

London School of Economics and Political Science

Department of Economic History

**Negotiating work in the Liberal age. Unions,  
the state, and labour market reform in  
Restoration Spain, 1875-1923.**

Jordi Domenech

September 2003

UMI Number: U615840

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI U615840

Published by ProQuest LLC 2014. Copyright in the Dissertation held by the Author.  
Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against  
unauthorized copying under Title 17, United States Code.



ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

THESES

F

8156

1012919

**To Rocío.**



## Abstract:

This thesis studies the expansion of workers' collective action and collective bargaining over working conditions in the context of the Spanish *Restauración* (1875-1923), in an institutional setting characterised by the absence or little enforcement of legislation concerning industrial conflict and the regulation of working conditions. The thesis addresses two of the main issues in the contemporary and historical debate. The first one addresses the causes of labour unrest and the existence of a weak and politically radical labour movement. A second related issue argues that, had Spanish unions adopted the outlook of more conservative British or German unions, they would have been able to advance the interests of workers more effectively.

In the first part of the thesis, I offer a narrative of union development based in coalition-formation. My main argument is that state policy was crucial in shaping the outlook of Spanish unions. I argue that in strike waves, workers in large cities had some degree of political power and were able to obtain the (often only temporary) protection of state officials from employers' counterattacks. Since the state was able to monopolise the repression of the labour movement up to 1919, 'public' lobbying to attract the support of the state radicalised the positions of employers and unions. Severely contested union rights brought about a system of industrial relations that was fragmented and organisationally weak, dependent on state policy to be shaped effectively. Up to 1920, the state, however, hesitated to expand its authority to regulate more thoroughly the relations between workers and their employers.

The second part of the thesis asks if the Spanish system of industrial relations hindered the reaching of co-operative solutions to social problems. In other words, was the prevailing system of collective bargaining efficient in the fulfilment of the rapidly changing preferences of workers in the period? To answer this question, the thesis offers three case studies of collective bargaining over workplace public goods. The main conclusion of these exercises is that the supply of public goods was more neutral than expected with respect to the institutional setting. Weak unions and the absence of local or regional collective bargaining did not prevent workers to modify working conditions according to their changing preferences for a shorter workday, a safer workplace, stable wages and income smoothing during economic downturns.

## Index of contents.

	<b>Pages</b>
List of tables	4
List of graphs	6
Aknowledgements	7
List of abbreviations.	9
 <b>Chapter 1. Introduction</b>	 10
1.1. The strike threat and workers' militancy	13
1.2. Workplace public goods.	16
1.3. Limits of this investigation.	30
1.4. Summary.	34
 <b>PART I. INSTITUTIONS.</b>	
<b>Chapter 2. The rise of syndicalism, 1869-1923.</b>	<b>39</b>
2.0. Introduction.	39
2.1. Theories of collective mobilisation.	41
2.2. Unions and strikes.	45
2.3. Strike waves.	48
2.4. Union recognition.	52
2.5. Conclusions.	71
 <b>Chapter 3. A coalition for reform? Political responses to labour militancy, 1875-1923.</b>	 72
3.0. Introduction.	72
3.1. Responses to labour militancy.	74
3.2. A coalition for reform?	98
3.3. The failure of strike arbitration.	113
3.4. Conclusions.	115

<b>Chapter 4. Winning Spanish strikes. Public order and state intervention in industrial conflict, 1900-1920.</b>	118
4.0. Introduction.	118
4.1. Strike outcomes, 1905-1920.	120
4.2. Protecting the freedom to work.	127
4.3. Conclusion.	133
Appendix	134

## **PART II. WORKPLACE PUBLIC GOODS.**

<b>Chapter 5. The decline of the workday, mid 1880s to 1920.</b>	144
5.0. Introduction.	144
5.1. The historical evolution of the working day in Spain.	145
5.2. Winning the eight-hour day.	179
5.3. Conclusions.	183
Appendix	184

<b>Chapter 6. The collective negotiation of piece rates. A case study on the management of piece rate lists in the Catalan textile sector, 1880-1913.</b>	187
6.0. Introduction.	187
6.1. Piece rates and working conditions in the Catalan cotton textile industry	189
6.2. Institutions governing pay.	193
6.3. Data.	196
6.4. Price and quantity adjustments, 1880-1910.	200
6.5. Causes of piece rate rigidity.	212
6.6. Conclusions.	221
Appendix.	223

<b>Chapter 7. Workplace health and safety.</b>	229
7.0. Introduction.	229
7.1. The debate over workplace risks.	230

7.2. Accident prevention and sanitary conditions.	243
7.3. Unions and professional risk.	249
7.4. Conclusions.	264
Appendix	266
 <b>Chapter 8. Conclusions</b>	 267
 <b>References and bibliography.</b>	 277

## List of tables.

	<b>Page</b>
1.1. Workers' demands in Barcelona, 1903.	18
1.2. CNT programme for the general strike of 1917.	19
1.3. Factors explaining the reduction of the working week in the US, 1914-1919.	23
1.4. Real wage indexes for selected sectors, 1913-1920 (1913=100).	34
2.1. Union densities in Barcelona, 1903-1906.	55
3.1. Effects of unions and employers' associations on strikes, 1912-1915.	88
4.1. Strikes by type of settlement, 1905-1915.	123
4.A1. Factors determining the probability of winning strikes, 1912-1915.	137
4.A2. Factors determining the probability of winning strikes, 1905-9.	139
4.A3. Factors determining government intervention in strikes, 1905-1915.	141
5.1. Hours of work, 1880s.	153
5.2. Hours of work in the province of Barcelona, 1884 and 1899.	155
5.3. Hours of work in Barcelona, early 20 <sup>th</sup> century.	160
5.4. Relationship between hours and wages, 1904-1909.	163
5.5. Hours of work in 1910.	169
5.6. Elasticity of nominal wage with respect to hours, 1909-1914.	171
5.7. Distribution of hours among sales workers in 1912.	174
5.8. Correlation of hours of work with share of women in the labour force (by age groups), 1909-1914.	177
5.A1. Nominal wage functions, 1909-1914.	184
6.1. Behaviour of firms in economic downturns (hypotheses).	192
6.2. Piece rate changes, self-acting mule and ring spinning.	201
6.2A. La España Industrial, 1880-1886.	201

6.2B. Sedó, 1901-1910.	201
6.2C. Almeda, Alamany y Cía, 1886-1910.	201
6.3. Piece rate changes, cotton weaving.	203
6.3A. La España Industrial, 1880-1886.	203
6.3B. La España Industrial, 1890-1910.	203
6.3C. La España Industrial, 1890-1910 (averages).	203
6.3D. Sedó, 1895-1910.	203
6.4. Wage and labour input adjustment to output fluctuations.	205
6.5. Adjustment to output declines, cotton spinning 1880-1910.	209
6.5A. La España Industrial, mule spinning, 1880-1886.	209
6.5B. La España Industrial, ring spinning, 1891-1910.	209
6.5C. Almeda, Alemany y Cía, ring spinning, 1886-1910.	209
6.5D. Sedó, ring spinning, 1901-1910.	209
6.6. Adjustment to output fluctuations, cotton weaving, 1889-1910.	210
6.6A. Sedó, weaving, 1901-1910.	210
6.6B. La Espanya Industrial, weaving, 1889-1910.	210
6.7. Physical productivity of self-acting mule spindles, 1860s-1885.	215
6.A1. Cost-of-living indices, 1880-1914.	223
6.A2. Fixed effects regressions, cotton spinning, 1880-1910.	224
6.A3. Quantity and wage adjustments, 1880-1910.	225
7.1. Accidents during the workday, 1905-1909.	237
7.2. Accidents by day of the week, 1905-1909.	238
7.3. Sources of occupational risk, Catalan provinces 1910.	243
7.4. Warning and fining probabilities, labour inspection 1909-1922.	247
7.5. Yearly fatality rates per 1,000 workers in coal mining, 1900-1920.	252
7A1. The impact of collective bargaining in coal mining accident rates, 1900-1930.	244

## List of graphs and maps.

	Page
2.1. Strike activity in Spain, strikers (thousands) 1905-1923.	40
2.2. Strikers in Barcelona (thousands), 1899-1923.	50
2.3. Unions existing in Barcelona in 1904 by year of creation.	54
2.4. Union members (thousands), UGT (General Workers' Union), 1896-1923.	66
2.5. Year of creation of agricultural unions applying to IRS elections in 1919.	70
Garment industry.	
2.6. Year of creation of unions in the garment industry applying to participate in IRS elections in 1919. Agriculture.	70
4.1. Strike outcomes in Spain, 1905-1920.	122
4.2. Factors affecting the probability of winning strikes, Catalan strikes	124
4.3. Determinants of civil governor intervention, 1905-9.	125
4.4. Determinants of civil governor intervention in Catalan strikes, 1912-1915.	125
4.5. The effect of size of city and of strike size on strike outcomes, 1905-1915.	127
5.1. Hours of work and nominal wages in Valencia, mid 1900s.	168
<b>Map 6A.1.</b> Geographical distribution of the Catalan textile sector.	228
7.1. Reported workplace fatalities, 1902-1930.	230

## Acknowledgements.

This dissertation has benefited from the help of academics, colleagues and friends. My greatest debts are to my dissertation supervisor Max Schulze, who has read, commented on and criticised various drafts of chapters with infinite patience and rigour, and above all with good humour. I am also indebted to the members of the 1999 and 2000 Graduate Research Committees of the LSE Economic History Department –Larry Epstein, Paul Johnson and Mary Morgan- for very useful advice and criticism at the very early stages of this dissertation. While in Barcelona, Carles Sudrià carefully read some of the early drafts of chapters of this dissertation and encouraged me to go back to work.

