuka, Chuma, and Hayami, “Land,” pp. 1969 and 1977.

²⁷ Ferrer, *Pageses*, p. 260. Valls (*La dinàmica*, p. 168) gives an average of 2 hectares in L'Anoia for the eighteenth century.

²⁸ Calculated from Colomé, *L'especialització vitícola*, pp. 315 and 550.

²⁹ Junta Consultiva Agronómica, *Avance estadístico*, p. xxxi; and Roig Armengol, *Memoria*, pp. 178 and 179.

³⁰ According to Ferrer (*Pageses*, pp. 162–63), most vats were between 30 and 100 hectoliters in Bages region in 1860, the equivalent to the production of about 1.5 to 6 hectares. Roig Armengol (*Memoria*, p. 215) writing of the same area noted that, “the supply of wine is found in the hands of hundreds of

the large part of commercial production initially devoted to spirits had low capital requirements. Local stills (*olles* and *fassines*) were cheap in construction and required a minimum of skill to operate, although the spirits they produced were of a poor quality.

Although contemporaries were in no doubt of the ubiquity of the *rabassa morta* contracts, it is difficult to determine exactly what percentage of the region's vines were cultivated using them. One rough estimate for the early 1920s suggests that *rabassa morta* contracts covered between one-half and two-thirds of all vines cultivated in the important provinces of Barcelona and Tarragona.³¹ When the *rabassa morta* was not used, vines were either cultivated directly by the landowner using predominantly family members for labor, or were cultivated using another form of sharecropping, the *masoveria*.³² The *masover* was a landowner's agent who lived in the main farmhouse and oversaw operations, particularly that of wine making.³³ However, and in contrast to the *mezzadria* in Tuscany, a major feature of *rabassa morta* prior to phylloxera was the high level of independence that the *rabasser* enjoyed, and the low level of managerial input and monitoring requirements undertaken by landowner or *masover*.³⁴

Despite the fact that landowners and *rabassers* successfully devised a contract which overcame most problems associated with moral hazard, monitoring and incentives, the length of the contract raised a different problem as social and economic conditions of the region and the nature of viticulture itself changed. Three areas of potential conflict can be identified: changes in civil law, movements in relative prices, and the allocation of new costs arising out of changes in taxation or cultivation requirements. We shall examine each in turn.

One difficulty was the interpretation of the length of the contract itself. As we have seen, the traditional *rabassa morta* contracts were supposed to remain in operation until two-thirds of the vines had died. However, unless afflicted by disease all the vines were unlikely to die at once, and it was in

small growers, and those cellars with between a thousand or two thousand hectoliters, are considered as extraordinary."

³¹ IRS, *La "Rabassa Morta,"* map, pp. 19–20. In the villages of Gelida and Los Monjos (Penedès), the figure in 1862 was 73 and 75 percent of vines respectively. Calculated from Colomé, *L'especialització vitícola*, pp. 315, 550, and Arnabat, *La Gert*, pp. 73, 77. In the Bages in 1860, the figure was between 60 and 81 percent. Ferrer, *La vinya*, p. 157.

³² In Gelida in 1862, 65 percent of *rabassers* also worked vines on land that they owned themselves, although this represented only 5 percent of all vines. Colomé, *L'especialització vitícola*, p. 550.

³³ Complaints of opportunistic behavior on the part of the *masover* were frequent, and the landowner tried to solve these by taking special care over choosing candidates and providing renewable, short-term contracts (Aguiló y Cortés, *La tierra labrantia*, pp. 93–95, mentions three years) under especially favorable conditions (thereby raising the cost for the *masover* who was dismissed for shirking or other post contractual opportunistic behavior).

³⁴ As the name suggests, the *rabassa morta* was only associated with vines. Again, in contrast with Tuscany and the *mezzadria*, the mature vines were rarely cultivated with other crops.

neither parties’ interest to see harvests slowly decline because dead or dying plants were not being replaced. Furthermore, the clause that the *rabasser* should follow the “good farming practices” of the region was widely interpreted to imply that they should replant a dead or dying vine by trailing shoots from a neighboring plant. Once the shoot had taken root, it was detached from the mother plant. Therefore, until the disease phylloxera made its appearance in the region in the 1880s the vineyard’s life was often considered indefinite.

Some contemporaries claimed that by allowing sharecroppers to replant, the *rabassa morta* was little different from other contracts found in Spain, such as the *foro* in Galicia, implying that ownership of the *dominium utile* was in the hands of the tenant, who simply had to pay an annual rent (*censo*). The attempts at stricter legal definition of land ownership in the eighteenth century made owners take more seriously the question of the vineyard’s natural life. In 1765 Catalonia’s highest court (Real Audiencia de Cataluña) made the replanting of dead vines illegal, which provoked a reaction by the *rabassers*. However, it was not in the land owners’ interest to receive back a dying vineyard and consequently their angle of attack changed. In 1778 the Real Audiencia de Cataluña declared that replanting could take place, but the life of the vineyard was to be taken as 50 years. In 1793 the Council of Castilla ruled that the life of the vineyard could not be taken as an arbitrary 50 years, and so the question was left open once again.³⁵ The potential problem of land ownership appeared once more, in 1873, when a new law identified the *rabassa morta*, along with other contracts such as the *foro*, as being perpetual and gave the sharecropper the legal right to purchase the land if they so wished. However, the law was quickly revoked, and the new civil code of 1889 considered the length of the contract as being 50 years, unless some other fixed term had been established between the two parties. The rapid destruction of vines by phylloxera would make this new decision irrelevant.

One source of information on how this changing legal framework affected landowners might be found in modifications to the contracts themselves. Yet the legal rulings do not seem to have had an immediate effect. A notary in the Penedès district still drew up some 90 percent of the new contracts by the natural life of the vines in the 1820s, although by the 1850s the figure had fallen to 55 percent, and by the 1880s no contracts had indefinite terms.³⁶ The explanation for this delayed response can be found in the movements in commodity prices compared to labor costs. As Figures 1 and 2 show, condi-

³⁵ Balcells, *El problema agrario*, pp. 41–43.

³⁶ Pares Goncer, “Contratación notarial agraria,” pp. 16–19. An important problem with using written contracts to measure change over time is that they sometimes simply legalized what had been previously an oral contract. See, for example, the criticism of Moreno (*La contractació agrària*, pp. 63–65) of the conclusions reached by Colomé y Valls (“La viticultura catalana,” pp. 51–52).

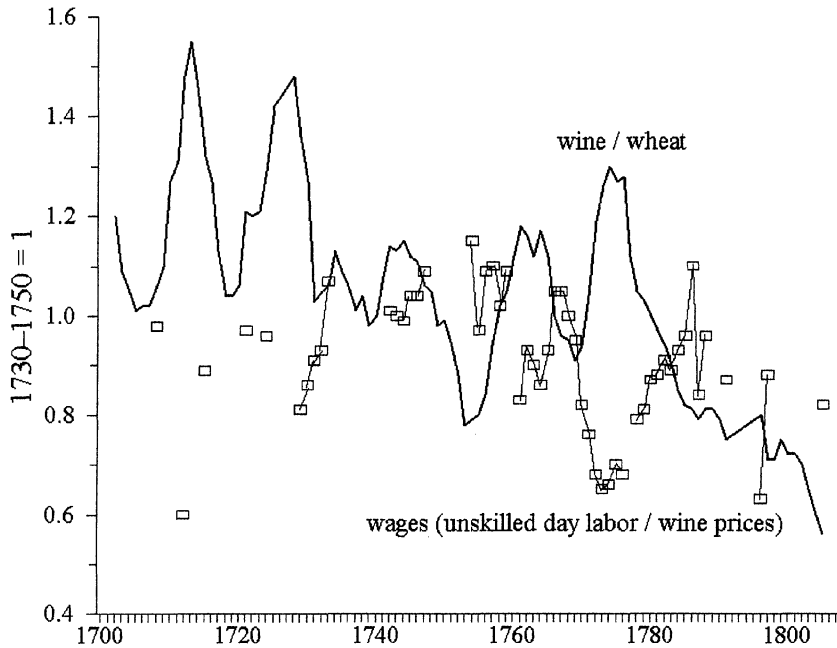


FIGURE 1
TRENDS IN WINE PRICES AND WAGES IN BARCELONA, 1702–1805

Notes: Five-year moving averages have been used (1730–1750 = 1).

