

**LABOUR MARKETS AND RURAL UNREST IN SPANISH  
AGRICULTURE, 1860-1936.**

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**Abstract**

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This paper considers how changes in cultivation influenced the demand for farm labour in the half century prior to the Civil War. In the first section I assess the relative importance of wage labour and the evidence of a farm ladder in Spanish agriculture. The second shows to what extent agricultural labour markets were integrated within a national labour market. I argue that because of sharp seasonal fluctuations in demand, we would expect large amounts of labour flow in both directions between the rural and urban labour markets. Finally, I argue that although the demand for labour in Andalucía grew faster than aggregate supply, the major peaks in demand at harvest time encouraged landowners to use migrant gang labour or mechanise. Employment for the local labour force therefore is likely to have declined, and this was a major cause of the increase in labour militancy during the first third of the twentieth century.

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**Keywords:** Agricultural labour markets; farm ladder; gang labour; farm mechanisation; agrarian problems in Andalucía.

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Land in Spain was unequally distributed amongst the population, with 99.2 per cent of landowners having 47.6 per cent and the other 0.8 per cent accounting for the remaining 52.4 per cent in 1959.<sup>1</sup> There were significant and well-known regional differences in land ownership. Therefore a relatively small number of people owned far more land than they could cultivate directly themselves using family labour. Likewise, a much larger number of people lacked sufficient land to fully employ themselves and their families throughout the year. This paper looks at just one solution to this problem: the payment of a wage in exchange for labour. The paper is divided into three sections. In the first, we assess the relative importance of wage labour in agriculture over the period. The second shows to what extent agricultural labour markets were integrated within a national labour market. We argue that because of sharp seasonal fluctuations in demand, large amounts of labour flowed in both directions between the rural and urban labour markets. Finally, we consider in greater detail how changes in the nature of labour markets contributed to the increase in labour militancy in Andalucía in the first third of the twentieth century.

### **1. Farms and their labour.**

Most farms in Spain used predominantly family labour. Those people who had more land than they wanted to cultivate themselves could rent it to other farmers who had insufficient land. In this way the rental market helped link labour which owned insufficient land with landowners without workers. Yet, renting land had its limitations, especially if tenants were poor, and likely to default on rental payments, or if the landowner wished to capitalise on potential economies of scale associated with certain types of farming, his management skills or greater access to capital markets. In these cases, the use of wage labour might be a more attractive option for a landowner. Wage labour also offered a number of advantages to labourers. For the young, working on other farms allowed them to acquire farming skills and to accumulate savings so that they might rent a small plot for themselves in the future. Seasonal employment also allowed many farmers to earn a cash income, and thereby reduced their dependency on their own small farm.

There are few studies of Spanish rural labour markets. One major is the poor quality of the census figures. Not only are these notoriously weak on the estimates of female

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<sup>1</sup> These statistics probably underestimate the concentration of property. Malefakis 1976, cuadro 6. The late

labour, but they fail to breakdown the different categories of rural workers.<sup>2</sup> However, the problems are not unique to Spain, but are frequent in most societies where employment was not continuous throughout the year. For example, it has been argued that the failure to appreciate the importance of sharecropping in southern Italy in 1911 can be explained because the census was carried out in mid June, when most people were temporarily employed working for harvest wages.<sup>3</sup> Most Spanish censuses were carried out on the last day of December - typically a quiet time of the agricultural year - which might explain the low participation rates of women.<sup>4</sup>

One feature of the labour market is that a large percentage of causal workers either owned land themselves, or had access to some through rental or sharecropping contracts. It was perhaps only in the south that the truly "landless" jornaleros reached significant numbers. But even in Andalucía there were plenty of jornaleros who also had some land of their own to cultivate. In Granada, for example, of the 89,525 families found in the Padrón of 1929 engaged in farming (actividades agrícolas y ganaderas), 65,379 or 70 per cent owned land, although 50,838 of these had less than 5 hectares.<sup>5</sup>

In general it seems reasonable to assume that most farm workers everywhere wish to own land. This can be seen in the widespread support for agrarian reform in the mid nineteenth century with the sale of church and municipal lands, and again in the 1930s during the Second Republic. In Spain, as in most agrarian societies the possibilities to own land changed over an individual's life cycle.<sup>6</sup> Suitable sized farms of course might be available, but at a price significantly above a labourer's income. As a result, a rental and mortgage market develops. Young, landless labourers without savings therefore face an "agricultural ladder". Working as wage labourers allows them to save, learn the basic farming skills and perhaps earn a good reputation amongst local landowners. These assets could in time be used to rent land and improve further their economic and social positions.

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date reflects the delay in establishing the catastral for the whole country.

<sup>2</sup> For the role of women in agriculture, see especially Moreno Almarcegui, 1998.

<sup>3</sup> Galassi and Cohen, 1994 and Galassi and Kauffman, 1997, p.378.

<sup>4</sup> This was true of 1887, 1897, 1900, 1910, 1920 and 1930 censuses.

<sup>5</sup> Cruz Artacho, 1994, p.156. See also Calero Amor, 1973, pp.43-4 and González de Molina y Sevilla Guzman, 1991.

<sup>6</sup> One possible exception was the United States where, at least outside the Deep South, the abundance of land and scarcity of labour allowed the young easy access to land during several centuries. However, the closing of the "Frontier" in the late nineteenth century resulted in landless labourers no longer being able to obtain land

Finally with sufficient savings and a reputation as a good farmer - important for obtaining a mortgage - they might be able to purchase a farm. Of course some of these farms had to be remortgaged at times of economic difficulties. Furthermore, some small landowners might wish to work as wage labourers in the harvest to diversify their incomes. But the agricultural ladder permitted an individual to progress upwards during his or her life, from a situation when all, or a major part of income was earned from wages, to that of being a landowner and self-employed.

The idea of the farm ladder has been identified in many agrarian societies, although it will often incorporate local characteristics and therefore was different, for example, in the American Mid West to the Deep South (post 1865). But the concept does provide some useful indicators of change. By definition, if the ladder is to exist, a high proportion of wage labourers will be young workers. Furthermore, migrants will also tend to be young wage earners, as older workers have already accumulated a variety of assets directly related to agricultural production – not just farms and farm equipment, but also farming expertise.<sup>7</sup> Therefore in mid nineteenth century France, most rural wage earners by the time they had reached thirty had either moved to the cities attracted by higher wages for unskilled labour, or had moved up the farm ladder and become predominantly self-employed by renting or purchasing land.<sup>8</sup> In Ireland which saw a massive loss of labour in the half century following the Famine, historians talk of the “disappearance of the Irish laborer”, in part because of emigration and in part because they were absorbed into the “ranks of the farming classes”.<sup>9</sup> As wage labour left the land, the percentage of landowners and tenants in the farm population increased. A second stage of the ladder can be seen for France and the United States in Graph 1, with many tenants becoming landowners as they became older, presumably having accumulated sufficient capital to purchase land and/or inheriting it from their parents.

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at very low prices, on which they could create a family farm. A political culture which encouraged family farms was, of course, crucial. See for example Moore, 1967.

<sup>7</sup> Younger workers are also more likely to interest urban employees, especially in the construction industry.

<sup>8</sup> Sicsic, 1992, p.680.

<sup>9</sup> Fitzpatrick, 1980 and Guinnane, 1997, p.41. This process was further encouraged in the period 1870-1930 by the changes in the ratio of wages: land rents, as shown in Chapter 1.