This thesis would have been impossible without generous financial support provided by the Economic and Social Research Council, the LSE, the Bank of Spain and the University of Barcelona, for which I am grateful. At the Economic History Department of the University of Barcelona, Carles Sudrià and Daniel Tirado made possible a welcome two-year stay in a very co-operative and dynamic research environment, where most of the research and writing of this dissertation was made.

Enriqueta Camps, who taught me World Economic History-I when I was an economics undergraduate at Pompeu Fabra University, kindly guided me in the very early stages of both my MSc and PhD dissertations and with years has become a friend. Colleagues and friends have discussed aspects of the project or given me helpful comments on individual chapters and papers. My greatest thanks in this respect go to Elsa Bolado, Óscar Calvo-González, Anna Carreras, Alfonso Herranz-Loncán and Javier Silvestre. Seminar participants at the LSE, University of Barcelona and Carlos III University (Business and Administration) proved to be ideal audiences for papers and individual chapters.



Alfonso Herranz Loncán has repeatedly provided crucial help at difficult times. Isabel Figuerola-Ferretti and Yannis Paraskevopoulos have been immensely generous, both in London and in Madrid. Ilaria Favretto has been supportive and hospitable in multiple ways. Other people offered houses, rooms and available spaces for short and long periods of time. I would like to thank in this respect Óscar Calvo-González, Marcella Favretto, Marta Foresti and Paolo Nelli. And Engràcia Salvo's overgenerous supply of meatballs aided me through the writing of chapter 6.

I owe a lot to my family, for believing in this project more than I did. My greatest debt, however, is to Rocío, who has sustained me in every way throughout the project and has shared all these years with unfailing love and support. This thesis is dedicated to her, not so much because of the value that there might be in it, but because of what these years mean to us.

## List of abbreviations.

**ANC:** *Arxiu Nacional de Catalunya* (National Archive of Catalonia).

**ACCB:** *Archivo de la Cámara de Comercio de Barcelona* (Archive of the Chamber of Commerce of Barcelona).

**CNT:** *Confederación Nacional del Trabajo* (National Confederation of Labour).

**CRS:** *Comisión de Reformas Sociales* (Social Reforms Commission).

**CRT:** *Confederación Regional del Trabajo* (Regional Confederation of Labour, Catalan branch of the CNT).

**DSC:** *Diario de Sesiones de las Cortes* (minutes of parliamentary sessions).

**FRSOR:** *Federación Regional de Sociedades Obreras de Resistencia* (Regional Federation of Workers' Resistance Societies).

**FRE:** *Federación Regional Española* (Spanish Regional Federation).

**FTRE:** *Federación Regional de Trabajadores de la Región Española* (Regional Federation of Workers of the Spanish Region).

**FTN:** *Fomento del Trabajo Nacional* (Catalan employers' association favouring a protectionist trade policy).

**IRS:** *Instituto de Reformas Sociales* (Institute of Social Reforms).

**PSOE:** *Partido Socialista Obrero Español* (Spanish Socialist Party).

**Pta:** *pesetas* (currency).

**RI:** *Reales* (currency).

**SMA:** *Sindicato Minero Asturiano* (Asturian Miners' Union).

**SO:** *Solidaridad Obrera* (Workers' Solidarity).

**UGT:** *Unión General de Trabajadores* (General Workers' Union).

## **Chapter 1.**

### **Introduction.**

Labour market performance in Spain in the political context of the Restoration (1874-1923) offers the opportunity to study the operation of a labour market in absence of formally constituted collective bargaining institutions, minimum wage legislation or unemployment insurance, and other common regulations of post-Second World War labour markets in Europe and North-America. Therefore, a relatively unregulated labour market generates the possibility of measuring the effect of forces other than well enforced labour market regulation and binding employment contracts on the evolution of labour market institutions and workers' welfare. The underdevelopment of labour market regulation in Spain in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries did not imply labour markets worked exclusively as spot markets in which "exit" was the main determinant of the terms of employment. "Voice", taking the multiple forms of strikes, boycotts, sabotage or collective bargaining, played an important role as well. In fact, the period witnessed a highly cyclical, but rising, trend in workers' collective mobilisation in the form of growing union membership and strike activity.

This thesis takes into account that institutions of collective action matter and differ substantially among countries. The labour movement in Spain has often been characterised by its radicalism, instability, widespread violent tactics and quasi-revolutionary general strikes. For example, comparing the Italian and Spanish labour movements before 1917, Edward Malefakis stressed:

(...) the Spanish and Italian working classes and their movements remained far less integrated with the rest of society than was true in Western and Central Europe, particularly in the pre-communist era. (...) There was no decrease in collective violence as worker organization spread, no reasonably secure hegemony of reformist leaders, (...),

no abandonment of revolutionary goals in revolutionary situations for the defense of democratic capitalist regimes.<sup>1</sup>

Revolutionary syndicalism offers an interesting case-study of the development of labour institutions and labour market outcomes in the presence of class antagonism, which erodes social capital and hinders co-operative solutions to social problems. Comparing the Spanish experience with the more mature British and German labour movements, the central tenet of the academic and reformist view of labour unions (developed in chapter 3) affirmed that unions had to become moderate to make peaceful collective bargaining possible. This line of argumentation appeared, for example, in the following paragraph written by a commission of Catalan cotton textile workers after they visited Lancashire in 1889:

The docility of English workers is the result of the assurances they receive from the employers' union, which maintains the collective agreements reached without any variation. It thereby offers confidence to the worker, who, in return, offers peace to the employer.<sup>2</sup>

When addressing class antagonism, contemporary reformers stressed several institutional characteristics related to economic and political underdevelopment bearing on the evolution of the labour movement. Following this lead, accounts of labour history up to the Civil War have incorporated the metaphor of "failure" which has been used to explain the arduous transition of Spain to economic and political modernity. "Failure" looms large in narratives of Spain's slow and incomplete industrialisation. The comparison with England's industrial revolution was for instance used in the classic work on Spanish economic history, Jordi Nadal's, *El fracaso de la revolución industrial en España* (the failure of the Industrial Revolution in Spain).<sup>3</sup> Similarly, the inability of the Spanish parliamentary system to allow for greater presence of Republican and Socialist representatives also accounts for the Restoration system's failure to co-opt new

<sup>1</sup> Malefakis, Edward, "A comparative analysis of workers' movements in Spain and Italy," p. 59. In Richard Gunther, ed., *Politics, society, and democracy: the case of Spain* (New York, 1993).

<sup>2</sup> Comisión Obrera Catalana, *Memoria descriptiva redactada por la Comisión Obrera Catalana para estudiar las fábricas de hilados y tejidos de algodón de Inglaterra* (Barcelona, 1889), quoted in Smith, Angel, "Social conflict and trade union organisation in the Catalan textile industry, 1890-1914," *International Review of Social History*, XXXVI (1991), p. 374.

<sup>3</sup> Nadal, Jordi, *El fracaso de la Revolución Industrial en España, 1814-1913* (Barcelona, 15th edition, 1997).

political forces.<sup>4</sup> In this context, political and economic backwardness explained the expansion and persistence of radical ideologies among Spanish working class institutions. As American labour historian Benjamin Martin put it:

In Western Europe sustained economic growth and the improving status of wage earners made trade unions a more integral part of the institutional, social, and economic fabric and had a moderating effect in their outlooks and policies. Such was not the case in Spain, where capitalistic development had been only partial and highly uneven. Labor organizations continued to draw their force as vehicles for popular protest amid frustration over the vestiges of preindustrialism that condemned the country to an excruciatingly slow economic expansion.<sup>5</sup>

Pere Gabriel points to capitalistic underdevelopment as explaining the reasons for the growing radicalisation and ultimate 'failure' of the labour movement (in this case referring exclusively to the Catalan labour movement):

Strikes usually ended badly because of the intransigence of some employers, because of government repression for more general political reasons, or sooner or later because of terrorist provocations. The trade union movement consequently became disorganised while the conditions previously agreed to were gradually rejected by the employers. When reorganization appeared to be more or less established another strike movement would develop and the cycle repeated. (...)

This created a situation in which co-operative solutions to social problems could not be reached, reinforcing the antagonism between workers and employers:

This cycle had many implications. Essentially, it underscored the incapacity of Catalan, and more generally Spanish, society (ultimately the incapacity of Spanish capitalism) to permit the "orderly" development of the trade union movement and of labor improvement which were the great hope of many reformism intellectuals and, lest we forget, of many trade unionists as well. A high degree of continuous trade union effort took place in Catalonia but not the organizational stability of the labour movement. The situation did not tend to strengthen the resolve of labor leaders to

<sup>4</sup> Ringrose, David M., *Spain, Europe, and the "Spanish miracle," 1700-1900* (Cambridge, 1996), p. 7.

<sup>5</sup> Martin, Benjamin, *The agony of modernization. Labor and industrialization in Spain* (Ithaca, NY, 1990), p. XV.

avoid direct confrontations and avert disorganization (...) but rather to reinforce the most intransigent outlooks.<sup>6</sup>

### **1.1. The strike threat and rising workers' militancy.**

In the first part of the thesis, I describe how workers' collective protest took an ever increasing role and labour unrest became one of the most salient political issues of Restoration Spain. Contemporary observers linked the spread of labour militancy to the liberal and industrial revolutions of the first half of the 19<sup>th</sup> century. The Liberal Revolution, starting in 1808 with the independence war against Napoleon, forbade urban guilds first in 1813 and finally in 1835. The French sociologist and member of the Paris *Musée Social*, Angel Marvaud, argued in a classic book on the Spanish *cuestión social* (the social problem) that:

The consequences of the banning of guilds (*gremios*) –final as I said in 1835- had severe consequences on the urban workers: they opposed the (previous) co-operative regime because it limited their freedom, but it (the previous situation) was preferable to the state of complete isolation that was to threaten them from then onwards.<sup>7</sup>

The Industrial Revolution and the advance of mechanisation was the second cause of workers' discontent. According to contemporary theories of wage and labour supply determination, mechanisation caused unemployment and falling product prices and drove wages and hours to levels barely avoiding the starvation of the worker. As a consequence of falling wages, children and women were driven into the labour market, further depressing wages. Defenceless in front of the employer, the worker was forced to accept intolerable working conditions or otherwise unemployment and destitution. This shifting of rights in favour of increasingly powerful employers explained the rising trend in workers' discontent.