Sources: Calculated from Feliu, *Precios*, vol. 1, pp. 42–44, 87–92, and 122–24.

tions for production appear to have been especially favorable during the periods 1690 to 1740 and 1840 to 1885, with the wine-to-wheat ratio moving above the long-term trend.³⁷ By contrast, conditions seem to have worsened at the end of the eighteenth and beginning of the nineteenth centuries. This fact, together with the legal changes outlined above, helps to explain the slow changes in the *rabassa morta* contracts. While the legal disputes of the late eighteenth century might be expected to have encouraged landowners to specify in the contracts an exact number of years, rather than to rely on the vague concept of the death of two-thirds of the vines, the weakness in wine and spirit prices from the late 1810s to the late 1840s made it difficult for owners to attract new sharecroppers.

Second, there was also a small but clear increase in the share of the harvest that new sharecroppers had to pay the landowner during the period 1850

³⁷ It should be noted that information comes from commercial centers and that, especially prior to the railways, many farmers in other areas of Cataluña might have faced a very different set of prices. Furthermore, agricultural wages give only a very rough indication of the opportunity cost of labor, as the use of wage labor was rare outside of the harvest. Information is unavailable for the period from 1805 to 1820.

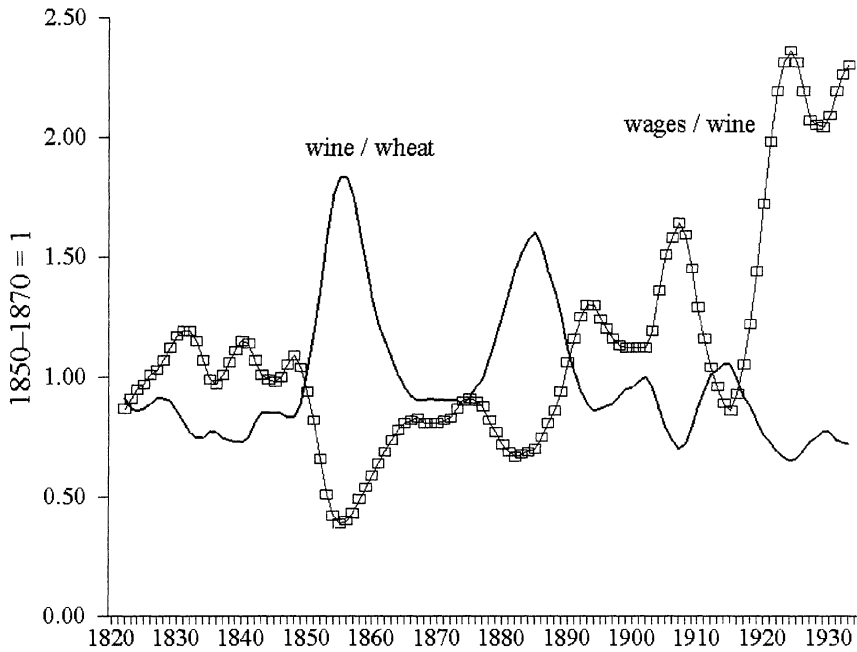


FIGURE 2
TRENDS IN WINE PRICES AND WAGES IN BARCELONA, 1820-1933.

Notes: Five-year moving averages have been used (1850-1870 = 1).

Sources: Calculated from Balcells, *El problema agrario*, pp. 376-79; and Garrabou, Pujol, and Colomé, "Salaris," pp. 40-42 and 46.

to 1885 compared to the period 1800 to 1845, as can be seen in Figure 3. This increase might have been caused either by landlords taking advantage of better wine prices that producers enjoyed after 1850, or by the need of the landlords to offset new costs. One such cost was the first appearance of *oidium* (powdery mildew) in the region in 1852, which required sulphur to be sprayed during most years, and which was assessed as 15 percent of production costs by the tax authorities in 1863.³⁸ Another new cost was the land tax of 1845, which in the Bages and Penedès was considered the landowner's legal responsibility, although the *rabassers* contributed a part to the landowner; in Pla del Llobregat, the situation was reversed.³⁹

While the *rabasser* could end the contract by selling his vines, the landowner could only recover full possession of the land if the *rabasser* failed to comply with the conditions stipulated in the contract. Yet the comparative advantage that Catalan farmers enjoyed in viticulture before the twentieth

³⁸ Giralt, *Història Econòmica*, p. 230.

³⁹ *Ibid.*, pp. 153-54. However, the *rabasser* benefitted from the abolishing of various taxes of the *Ancien Regime*, such as the *tithe* (1841).

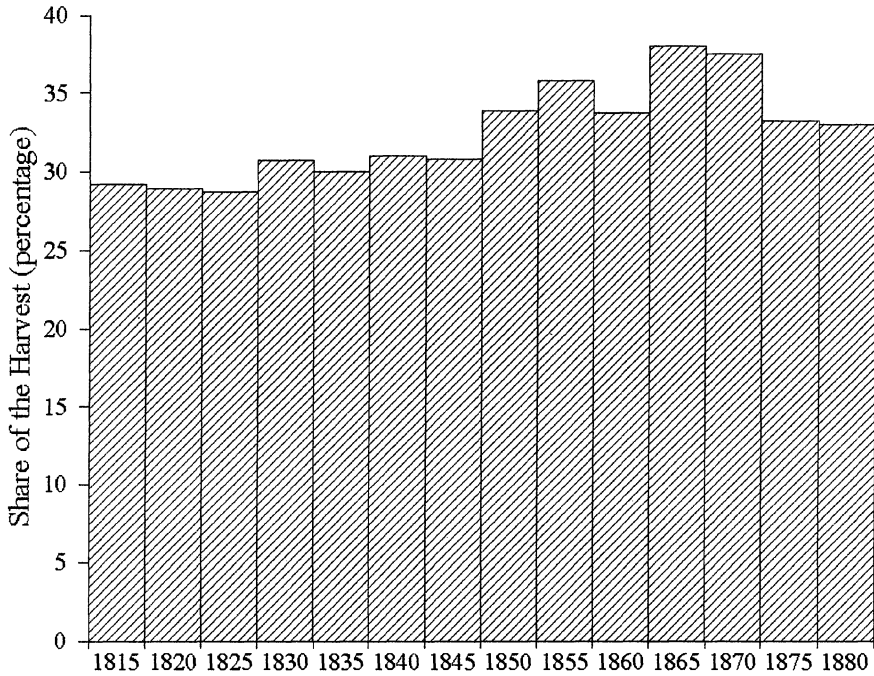


FIGURE 3
TREND IN THE SHARE OF THE HARVEST PAID BY THE "RABASSERS" IN
ALT PENEDEÈS, 1815-1880

Note: Information refers to new contracts signed before a public notary.