**Table 1****Age structure of working male population in 1950.**

	Total male workers	% less than 24 years old	% 24 –54 years old	% older than 55 years
Trabajadores non agricultores	4.231.067	24,3	63,0	12,7
Agricultores y ganaderos	4.853.160	29,8	51,2	19,0
Propietarios, directores y capataces de explotaciones	1.620.645	7,2	57,8	34,9
Trabajadores agrícolas etc.	2.915.980	42,6	46,7	10,6
Pastores, vaqueros, etc.	123.888	39,6	45,7	14,6

Source: Insituro Nacional de Estadística, Censo de la población de España. 1950, Madrid, 1959, vol.3, pp. 566-7 and 624-5.

Similar information is scarce for Spain prior to the Civil War. The census figures suggest that two thirds of the active labour force was still employed in agriculture as late as 1910, and the rural exodus was only just beginning. By 1930 the figures for male labour had fallen to 47 per cent, and it seems likely that a high proportion who left the land were young and found work as domestic servants and in construction. By 1950 the agricultural population had crept back to over 50 per cent again. In this year 43 per cent of agricultural wage earners were less than 24 years old, compared to only 7 per cent of farm “managers”, or 24 per cent of the non-agricultural population (Table 1). Likewise, 35 per cent of farm “managers” were over 55, compared to only 19 per cent of all farm workers. The average age of wage labourers was about 35, significantly less than landowners and farm managers at 52. In 1950, however, there were still almost two million males over 24 who were classified as workers rather than directing their own farms. When the rural exodus starts again in the 1950s, it will be wage labourers who left first, followed by the small farmers.<sup>10</sup>

<sup>10</sup> Naredo, 1977, p.112.

## **2 Were Spanish labour markets integrated?**

Historically economic development witnesses labour moving from agriculture to industry and, more recently, from industry to services. The fact that in Spain about two thirds of the active population were still employed in agriculture in 1910, suggests the process had hardly started. In the first part of this section we shall consider to what extent rural and urban markets were integrated. In other words, was the delay in urban-rural migration caused because labour was slow to leave the land, or was it because urban demand was simply too weak to attract workers? The second part looks more closely at the nature of farm employment. In particular it argues that because of the seasonal fluctuations of labour requirements for crops, and the risk-averse nature of most small farmers, the boundaries between agriculture and other sectors of the economy were more fluid than is often believed.

Why did labour stay so long in agriculture? If labour markets were efficient, it would be expected that the difference in real wages for comparable labour skills between city and farm would be relatively small, and that this wage gap would remain stable over time as rural labour responded to changes in urban demand. If growing labour demand was not met by appropriate rural migration, then the gap between urban: rural wages would rise as employers fought for an inadequate pool of labour in the cities. By contrast, if labour moved off the land faster than employment opportunities grew in the cities, the gap would be reduced.<sup>11</sup>

In Table 2 urban semi-skilled day wages have been divided by day wages in agriculture to show the wage gap between sectors. If we accept that the data does not include any serious biases, then there would seem to have been a widening of the wage gap between 1860 and 1896, after which it starts closing slowly. The wage-gap is almost as large (or as small) in 1930 as it was in 1860. It is perhaps relevant that the high wage-gap between 1896 and 1914 occurred at a time when agricultural productivity was stagnant, and the number of male workers in the sector grew between 1887 and 1910 by 17 per cent. In

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<sup>11</sup> Sicsic, 1992 and Williamson, 1987. This section is a much reduced version of Simpson, 1995b.

industry and construction, by contrast, output grew by 75 per cent and employment by only 8 per cent between 1887 and 1910.<sup>12</sup>

**Table 2**  
**Urban-rural wage gap, 1860-1930**

	1860	1896	1914	1930
Andalucía	1,35	2,05	1,67	1,32
Mediterranean	1,51	1,67	1,74	1,37
North	1,63	1,65	1,64	1,51
Interior	1,60	1,75	1,68	1,53
Spain	1,53	1,80	1,67	1,44

Calculated by dividing urban day wages by agricultural wages  
Mediterranean includes Cataluña, Baleares, Levante and Murcia.  
Sources: See Simpson, 1995b,p.199.

Yet Table 2 has its limitations in explaining rural outmigration. In the first instance, the wage series used are nominal, and not real.<sup>13</sup> Second, the movement to urban areas was just one option for rural workers, especially as by the late nineteenth century a combination of falling transport and information costs had encouraged a significant growth in emigration.<sup>14</sup> Finally, and most importantly, it has been argued that the methodology used above is not really appropriate given the widely fluctuating seasonal demand for labour in agriculture. In France at the end of the eighteenth century for example, between 25 and 40 per cent of the rural labour force were *jointly* employed in the agricultural and manufacturing sectors.<sup>15</sup> As late as the mid nineteenth century, between 500,000 and 800,000 industrial workers left their jobs each year to collect the harvest, a number equivalent to about 10 per cent of the agricultural labour force.<sup>16</sup> Because there was a significant shortage of workers to collect the harvest, wages in the countryside moved above those in the cities to attract industrial workers temporarily back to the land. In other

<sup>12</sup> Prados de la Escosura, 1995, table D.4 and Carreras, 1989, p.78. For agricultural productivity, see Chapter 1 of Carmona and Simpson, forthcoming.

<sup>13</sup> However this does not seem to be a major problem. Simpson, 1995b, pp.187-90.

<sup>14</sup> See especially Sánchez Alonso, 1995, 2000a and 2000b.

<sup>15</sup> Grantham, 1993, p.440.

<sup>16</sup> Postel-Vinay argues that "the supply of labour to individual sectors of the economy was a complex mixture of immobile permanent and mobile temporary workers". 1994, p.64 and p.75.

words the structure of demand in the countryside implied that an *efficient labour market required labour to move backwards and forwards between rural and urban employment* in response to short term wage shifts during a year. French urban employers could only keep their labour and their factories open if they were willing to pay a wage greater than that paid to harvest labourers.<sup>17</sup>

What of Spain? As usual the information is somewhat limited. However, Table 3 indicates that agricultural wages for peak summer employment were higher than building wages in most provinces on the eve of the First World War. The maximum farm wage in summer was 10 per cent greater than the maximum building wage, and 40 per cent more than the minimum. At the provincial level, the highest summer wage in agriculture was greater than the highest wage for albañiles in 33 provinces out of the sample of 46, and greater in every province - with the exception of Tarragona - when the minimum wage for albañiles is used. However, when the *average agricultural wage* for the year is compared to the *minimum wage* for albañiles, then albañiles were paid more in 39 of the 46 provinces. The wage series suggests therefore that a significant number of labourers might have found it profitable to move between urban and rural employment *during the year* according to the demand for labour.<sup>18</sup> In the rest of this section we shall consider the seasonal fluctuations in demand, and see how this affected decision making by small farmers, leaving to the next section the question of latifundios.

**Table 3**

**Wage payments by activities 1914.**

	Provincial average
Máximo jornal en verano en la agricultura	4,57 pesetas
Máximo jornal para albañiles	4,11
Mínimo jornal para albañiles	2,70
Jornal medio anual en la agricultura	2,04

The sample is for 46 provinces, with no information being available for Barcelona, Jaén and Madrid.

Source: Instituto Geográfico y Estadístico, Anuario Estadístico año 1915, pp.242-5.

<sup>17</sup> The mechanisation of the harvest from the mid nineteenth century would reduce significantly the demand for harvest labour.

<sup>18</sup> This is suggested, for example, in the 1930 census, with the greatest number of industrial workers in many provinces being found under the classification number 85, "Industrias varias: diversas".