This *relative deprivation* hypothesis has also been incorporated into recent contributions to Spanish labour history. These narratives of the rise of labour militancy in Spain stress the role of technological factors and market forces triggering stagnant or

<sup>6</sup> Gabriel, Pere, "Classe obrera i sindicats a Catalunya, 1903-1920," pp. 825-826. Unpublished PhD dissertation, Universitat de Barcelona, 1981.

<sup>7</sup> Marvaud, Angel, *La question sociale en Espagne* (Paris, 1910), pp. 22-23.

even declining living standards and the disruption of traditional social relations. In turn, these discontinuities generated frustration-aggression responses explaining the organisation of workers' collective action.<sup>8</sup> The inability of Spanish capitalism to satisfy the demands of workers caused the radicalisation of the labour movement. For example, Benjamin Martin has claimed that:

The socioeconomic lag greatly enhanced the inflow of the new political credos – socialism, anarchism, anarcho-syndicalism- that were part and parcel of the Industrial Revolution but shaped and attenuated by Iberian underdevelopment. Spanish socialists sought to emulate the socialdemocratic practices of its Western European counterparts but found it necessary to periodically resort to quasi-insurrectionary actions. The inherent instabilities of the Catalanian textile economy ruled out any durable labor peace in Barcelona, thus contributing to the most insurrection-prone anarchist movement in Western Europe and to the pervasive spread of anarcho-syndicalism.<sup>9</sup>

Because radical politics and mass strikes antagonised employers, an insurrectionary labour movement prevented the orderly development of collective bargaining institutions and the supply of socially useful institutions like savings banks, co-operative stores or mutual benefit societies. In what was the traditional interpretation of Spanish reformers, the problem of social unrest was to be solved by the maturation of the labour movement through the provision of collective bargaining in exchange of social peace, while reformers sought to correct market failures or unsatisfactory market outcomes through a far-reaching regulatory programme. In this regard, reformers compared the experience of the more mature German and British unions with revolutionary syndicalism in France, Italy and Spain.

In part I of the thesis, I argue that this comparison with more mature labour movements is misleading and that processes of growth and maturation in working class militancy had fundamentally different dynamics. Since formal bargaining mechanisms and institutions did not exist and the rights to belong to a union and to strike were contested, workers turned to the public arena to express their grievances. In this context, I consider state policy was crucial in diminishing or increasing the size of the costs of

<sup>8</sup> On frustration-aggression models of workers' behaviour: Shorter, Edward and Charles Tilly, *Strikes in France, 1830-1968* (Cambridge, 1974), pp. 6-7.

<sup>9</sup> Martin, Benjamin, *The agony*, p. XV.

collective action, shielding unions from employers' repression in particular circumstances or further repressing workers in others. In this case, state policy shaped the evolution and the types of institutions of the labour movement. A 'political' model will consider thus:

1. Union demands.
2. Strikes.
3. Political opportunities / strike outcomes.
4. Union strategy (and back to 2).

It is easy to see why workers turned to the political or public arena to express their grievances. This is for instance commonly contemplated in the literature on institutional change. In some contexts, institutional change cannot be achieved between the main private actors because high transaction costs make such voluntary agreements difficult.<sup>10</sup> For example, we could imagine arbitration institutions in strikes in the form of joint boards of workers and employers which could diminish the costs of frequent strike action. In this sense, they might be efficiency-enhancing institutions. As I show in chapter 2, however, union recognition clauses were seldom accepted by employers. The agents with an interest in institutional reform see the political solution as the most cost-effective means of overcoming the transaction costs that hamper the private solution. Institutional reform is not necessarily income or efficiency enhancing, it might only be redistributive. What is important is that the agents involved in institutional reform show some public display of their grievances and that some 'political' solution is given leading to institutional reform. A political solution generates a new distribution of rents and opens another round of "public" lobbying, producing further institutional reforms. Different rounds of this exchange lead to a circular process of institutional change.

Focusing on political solutions and public lobbying, my model of union growth depends on strike waves, which in turn depend on political opportunities opened by events such as colonial wars, election years or government crises. In this context,

---

<sup>10</sup> Libecap, Gary, *Contracting for property rights* (Cambridge, 1989), chapter 1; Knight, Jack, *Institutions and social conflict* (Cambridge, 1992), "The primary importance of distributional conflict;" Majone, Giandomenico, *Evidence, argument, and persuasion in the policy process* (New Haven, 1989), chapter 5 "Changing institutional constraints."



unions did not grow through ordered dues collection and the gradual supply of collective and non-collective goods. Rather, as Spanish anarcho-syndicalists maintained, it was the strike that made the union in a sudden process of union growth. Paradoxically, this model of union expansion is akin to the hypotheses put forward by critics of the labour movement linking trade unions with fundamental political change (developed in chapter 3). Critical in this 'political' explanation is the fact that authorities decided to arbitrate or repress strikes, which in turn shaped the institutions of the labour movement. This is explained in chapter 4 of the thesis, in which it is argued that the political power enjoyed by workers in big cities and an economic and its interaction with political elite divided along the way of handling labour unrest allowed for the expansion of a strike-prone labour movement which included the unskilled. By maximising the probability of a favourable political intervention in the strike, radical union strategies in big cities running larger than average strikes became, with some important exceptions, a winning strategy up to 1920. Nevertheless, the same forces that made union growth possible –an inclusive strategy of strike and union participation– also unleashed the forces of government and employer repression which ended the strike wave, as in 1903, 1911 or 1920.

By looking at strike conflict, the narrative of union growth proposed here moves away from traditional explanations based on the internal dynamics of the labour movement studied in isolation of the political and ideological environment (studied in chapter 3). In absence of clearly defined and enforced union and strike rights, strikers needed outside allies to defeat powerful employers.

## **1.2. Workplace public goods.**

The second part of the thesis examines the effects of workers' collective action and state intervention on the operation of labour markets. Between 1874 and 1923, the workday was subject of substantial regulatory decisions. In 1900, maximum hours ceilings for women and children were passed and in February 1919 the state satisfied the fundamental demand of the 8-hour day. The right to rest on Sundays was subject of legislation in 1904 and hours ceilings were established for mining, textiles and sales and retail workers in the 1910s. Workplace safety and sanitation was regulated since 1900, with a labour inspection service starting to work in 1906. Workplace accident compensation was obtained in 1900 and substantially improved in 1922. After these

initial efforts, minimum wage laws, unemployment insurance and an old-age pension system were adopted in the 1920s and the first half of the 1930s.

Moreover, unions and strikers also pushed for higher wages, a shortening of the working day and the banning of payment by the piece. For example, workers' demands in 1890 are outlined in Temma Kaplan's vivid depiction of the first 1<sup>st</sup> of May celebrated in Barcelona:

May Day 1890 became a revolutionary international holiday, complete with anthems, globes enveloped with palms of peace, red carnations, red flags, and, in Barcelona, yellow triangular ribbons emblazoned with slogans calling for the eight-hour day. The demonstration in Barcelona started with a mass meeting at the Tivoli theater in Gracia Pass, close to the Plaza de Catalunya. The audience heard the speakers call for the eight hour day, and end to child labor altogether for children under fourteen, and a six-hour day for those between the ages of fourteen and eighteen. They demanded the abolition of most night work and prohibition of female employment in mines. They called for consecutive thirty-six hour rest periods every weekend or for a half-day on Saturday. And they demanded that the Government regulate jobs dangerous to the health of workers.<sup>11</sup>

In 1903, the detailed accounts of Miguel Sastre Sanna on Barcelona' strikes enables us to identify workers' demands in the early 20<sup>th</sup> century.<sup>12</sup> I have collected the number of times each issue was mentioned in the strikes reported by Sastre in 1903 and present them in the following table.<sup>13</sup>

<sup>11</sup> Kaplan, Temma, *Red city, blue period. Social movements in Picasso's Barcelona* (Berkeley, 1992)..

<sup>12</sup> Miguel Sastre Sanna, *Las huelgas de Barcelona y sus resultados durante el año 1903. Acompañados de numerosos é importantes datos estadísticos sobre asuntos relacionados con la cuestión social obrera en Barcelona* (Barcelona, 1904). There are yearly issues of information on Barcelona's strikes until 1914.

<sup>13</sup> Workers' demands were presented as a written collective contract (*bases de trabajo*) organised in articles, each article referring to one issue at each time: wages for all categories, hours, time schedule, etc.

Table 1.1. Strikers' demands in Barcelona, 1903.

Issue:	Times:
Shorter Hours	17
Higher Wages	15
Restrictions on freedom of dismissal	6
Solidarity with other strikers*	5
Sunday rest	4
Adoption of time rates instead of piece rates	3
Work organisation	2
Re-admission of sent off union workers	2
Right to associate	2
Lay off of non-union workers ( <i>union-shop</i> )*	2
Seniority rules in recessions	2
Housing	1
Sickness insurance	1

Source: Own elaboration from Sastre, *Las huelgas de Barcelona en el año 1903* (Barcelona, 1904).

\* not presented in *bases de trabajo* but motivation of strike.