Source: Calculated from Colomé, "Les formes d'accès," p. 138.

century implies that this contractual imbalance was rarely a problem for landowners, and there appear to have been few attempts to evict tenants for inefficient cultivation. While legal costs can partly explain the infrequency of litigation, incentives also worked against contractual disputes. At times of high wine prices, such as in the 1870s, both *rabassers'* and landowners' interests coincided in the need to maximize output from the land.⁴⁰ When prices were weak, such as at the end of the nineteenth century, or when the supply of family labor was considered by the *rabasser* as excessive for the area of land, there was an incentive for the *rabasser* to look for part-time employment off the farm. Wage labor was rare in Catalan farming except during harvests, although where landowners worked some of their own land skilled labor was required for such tasks as pruning. Of greater importance were the employment opportunities found in rural industry in regions such as Bages or L'Anoia. For the landlords, a long period of low wine prices made it difficult to find good substitutes if they wanted to replace a share-

⁴⁰ For the question of legal costs, see Santamaria, *La rabassa morta*, p. 123.

cropper. Furthermore, the low opportunity cost of much of the land discouraged switching away from vines and into other crops.

SHARECROPPING AND CONFLICTS, 1890s–1920s

The external shocks that both parties experienced during our first period were mild compared to those that began to strike at the end of the nineteenth century. Wine production in Catalonia fell significantly from the early 1890s because of phylloxera, a disease which would in time destroy virtually all of Europe's vines. The only effective long-term solution to the disease was to uproot dead vines and replant the vineyards with American phylloxera-resistant stock, which were then grafted with European varieties. As French vineyards suffered first, this remedy was already known in Catalonia and the technical problem was therefore limited to one of adaptation; namely, determining which varieties were most suited to local conditions, and instructing growers on the new cultivation techniques required.

A second shock to Catalan viticulture was that wine prices, which had doubled over the fifteen years between 1869 to 1871 and 1884 to 1886 as a result of France's heavy imports to make up the shortfall in its domestic production, started to decline from the late 1880s, just as phylloxera began to devastate Catalonia's own vines. From the early twentieth century the widespread replanting of vines throughout Europe, the increase in output in new wine-producing countries such as Algeria, and a slowing in national and international demand, all contributed to keep wine prices depressed.⁴¹

In Catalonia, three problems had now to be overcome simultaneously: the replanting of the dead or dying vines; the need to adapt to lower wine prices; and, peculiar to this region, the need for landowners to decide whether to renegotiate contracts with their sharecroppers as phylloxera, which had destroyed the vines, automatically brought thousands of *rabassa morta* contracts to an end. In Barcelona, the province where the *rabassa morta* had its greatest importance, the area under vines fell from 132,000 hectares in 1889 to less than 36,000 in 1898, before replanting allowed a recovery to 115,000 hectares by 1906, a figure which was maintained until the Spanish Civil War.⁴² In general, however, most landowners continued to offer sharecropping contracts after phylloxera rather than resorting to direct cultivation. This persistence was despite the fact that in France's Midi technological change was reducing monitoring costs, allowing an increase in the scale of

⁴¹ For the wine market, see especially Lachiver, *Vins*, chap. 8; Loubère, *Wine Revolution*, chaps. 1 and 3; and Pech, *Entreprise viticole*.

⁴² By 1935 the figure was 121,000 hectares. The pre-phylloxera figure is given in Ministerio de Fomento, *La invasión filoxérica*, p. 106; and the journal, *Los vinos y los aceites*, 1891, pp. 278–79. Post-phylloxera figures are from Grupo de Estudios de Historia Rural, *Estadísticas Históricas*, p. 278.

viticulture and the use of wage labor.⁴³ Furthermore, while sharecropping had been considered as the key to the initial expansion of viticulture and the regional prosperity prior to phylloxera, it was now often seen as a major source of conflict.⁴⁴ The rest of this article considers the persistence of the *rabassa morta* despite these unfavorable circumstances.

One possibility is that new sharecropping contracts were signed in this period not because sharecropping was still considered to be an efficient form of contract, but rather as a compromise, because neither party could rid themselves of the other. If that were the case, even if landowners had preferred direct cultivation using wage labor, the cost of establishing, hectare by hectare, legal rights to the land and evicting the *rabassers* may have been considered excessive. Likewise, although the *rabassers* may have believed that the land belonged to them both morally and legally after they had cultivated it for so long, they realized that it would be difficult and expensive to have this fact established by a court of law. The continuance of the *rabassa morta* as a compromise therefore might suggest path dependence: an institution which came to be considered suboptimal was continued because establishing an alternative would have involved excessive transaction costs.

A path-dependence hypothesis is difficult to test in this case, but the evidence does not suggest that sharecropping continued because of any “institutional inertia.” Rather, the *rabassa morta* appears still to have suited both the landowners and *rabassers*. Replanting took place in Catalonia under conditions that were different from those in France’s Midi where, as Figure 4 shows for the *département* of Hérault, most replanting took place when wine prices were still high. As Gilles Postel-Vinay has shown, the availability of bank loans encouraged this replanting, especially for large estates.⁴⁵ Therefore if growers in Barcelona benefitted from the scientific advances achieved in southern France in the fight against phylloxera—because the disease had devastated the vines earlier there—they suffered in turn because their own replanting occurred after prices had collapsed, as can be seen in Figure 5. Little is known of Catalonia’s credit markets at this time, but banks are likely to have been wary in lending excessively to replant the region’s vines against a background of falling prices, especially after the 1891 commercial treaty limited Spain’s export possibilities with France. A limited

⁴³ The evidence of a switch to direct cultivation in Catalonia is rare. An exception was Raventós, who increased the area cultivated after phylloxera to 100 hectares in 1907, employing 36 full time workers, with a further 260 at the harvest. Raventós, *La Verema*, p. 61.

⁴⁴ The Instituto de Reformas Sociales (IRS) was given the task of investigating these conflicts, and reported in 1923.

⁴⁵ Postel-Vinay, “Debt,” pp. 162–72. Replanting in the Midi took place on the deeper, fertile soils of the plains rather than the stony soils of the hills. According to Planhol, the move to the plains required the draining of marshes, which “could only be tackled by large-scale landowners or limited companies with sufficient funds for the organization of drainage and irrigation.” Planhol, *Historical Geography*, p. 350.