An important difference between much of the agriculture in the Mediterranean and that of northern Europe was the long period of seasonal unemployment caused by the low demand for labour for crops grown under conditions of *secano*. Therefore workers in southern Europe were often employed for short periods whereas those in England, for example, usually had employment for over 300 days a year, and were contracted by the year.<sup>19</sup> The number of days employment that a crop such as wheat might provide varied significantly, depending on location, market conditions, the nature of farm ownership and the degree of mechanisation. The figures given by Pascual Carrión were 25 days work a year in cereals (*año y vez*) and 31 days with extensive olives. But perhaps more important than the absolute number of days were the sharp fluctuations during the year as shown in Table 4. We have selected estimates of labour requirements from a number of villages in Cataluña where conditions were relatively favourable for employment, and some general estimates related to the *secano* collected in the early 1940s.

How did small farmers adapt to these monthly fluctuations in demand? A number of possibilities existed. First, farmers could grow a variety of crops themselves, which not only reduced the risk of losing most of their income in the advent of a harvest failure, but also permitted a better use of their family labour. Off-peak periods could be used for increasing farm investment, for example by planting fruit trees and vines, building terraces, etc. But off-peak periods could also be reduced if crops were chosen so that their seasonal peaks in labour demand did not coincide.<sup>20</sup> In other words, if labour is employed on *annual contracts* there is an incentive for landowners to maximise its output over the whole period. By contrast, undercultivation on *latifundios* was perfectly rational because labour was often hired by the task, a point we shall return to later.<sup>21</sup>

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<sup>19</sup> Recent research shows that employment conditions changed in England from the seventeenth to the nineteenth centuries.

<sup>20</sup> This was also true on large farms when labour was employed throughout the year, the classic example being slavery in the American South in the nineteenth century. Here plantation owners did not utilise all their land (the abundant factor) for the most valuable crop - cotton, because it would have kept labour (the scarce factor) underemployed during part of the year. Other crops provided employment in periods when labour demand was low with cotton. Gallman, 1970.

<sup>21</sup> The nature of labour demand in Spain, and over a large area of the Mediterranean in general, had two important consequences – it reduced the potential for labourers to accumulate capital assets themselves, and it failed to encourage landowners to pursue labour intensive activities.

A second possibility for a small farmer was to own a mule or some other work animal. This permitted them to hire themselves to larger farmers for such tasks as ploughing, or to work part time in the transport sector.<sup>22</sup> A third possibility was employment in industry or mining. In Jaén as there was little employment among the olives in the summer, many workers dedicated themselves to pottery.<sup>23</sup> In Cataluña the textile industry also provided temporary employment for large numbers of workers, at least until the mid nineteenth century.<sup>24</sup> Other traditional sources of employment were found on the Commons, which provided firewood, pasture, fertilisers and a wide variety of other products that could provide temporary employment.<sup>25</sup> Finally, many farmers were also willing to migrate, seeking employment in both agriculture and industry. For example, in the 1940s we read that:

“Los gallegos se desplazan a Castilla para la siega del cereal; andaluces y extremeños, a La Mancha a la vendimia; bajan en invierno sorianos y serranos de Cuenca y Guadalajara a la Andalucía olivarera y acuden a Valencia de las provincias limítrofes a recoger la naranja y el arroz.

“Otras veces los campesinos cambian transitoriamente de profesión, cuando se desplazan; muchas cuadrillas de canteros y albañiles están constituídas por vecinos de aldeas gallegas, que dejan a sus familias al cuidado de las pequeñas parcelas que labran.”<sup>26</sup>

These possibilities, and the examples can be significantly increased, linked with what we have said about the farm ladder, suggest that a large number of workers often switched between rural and urban employment. This can be seen in Cuenca for example, where between 1844 and 1847 the town received migrants equivalent to 13.7 per cent of its total population *each year*, but lost because of outmigration 16.2 per cent annually.<sup>27</sup> Seasonal migration was well known in the eighteenth century, and probably was of significant importance even earlier. As the area cultivated in a region increased, so too did the demand for seasonal labour. Only with the mechanisation of harvests did this short-term migration come to an end.

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<sup>22</sup> Ringrose (1970) provides a good description of the "formal" and "informal" transport sector prior to 1850. The railways changed radically the organisation of long distance transport, but increased the demand for short distance employment.

<sup>23</sup> Sindicato Vertical del Olivo, 1946, p.16. For mining, see Garrido González, 1992, p.477.

<sup>24</sup> Ferrer, 1987.

<sup>25</sup> Cobo, Cruz Artacho y González de Molina, 1992.

<sup>26</sup> Sindicato Vertical del Olivo, 1946, p.15.

<sup>27</sup> Reher, 1990, p.249.

### 3 Changes in a labour market: Andalucía, 1850-1936.

Opinions concerning agriculture in Andalucía, and especially the role of latifundios, have changed significantly over the past couple of decades. The traditional view, that latifundios were inefficient, a relic from a “feudal past”, has long since been revised, and today most historians would argue that latifundistas acted rationally in their choice of crops, methods of production, choice of techniques and use of labour.<sup>28</sup> However this new vision sometimes sits uneasily with the traditional vision of poverty and social unrest found in Andalucía and Extremadura. In particular, why was a supposedly efficient form of working the land accompanied with widespread poverty? In this section we shall argue that the nature of latifundios in Andalucía changed significantly from the late nineteenth century. In particular adjustments to product markets led to important changes in labour relations, which in turn contributed to widespread unrest.<sup>29</sup> Economists therefore have been right to emphasise the dynamic nature of latifundios, but have missed the wider significance of changes in the labour market that took place in the half century prior to the Civil War. After looking at how latifundios and labour were traditionally organised, we show that aggregate changes in the supply and demand for labour in the half century prior to the Civil War was not a major cause of the increase in labour militancy. Instead we argue that this was caused by changes in the labour market.

#### a. the organisation of latifundios and labour

In the nineteenth century latifundios were often associated in the minds of contemporaries with undercultivation and the concentration of workers in large villages.<sup>30</sup> Complaints were most frequent in the Campiña, the rich alluvial plain that bordered the Guadalquivir, especially in the provinces of Córdoba, Sevilla and Cádiz. Elsewhere I have explained the rationale for the low intensity of cultivation in terms of demand for agricultural produce. The *jornaleros* themselves had good economic reasons for living in

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<sup>28</sup> For example, Martínez Alier, 1971, Naredo, 1977 and Sumpsi 1977, and Sumpsi, 1978.

<sup>29</sup> The history of labour unrest in Andalucía has also been considerably revised by historians over the past decade. See especially González de Molina and Sevilla Guzman, 2000, and the survey by Montañes, 2000.

<sup>30</sup> Peyron, for example, wrote that “most travellers who have gone through the kingdom must have observed that but few lands, except those at the distance of a league or more from the cities and villages are cultivated,

the towns rather than on isolated cortijos.<sup>31</sup> First, many jornaleros often rented, or even owned, small plots of land themselves, which were close to the towns and provided an important supplement to wages.<sup>32</sup> Second, there were long periods of unemployment and sharp seasonal fluctuations in demand for agricultural labour on the cortijos, as we have seen in Table 4. Contemporaries provide a wide range for the number of days of farm employment for workers. Noriega, for example, estimated 280 days per year for male workers and 120 for women and children in the province of Sevilla in 1897, but Fuentes Cumplido in 1903 gives only 155 days.<sup>33</sup> Historians have gone for the lower figure, with Bernal suggesting a figure of 180 days, a figure which we shall argue was probably the maximum for the period 1900-1936.<sup>34</sup> By contrast, in northern Europe employment was often as much as 300 days a year.<sup>35</sup> This in turn affected the nature of labour contracts, with agricultural workers in England often being farm servants and enjoying annual contracts.<sup>36</sup> By contrast in southern Europe, jornaleros had to work for a variety of different employers during the year, not all necessarily being in agriculture. To maximise employment, information on work opportunities was much easier to acquire living in towns, rather than on an isolated farm in the countryside. Therefore, whereas in England the labour market was centred on annual agricultural fairs when workers were hired to go and live on isolated farms, in the Mediterranean it was held daily, in the village square, near their houses.<sup>37</sup>

Labour lived in towns therefore, not just for social reasons, but because it was easier to maximise annual employment given the temporary nature of most agricultural work. Only those directly involved with livestock and a few permanent workers were hired on annual contracts, with the vast majority of workers being employed by the day, or for a specific

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and it is not possible to clear such as are more remote, since, in some places, there is not a single habitation in the space of four, five, or six leagues." Peyron, 1808, pp.305-6.