As in 1890, the main demand of workers on strike in Barcelona in 1903 was the shortening of the working week, followed by higher wages, exercising some control over company's hiring and lay off policies and the management of piece rates.

Making a final leap over time, the programme presented by the anarcho-syndicalist National Confederation of Labour (*Confederación Nacional del Trabajo*, CNT) at the General Strike of 1917<sup>14</sup> presented a mixture of "old" and "new" elements. The programme presented the following objectives of the organisation:

<sup>14</sup> General Strike declared all over Spain. For reference see Meaker, Gerald H., *The Revolutionary Left*; Lacomba, Juan Antonio, *La crisis española de 1917* (Madrid, 1970).

Table 1.2. CNT programme for the 1917 General Strike.

1. A Republic
2. Recognition of working-class syndicates and their power to veto laws passed by the bourgeois Cortes.<sup>15</sup>
3. A seven-hour day and an English Week.
4. A minimum wage of 4 pesetas a day and no piece-work.
5. Pensions for disabled workmen and for those over 50.
6. Children under 14 not to work
7. The dissolution of the Army and its substitution by a militia.
8. A declaration of war to come only after a plebiscite, and those who vote for it to be enlisted first.<sup>16</sup>
9. Separation of Church and State, dissolution of convents and the closure of the churches for a certain period.
10. Divorce laws.
11. Nationalisation of land.
12. Reforms of the prison system to make it more humane.
13. Prohibition of all festivals (e.g. bullfights and indecent cabarets) which can brutalise the people.

Source: Quoted from Brenan, Gerald, *The Spanish Labyrinth* (Cambridge, 1943), p.198-199. Original source is Manuel de Burgos y Mazo, *Páginas históricas de 1917* (Madrid, 1919), p. 79-83.<sup>17</sup>

Among the “old” elements that could perfectly join the 1903 list are the familiar regulation of the working week and hours of work, the antagonism against piece rates, the necessity of setting a network of social insurance for sick and old workers, or the minimum wage. Efforts to improve working conditions were now backed by a movement committed to the violent overthrow of the monarchy, to the dissolution of the army and to stop the involvement of Spain in World War 1. The labour movement was now organised along class lines and used the revolutionary general strike to have an impact on government policies.<sup>18</sup>

In spite of the changing nature of working class institutions, in part 2 of the thesis, I study the collective bargaining (formal and informal) of the main demands of Spanish unions related to working conditions. In order to do that, I consider observable characteristics of labour markets like wages, hours of work, effort rules, forms of contract, layoff policies, and industrial safety can be treated as *collective* or *public*

<sup>15</sup> Cortes is the Spanish Parliament.

<sup>16</sup> The debate on the participation of Spain in the 1<sup>st</sup> World War is treated with great detail in Meaker, G.H., *The revolutionary Left*, ch.2, “The Ordeal of Neutrality.”

<sup>17</sup> Burgos y Mazo was Minister of Interior in 1917.

<sup>18</sup> The same can be said of the General Workers’ Union (*Unión General de Trabajadores*, UGT) which originally organised the general strike of 1917.

*goods*: “attributes of work that by their very nature must be experienced jointly, such as the speed of the assembly line, cotton lint in the air, or the risk of catastrophic accidents.”<sup>19</sup> Those collective goods are bargained by agents’ means to exert collective action such as unions and employers’ associations, with the implication of a third agent with regulatory and coercive power such as the state.<sup>20</sup>

The argument on the impact of unions on workplace public goods is put forward by Richard Freeman and James Medoff in the following paragraph, where it is argued that union take into account the preferences of older, less marketable workers, with firm-specific human capital acquired during their careers:

The collective nature of the trade unionism fundamentally alters the operation of the labour market and hence the nature of the labor contract. In a non-union setting, where exit and entry is the predominant form of adjustment, the signals and incentives to firms depend on the preferences of the “marginal” worker, the one who might leave because of (or be attracted by) small changes in the conditions of employment. The firm responds primarily to the needs of this marginal worker, who is young and marketable; the firm can to a considerable extent ignore the preferences of typically older, less marketable workers, who – for reasons of skill, knowledge, rights that cannot be readily transferred to other enterprises, as well as because of other costs associated with changing firms – are effectively immobilised. In a unionized setting, by contrast, the union takes account of *all* workers in determining its demands at the bargaining table, so that desires of workers who are highly unlikely to leave the enterprise are also represented. With respect to public goods at the workplace, the union can add up members’ preferences in much the same manner in which a government can add up voters’ preferences for defense, police protection, and the like to determine social demand for them. In sum, because unions are political institutions with elected leaders, they are likely to respond to a different set of preferences from those that prevail in a competitive labour market.<sup>21</sup>

The literature on unions and the supply of public goods, however, has been developed under the assumption that strikers and unions have well defined and

<sup>19</sup> Wright, Gavin, “Labor history and labor economics” (Boston, 1987), in Field, Alexander (ed.), *The future of economic history* (Boston, 1987).

<sup>20</sup> On unions as fundamentally bargaining over workplace public goods: Olson, Mancur, *The logic of collective action. Public goods and the theory of groups* (Cambridge, MA, 1995), chapter 3 “The labor union and economic freedom,” p.67. As well in Duncan, Greg J. and Frank P. Stafford, “Do union members receive compensating differentials?,” *The American Economic Review*, 70, 3 (June 1980), p. 355.

<sup>21</sup> Freeman Medoff, *What do unions do?* (New York, 1984), p.9-10.

relatively uncontested rights, which accords well with the system of industrial relations in post-war labour markets in Western Europe and the US but not with labour markets in the 19<sup>th</sup> century. It is not all too clear how the bargaining power of unions is affected by the institutional environment and if the “voice” mechanism of unions is less efficient when union rights are contested. Does the absence of formal collective bargaining hamper the fulfilment of rapidly changing preferences as industrial labour markets evolved in the period? Were workers’ demands for workplace public goods met as workers gained experience on the new risks faced in industrial establishments? As their demands for shorter hours intensified with rising wages? Or, as the expectation of a longer attachment to industrial work and the concern for future productivity and old age eroded the preference to work by the piece?

To address the impact of workers’ collective action and state policy on workplace public goods in the particular institutional context of the Spanish *Restauración*, I have chosen to study the collective negotiation of the length of the work day, of piece rate lists, and of the levels of workplace safety and health. In the case of piece rates, given the level of detail needed to understand the lists and the terms of contract and the general scarcity of evidence on many sectors, I have focused on the negotiation of lists in the Catalan cotton textile industry, where this issue was especially important. In the next three sections, I outline approaches used to analyse the historical evolution of these workplace public goods with examples drawn from the international historical literature.

### **Hours.**

In the international economic history literature the shortening of the working week has attracted a great deal of attention. First, it has implications for workers’ welfare as leisure has been increasing over time. Moreover, it also offers an interesting case study of the effects of unions and collective bargaining on labour market outcomes. In the following paragraphs I discuss two models of the decline in hours of work, one by Martha Ellen Shiells on hours of work in the British and American iron and steel industries and the other, by Robert Whaples on the decline of hours of work in the United States between 1914 and 1919.

The argument putting emphasis on skilled, long-term workers' preference for short-hours is at the base of Martha Ellen Shiells' comparative analysis of collective bargaining of hours in US and British Iron and Steel.<sup>22</sup> In the late 19<sup>th</sup> century, American iron and steel firms worked two twelve-hour shifts per day whereas after the First World War they started working three shifts of eight hours each. According to Shiells, the choice of shift systems depends on the skill mix and hourly wages that must be paid to attract eight- and twelve-hour skilled and unskilled workers. Being paid higher wages and thus more ready to substitute income by leisure, skilled workers demand a premium to work long hours. On the other hand, unskilled workers, with a relative greater preference for long hours, would demand a premium to work short hours. The argument follows: a firm works 12-hours shifts if the premium paid to skilled workers for long hours is lower than the premium paid to unskilled workers for short hours. Apparently, Shiells argues, this was to be the equilibrium reached in US and British iron and steel in the late 19<sup>th</sup> century.

However, some changes must have appeared in the early 20<sup>th</sup> century since hours fell considerably. The first candidate is wage increases with backward bending labour supply curves. Another is a change in the equilibrium due to declines in hours in other industries and sectors shifting the wage functions for unskilled and skilled workers and the premiums demanded. Unless these changes were symmetrical for unskilled and skilled workers, the transition towards eight-hour days would have created a public good problem for workers with heterogeneous preferences.<sup>23</sup>

In Britain, according to Shiells, there existed an efficient collective choice mechanism –in the form of joint boards of conciliation and arbitration- that guaranteed that changes in hours reflected changes in the average workers' preferences. As a consequence of this, in March 1919 the eight-hour day was introduced in British Iron and Steel. An inspection of wages of unskilled and skilled workers before and after the decline in hours allows Shiells to conclude that skilled workers subsidised the change. On the other hand, in the US, with a poor collective bargaining mechanism, changes in working conditions reflected poorly the preferences of the average worker with twelve

---

<sup>22</sup> Shiells, Martha Ellen (1990), "Collective choice of working conditions: hours in British and US iron and steel, 1890-1923," *Journal of Economic History*, L, 2 (June 1990), pp.379-392.

<sup>23</sup> *Ibid.*, p.386.

hour shifts remaining for longer. As the collective bargaining mechanism failed, there was an increasing pressure on public opinion for government intervention and eight hours shifts were finally obtained in 1923.