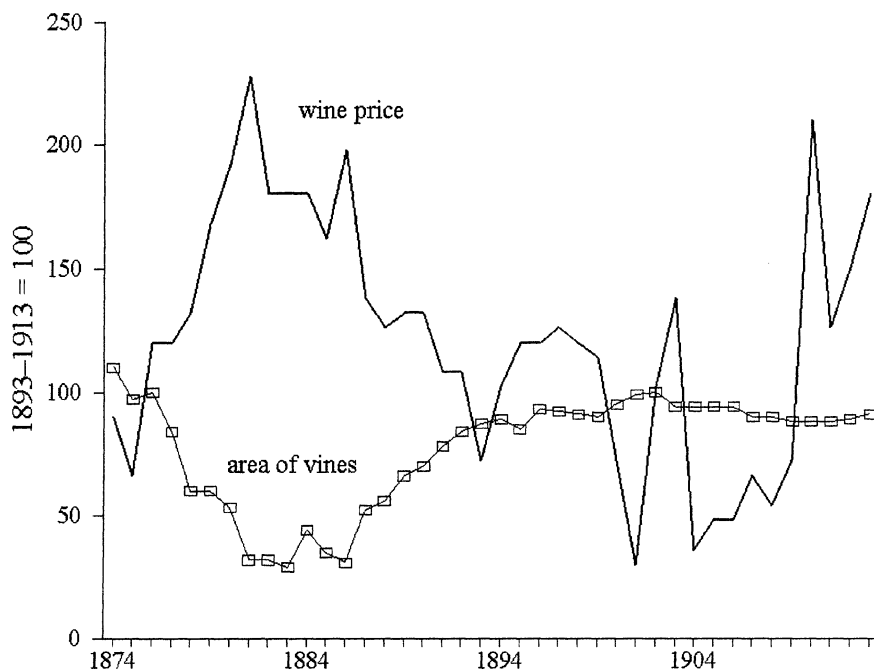


FIGURE 4
WINE PRICE AND AREA OF VINES IN HERAULT, 1874-1913

Notes: Area of pre-phyloxera vines is estimated as 200,000 hectares.
Sources: Pech, *Entreprise viticole*, pp. 499-500 and 519-20.

credit market would help to explain why landowners continued to use share cropping to help offset the costly investments needed for clearing the land of the old vines and planting new ones. Likewise, farmers saw new sharecropping contracts as the best way of both replacing the capital that they had lost with phyloxera and of sharing the greater risks associated with the new vines. In keeping with this interpretation, the evidence does not suggest that landlords seriously contemplated alternatives, or that sharecroppers were unhappy with renewing contracts, at least in the initial period after phyloxera.⁴⁶

While sharecropping contracts continued to be used, legal changes altered agreements somewhat in this period. The 1889 civil code encouraged landowners to use another sharecropping contract (*arrendamiento a partes de frutos*), rather than the traditional *rabassa morta*, because the conditions for

⁴⁶ For example, in the 1890s the landowner's journal *Revista del Instituto Agrícola Catalán de San Isidro* dedicated very few articles to the problems associated with contracts, but numerous ones on replanting techniques, problems of grafting, and so on. This was also the case in the congresses held in San Sadurn d'Anoia (1898) and Reus (1899). Likewise, during the difficult interwar years, *rabassers* in the important wine producing region of the Penedès spoke highly of the traditional *rabassa morta* contracts. IRS, *La "rabassa morta,"* p. 29.

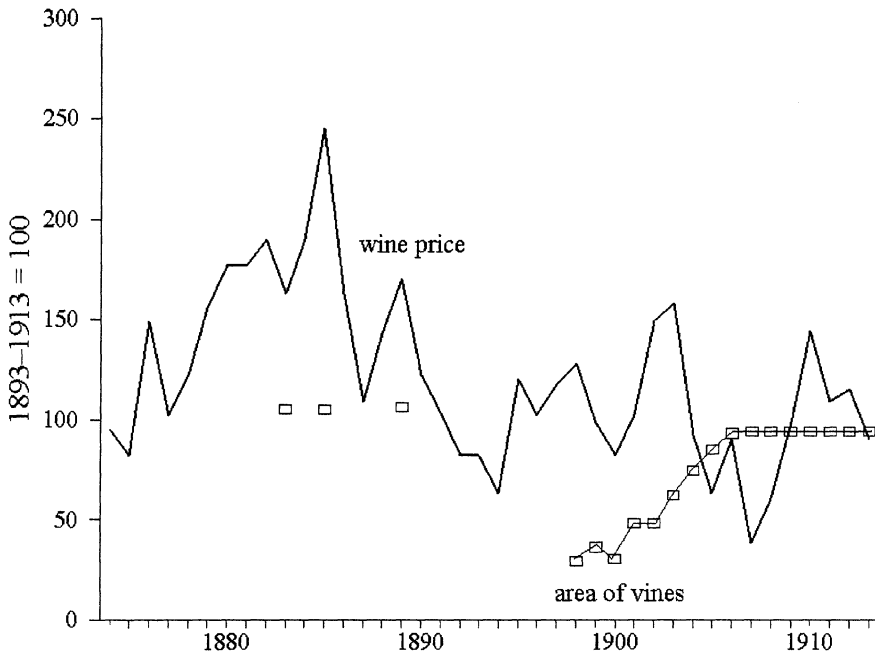


FIGURE 5
WINE PRICES AND AREA OF VINES IN BARCELONA, 1874-1913

Notes: Area of pre-phyloxera vines taken as 100 (estimated as 130,000 hectares).

Sources: Balcells, *El problema agrario*, pp. 376-78; and Simpson, *Agricultural Growth*, pp. 368-69.

eviction of tenants in breach of contract were considered easier. For all intents and purposes however, the contracts remained the same except in name, and indeed most contemporaries still referred to the new contracts as “*rabassa morta*.” The vines were usually planted by the sharecropper, eviction could only take place when some term of the contract had been broken, compensation had to be paid unless the tenant was evicted, and the sharecropper remained the legal owner of the vines that he had planted.⁴⁷ Whereas it is true that many of the new contracts were now shorter, their duration was still usually longer than the life of the post-phyloxera vines, thereby preserving the spirit of the “*rabassa morta*.”⁴⁸

⁴⁷ As we shall see, a number of landowners would thereafter plant vines themselves, in which cases the sharecropper was not the owner. For a description of compensation in these circumstances, see IRS, *La “Rabassa Morta,”* pp. 42, 89-90, 112, 192. The evidence that these legal changes did not change significantly the nature of the contract is to be found in Carmona and Simpson, “A vueltas con la cuestión agraria catalana.”

⁴⁸ Thereafter, average contracts were for 30 to 50 years. The life of the post-phyloxera vines was only 20 to 25 years, against 50 or 60 years for the pre-phyloxera vines. Balcells, *El problema agrario*, pp. 68-69. An additional problem was that neither landowner nor sharecropper knew how long the new vines would live.

The problems associated with sharecropping in Catalonia after 1889 were not caused by the changes in the civil code. They resulted from a marked increase in the incentives for postcontractual opportunistic behavior on the part of the tenant. We shall consider two reasons why this took place, namely, changes in the nature of viticulture, and movements in relative prices.

As we have seen, traditional viticulture depended primarily on two inputs, land and labor. With the *rabassa morta*, the sharecropper provided the labor and the landlord the land, with the harvest divided between the two to reflect a valuation of their respective contributions. The vines were the property of the *rabasser*. Phylloxera therefore destroyed both the *rabasser's* capital and his future income. By the late nineteenth century technology was beginning to provide an alternative to some of the heavy inputs of labor in the tasks associated with replanting. Specialized machinery now existed which could remove the dead plants, and ploughs (*vernette*) drawn by winches worked the soil to a depth of half a meter to prepare the land for replanting. Although there appears to have been a growth in the presence of deep ploughs in Catalonia as vineyards were being replanted, one observer noted that "most of the land is worked by sharecroppers whose only capital is their labor and yet, without instruments to cultivate deeply, they are capable of creating a vineyard with american vines." Deeper plowing, however, was considered essential if vine yields were to be increased significantly.⁴⁹ Therefore, growers who replanted using labor-intensive systems suffered lower yields than those who had the capital to rent the new machinery. Vines now also had to be purchased from nurseries rather than taken from a neighboring plant. Finally, the post-phylloxera vines were much more susceptible to disease, requiring expenditure on chemicals, especially sulphur for *oidium* and cooper salts, or "Bordeaux mixture" for mildew. As Table 1 indicates, by the 1920s chemicals and their spraying represented almost a fifth (18.28 percent) of annual cultivation costs.