<sup>31</sup> As in most rural societies, even the "landless" often had access to some land, although how much in rural Andalucía is difficult to establish. We use the word "landless" or jornalero (day labourer) to imply that the greater part of their incomes came from wage labour.

<sup>32</sup> See, for example, Díaz del Moral, 1923 and republished in 1977, p.221.

<sup>33</sup> Noriega y Abascal, 1897, p.84 and Fuentes Cumplido, 1977, p.339.

<sup>34</sup> Bernal, 1981, p.86 and Simpson, 1992, Table 7 and pp.14-15.

<sup>35</sup> Clark, 1999, pp.228.

<sup>36</sup> Kussmaul, 1981 and, for contrast with southern Europe, see especially Reher, 1998, pp.204-7.

<sup>37</sup> Workers sometimes tried to organise the labour market. For example, in 1884 a commission of vineyard workers in Jerez presented to landowners a number of claims, including one which allowed labour to be hired only in the Plaza de Escribanos, between 7 and 10 o'clock each morning. Los Vinos y Aceites, 15 april 1884, p.82.

task such harvesting.<sup>38</sup> The widespread belief that latifundios were undercultivated because workers preferred to live in the pueblos for social reasons also looks doubtful when we consider earnings. If social factors were paramount in determining where labourers lived, we would expect that farmers would have to pay high wages to attract even the small numbers of permanent workers used. At the beginning of the twentieth century Fuentes Cumplido estimated monthly wages for permanent workers at between 12.5 and 17.5 pesetas, with board and lodgings provided free.<sup>39</sup> Day wages for unskilled labour in Barcelona at the same time were about two pesetas, and Fuentes Cumplido himself suggests that in a normal year jornaleros in Andalucía could earn fifty per cent more than the permanent labourers in wages.<sup>40</sup> Furthermore living conditions on the cortijos were often considered poor.<sup>41</sup> This suggests that farmers did not have to pay high wages to obtain labourers to live permanently on the cortijo. Yet a simple comparison of wage differences is deceptive. Because of problems of moral hazard, permanent workers needed to be trusted by the farm owners, and often several generations of the same family worked on the same cortijo.<sup>42</sup> And they were often better rewarded than suggested above. Wages for shepherds, for example, were of secondary importance to various privileges, such as keeping their own animals in the main flock at the owner's expense (excusas).<sup>43</sup> Even if the level of patronage, which Petruszewicz has associated with the Barracco family in southern Italy, was probably rare in southern Spain, it nevertheless served to differentiate workers on the cortijos from the jornaleros.<sup>44</sup> Market segmentation existed therefore between permanent and casual labourers of the same village.

#### **b. The supply and demand for agricultural labour in Andalucía, 1886-1936.<sup>45</sup>**

One reason for the growth in labour conflicts in Andalucía might have been because the supply of agricultural labour grew faster than the supply of work. To test this

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<sup>38</sup> In Casa Viejas, for example, permanent labour was employed on the basis of verbal contracts from one year to the next, traditionally starting on St. Miguel's day. Mintz, 1982, pp.56.

<sup>39</sup> Fuentes Cumplido, 1977 ed, pp.338-9.

<sup>40</sup> Ibid, pp.338-9.

<sup>41</sup> For living conditions, Brenan, 1943, p.121.

<sup>42</sup> Baumeister, 1997, pp.100 and Mintz, 1982, p.103.

<sup>43</sup> Instituto de Reformas Sociales, 1919, p.77, Fuentes Cumplido, 1977, p.339, Badajoz, DGAIC, 1892, 3, p.254 and p.272 and Baumeister, 1997 p.100-5.

<sup>44</sup> Petruszewicz, 1996, chapter 5.

hypothesis, we consider the changes in the half-century prior to the 1936-39 Civil War in four provinces, namely Cádiz, Córdoba, Jaén and Sevilla.<sup>46</sup> Between 1887 and 1920 the numbers employed in agriculture increased slowly from 456,018 to 487,204, or an annual rate of 0.2 per cent compared to an increase of 0.8 per cent in population growth. However, in the next decade the numbers reached 524,358 (annual increase of 0.7 per cent), although the sector's share of total active population actually fell from 59.3 per cent in 1920 to 55.5 per cent in 1930.

The main products of these four provinces were wheat, barley and olive oil which between them they covered 80 per cent of the cultivated area and accounted for 70 per cent of the total value of arable output in 1922.<sup>47</sup> The region also had two specialised wine areas: sherry in Jerez de la Frontera and adjacent lands, and Montilla (Córdoba). However, viticulture accounted for only 3 per cent of agricultural produce, and 2 per cent of the area sown.<sup>48</sup> Cattle, in general, were kept for farm work and transportation, rather than milk or meat. Finally, the planting of "new" crops such as cotton, rice and sugar beet was still relatively small before the Civil War (Table 5).

A reasonable estimate of labour demand can be obtained based on contemporary sources of labour requirements for changes in the intensity of cultivation (the decline in fallow, number of ploughings carried out, etc.), changes in the area cropped and herd size, and the speed and diffusion of new techniques (type of ploughs, mule or oxen, reapers, threshers, type of oil mills, etc.). The results are shown in Table 3.6. These suggest that labour opportunities for male workers moved from a low of approximately 108 days a year to a high of 130 in 1921-25.<sup>49</sup> These figures appear on the low side, although a number of tasks have been excluded. First, the calculation in Table 3.6 excludes weeding, a task that traditionally employed large numbers of people, although usually women rather than men.<sup>50</sup> If this task is included at the rate of 7 days per hectare, then our estimate of the total labour

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<sup>45</sup> This section is a much reduced version of Simpson, 1992. A reprint is also found in Martín-Aceña and Simpson, 1995.

<sup>46</sup> These four provinces accounted for 277 of the 309, or 90 per cent, of all strikes in agriculture in Andalucía between 1904 and 1924. Maurice, 1990, p. 366.

<sup>47</sup> Other cereals and legumes accounted for a further 12 per cent of value. Ministerio de Fomento, 1923.

<sup>48</sup> Value is for must only. Blending and maturing could increase significantly the final value of the product.

<sup>49</sup> Female workers are rarely included in the census figures, and therefore have been excluded in this calculation.

<sup>50</sup> The amount of weeding carried out varied significantly year to year. In periods of drought, or other periods deemed unsuitable by landlords, this task was omitted, See Díaz del Moral, 1977, pp.206-7.

demand per male worker can be increased by approximately 15 days annually. Second, the accuracy of the late nineteenth century crop areas and livestock figures have been questioned, and they may be underestimated by 10 or 15 per cent.<sup>51</sup> Third, it seems likely that our figures for labour inputs are biased in favour of latifundios, which used a relatively large number of temporary labourers. Small family farms often had a large supply of under-utilised labour which encouraged a more intensive cultivation, and suggests a further increase is required. Finally, we have excluded all those tasks related to management, maintenance, new investments, forestry, fishing and hunting, and scavenging (legal and illegal). A figure of 180 days, as suggested by Bernal, is therefore perhaps not so different from our estimates here.