Shiells article illuminates the decision-making process and offers an institutional analysis of the reduction of the working week. Robert Whaples on the other hand explicitly tests quantitatively a series of theories concerning the reduction of the working week using two different data sets at sector- and city-level.<sup>24</sup> The main explanatory variables and their contribution in the reduction of the working week in the US from 1914 to 1919 are:

Table 1.3. Factors explaining the reduction of the working week in the US, 1914-1919. Whaples (1990)

<i>Explanatory variable</i>	<i>Contribution</i>
Union strength	4.2 % (14 %)*
Real wages in a backward bending labour supply	30.9 %
Tight labour market	16.2 %
Immigration	19.4 %
Female employment	4.3 %
State Law	1.2 %
“Personnel” boom	3.8 %
(Electrification)	(30.1%)**

Source: Whaples, “Winning the eight-hour day.”

\*when union effect on wages is taken into account.

\*\*electrification on city-level regressions. The table uses sectoral data regressions.

According to Whaples the transition towards short hours is best understood with a model of labour supply and demand in which firms offer discrete hour-earnings packages.<sup>25</sup> The model also assumes that each worker maximises utility subject to

<sup>24</sup> Whaples, Robert, “Winning the eight-hour day 1909-1919,” *Journal of Economic History*, L, 2 (June 1990), pp.393-406.

<sup>25</sup> The model is taken from Bernanke, Ben E., “Employment, hours, and earnings in the Depression,” *American Economic Review*, 76 (March 1986).



opportunities available within and outside of the manufacturing sector. Important as well, workers only consider wages and hours when accepting or refusing a job. Hence there is an *earnings curve*, which is the indifference curve in the earnings-hours space for which workers' utility equals the reservation's utility that they are able to obtain outside the manufacturing sector. Along the same indifference curve workers trade off earnings for hours, keeping utility constant. On the demand side, firms convert worked hours into output, but there are diminishing returns due to worker fatigue. Firms maximise profit by offering an hour-earnings package at the point where the marginal cost of labour equals marginal product.

Whaples' argument goes as follows: as there was a 30 per cent increase in manufacturing employment, firms were forced to hire workers whose reservation utility was above the earnings-hour package previously offered by firms. The new workers' earnings curves were higher and steeper than those of the initial employees. In order to make manufacturing employment attractive, firms had to offer higher earnings and shorter hours. Whaples concludes "wartime growth of manufacturing sector should therefore be one of the reasons that hours fell."<sup>26</sup> As his regressions show, a tight labour market –proxied through rising wages and rising manufacturing employment- not only was the main reason why hours fell. Other important causes include the more obvious growing union strength and increasing government intervention. Finally, two usually neglected factors pushing the working week down are the 'personnel' boom described by Sanford Jacoby<sup>27</sup> and electrification of the industry. A genuine labour-demand side factor, the personnel boom is a set policies implemented in firms that can be thought as an investment by employers in the future productivity of their workers. Since employers were increasingly aware that worker fatigue reduced future productivity, managers sought to minimise this danger by shortening the working day.

Electrification also changes the demand for labour. As Whaples puts forward:

By shifting the ownership of power-generating machine outside the firm, electrification might have helped reduce the length of the work week. This shift reduced the manufacturer's benefits from running machines (including power-generating machines)

<sup>26</sup> Whaples, "Winning," p.387.

<sup>27</sup> Jacoby, Sanford (1986), *Employing bureaucracy: employers, managers, unions, and the transformation of work in the American industry, 1900-1945* (New York, 1986).

---

long hours in an attempt to reduce the fixed costs per unit of output. Since most firms worked only one shift, shortening machine hours meant shortening hours of labor.<sup>28</sup>

The variable is not a negligible factor, in spite of the fact that it might be proxying some unmeasured characteristics of industries, like the adoption of scientific management and new production techniques. In his sector-level regressions, the adoption of electricity accounts for a 30 per cent of the measured reduction in hours.

Shiells and Whaples arguments enlighten different parts of a same problem with backward bending labour supply curves (i.e. an income effect) underlying the reduction of the working day. Shiells shows how changing preferences through a collective bargain mechanism are transformed into a shortening of hours, whereas Whaples weighted empirically the importance of each of the factors. His main conclusion seems to be that the transition to higher wages and lesser hours was mainly a demand-side factor, as firms improved the work package to attract rural workers to urban factories.

### **Piece rates.**

There is also a wide literature on the problems of managing piece rates which have also been applied to historical problems like the origins and persistence of price lists in the Lancashire cotton textile industry in the first half of the 19<sup>th</sup> century. The economics literature is unanimous in signalling the cause of workers' discontent with piece rates: wage cuts. According to this view, workers have a notion of what is 'a fair day's wage for a fair day's work.'<sup>29</sup> Notions of fairness are relative, based on a comparison of one's wages with that of similar individuals in the community or firm. But probably the most usual comparison is wages earned at present with wages earned in past. Thus if firms cut wages, they face strong workers' opposition in the form of strikes or output restriction.

The economics literature on incentive payment schemes focuses on the difficulty for firms to implement piece rates, with output restriction at the heart of the problem.

---

<sup>28</sup> Whaples, "Winning," p. 389.

<sup>29</sup> On notions of fairness see Solow, Robert M., *The labor market as a social institution* (Oxford, 1990) and Akerlof, George A. and Janet Yellen (1988), "Fairness and unemployment," *American Economic Review*, vol. 78, number 1 (1988) and Akerlof and Yellen, "The fair wage-effort hypothesis and unemployment," *Quarterly Journal of Economics*, vol. 105, number 2 (1990).

Because workers are paid by the output they actually produce, piece rates apparently solve problems associated with hidden information (adverse selection) and hidden action (moral hazard).<sup>30</sup> However, in spite of individual output being observable, it is precisely the fact that information asymmetries exist that prevents piece rates to be implemented successfully. Most authors argue that the problem seems to be the fact that workers know a lot more about the production process than managers do. Probably the most popular formulation of this argument was put forward by Richard Edwards:

Managers' ability to control soldiering resulted from their inadequate knowledge of the actual techniques of production. Most of the specific expertise –for example, the knowledge of how quickly production tasks could be done –resided in workers ... Piece rates always carried the allure of payment for actual labor done (rather than labor power), thus promising an automatic solution to the problem of translating labor power into labor...but as long as management depended on its workers on information for how fast the job could be done...there was no way to make the piece-rate method deliver its promise.<sup>31</sup>

Information about the production process is especially needed when new techniques are introduced. With stable technologies, the knowledge gap between workers and employers can be reduced over time, but the introduction of new machinery requires the cooperation of workers and employers. Workers paid by the piece should in principle favour the introduction of new techniques that would increase their earnings. But “firms never seem to allow their workers to start earning more money.”<sup>32</sup> Wage cuts follow every innovation introduced in the firm. The result is output restriction and low levels of innovation. For Carmichael and MacLeod the reason behind firms' inability to keep fixed piece rates is the competitive environment in which these firms operate. The argument assumes that a firm that has successfully enforced an explicit contract containing a fixed piece rate. As its workers start to introduce innovations, wages and profits grow. However, this knowledge-base can be acquired by other employers parasiting the innovating firm. What originally was knowledge

<sup>30</sup> See Gibbons, Robert, “Piece-rate incentive schemes,” *Journal of Labor Economics*, vol.5, number 4 (1987).

<sup>31</sup> Edwards, Richard, *Contested Terrain* (New York, 1979), p.98-99. Quoted in Huberman, Michael, *Escape from the market. Negotiating Work in Lancashire* (Cambridge, 1996), p.66 and in Gibbons, Robert, “Piece-Rate Incentive Schemes,” p.414.

<sup>32</sup> Carmichael, Lorne H. and W. Bentley MacLeod (2000), “Worker cooperation and the Ratchet Effect,” *Journal of Labor Economics*, vol.18, number 1 (2000), p.1.

produced by workers becomes managers' property in other firms. If competing firms are able to exploit the new knowledge, the 'innovating' firm will be driven out of business because workers in 'parasite' firms are paid a lower piece rate.<sup>33</sup>

Thus the situation above described becomes a classic prisoner's dilemma. As firms cannot commit to keep piece rates stable, workers restrict output and firms are kept in an equilibrium in which technical change is costly, workers' effort and labour productivity are low, and piece rates are low. If firms were able to commit themselves to not to cut piece rates, they would be in a "high effort-high piece rates" equilibrium.

Given the detail required to understand all contingencies in a piece rate contract, the optimal strategy is focusing in a sector rather than on the whole of the industry. Authors like Michael Huberman and William Lazonick have made models of informational asymmetry operational by analysing the organisation of work in cotton spinning, or more precisely on the self-acting mule.<sup>34</sup>

Gary Miller in his study of work organisation presented a model of piece rate bargaining, later used by Michael Huberman to analyse the piece rate problem in cotton spinning in Lancashire.<sup>35</sup> The model allows for the creation of endogenous effort norms and strategic behaviour and points to community-enforced standards for reference wages.<sup>36</sup> The basic prisoner's dilemma acknowledged in all models of piece rate bargaining is here as well analysed. Workers can *trust* their employers will not cut piece rates and give full effort and promote innovations, or to *distrust* them expecting wage cuts and restrict output. Employers can honour the trust of workers and keep piece-rates fixed or renege on their commitment and cut wages. For employers, no matter what

<sup>33</sup> Ibid., p.3.

<sup>34</sup> See analysis of the effort problem in the Lancashire firm McConnell and Kennedy in the 1820s in Huberman, Michael, *Escape from the market*, chapter 3. Great detail is as well provided in Lazonick, William H. (1981), "Production relations, labor productivity, and choice of technique: British and US cotton spinning," *Journal of Economic History*, vol. XLI, 3 (September 1981) and especially Lazonick, William H., "Industrial relations and technical change: the case of the self-acting mule," *Cambridge Journal of Economics*, 3 (1979).