Thus at the precise moment when the sharecropper's capital was destroyed by disease, he was required to make significant new investments if the contract was to be renewed under the same terms as those that he had enjoyed prior to phylloxera. Many sharecroppers did not have sufficient resources, so instead part or all of the investment was provided by the landlord. Furthermore, the choice of suitable vine stock was complicated, and some landlords found themselves drawn into a more active management of the vineyard than they had been accustomed to in the past. As a result, some landowners planted the new vineyards themselves using hired machinery,

⁴⁹ Rovira, in *Congreso Vitícola de Reus*, p. 27. Rovira makes an interesting comparison between high yields and "intensive" viticulture, and low yields and less intensive viticulture which, he implies, was the model followed by most sharecroppers. As we show elsewhere (Simpson, "Cooperation"), the "high intensive" viticulture in southern France was the technological path chosen by many growers.

TABLE I
CULTIVATION COSTS IN CATALONIA (TARRAGONA)

Expenses	Annual Cultivation Costs					
	Pre-Phylloxera		1900		1921	
	Pesetas	Percentage	Pesetas	Percentage	Pesetas	Percentage
Land	36.5	21.4	65.0	15.8	75.0	10.7
Planting costs (interest and depreciation)	44.0	25.8	112.2	27.3	183.9	26.1
Ploughing and hoeing	61.5	36.1	118.0	28.8	214.9	30.5
Pruning	7.5	4.4	19.5	4.8	41.0	5.8
Chemicals	0.0	0.0	60.0	14.6	128.7	18.3
Harvesting and transport	13.8	8.1	26.5	6.5	46.0	6.5
Taxes	7.3	4.3	9.0	2.2	14.6	2.1
Total	170.5	100.0	410.2	100.0	704.2	100.0

Source: Instituto de Reformas Sociales, *La Rabassa Morta*, pp. 161–74.

and then leased them on long-term contracts to the sharecropper.⁵⁰ In these cases, not only did sharecroppers lose ownership of the vines, but they were required to pass on a higher percentage of the harvest to the landowner. Even if it was the sharecropper who planted, and thus maintained the vines as his property, a higher share of the harvest was required by the landowner for his contribution to the cost of chemicals and fertilizers.⁵¹ Both the loss of ownership of the vines, and a smaller share of the harvest, reduced incentives for the sharecropper.

A second problem was the movement of relative prices. Although information is limited, it appears that the indefinite nature of the original *rabassa morta* contracts did not create major problems before the late 1880s (Figures 1 and 2). Although there were important short-term movements in the relative wine-to-wheat price ratio, and wages-to-wine ratio, these were not sufficient to encourage a radical reassessment of the contract by either landlords or sharecroppers. By contrast, between 1890 and 1930 wine prices fell both with respect to bread prices, and in particular with respect to wage costs (Figure 2).⁵² Even as replanting was taking place, the return on unit labor inputs in viticulture declined steeply compared to what could be earned by unskilled wage labor, whether in agriculture or industry. Given the close

⁵⁰ However, in these cases the sharecropper usually had to buy the vines that had been planted by the owner. See, for example, Instituto Agrícola Catalán de San Isidro, *La "rabassa morta,"* pp. 43–44, 82–83.

⁵¹ In 1923 it was noted that when the landowner provided just the land the sharecropper received two-thirds of the harvest, much as before; when chemicals were also provided by the landowner, the share fell to 60 percent; finally, if the landowner also planted the vines, then the harvest was split between the two equally. IRS, *La "rabassa morta,"* pp. 19, 93–102 and 173. As Spanish law prohibits access to notary records until a hundred years has elapsed, it is impossible to examine this point more closely.

⁵² The opportunity cost is difficult to measure, but most land which was not replanted with vines after phylloxera was abandoned to rough pasture, or on occasions to extensive cereals or olives. See, for example, Ministerio de Fomento, *La invasión filoxérica.*

TABLE 2
WINE PRODUCTION PER HECTARE

Years	Wine Yields (hectoliters per hectare)	Wine Prices (pesetas per carga)	Output per Hectare (pesetas)
1876-1880	18.0	28.1	417
1881-1885	18.0	41.1	611
1886-1890	17.5	32.6	473
1891-1895		21.0	
1896-1900		22.4	
1901-1905	26.7	21.3	471
1906-1910	16.7	15.9	210
1911-1915	20.2	26.9	384
1916-1920	41.9	21.6	735
1921-1925	33.9	14.3	402
1926-1930	27.8	18.2	426
1931-1935	23.8	15.1	300

Sources: Yields are from Simpson, *Agricultural Growth*, pp. 368-369; yields between 1876 and 1888 assumed on 18 hectolitres. Prices are from Balcells, *El problema agrario*, pp. 377-378, deflated by Maluquer de Motes, "Precios," tables 12.11, 12.12, and 12.16.

proximity of the rapidly growing and prosperous industrial city of Barcelona, which saw its population jump from around 270,000 in 1887 to 1,006,000 in 1930, it is not surprising that sharecroppers felt that their living standards were slipping compared to other groups of workers.

The loss of ownership of the vines for some sharecroppers, a reduced share of the harvest for others, and the increase in the opportunity cost of sharecroppers' labor, all imply that the incentives for postcontractual opportunistic behavior increased significantly. Landlords seem to have perceived this problem, and thus to identify with greater clarity in the contracts how sharecroppers were required to cultivate the vines, suggesting an important increase in monitoring costs if the vines were to be cultivated according to the "*us i costum de bon pagés*." Yet the sharecropper's loss was not necessarily the landowner's gain. Higher vine yields and the larger share of the harvest that landowners enjoyed were not sufficient to offset the combination of higher production costs and weaker wine prices, with Table 2 showing a decline of 16 percent in output between the periods 1876 to 1890 and 1901 to 1935. Both landowners and sharecroppers therefore found cause for complaint, and as we shall see this provided the background for first a decline in social capital and then open conflict between the two groups.

Another problem facing both landowners and sharecroppers by the early twentieth century was that the rising cost of labor and declining wine prices in real terms everywhere were leading to greater competition between producers. Whereas in Catalonia production remained essentially based on the family farm, in other regions, such as France's Midi, there was an increase

in the size of vineyards, with those of more than 40 hectares (producing over 2,000 hectoliters of wine) accounting for 48 percent of the harvest by 1897 to 1902.⁵³ With greater scale came a significant increase in investment per hectare so that, although the area under vines in the Midi was close in the late 1920s to what it had been in the early 1870s, yields had increased by two-thirds.⁵⁴ To work larger vineyards growers in the Midi reduced significantly the monitoring problems in the use of wage labor outlined earlier. In part this was achieved through changes in technology. Vines were increasingly hung from trellises in long lines to facilitate the use of ploughs between the lines. As supervisors could easily walk between the rows to check an individual's work, they achieved greater control over the speed and the quality of operations such as pruning, spraying, cultivation, and harvesting.⁵⁵ Trellises were not generally used in Catalonia, in part because the density of vines per hectare was less than in the Midi. The phylloxera devastation, however, allowed a more rational planting in Catalonia too, which facilitated the greater use of ploughs and fewer problems in carrying out, and in theory of monitoring, other operations.