Whereas Table 6 perhaps does not clarify the differences in labour requirements noted by contemporaries, it does shed some light on the long-term trends. The changes in technology and the area cropped do not appear to have diminished the supply of work over the half century prior to the Civil War, but rather it increased roughly in line with the growth in the number of workers. In addition, although living conditions in Andalucía were poor, real wages appear to have increased and there was no long-term deterioration in average living standards.<sup>52</sup> Therefore labour militancy in the countryside does not appear to have been caused directly by worsening economic conditions. Although social unrest had existed well before the 1880s, the rural uprisings of 1902-3, 1918-20 and 1931-3 are often considered as attempts by landless labourers to take advantage of the changing political situations. However other factors have also to be considered. First the figures in Table 5 show the end of a long process in the increase in cultivation, a greater specialisation which led to the loss of marginal or common lands which had previously provided a supplementary source of income for jornaleros.<sup>53</sup> Second, the attempts by local or national governments to reduce the fluctuations in annual incomes caused by a highly variable climate and growing monoculture in some villages were limited.<sup>54</sup> Third, even if the

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<sup>51</sup> Simpson, 1989, pp.359-61.

<sup>52</sup> Simpson, 1992, pp.15-7.

<sup>53</sup> Cobo,F., S.Cruz Artacho and M.González de Molina, 1992, have shown that the ending of access to common and village land marked a period of widespread protests throughout the region. The expansion of cereals and olives and loss of this common land made local labour more dependent on wages, which in turn changed the nature of protests. See especially González de Molina and Sevilla Gúzman, 2000, pp.262-78.

<sup>54</sup> For questions examples of initiatives by local government to create employment, see Bernaldo de Quirós, 1931. At times of extreme hardship and labour militancy, workers might carry out the tasks that they deemed

jornaleros did not see a long-term decline in their living standards between 1886-1936, they did not participate in Spain's economic growth during the interwar years, and the attempt to escape from extreme poverty would provide a serious problem for the democratically elected government in 1931.<sup>55</sup> Finally, and as we shall now argue, there were changes in the organisation of labour which appear to have changed the distribution of opportunities amongst different groups of workers, which contributed to the increase in conflicts.

### **c. Changes in the labour market and the growth in conflicts**

The best known contemporary account of rural conflicts in the first quarter of the twentieth century was written by Díaz del Moral, who noted that rural unrest coincided with major changes in agricultural practices. Thus, after noting that “las grandes agitaciones agrarias cordobesas son fenómenos peculiares del presente siglo”, he went on to note that “en los veintitrés años del actual la agricultura cordobesa ha conquistado un lugar preeminente dentro de la nacional, y rebasa, en varios aspectos, el nivel de los países más progresivos”.<sup>56</sup> Economic historians have also stressed the dynamic nature of agriculture, especially after 1900.<sup>57</sup> Furthermore, and as we have just seen, labour opportunities in cultivation increased by about a quarter, and in line with the increase in the number of workers, between 1886 and 1936. It was the organisational changes in employment to facilitate these advances in agriculture which had a negative impact on the work opportunities of some groups of labourers, and which helped contribute to the conflicts.

In the first instance, even if the area cultivated had grown significantly more than it actually did, there is no evidence that the potential for labour conflicts would have been very different, because labour demand in Andalucía's agriculture was highly seasonal.<sup>58</sup> By 1930/5, wheat, barley and olives occupied 81.7 per cent of the crop area in the four provinces. As Table 4 suggests, (and in the absence of mechanisation in the cereal harvest), a significant increase in the area of these crops would still provide virtually no employment

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necessary, and then demanded payment. For an example of this “trabajo voluntario”, see Pérez Yruela, 1979, p.151 and Díaz del Moral, 1977, p.207.

<sup>55</sup> For the events of these years, see especially Malefakis, 1976.

<sup>56</sup> Díaz del Moral, 1977, p.183.

<sup>57</sup> In particular Jimenez Blanco, 1986 and Zapata 1986, and more recently, Lopez Ontiveros and Mata Olmo, 1993.

<sup>58</sup> The growth in the area of crops (27 per cent) was faster than the growth in agricultural labour (15 per cent) between 1886/90-1930/5. Calculated from Table 5.

for nine months of the year in the case of wheat ("normal cultivation"), and eight months with olives.<sup>59</sup> About 80 per cent of employment with olives occurred between January and May, and 85 per cent in wheat between July and October. Therefore, although the *aggregate demand* for labour in these four provinces probably increased faster than the supply of labour between 1886 and 1936, this was not enough. The fact that demand was concentrated in only a few months a year implied that *local* labour markets moved from one extreme, when too many workers were chasing too few jobs, to the other extreme when the local labour supply was not sufficient for the harvest. This was the main point of conflict.

Although for all landowners land was the scarce factor, the implication of this varied according to whether the quantity owned was five hectares, or five hundred. For small owners, there was also the need to maximise the employment of family labour. By increasing the intensity of cultivation, farmers could reduce slightly the fluctuations of labour demand during the year, and provide more employment. Likewise they could choose a selection of different crops to maximise labour use, although the scope for this was limited because soils favourable for olives, for example, were often not favourable for cereals, etc. By contrast, the problem facing the latifundistas was to obtain large quantities of highly seasonal labour for a few specific tasks, especially the cereal and olive harvests.<sup>60</sup> Most of the attempts to correct the imbalances between local supply and demand for labour were resolved by the flexibility of the labour market. Because of the seasonal migration of labourers, there were no labour shortages for employers in most years, and therefore few economic incentives to maximise employment opportunities for the local, temporary workers outside the cereal and olive harvests.

But why did conflicts increase during the half-century prior to the Civil War? One assumption which we need to make, and which later we shall relax, is that transaction costs in hiring labour in Andalucía were no higher (or lower) than elsewhere in Spain. This is equivalent to saying that Andalucía's jornaleros showed no differences in political activity or attitudes towards work than workers elsewhere. This is a necessary assumption to make

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<sup>59</sup> In these months labour requirements are less than two days. Exact amounts obviously also varied according to geographical location.

<sup>60</sup> See also González de Molina and Sevilla Gúzman, 2000, p.207 on this point.

if we wish to determine whether labour conflicts in the region were just a function of changes in the political scene, or whether there were also changes in the economic situation of the jornaleros.

As we have seen, labour markets in Andalucía were made up of permanent and temporary workers. The supply of temporary workers consisted of two groups with very different interests, namely local workers from the neighbouring town, and groups of migrant seasonal workers. In Andalucía in this period, just as in France between about 1800 and 1860, the expansion of cultivation probably led to a significant increase in the number of migrant labourers. Migrant gangs were paid by the task, which reduced monitoring requirements by landowners. Furthermore, because these gangs wanted to maximise their incomes, there was an incentive for them to work as quickly as possible and then move to other regions where the harvest was later. Finally, there is ample evidence that migrant workers returned each year to the same farm for employment, encouraging stable long-term relations between farmer and worker.<sup>61</sup> Transaction costs for farmers using migrant gangs were therefore low. By contrast, the interests of the local jornaleros living in the towns was diametrically opposed to the migrant gangs, as they wished to stretch the number of days to collect the harvest to maximise local seasonal earnings. Much of the conflict in the early twentieth century was therefore not so much over wages, but rather restricting the use of piece work, and preserving employment for local workers.<sup>62</sup> Therefore the approval of the decree of Términos Municipales in April 1931 was a major success for local labour, and had serious consequences for farmers dependent on migrant labour.

With the increase in wages from the turn of the twentieth century there was also a greater interest to mechanise some of the agricultural tasks.<sup>63</sup> Labour inputs could be reduced in a number of key areas, namely the collecting and threshing of the cereal harvest, the use of hydraulic presses with olives and the greater use of mules instead of oxen with plough teams.<sup>64</sup> By the 1930s, tractors held out the potential for even greater savings. These changes did not just reduce the demand for labour per unit of output; they reduced labour

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<sup>61</sup> See especially Florencio Puntas and López Martínez, 2000a and 2000b.