<sup>35</sup> Miller, Gary, *Managerial dilemmas. the political economy of hierarchy* (Cambridge, 1992); Kreps, David M., "Corporate culture and economic theory," in James Alt and Kenneth Shepsle (eds.), *Perspectives on positive political economy* (Cambridge, 1990); for a test of the model on mule cotton spinning Huberman, Michael, "Piece rates reconsidered: the case of cotton," *Journal of Interdisciplinary History*, XXXVI, 3 (Winter 1996), pp.393-417.

<sup>36</sup> Huberman, *Escape from the market*, p.72.

workers do, the optimal strategy is *renege* and cut wages. Since workers are rational, they will accordingly restrict output. Both parts are better off if workers do not restrict output and employers keep piece rates fixed, but as employers cannot commit not to cut wages, a lower utility equilibrium ensues.

In one shot piece rate games the final outcome will inevitably be the one just described. Things change when repeated interaction is allowed in the model. As both parts can punish each other in future negotiations, a tit-for-tat strategy can lead to a co-operative settlement if the game is repeated to infinity or players do not know when repeated interaction is going to finish. Players start co-operating and only do not co-operate if the other does not co-operate. In long enough games the stream of future benefits from co-operation can be greater than the present gain of not co-operating. Accordingly, the dominant strategy becomes to co-operate. As Gary Miller notes, a co-operative settlement is more likely to arise in long-run organisations.<sup>37</sup> Co-operation is not the dominant strategy, it is only rational to co-operate if each of the players knows for sure the other is willing to co-operate and knows she herself is willing to co-operate, and so on. In a more technical language, *reputations* for firms not to bust the piece rate and for workers not to withdraw effort need to be developed.

### **Workplace safety and health.**

The level of safety in the workplace constitutes a clear example of public good in the workplace. Unions can have two effects on the issue of workplace safety. First, they can increase wages, keeping the accident rate constant. Second, they can reduce the accident rate through the collective bargaining of safety regulations. So far, the historical evidence is mixed about the role of 19<sup>th</sup> century and early 20<sup>th</sup> century union in enforcing safety standards in the workplace. For example, David Fairris has shown how in US manufacturing workers' voice did have an impact on factory fatalities. Even in the case of company unions, the existence of unions has a negative effect on fatalities.<sup>38</sup> However, the analysis of workplace safety in coal mining in the US between 1912 and

<sup>37</sup> Miller, *Managerial dilemmas*, p.186-187.

<sup>38</sup> See Fairris, David, *Shopfloor matters: labor-management relations in 20<sup>th</sup> century American manufacturing* (New York, 1997), pp.38-39.

1923 performed by Price Fishback failed to find any significant impact of miners' collective action on the accident rate in the industry.<sup>39</sup>

Moreover, the historical literature has also addressed the impact of state sponsored factory acts and safety regulations on workplace risks. For a law on factory safety to have an impact, workers have to take more care to avoid accidents and employers have to invest on safety, generally agreeing to follow the rules imposed by the state. In order to fully understand the problem, models take into account the incentives faced by both sides. For employers to invest in safety the expected fine for non compliance with state rules is the relevant variable (the average fine times the probability of being fined) when making decisions on investing in safety. Workers, on the other hand, will take into account the post-accident compensation. Hence the regulation of workers' compensation and the conditions upon which is received must be considered. In the absence of liability acts, workers or their relatives have to prove negligence on the part of their employer in order to receive the compensation.<sup>40</sup> A second view stressed the contractual responsibility of the employer, who was responsible for the health of the worker during the whole of the contractual relationship. Both theories were difficult to implement because it was complicated to apportion responsibilities in the event of workplace fatalities.<sup>41</sup> The final view considered factory risk to be inherent to industrial work and established that employers were responsible for workplace risk; this is the view that predominated in the Employers' Liability Act of 1900.<sup>42</sup> This view had important consequences on incentives of workers and employers because compensation had always to be paid to the worker in the event of a work-related accident.<sup>43</sup> Its effects on the accident trend in a particular industry are correspondingly ambiguous.

<sup>39</sup> Fischback, Price V., "Workplace safety during the Progressive Era: fatal accidents in bituminous coal mining, 1912-1923." *Explorations in Economic History*, 23 (1986), pp.269-298.

<sup>40</sup> In the Spanish debate the doctrine emplacing workers to prove employers' negligence required quasi-delictive responsibilities from the employer. Ossorio y Gallardo, Ángel, *Accidentes de trabajo* (Madrid, 1902).

<sup>41</sup> Soto Carmona, Álvaro, *El trabajo industrial en la España contemporánea (1874-1936)* (Barcelona 1989), p. 679.

<sup>42</sup> *Doctrina del riesgo profesional*. Employers liability acts significantly reduce the probability for employers to escape compensation to workers or relatives by giving rights to compensation to cases in which for instance workers' negligence intervened in the accident, workers had assumed the risk inherent in the job, or the accident was provoked by a fellow worker.

<sup>43</sup> Fischback, Price V., "Operations of unfettered labor markets: exit and voice in American labor markets at the turn of the century," p.48, NBER working paper series on Historical Factors in Long run growth, number 105.

### 1.3. Limits of this investigation.

#### A note on wages.

One of the many difficulties encountered in the study of labour markets in Restoration Spain is the absence of adequate wage data. The literature on compensating differentials finds the labour market totally or partially compensates for workplace disamenities like higher accident risks, longer hours of work, or temporary unemployment.<sup>44</sup> Furthermore, there is also a huge literature calculating the effect of unions on wages rates, to the point that higher wages are considered to be the most clear-cut impact of unionisation in a sector or an industry.

In the case of Spain in late 19<sup>th</sup> and early 20<sup>th</sup> centuries, because historians only have access to provincial or sector averages in different benchmark years, available wage data make it very difficult to estimate the relevant compensating differentials or union effects.<sup>45</sup> Examples of this type of data are 1896/1897 wage data for factory workers in provincial capitals published by the *Instituto Geográfico y Estadístico* in 1903 or the *Estadística de salarios y jornadas de trabajo, 1914-1930* published in 1931 by the Ministry of Labour including data on daily wages for occupations in different cities in 1914, 1920, 1925 and 1930.<sup>46</sup> In addition, estimates of workers' collective

<sup>44</sup> Among other historical studies: Hatton, Timothy J. and Jeffrey Williamson, "Unemployment, employment contracts, and compensating wage differentials: Michigan in the 1890s," *Journal of Economic History*, 51, 3 (September 1991), pp. 605-632; Kim, Seung-Wook and Price V. Fishback, "Institutional change, compensating differentials, and accident risk in American railroading, 1892-1945," *Journal of Economic History*, 53, 4 (December 1993), pp. 796-823. An example where wages do not adjust perfectly to levels of various disamenities: Fishback, Price V. and Shawn Everett Kantor, "Square deal or raw deal? Market compensation for workplace disamenities, 1884-1903," *Journal of Economic History*, 52, 4 (December 1992), pp. 826-848..

<sup>45</sup> Silvestre, Javier, "Factores competitivos y no competitivos en la determinación salarial durante la industrialización: el caso de España (1900-1936)," unpublished paper, Facultad de Ciencias Económicas, Universidad de Zaragoza. Cited with the permission of the author.

<sup>46</sup> Instituto Geográfico Estadístico, *Estadística de la emigración y inmigración de España en el quinquenio 1896-1900* (Madrid, 1903); Ministerio de Trabajo y Previsión, Dirección General de Trabajo, *Estadística de salarios y jornadas de trabajo, 1914-1930* (Madrid, 1931). Another source, in this case for 1884, is US Bureau of Foreign Commerce, *Labor in Europe. Reports from the Consuls of the United States in the several countries of Europe on the rates of wages, cost of living to the laboring classes, past and present wages, &c., in their several districts, in response to a circular from the Department of State requesting information on the subjects. Spain* (Washington, 1885). A list of sources is given in Simpson, James, "Real wages and labour mobility in Spain, 1860-1936," p. 199 in Scholliers, Peter and Vera Zamagni, *Labour's reward. Real wages and economic change in 19<sup>th</sup> and 20<sup>th</sup> century Europe* (Aldershot, 1995).

mobilisation like union densities or the cumulative number of strikers do not exist or are limited to certain years or regions.

In the case of compensating differentials, econometric estimation with aggregate data often finds difficulties in isolating wage differentials for any given workplace disamenity like risks to life or limb, long hours, or temporary unemployment spells. For instance in the case of job risks, W. K. Viscusi argued:

estimation using industry-wide data sets often encountered difficulty in distinguishing the positive wage premium for job risks. The reliance on aggregative industry data pools workers with heterogeneous preferences and firms with perhaps quite different offer curves, so that the estimated tradeoffs at any particular risk level cannot be linked to any worker's preferences or any firm's offer curve.<sup>47</sup>

Because job risks and other disamenities are normal goods, one important source of variation is individual differences in wealth. Affluent workers will demand a higher wage for any given level of risk, while employers have greater incentives to protect their skilled workers to secure their investments in their employees' training. This makes it difficult to isolate the wage-risk trade-off. In aggregate terms, what we will observe is that workers in high pay sectors or establishments also enjoy lower levels of workplace risk or lower hours. However, this does not rule out that compensating differentials exist for any particular position.<sup>48</sup>

This argument also shows how successful historical exercises to estimate compensating wage differentials have proceeded. First, through the use of individual level data comparable to modern micro data, which allow to control for differences in education, experience, and other variables related to individual productivity. This makes it possible to estimate what is the additional compensation that workers of a given productivity level will receive for coping with greater workplace risk. Second, some econometric exercises adopt a case-study approach and use the wage rate of given jobs or occupations in a particular sector for different locations or establishments with different levels of workplace risk and calculate the compensating differential after

---

<sup>47</sup> Viscusi, W. K., "The value of risks to life and health," *Journal of Economic Literature*, XXXI, 3 (1993), pp. 1916-1917.