The real difference between these two regions would seem to lie elsewhere. In the Midi the increase in importance of large estates of over 40 hectares was accompanied by a similar increase of those of less than 10 hectares. Skilled labor was required on the large estates, especially for pruning, and this was initially obtained from the locally resident smallholders. Patronage appears to have played an important role, with the large owners lending equipment and the use of their wineries to small vintners in return for labor services on their estates after phylloxera.⁵⁶ In this case the demand for skilled labor on the estates and the excess supply on the small farms reinforced each other. Monitoring costs were kept low both by the greater ease in measuring work quality and by the fact that small growers were interested in being recruited from one year to the next for seasonal work. Improved monitoring increasingly allowed labor to be recruited from outside the village, including from Spain.⁵⁷ Laura Frader notes the appearance of gang labor (*colles*), which consisted of 10 to 15 skilled vinedressers who contracted for employment, which had the advantage that both organization and monitoring was effectively subcontracted.⁵⁸ Behind this success in the Midi in controlling monitoring costs was the ability of large producers to

⁵³ Between 1871/72 and 1927–1929 yields in the Midi increased from 37 hectoliters to 61 hectoliters. Pech, *Entreprise viticole*, pp. 142, 149. By contrast, in Barcelona yields rose by a half, from 18 hectoliters to 27 hectoliters. See Table 2.

⁵⁴ Yields refer to 1871/72 and 1927–1929. Pech, *Entreprise viticole*, pp. 496–98.

⁵⁵ Guyot, *Tratado*, p. 19. The importance of this was emphasized to us by Ann Carlos.

⁵⁶ Frader, *Peasants*, p. 36.

⁵⁷ Smith, "Work Routine," p. 371.

⁵⁸ Frader, *Peasants*, pp. 75, 92.

identify their own economic problems with those of the whole region, making it easier to search for political solutions, a feature which was in direct contrast to that in Catalonia.

The increasing share of the harvest that sharecroppers in Catalonia now had to give to the landowner, and the growing opportunity cost of their labor, reduced the incentive to work the vines carefully. The interwar years were marked by both rapid industrialization and growing nationalism in Catalan society, and it was this combination which helped turn what was essentially an economic problem of low wine prices into a political one of landownership. In complete contrast with France’s Midi, where the problems of low wine prices in the early 1900s helped cement the interests of the large estate owners (*propriétaires*) with the small growers (*cultivateurs*), and led to the founding of a pressure group for the sector, the Confédération Générale Des Vignerons du Midi, in Catalonia low prices divided landowners and sharecroppers into two conflicting political groups.⁵⁹ Catalan landowners, through organizations such as the Federación Agrícola Catalana-Balear or the Instituto Agrícola Catalán de San Isidro, lobbied the government for reduced land taxes or a fiscal solution to low wine prices, while their congresses limited themselves to discussion of the technical problems related to the planting of the new American vines. By contrast, whereas the legal claims of most sharecroppers to full ownership of the land which they worked were weak, the growing conflicts within Catalan society encouraged the *rabassers* to look for a distributional solution (namely full ownership), rather than a sectorial one (incentives to limit wine fraud, reduced taxation, and so on, as was the case with small growers in France).⁶⁰ This polarization of Catalan society inevitably had important consequences for the efficiency of sharecropping and greatly encouraged opportunistic behavior on the part of the sharecropper.

Ideally, we should measure the efficiency of the *rabassa morta* by comparing productivity of vineyards using the contract with those using wage labor in the same region. Although this is not possible in Catalonia, the circumstantial evidence does suggest that the large farms of the Midi (or those of La Mancha and Algeria) were better able to cope with the low wine prices of the interwar period than small sharecropping farms in Catalonia.⁶¹ Crucially, growers in the Midi appear to have been more successful than

⁵⁹ For the Midi see especially Smith, “Work Routine” and “Agricultural Workers.”

⁶⁰ The Unió de Rabassaires de Catalunya’s program in 1923 contained no point which was not related to redistribution of power or income to them from the landlord. Quoted in Balcells, *El problema agrario*, pp. 383–84. The only area where landowners and sharecroppers joined forces was in a few wine cooperatives, and even then several localities ended up having *two* cooperatives, one for the landowners and one for sharecroppers.

⁶¹ For Algeria, see Galtier, *Le vignoble*, vol. 3, pp. 112–218; for La Mancha, see Simpson, *Spanish Agriculture*, p. 210.

their counterparts in Catalonia, both in increasing yields through the use of more and better inputs, while at the same time overcoming the traditional problems associated with monitoring. Contemporaries themselves were well aware of how by the twentieth century sharecropping had become a source of friction in the region. Whereas previously the contract had allowed a successful partnership between landowner and *rabasser*, the changing nature of viticulture and the economic, social, and political changes associated with a rapidly developing industrial economy now encouraged conflicts.

CONCLUSION

In this article we have argued that for over two centuries the *rabassa morta* contract successfully balanced the need to provide incentives to the sharecropper, with that of allowing the landowner to participate in the fluctuating fortunes of the local wine economy. With the development of a more capital intensive viticulture in the early twentieth century, which increasingly provided opportunities to achieve economies of scale, and with the more demanding nature of planting new vines after phylloxera, these favorable conditions were eroded. The share of the harvest that growers received declined, which reduced their incentives in the cultivation of the vine. At the same time, wine prices fell in real terms and real wages soared, which increased the opportunity cost of sharecroppers' labor. By the period 1930 to 1934 wages of an unskilled agricultural male laborer in the Penedès were the equivalent of four times the quantity of wine that he would have earned in the period 1880 to 1884; yields, by contrast, had increased by only a half, and the area under vines per *rabasser* seems to have remained unchanged.⁶² But the weakness of wine prices and rising real wages were not the only causes of the increasing conflicts between sharecroppers and landowners. Wider changes in Spanish society, and particularly that of Catalonia, led to a radicalization of politics and the claim by sharecroppers for full ownership of the land. In such a climate the level of social capital (trust) declined significantly, increasing problems of monitoring and moral hazard for the owner. Sharecropping was no longer considered as an efficient contract, but rather as exploitative and unjust by the *rabassers* and their political allies.

We conclude that although sharecropping in traditional agriculture can be surprisingly resilient, the changes that take place with modernization of agriculture are likely to shift rapidly the rewards to one party, at the cost of the other. In particular, the growing opportunity cost of the sharecropper's labor in the face of rapid urbanization implies that unless contracts can be frequently renegotiated, there will be a significant increase in postcontractual opportunistic behavior and, hence, criticism of the unjust nature of the contract.

⁶² Sources are the same as Figure 2 and Table 2.