<sup>62</sup> Mintz, 1982, p.51.

<sup>63</sup> Wages increased both in real terms, and with respect to wheat and olive oil prices.

<sup>64</sup> Although even the use of artificial fertilisers helped reduce the time spending collecting and spreading manure. Ministerio de Fomento, 1921, Sevilla, p.520.

requirements in the periods of peak demand. We shall consider briefly the case of reapers and oil mills.

The potential benefits of using mechanical reapers to reduce labour requirements in the cereal harvest are apparent in Table 4, yet in the early 1930s there was still only one reaper for every 233 hectares of cereals in Andalucía, compared to one for every 92 hectares in the Interior.<sup>65</sup> Only in Cádiz and Sevilla, where harvest wages were high, was the diffusion of reapers and threshing machines important by 1930.<sup>66</sup> This lower density at first sight appears strange given Andalucía's much larger farms, and the highly fragmented farms of the Interior. The latifundistas would also presumably have had better access to credit. The slower diffusion in Andalucía appears to be partly linked to the problems associated with moral hazard, both with the machine and its energy source, the mule. Machine and work animals could be easily damaged by under-supervised labour, and therefore owners were more likely to use permanent, "reliable" workers, rather than temporary ones.<sup>67</sup> In Andalucía, the highly seasonal demand for labour *and* animals implied that there was a lack of permanent workers on many latifundios to operate sufficient reapers at harvest time.<sup>68</sup> For example, in Córdoba it required 8.15 days work to harvest by hand a hectare of wheat on the Campiña in the 1930s, compared to 3.6 days labour, and 0.35 days work of a mule team with a reaper.<sup>69</sup> Therefore a cortijo with 300 hectares of wheat would require five reapers and five more mule teams if the harvest was to be collected in twenty days. Labour of course was not in short supply, but given the high level of political activity in the region during the early twentieth century, problems of moral hazard and asymmetrical information with temporary workers were significant. Employing more

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<sup>65</sup> Simpson, 1995a, Table 7.5 and Maps 13-15.

<sup>66</sup> This suggests that González de Molina y Sevilla Guzman's (2000, p.256) criticism of my conclusions concerning the high wages in these two provinces and level of mechanisation is misplaced.

<sup>67</sup> This was because the potential cost of lost employment was obviously greater for permanent workers than temporary one. Problems of moral hazard also help to explain the faster diffusion of reapers in Castilla than Andalucía. In Castilla it was often necessary to purchase a reaper between several farmers but, because of the likely presence of various different members of the same family farming close to each other, problems of moral hazard were not necessarily significant.

<sup>68</sup> The problem was alleviated somewhat because the number of animals required for threshing declined with the diffusion of threshing machines. On the complementary nature of threshing machines and reapers, see Simpson, 1987, pp.284-95.

<sup>69</sup> Ministerio de Agricultura, Suplemento, 1934, p.183. Animals were required everywhere for carting the wheat to the farm.

permanent workers might have reduced this problem, but only if suitable employment for them, and the extra mules needed, could be found during the rest of the year.

Therefore, although simple accounting methods might suggest the use of traditional hand collection was more expensive than using mechanical reaper-binders, some large farmers might find it more profitable *not* to mechanise, especially if the transaction costs of using migrant labour were low.<sup>70</sup> So far we have assumed that transaction costs using wage labour in Andalucía were no higher (or lower) than elsewhere in Spain. This is of course totally erroneous, because the widespread protest of rural workers made costs significantly higher. Hourly labour productivity was at times very low, and interruptions because of strikes high. As both the *Instituto de Reformas Sociales* and Diaz del Moral noted during the conflicts of 1918-20, real labour costs for landowners rose significantly because of the lack of co-operation of workers. In this case, the incentive for farmers to recruit migrant labour, or mechanise and use permanent workers became greater. This was well understood by the local workers. One of the first claims at times of strikes was the obligation of farmers to employ local labour first. Attempts, sometimes successful, were made to make the permanent labour force to strike as well. It was at times such as these that the latifundistas looked for other ways to reduce transaction costs. However whether it was more profitable for landowners to mechanise and use permanent labour, or rely instead on migrant gangs, both the decisions had a negative impact for the local jornaleros.

A similar situation occurred with olives. As Table 5 shows, the area under olives increased by 50 per cent over the half-century which in theory should have increased labour opportunities for the local population. However, the labour peak in demand coincided once more with the harvest and this again attracted labour from outside the region. By contrast the larger olive harvests were processed more quickly into oil as a result of technical change, which reduced the demand for labour.<sup>71</sup>

Our calculations in Table 6 therefore have not taken into consideration the changes in employment opportunities for the three distinct groups of workers. In general the changes benefited both permanent workers and migrant gangs at the expense of the

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<sup>70</sup> González de Molina y Sevilla Guzman, 2000, p.256, also argue that “un potente y relativamente organizado movimiento jornalero” influenced the spread of machinery.

<sup>71</sup> For the mechanisation, see Zambrana, 1987, chapter 3 and for the impact on labour demand, Simpson, 1992, pp.12-5.

temporary local workers. At the present it is impossible to measure the relative size of each of these groups, but other changes also appear to have increased employment for the *fijos*, rather than the local jornaleros.

One area of change was the growth in the number of animals, which required an estimated 41,756 full time workers in 1891 and 83,954 in 1933. The problems of principal-agent seen in Chapter 2 implied that only trusted workers would be used with animals, and this suggests that permanent labourers increased faster than the total demand for labour in the region. Further evidence for this is found in changes in settlement. The settling of permanent population in this period away from the towns implies an important change in the nature of employment on the cortijos. We shall limit our comments to the Campiña in the province of Córdoba. Using the statistical information of the 1970s, approximately 150,000 hectares or 38 per cent of the total cultivated land on the Campiña in Córdoba was less than 4 kilometres from one of the 32 towns, implying on average a loss of one hour if the worker returned home each night. By contrast, another 250,000 hectares were found at a greater distance and this figure was probably similar in the early 1930s.<sup>72</sup> As farmers brought more land into cultivation, the population of the cortijos and hamlets increased. Table 7 shows that whereas only 8.1 per cent of the population lived outside towns in 1888, the figure in 1930 was 14.5 per cent, and the population density of the rural areas had almost tripled from six to seventeen inhabitants per square kilometre.<sup>73</sup> This was caused by an increase in permanent employment in agriculture. In an environment of increasing class conflict, a policy of paternalism towards a few chosen workers was a mechanism by which latifundistas used to try and control the labour market. Prior to the Civil War it became increasing common for them to divide some, or all their land, into small units and settle workers, either as sharecroppers or as simple tenants. In the case of sharecropping, landowners were effectively subcontracting the organisation of labour.<sup>74</sup> When rental contracts were used, the landowner hoped to control the workers through paternalism.<sup>75</sup>

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<sup>72</sup> The 564 cortijos in 1930 averaged 570 hectares each or 320,000 hectares in total, and were frequently some distance from towns.

<sup>73</sup> Because municipal areas often include a number of very different geographical areas, it is impossible to obtain figures for the whole of the Campiña. Furthermore, the presence of Córdoba (population 86,900 in 1930) on the Campiña inevitably distorts the picture even more.

<sup>74</sup> See especially Martínez Alier, 1971, Chapter 7.