<sup>48</sup> *Ibid.*, p. 1917.



controlling for a set of alternative independent variables from a standard labour supply and demand model. Occupation- or position-based analyses have been conducted leading to robust results for mining and railway workers in the US in which a positive, statistically significant wage premium compensated workers for bearing higher levels of risk.<sup>49</sup>

In addition, the estimation of union wage effects also has used micro data of individuals modelling labour-supply decisions at the individual level. In this case, the union wage effect is measured by the increase in earnings experienced by a worker of constant characteristics of passing from non-unionised to a unionised status. A series of variables are added to the analysis to control for differences in skill, industry or region which might affect final earnings. Examples of this procedure are Barry Eichengreen's study of union wage effects using a sample of 3,334 individuals from Iowa (US) in 1894 or the use by Hatton, Boyer and Bailey of a sample of 956 workers from the United States Commissioner of Labor survey on British workers in 1889-1890. In both cases, additional information allows to estimate a two-stage labour supply regression in which the decision to join a union is modelled along an earnings equation.<sup>50</sup> In the above mentioned cases, the union wage effect is on the range of 15 to 20 per cent.

One problem with the use of a static cross-section of individuals is that the size of the union effect varies substantially depending on the evolution of unions. For instance, the 15-20 per cent observed by Hatton, Boyer and Bailey for 1889-1890 coincides with the expansion of new unionism in Britain. Wage equations measuring the union wage effect over time show much smaller effects in the long run and a decline of the union wage effect once the process of fast union growth has ended.<sup>51</sup> One example of this is Boyer and Hatton's 1994 article on the effect of agricultural unions on agricultural wages in late 19<sup>th</sup> century Britain. Union density had a positive effect on

<sup>49</sup> In the case of railworkers: Kim and Fishback, "Institutional change, compensating differentials, and accident risk." The case of mining workers: Fischback, Price V., "Workplace safety during the Progressive Era: fatal accidents in bituminous coal mining, 1912-1923." *Explorations in Economic History*, 23 (1986), pp.269-298.

<sup>50</sup> Eichengreen, B.J., "The impact of late nineteenth century unions on labor earnings and hours: Iowa in 1894," *Industrial and Labor Relations Review*, 49, pp. 501-515; Hatton, T.J., G.R. Boyer and R.E. Bailey, "The union wage effect in late 19<sup>th</sup> century Britain," *Economica*, new series, 61, 244 (November 1994), pp. 435-456.

<sup>51</sup> Wage gains obtained by the union are later translated into wage gains for non-union workers.

wages between 1872 and 1876, but not thereafter.<sup>52</sup> Simulation shows how the union effect peaked in 1876 at 6 per cent, but declined thereafter to two per cent in the 1890s and was near zero from 1900 to 1903. This contrasts with Price Fishback's study of the bituminous coal industry in the US from 1912 to 1923. In regressions based on a rich panel of state-level observations, it was estimated that, after controlling for a variety of factors, the move from non-unionisation to unionisation raised the wage rate by about 6 to 12 per cent.<sup>53</sup> Union effects, however, varied over time, Fishback estimated the "relative contribution of exit and voice to the substantial rise in coal earnings that occurred between 1892 and 1929."<sup>54</sup> Exit, as measured by alternative employment and wages, accounted for a 66 per cent of the raise in wages from 1892 to 1929. After controlling for coal prices, unionisation in turn accounted for about 36 per cent. During the 1920s unions were progressively weakened, the decline in the strength of unions between 1923 and 1929 contributed to 60 per cent of the observed fall in wages.

In Spain, time series evidence of real wages broken down by sectors show substantial increases in real wages for sectors like the Asturian coal industry, Biscay steel or the Catalan cotton textile industry, which at the same time went through an export boom during World War 1.<sup>55</sup> This also translated into a process of increasing wage differentials between cities and regions. In Biscay, the average industrial real wage grew 22 per cent between 1914 and 1920, 32 per cent in Oviedo, 24 per cent in Santander, 11 per cent in Barcelona, and 28 per cent in Valencia.<sup>56</sup> Some of these provinces experienced frequent strike activity from the late 1918 to 1920. Rosés and Alonso (2002) however note that this process of labour market disintegration from 1914 to 1920 was caused by price shocks caused by World War 1. In a period of extraordinary profits in some sectors, strike activity might be an endogenous variable if

<sup>52</sup> Boyer, George R. and Timothy J. Hatton, "Did Joseph Arch raise agricultural wages?: rural trade unions and the labour market in late nineteenth century England," *Economic History Review*, 47, 2 (May 1994), pp. 310-334.

<sup>53</sup> Fishback, Price V., *Soft coal, hard choices: the economic welfare of bituminous coal miners, 1890 to 1930* (Oxford, 1992), chapter 6.

<sup>54</sup> Fishback, "Operations," p.18.

<sup>55</sup> Sudrià, Carles, "Los beneficios de España durante la gran guerra. Una aproximación a la balanza de pagos española, 1914-1920," *Revista de Historia Económica*, 8, 2 (1990), pp. 363-396.

<sup>56</sup> Calculated from Rosés, Joan J. and Blanca Sánchez-Alonso, "Regional wage convergence in Spain 1850-1930," unpublished paper, Universidad Carlos III Madrid and Universidad San Pablo-CEU Madrid (2002), table A.4., p. 34.

unions want to appropriate part of the existing rents in the form of higher wages.<sup>57</sup> In any case, this only makes inter-industry comparisons of wages all the more difficult.

Table 1.4. Real wage indexes for selected sectors, 1913-1920 (1913=100).

	<u>Catalan cotton</u> <u>textile</u>	<u>Asturian coal</u> <u>industry</u>	<u>Biscay steel</u> <u>industry</u>	<u>Agricultural</u> <u>labourers</u>
1913	100	100	100	100
1914	101	106.9	99	97.2
1915	98.2	114.4	95.3	102.4
1916	89.4	124.3	93.6	91.8
1917	92.1	129.6	97	90.2
1918	91.8	177.1	100.6	91.6
1919	84.8	170.7	103.8	90.3
1920	124.1	166	123.5	104.5

Source: Maluquer de Motes, Jordi, "Salarios," pp. 506-507.

### **The regulation of children and women work.**

Another important stream of labour market reform considered the work of children and women. In the period, this issue generated a substantial literature by labour market reformers.<sup>58</sup> No one denied children and women were important inputs in the early factories. For example, in surveys conducted in the 1840s it was shown that children represented 21 per cent of total employed in the Catalan cotton industry. By 1861, however, this proportion had fallen to 7.18 per cent. In contrast, the paper industry witnessed a relative increase in the share of children between 1840 and 1861.<sup>59</sup>

<sup>57</sup> This for instance assumed in bargaining models in which agents want to capture the available rents. For example, in Card, David and Craig Olson, "Bargaining power, strike duration and wage outcomes: an analysis of strikes in the 1880s," *Journal of Labor Economics*, vol. 13, 1 (January 1995), pp. 32-61.

<sup>58</sup> Among other examples: Elías de Molins, José, *La mujer obrera en las ciudades y en el campo. Orientaciones sociales* (Barcelona, 1913), Gascón y Marín, José, *Notas legislativas sobre la reglamentación de la jornada de trabajo de las mujeres y adolescentes de España* (Madrid, 1907), Villota, J. y A. Revenga, *El trabajo industrial de los menores de 18 años en España* (Madrid, 1909), González Castro, J., *El trabajo de la infancia en España* (Madrid, 1917). A critic view is provided in Alsina, Fernando, *Observaciones sobre la reglamentación del trabajo de los niños en talleres y fábricas* (Barcelona, 1892).

<sup>59</sup> Rosés, Joan Ramon, "The early phase of Catalan industrialisation, 1830-1860," p.103. Unpublished PhD dissertation, European University Institute, 1998.

In 1873 and in 1900, laws were passed limiting the employment of children to those older than 10, the reduction of the working day to six hours and the prohibition of night work for those between 10 and 14 years old.<sup>60</sup> One line of research would thus consider the impact protective legislation on the share of children employed in factories and workshops. This would make use of census data or other sources to measure the effects derived from labour demand and supply shifts and from legislation on the share of children employed in each sector before and after the passing of the law (the relevant one is the 1900 law). In addition to problems traditionally associated with the use of census categories and problems of measurement, one of the main limitations of this type of exercise might be the difficulties in finding values for children earnings and for variables related to supply and demand factors –as technological change and changes in factor prices.

On the other hand, protective legislation also established hours ceilings for women through the 1900 law and through the royal decree of June 1902. Several interpretations have been given for the origins of state intervention in the case of women. Gloria Nielfa, for instance, considers that it was the product of state support to the idea of male breadwinner families and the “family wage”.<sup>61</sup> In the case of the US, Elisabeth Landes argued that maximum hours laws reduced the employment share of women, especially of foreign-born women, and that the maximum-hours ceilings were more readily adopted in states where male adults faced stronger competition from young foreign-born women.<sup>62</sup> As I discuss in chapter 5, the law mandated a maximum working week of 66 hours and a working day of 11 hours. Even in manufacturing, this limit was above or was roughly similar to scheduled hours. Probably the effects must

<sup>60</sup> Martín Valverde, Antonio, *La legislación laboral histórica* (Madrid, 1987), pp. 65-72.

<sup>61</sup> Nielfa, Gloria, “Trabajo, legislación y género en la España contemporánea: los orígenes de la legislación laboral,” paper presented at 7th congress of the *Asociación de Historia Económica*, Zaragoza, 2001. As well, Balcells, Albert, *Trabajo industrial y organización obrera en la Cataluña contemporánea (1900-1936)* (Barcelona, 1974), “La mujer obrera en la industria catalana durante el primer cuarto del siglo XX,” pp. 41-45, and Rey Reguillo, Fernando, “Condiciones laborales de las mujeres trabajadoras: legislación y actitudes patronales. El caso catalán (1917-1923),” pp. 234-236, in García Nieto París, M. C. (ed.), *Ordenamiento jurídico y realidad social de las mujeres. Actas de las IV jornadas de investigación interdisciplinaria* (Madrid, 1986).