REFERENCES

- Aguiló y Cortés, Isidoro. *La tierra labrantía y el trabajo agrícola en la provincia de Barcelona*. Madrid, 1897.
- Arnabat, Ramón. *La Gert i el seu temps*. Vilafranca: Ajuntament de Santa Margarida i els Monjos, 1993.
- Balcells, Albert. *El problema agrario en Cataluña. La Cuestión Rabassaire (1890–1936)*. Madrid: MAPA, 1980.
- Barba i Roca, M. *El corregiment i partit de Vilafranca de Penedès a l'últim terç del segle 18. Respostes al Qüestionari de Francisco de Zamora*. Vilafranca de Penedès, 1991
- Bardhan, Pranab. *Land, Labor, and Rural Poverty. Essays in Development Economics*. New York: Columbia University Press, 1984.
- Busby, James. *Journal of a Recent Visit to the Principal Vineyards of Spain and France*. Sydney, 1833.
- Carnero Arbat, Teresa. *Expansión vinícola y atraso agrario, 1870–1900*. Madrid: MAPA, 1980.
- Carmona, Juan, and James Simpson. "A vueltas con la cuestión agraria catalana: el contrato de rabassa morta y los cambios en la viticultura, 1890–1929." *Recerques*, forthcoming.
- Cheung, Steven N. S. *The Theory of Share Tenancy*. Chicago: University of Chicago Press, 1969.
- Cohen, Jon, and Francesco Galassi. "Sharecropping and Productivity: 'Feudal Residues' in Italian Agriculture, 1911." *Economic History Review* 43, no. 4 (1990): 646–56.
- Colomé, Josep. "Les formes d'accés a la terra a la comarca del l'Alt Penedès el segle 19: el contracte de rabassa morta i l'expansió vitícola." *Estudis d'Història Agrària* no. 8 (1990): 123–44.
- _____. "L'especialització vitícola a la Catalunya del segle 19. La comarca del Penedès." Ph.D. diss., Universidad de Barcelona, 1997.
- Colomé, Josep, and Francesc Valls. "La viticultura catalana durant la primera meitat del segle 19. Notes per una reflexió." *Recerques* no. 30 (1994): 47–68.
- Congreso Vitícola de Reus. *Crónica*. Reus, 1899.
- Congreso Vitícola de San Sadurn de Noya. *Acta informada de la sesión celebrada en 19 de mayo de 1898*. Barcelona, 1898.
- Désert, Gabriel. "Bilan économique à la veille de la Première Guerre mondiale." In *Histoire de la France rurale*, edited by Georges Duby and Armand Wallon, vol. 3, 429–443. Paris: Editions du Seuil, 1976.
- Faith, Nicholas. *Château Margaux*. London: Mitchell Beazley, 1988.
- Feliu, Gaspar. *Precios y salarios en la Cataluña moderna*. 2 vols. Madrid: Banco de España, 1991.
- Ferrer, Llorenç. *Pageses, rabassaires i industrials a la Catalunya Central (segles 18–19)*. Barcelona: Publicacions de l'Abadia de Montserrat, 1987.
- _____. *La vinya al Bages. Mil anys d'elaboració de vi*. Manresa: Centre d'Estudis del Bages, 1998.
- Frader, Laura. *Peasants and Protest: Agricultural Workers, Politics, and Unions in the Aude, 1850–1914*. Berkeley: University of California Press, 1991.
- Galassi, Francesco. "Tuscans and Their Farms: the Economics of Share Tenancy in Fifteenth Century Florence." *Rivista di storia economica* 9, no. 1–2 (1992): 77–94.
- Galtier, Gaston. *Le Vignoble du Languedoc méditerranéen et du Roussillon*. 3 vols. Paris: Université de Paris, 1958.
- Garrabou, Ramón, and Josep Pujol. "El canvi agrari a la Catalunya del segle 19." *Recerques* no. 19 (1987): 35–83.
- Garrabou, Ramón, Josep Pujol, and Josep Colomé. "Salaris, us i explotació de la força de treball agrícola (Catalunya 1818–1936)." *Recerques*, no. 24 (1991): 23–51.
- _____. "Estabilidad y cambio de la explotación campesina (Cataluña, siglos 19–20)." In

- Propiedad y explotación campesina en la España contemporánea*, edited by Ramón Garrabou, 15–92. Madrid: MAPA, 1992.
- Giralt, Emili. “El conflicto rabassaire y la cuestión social agraria en Cataluña hasta 1936.” *Revista del Trabajo*, no. 7 (1964): 51–72.
- _____. *Història Econòmica de la Catalunya Contemporània*, vol. 2. Barcelona: Enciclopèdia Catalana, 1990.
- Grupo de Estudios de Historia Rural. *Estadísticas Históricas de la Producción Agraria Española, 1859–1935*, Madrid: MAPA, 1991.
- Guyot, Julio. *Tratado del cultivo de la vid y vinificación*, Madrid and Barcelona, 1881. Spanish translation of 1860 French edition.
- Hart, Oliver, and John Moore. “Property Rights and the Nature of the Firm.” *Journal of Political Economy* 98, no. 6 (1990): 1119–58.
- Hayami, Yujiro. *Development Economics. From the Poverty to the Wealth of Nations*. Oxford: Clarendon Press, 1997.
- Hayami, Yujiro, and Keiji Otsuka. *The Economics of Contract Choice. An Agrarian Perspective*. Oxford: Clarendon Press, 1993.
- Hoffman, Philip. “The Economic Theory of Sharecropping in Early Modern France.” this JOURNAL 42, no. 1 (1984): 155–62.
- Holmstrom, Bengt, and Paul Milgrom. “Multitask Principal-agent Analyses: Incentive Contracts, Asset Ownership, and Job Design.” *Journal of Law, Economics, & Organization* 7, special issue (1991): 24–52.
- Iglésies, Josep. *La crisi agrària de 1879–1900*. Barcelona: Ediciones 62, 1968.
- Instituto Agrícola Catalán de San Isidro. *La rabassa morta: Informe al Instituto de Reformas Sociales y memoria*. Barcelona, 1923.
- Instituto de Reformas Sociales. *La “rabassa morta” y su reforma*. Madrid, 1923.
- Junta Consultiva Agronómica. Dirección General de Agricultura, Industria y Comercio. *Avance estadístico sobre el cultivo y producción de la vid en España formado por la Junta Consultiva Agronómica, 1889*. Madrid, 1891.
- Klein, Benjamin, Robert Crawford, and Armen Alchian. “Vertical Integration, Appropriate Rents, and the Competitive Contracting Process.” *Journal of Law and Economics* 21 no. 2 (1978): 297–326.
- Lachiver, Marcel. *Vins, vignes et vigneronns. Histoire du vignoble français*. Paris: Fayard, 1988.
- Loubère, Leo A. *The Wine Revolution in France. The Twentieth Century*. Princeton, NJ: Princeton University Press, 1990.
- Maluquer de Motes, Jordi. “Precios, salarios y beneficios.” In *Estadísticas históricas de España siglos 19–20*, edited by Albert Carreras, pp. 495–532. Barcelona: Fundación Banco Exterior, 1989.
- Ministerio de Fomento. Dirección General de Agricultura, Minas y Montes. *La invasión filoxérica en España y estado en 1909 de la reconstitución del viñedo. Resumen hecho por la Junta Consultiva Agronómica de las Memorias remitidas por los ingenieros del Servicio Agronómico Provincial*. Madrid, 1911.
- Moreno, Belén. *La contractació agrària a l’Alt Penedès durant el segle 18*. Barcelona: Fundació Noguera, 1995.
- Murrell, Peter. “The Economics of Sharing: A Transaction Cost Analysis of Contractual Choice in Farming.” *Bell Journal of Economics* 14, no. 1 (1983): 283–93.
- Nye, John. “The Myth of Free-Trade Britain and Fortress France: Tariffs and Trade in the Nineteenth Century.” this JOURNAL 51, no. 1 (1991): 23–46.
- Otsuka, Keiji, Hiroyuki Chuma, and Yujiro Hayami. “Land and Labor Contracts in Agrarian Economies: Theories and Facts.” *Journal of Economic Literature* 30, no. 4 (1992): 1965–2018.
- Pan-Montojo, Juan, and James Simpson. *El comercio internacional de vinos, 1850–1939*.