<sup>75</sup> "Cada colono solía tener derecho a disponer de una pequeña superficie para sembrar de plantas forrajeras con las que completar el alimento de su ganado de labor, a cultivar un pequeño huerto para autoconsumo, a

## **Conclusion.**

The complexity of Spanish labour markets during the period of modernisation explains why official census figures are such poor indicators of the distribution of employment by sectors. In economies with a scarcity of capital, and where most farmers did not have enough land to employ fully their families, workers had to be mobile. By the late nineteenth century the going wage for casual labour in cities such as Manchester, Barcelona, New York or Buenos Aires was widely known in many rural European communities. Temporary migration helped workers accumulate enough capital to purchase a farm, or small farmers to diversify risk by providing a small cash income each year.

Recent work by Sánchez Alonso has helped explain why emigration was relatively small in Spain in this period. But the scale, and importance of temporary internal migrations is much less known. However, what is apparent is that it was not sufficient. In Andalucía, a major cause of poverty was the fact that opportunities for the landless were strictly limited by the late nineteenth century. It contrasts strongly with what was happening in North America at a slightly earlier date when large numbers of landless families, often with very little capital, were constructing farms and bringing land under the plough. Once established, many families then sold their farms and moved elsewhere to reinvest their capital gains in more substantial ones.<sup>76</sup> In Argentina, where latifundios were often even larger than in Spain, the land was leased to tenants who enjoyed several years of planting cereals in return for the heavy labour of bringing the land into cultivation, before returning it sown with alfalfa for livestock to the landowner.<sup>77</sup> Over large areas of the Mediterranean, small farmers dedicated hundreds of days of their "off peak" labour to planting fruit trees and vines. Without access to land, there were limited opportunities for jornaleros to pursue similar activities in Andalucía. One possibility, as elsewhere in the Mediterranean, was for landowners to use sharecropping and other favourable contracts to attract tenants to plant labour intensive fruit

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mantener un número estipulado de ganado domestico, aspectos todos estos que ganaban en intensidad si el propietario les ofrecía demás viviendas en la finca, e incluso escuelas y capilla, asegurando así el completo asentamiento de los colonos." Naredo y Sumpsi, 1984, p.54, who distinguish between the use of paternalist methods and piece work with gangs.

<sup>76</sup> For farm-making in North America, see especially Atack and Passell, 1994, pp.274-9 and Adelman, 1994, pp.40-3.

<sup>77</sup> Adelman, 1994, pp.70-80. Baumeister, 1996, p.135 argues that sharecropping contracts were used to bring land into cultivation in Badajoz during the first third of the twentieth century.

trees and vines. Attempts at sharecropping in Jerez de la Frontera failed, for reasons explained elsewhere, but were more successful with olives.<sup>78</sup> Planting olives required large quantities of labour, and there was a fifteen-year wait before the first full harvest. In the province of Jaén, for example, some landowners leased the land to jornaleros on attractive terms, and after fifteen years received back the mature olive grove.<sup>79</sup> But in general the landless in areas of latifundios had few opportunities to accumulate capital assets themselves in this way. Therefore if the latifundios produced high private rates of return, the social costs were considerable. The inability, or reluctance of the jornaleros to migrate permanently led to large numbers of underemployed workers who naturally resisted the competition from migrant labour at the few times when employment was available.

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<sup>78</sup> Simpson, 1985, pp.180-1.

<sup>79</sup> Instituto de Reformas Sociales, 1904, no.28, p.21 and Carrión, 1932, p.319.

Gráfico 1: Tasa de explotación indirecta según la edad, 1890-1930.  
 (Fuente: G.Wright, 1988).

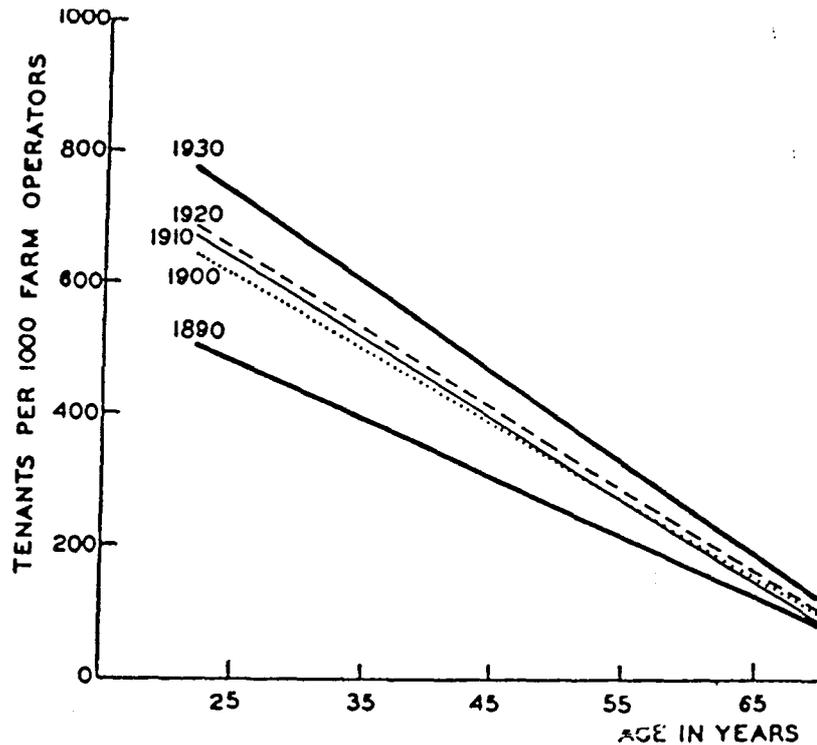
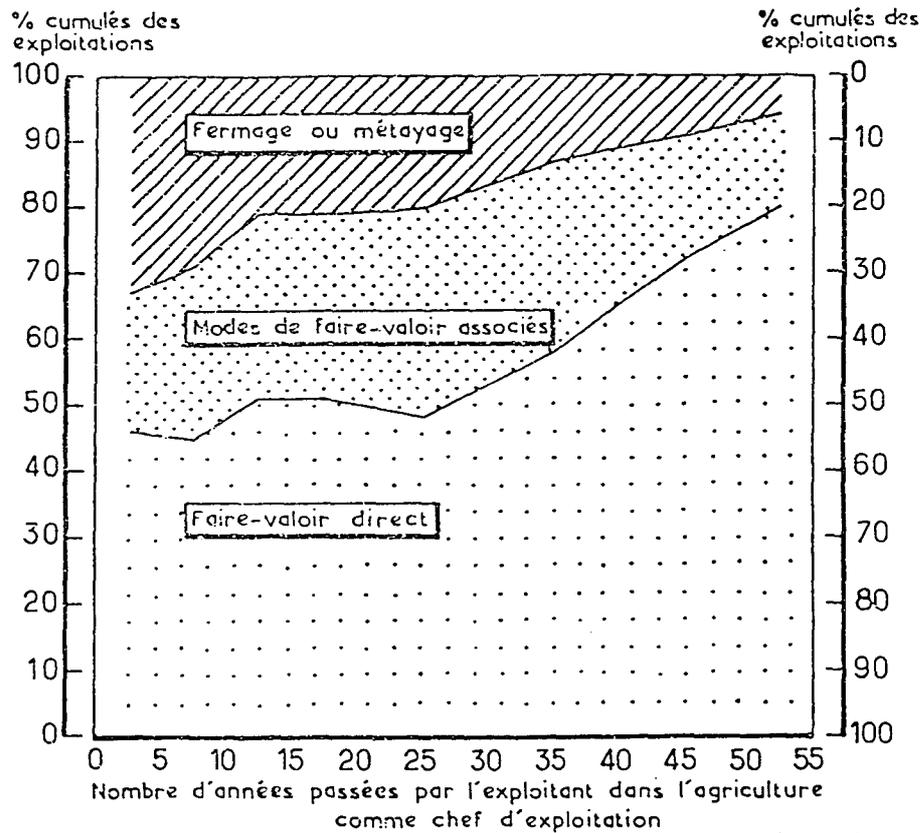


Gráfico 2: Distribución de las explotaciones según la forma de explotación y el tiempo que el jefe de explotación lleva como tal.  
 (Fuente: Recensement, 1955)



Source : Tableau VI après répartition des N. D.

**Table 4**

**Daily labour requirement in different agricultural activities.**

	CATALUÑA			"SECANO"						Cereal / Legumbres
	Cultivos Herbáceos	Cultivo Asociado	Vines	OLIVES			WHEAT			
				1.	2.	3.	1.	2.	3.	
Jan.	0	0,6	5,6	4,5	6,1	8,7	0	0	0	0,2
Feb.	2,9	0	5,0	5,2	6,8	9,7	0	0	0	1,5
March	5,3	3,8	4,5	1,8	2,6	3,4	0,5	0,5	0,5	2,3
April	2,9	7,4	2,1	0	1,6	4,3	0	0	0	1,9
May	0	4,1	10,9	0,5	2,1	3,0	0	0	0	0,7
June	7,8	4,2	9,7	0	0,3	1,0	1,0	0,1	0	2,1
July	12,6	1,7	1,8	0	0,4	1,0	6,5	1,9	1,0	3,7
Aug.	9,6	0,6	1,4	0	0,8	3,0	3,5	1,0	0	2,0
Sept.	4,3	1,2	14,9	0,5	1,6	4,5	1,0	1,0	0,2	1,0
Oct.	10,0	5,7	0	0	0,2	1,0	3,5	0,8	0,4	1,7
Nov.	9,9	0,6	0	0	0,3	1,1	1,0	0,3	0,2	1,3
Dec.	0	2,4	0	1,1	1,4	3,0	0	0	0	1,0
<b>Total</b>	<b>65,1</b>	<b>32,3</b>	<b>55,9</b>	<b>13,50</b>	<b>24,0</b>	<b>43,4</b>	<b>17,0</b>	<b>5,50</b>	<b>2,3</b>	<b>19,4</b>

**Notes:**

**Cataluña:**

- a. Cultivos herbáceos, Cervera, 1880-1890.
- b. Cultivo asociado, Vic, 1880-1890.
- c. Viña, Vilafranca, 1900-1910.

"Secano" – average labour use in the major areas of production.

- Olives
- 1. cultivo deficiente
  - 2. cultivo normal
  - 3. cultivo esmerado

- Wheat.
- 1. tradicional
  - 2. semimecanizado
  - 3. mecanizado

cereal-leguminosa : 30% trigo, 17% otros cereales, 6% cereales de primavera. 4% legumbres de invierno, 5% legumbres de primavera y 38% barbecho.

**Sources:**

- Garrabou, Pujol, Colomé y Sagner, 1992, cuadro 3.
- Sindicato Vertical del Olivo, 1945, pp. 45, 50, 98, 100 y 130-133

**Table 5****Area of crop cultivation in Cádiz, Córdoba, Jaén and Sevilla.****Cereals**

	1886/90	1905/10	1922	1930/35
Wheat	471614	516191	468084	466281
Barely	176644	188876	239040	252610
Rye	44165	17929	6082	5014
Oats	10533	58542	59150	60660
Maize	26273	21257	27533	54368
Rice	0	5	0	377
Others	18799	19286	23678	22689
Sub-total	748028	822086	823567	861999

**Legumes**

Chick-peas	53802	47641	63965	73974
Beans	42670	61777	52781	56307
Lentils	16890	7546	9122	5051
Field peas	5088	13734	12586	3711
Others	9973	4111	12072	13323
Sub-total	128423	134809	150526	152366

Olives	566028	687785	743695	854332
Vines	55444	31257	35890	34436

**Raw materials**

Cotton	--	0	312	11168
Tobacco	--	0	125	311
Esparto	--	10140	11760	1031
Sugar beet	--	0	0	7537
Others	--	3526	3110	2158
Sub-total	Nd	13666	15307	22205

**Roots, tubers & bulbs**

Potatoes	--	5384	6829	7830
Onions	--	2239	2341	1814
Others	--	2545	2834	1356
Sub-total	Nd	10168	12006	11000
Market gardening	Nd	16681	13725	19885

<b>TOTAL</b>	<b>1.497.923</b>	<b>1.716.452</b>	<b>1.794.716</b>	<b>1.956.443</b>
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Figures include both irrigation and secano.

Sources: See Simpson, 1992, Table 2.

**TABLE 6****Estimate of Labour Demand in Agriculture**

Labour demand in millions of days per year								Labour Supply*	Days Work per year
	Cereals	Legumes	Olives	Vines	Others*	Fert.	TOTAL		
1886-90	16,96	2,54	17,82	4,44	2,44	0,67	44.875	415.795	108
1898-00	21,32	3,48	18,08	3,39	2,44	0,73	49.433	420.775	117
1901-05	19,59	3,05	20,60	2,34	2,44	1,01	49.038	418.054	117
1906-10	19,09	2,76	20,12	2,50	2,44	1,15	48.061	413.440	116
1911-15	18,81	2,69	22,07	2,76	2,48	1,31	50.116	408.827	123
1916-20	18,96	2,93	23,83	2,82	2,52	1,15	52.196	405.728	129
1921-25	19,12	3,45	24,64	2,86	2,82	1,48	54.367	416.630	130
1926-30	19,52	3,63	25,91	2,64	3,17	1,51	56.370	434.090	130
1931-35	19,64	3,10	26,01	2,76	3,76	1,54	58.806	451.550	126

\* Male agricultural labour force, net of herdsmen. Days worked per year has been calculated by dividing total labour demand for crops by this figure.

For details on calculations and sources used, see Simpson, 1992.

Table 7  
Growth in the size of rural population in the Campiña, Cordoba.

	area (in hectares)	rural area(1) (in hectares)	1888 population		1930 population		% population in rural areas		density of population in rural areas per square kms	
			total	in rural areas	total	in rural areas	1888	1930	1888	1930
Montemayor	5.734	2.797	2.898	6	3.872	203	0,2	5,2	0,2	7,3
Cañete	10.427	7.343	2.643	19	5.380	195	0,7	3,6	0,3	2,7
Castro del Río	21.884	18.167	11.290	155	14.817	1.093	1,4	7,4	0,9	6,0
El Carpio	4.197	1.056	2.979	102	5.155	655	3,4	12,7	9,7	62,0
Baena	36.338	31.219	12.036	955	21.338	4.238	7,9	19,9	3,1	13,6
Luque	13.968	7.032	4.687	404	7.083	1.497	8,6	21,1	5,7	21,3
Montilla	16.748	13.254	13.790	747	19.736	2.696	5,4	13,7	5,6	20,3
Córdoba	124.461	90.196	55.614	5.496	103.106	16.206	9,9	15,7	6,1	18,0
Puente Genil	16.957	12.864	11.407	2.147	23.412	4.882	18,8	20,9	16,7	38,0
Monturque	3.211	328	1.195	132	2.210	297	11,0	13,4	40,2	90,5
Villafranca	6.418	1.594	3.162	136	4.625	306	4,3	6,6	8,5	19,2
Bujalance	12.538	9.261	9.964	822	14.308	1.553	8,2	10,9	8,9	16,8
Espejo	5.696	2.557	5.719	28	8.982	50	0,5	0,6	1,1	2,0
sum	278.577	197.668	137.384	11.149	234.024	33.871				
average							8,1	14,5	5,6	17,1

(1) the area beyond the "ruedo".

Source: area in López Ontiveros, 1974, p.207; population in Nomenclator de las ciudades, villas, lugares, aldeas y demás entidades de población de España formado por la Dirección General del Instituto Geográfico y Estadístico, 1888 and 1930.

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