- Unpublished manuscript.
- Parés Goncer, Sebastia. "Contratación notarial agraria en el Alto Panadés durante el siglo 19." *La Notaría* (1944): 16–21.
- Pech, Rémy. *Entreprise viticole et capitalisme en Languedoc-Roussillon. Du phylloxéra aux crises de mévente*. Toulouse: Presses de l'Université de Toulouse, 1975.
- Planhol, Xavier de. *An Historical Geography of France*. Cambridge: Cambridge University Press, 1994.
- Postel-Vinay, Gilles. "Debt and Agricultural Performance in the Languedocian Vineyard, 1870–1914." *Research in Economic History* suppl. 5 (1989): 161–86.
- Raventós, Manuel. *La Verema*. Barcelona, 1911.
- Reid, Joseph. "Sharecropping as an Understandable Market Response: The Post-Bellum South." this JOURNAL 33, no. 1 (1973): 106–30.
- Roig Armengol, Rafael. *Memoria acompañatoria al Mapa Regional Vinícola de la provincia de Barcelona*. Barcelona, 1890.
- Santamaría, Victorino. *La rabassa morta y el desahucio aplicado a la misma*. Barcelona, 1878.
- Simpson, James. "Agricultural Growth and Technological Change: the Olive and Wine in Spain, 1860–1936." Ph.D. diss., University of London, 1985.
- _____. *Spanish Agriculture. The Long Siesta, 1765–1965*. Cambridge: Cambridge University Press, 1995.
- _____. "Cooperation and Cooperatives in Southern Europe: The Nature of Successful Institutional Change, 1880–1950." Documento de Trabajo, Universidad Carlos III de Madrid, Madrid, 1999.
- Smith, Harvey. "Work Routine and Social Structure in a French Village: Cruzy, Hérault, in the Nineteenth Century." *Journal of Interdisciplinary History* 5, no. 3 (1975): 357–82.
- _____. "Agricultural Workers and the French Wine-growers' Revolt of 1907." *Past and Present* 79, May (1978): 101–25.
- Unwin, Tim. *Wine and the Vine. An Historical Geography of Viticulture and the Wine Trade*. London and New York: Routledge, 1991.
- Valls, Francesc. *La dinámica del canvi agrari a la Catalunya del interior. L'Anoia, 1720–1860*, Barcelona: Abadía de Montserrat, 1996.
- Zamagni, Vera. *The Economic History of Italy 1860–1990*. Oxford: Clarendon Press, 1993.

LINKED CITATIONS

- Page 1 of 3 -



You have printed the following article:

The "Rabassa Morta" in Catalan Viticulture: The Rise and Decline of a Long-Term Sharecropping Contract, 1670s-1920s

Juan Carmona; James Simpson

The Journal of Economic History, Vol. 59, No. 2. (Jun., 1999), pp. 290-315.

Stable URL:

<http://links.jstor.org/sici?sici=0022-0507%28199906%2959%3A2%3C290%3AT%22MICV%3E2.0.CO%3B2-Z>

This article references the following linked citations. If you are trying to access articles from an off-campus location, you may be required to first logon via your library web site to access JSTOR. Please visit your library's website or contact a librarian to learn about options for remote access to JSTOR.

[Footnotes]

¹ **Sharecropping and Productivity: 'Feudal Residues' in Italian Agriculture, 1911**

Jon S. Cohen; Francesco L. Galassi

The Economic History Review, New Series, Vol. 43, No. 4. (Nov., 1990), pp. 646-656.

Stable URL:

<http://links.jstor.org/sici?sici=0013-0117%28199011%292%3A43%3A4%3C646%3ASAP%27RI%3E2.0.CO%3B2-H>

² **Land and Labor Contracts in Agrarian Economies: Theories and Facts**

Keijiro Otsuka; Hiroyuki Chuma; Yujiro Hayami

Journal of Economic Literature, Vol. 30, No. 4. (Dec., 1992), pp. 1965-2018.

Stable URL:

<http://links.jstor.org/sici?sici=0022-0515%28199212%2930%3A4%3C1965%3ALALCIA%3E2.0.CO%3B2-W>

¹⁰ **Property Rights and the Nature of the Firm**

Oliver Hart; John Moore

The Journal of Political Economy, Vol. 98, No. 6. (Dec., 1990), pp. 1119-1158.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28199012%2998%3A6%3C1119%3APRATNO%3E2.0.CO%3B2-3>

⁵⁷ **Work Routine and Social Structure in a French Village: Cruzy in the Nineteenth Century**

J. Harvey Smith

Journal of Interdisciplinary History, Vol. 5, No. 3. (Winter, 1975), pp. 357-382.

Stable URL:

<http://links.jstor.org/sici?sici=0022-1953%28197524%295%3A3%3C357%3AWRASSI%3E2.0.CO%3B2-I>

NOTE: *The reference numbering from the original has been maintained in this citation list.*

LINKED CITATIONS

- Page 2 of 3 -



⁵⁹ **Work Routine and Social Structure in a French Village: Cruzy in the Nineteenth Century**

J. Harvey Smith

Journal of Interdisciplinary History, Vol. 5, No. 3. (Winter, 1975), pp. 357-382.

Stable URL:

<http://links.jstor.org/sici?sici=0022-1953%28197524%295%3A3%3C357%3AWRASSI%3E2.0.CO%3B2-I>

⁵⁹ **Agricultural Workers and the French Wine-Growers' Revolt of 1907**

J. Harvey Smith

Past and Present, No. 79. (May, 1978), pp. 101-125.

Stable URL:

<http://links.jstor.org/sici?sici=0031-2746%28197805%290%3A79%3C101%3AAWATFW%3E2.0.CO%3B2-E>

References

Sharecropping and Productivity: 'Feudal Residues' in Italian Agriculture, 1911

Jon S. Cohen; Francesco L. Galassi

The Economic History Review, New Series, Vol. 43, No. 4. (Nov., 1990), pp. 646-656.

Stable URL:

<http://links.jstor.org/sici?sici=0013-0117%28199011%292%3A43%3A4%3C646%3ASAP%27RI%3E2.0.CO%3B2-H>

Property Rights and the Nature of the Firm

Oliver Hart; John Moore

The Journal of Political Economy, Vol. 98, No. 6. (Dec., 1990), pp. 1119-1158.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28199012%2998%3A6%3C1119%3APRATNO%3E2.0.CO%3B2-3>

Land and Labor Contracts in Agrarian Economies: Theories and Facts

Keijiro Otsuka; Hiroyuki Chuma; Yujiro Hayami

Journal of Economic Literature, Vol. 30, No. 4. (Dec., 1992), pp. 1965-2018.

Stable URL:

<http://links.jstor.org/sici?sici=0022-0515%28199212%2930%3A4%3C1965%3ALALCIA%3E2.0.CO%3B2-W>

NOTE: *The reference numbering from the original has been maintained in this citation list.*

LINKED CITATIONS

- Page 3 of 3 -



Work Routine and Social Structure in a French Village: Cruzy in the Nineteenth Century

J. Harvey Smith

Journal of Interdisciplinary History, Vol. 5, No. 3. (Winter, 1975), pp. 357-382.

Stable URL:

<http://links.jstor.org/sici?sici=0022-1953%28197524%295%3A3%3C357%3AWRASSI%3E2.0.CO%3B2-I>

Agricultural Workers and the French Wine-Growers' Revolt of 1907

J. Harvey Smith

Past and Present, No. 79. (May, 1978), pp. 101-125.

Stable URL:

<http://links.jstor.org/sici?sici=0031-2746%28197805%290%3A79%3C101%3AAWATFW%3E2.0.CO%3B2-E>