<sup>62</sup> Landes, Elisabeth M., “The effect of state maximum-laws on the employment of women in 1920,” *Journal of Political Economy*, 88, 3 (June 1980), pp. 476-494. An skeptical view is provided in Goldin, Claudia, “Maximum hours legislation and female employment: a reassessment,” *Journal of Political Economy*, 96, 1 (1988), pp. 189-205 and Goldin, Claudia, *Understanding the gender gap. An economic history of American women* (New York, 1990), chapter 7, pp. 189-199.

have been too small to observe any impact on the general trend in female labour force participation.<sup>63</sup>

#### **1.4. Summary.**

This thesis evaluates the operation of a labour market with an undeveloped and partially enforced legislation regulating industrial conflict, union rights, and the terms of employment. In part I of the thesis, I study union growth and strike activity during the period using insights from the literature on collective action and institutional change. To explain the existence of a rising, but cyclical, trend in workers' collective action, my account stresses the political power of the labour movement and the divisions of the economic and political elite on the issue of labour unrest and public order. I also argue this generated a very weak framework for collective bargaining in which employers and the labour movement adopted extreme positions to 'lobby' a hesitant government into favouring one of the two parts in conflict. In this sense, my account moves away from traditional explanations based on the "failure" of Spanish capitalism and the Spanish political system (*La Restauración*) to explain the characteristics of the system of labour relations and considers a coalition-formation approach that is more neutral to judgements about the failure or backwardness of the Spanish economy and its political regime.

In the second part of the thesis, I present case-studies of the effect of this particular system of industrial relations on the evolution of crucial workplace public goods like the length of the workday, piece rate lists and the levels of workplace safety and help. Following the historical and economic literature described in section 1.2., the

---

<sup>63</sup> There are disagreements on the trend of female labour force participation namely because of the bad quality of 19th century population censuses (Borderías, Cristina, "La evolución de la actividad femenina en la formación del mercado de trabajo barcelonés 1856-1930," paper presented at the 7th congress of the *Asociación de Historia Económica* (Zaragoza, 2001)). The relative wealth of municipal censuses of workers has generated a series of local studies: Ferrer, Llorenç, "Notas sobre la familia y el trabajo de la mujer en Cataluña, siglos XVIII-XX," *Boletín de la Asociación de Demografía Histórica*, XII, 2-3 (1994); Arbaiza, Mercedes, "La construcción social del empleo femenino en la sociedad vasca (1850-1936)," paper presented at the 7th congress of the *Asociación de Historia Económica* (Zaragoza, 2001); Llonch, Montserrat, "Inserción laboral de la inmigración y sistema de reclutamiento de la fábrica textil: Vilassar de Dalt, 1910-1945," *Boletín de la Asociación de Demografía Histórica*, 2-3 (1995), pp. 149-161; Camps, Enriqueta, "Transitions in women's and children's work patterns: implications for the study of the family income and household structure." *The History of the Family. An international Quarterly*, 3, 2 (1998), pp.137-157; Camps, Enriqueta, "Las transformaciones del mercado de trabajo en Cataluña (1850-1925): migraciones, ciclos de vida y economías familiares." *Revista de Historia Industrial*, 11 (1997), pp.45-70.

---

approach adopted here considers workers with different characteristics had different preferences over workplace public goods, which had to be reconciled through collective bargaining. In the latter, I distinguish various levels of collective bargaining institutions, from the simple strike threat to formal institutions like joint boards of employers and delegates of a recognised union.

## **Part I. Institutions.**

---

## Chapter 2.

### The rise of syndicalism in Spain, 1869-1923.

#### 2.0. Introduction.

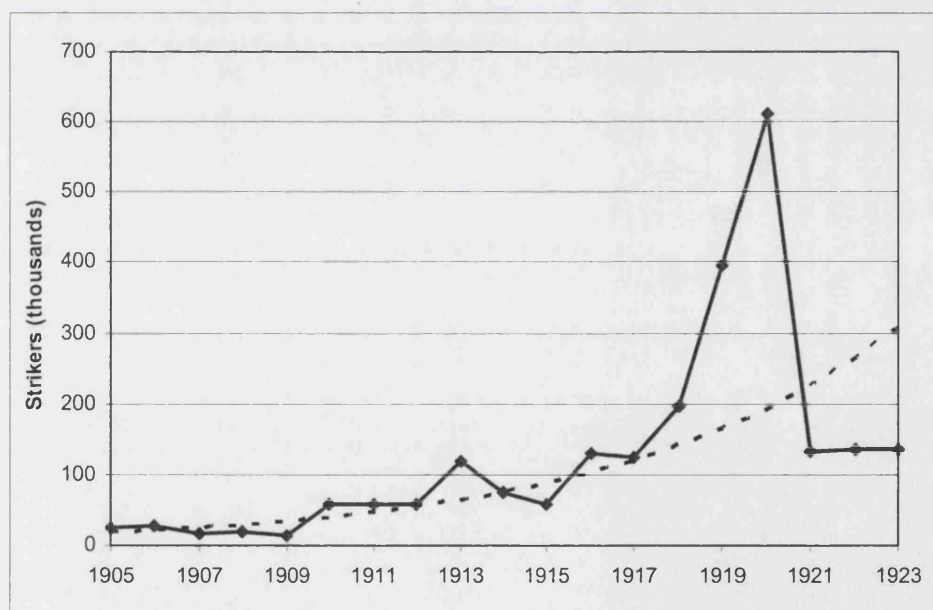
The central question in labour history explores why workers join movements of protest and why only some of the competing social movements became mass organizations. Restoration Spain witnessed the consolidation of two mass labour movements – the National Confederation of Labour (*Confederación Nacional del Trabajo*, CNT) and the General Workers' Union (*Unión General de Trabajadores*, UGT) - with a distinct Anarchist and Socialist outlook, uniting all workers in different regions and different industries, committed to the violent overthrow of the monarchy and the change in social relations through the mass, general strike. In the years 1919 and 1920, the number of strikers multiplied by a factor seven with respect to the average number of strikers in the period 1905-1918, in formidable wave of strikes led by the CNT and UGT (graph 2.1). In a fast process of union consolidation, the CNT emerged as a powerful mass organization capable of winning a one-week long general strike in Barcelona and gathering most of the union movement in Catalonia into one single organization. In Catalonia, the syndicate jumped from 34,000 members in early 1918 to 345,000 in December 1918 and 427,000 in 1919. In the Madrid congress of 1919 at the Comedia Theater, the union boasted about joining 800,000 members.<sup>1</sup> Additionally, the UGT more than doubled membership in two years, from 89,601 members in 1918 to 211,342 in 1920.

---

<sup>1</sup> Gabriel, Pere, "Classe obrera i sindicats a Catalunya, 1903-1920," p. 685, unpublished PhD dissertation, University of Barcelona, 1981; the figure quoted in Brenan, Gerald, *The Spanish labyrinth: an account of the social and political background of the Civil War* (Cambridge, 1943), p. 199. The classic accounts of the period 1918-1920 in Catalonia and especially in Barcelona: Balcells, Albert, *El sindicalisme a Barcelona (1916-1923)* (Barcelona, 1974); Solano, E. G., *El sindicalismo en la teoría y en la práctica* (Barcelona, 1922).



However, this considerable success was the culmination of almost fifty years of efforts aimed at creating national working class organisations. This series of attempts started with the order given by Bakunin to Giuseppe Fanelli to organise the Spanish section of the International in May 1869 and culminated in the success of CNT in 1918-1919.<sup>2</sup> In this chapter I discuss the main patterns of the evolution of the labour movement in Spain between 1869 and 1923. In spite of the absence of adequate union membership data, I underline the relationship between union growth and strike waves in highly discontinuous processes of growth and decline. Additionally, I concentrate on the institutional characteristics of unions in the period. My explanation here emphasizes the inability of unions to enforce union recognition and the closed shop (the restriction to employ union workers only). Absence of compulsory membership clauses in collective contracts led to “*olsonian*” low membership equilibriums in sectors of the Spanish economy characterised by employing large numbers of workers -like mining, railways or the cotton textile industry-, while it amplified the role of state policy in shaping collective bargaining institutions.



Graph 2.1. Strike activity in Spain, strikers (thousands) 1905-1923.

Source: Instituto de Reformas Sociales, *Estadística de huelgas, 1905-1923*.

Note: the graph includes a fitted exponential trend to show the increasing trend in strike activity and the years in which strike activity is below or above trend. Recorded strikes do not include “political” or general strikes (for example, the general strike of 1917 or the Tragic week of 1909 are not included).

<sup>2</sup> Termes, Josep, *Anarquismo y sindicalismo en España (1864-1881)* (Barcelona, 4th edition, 2000), p. 43.

### **2.1. Theories of collective mobilisation.**

Theories of social movements consider a series of steps are required before an organised social movement exists. A strong sense of group identity needs to be created and common grievances requiring collective solutions must be identified.<sup>3</sup> A co-ordination problem among participants has to be solved because the decision to participate in movements of protest depends on other participants doing so. This is especially important in the case of unions and strikes because, with contested strike and union rights, the labour movement found powerful enemies in employers and, in some cases, in the state. Political repression and employers' retaliation in the form of the hiring of strike-breakers and black lists were important costs for those deciding to join unions, but these costs declined with the aggregate level of participation.

For unions, an additional limitation exists because the costs of belonging to the union –dues, foregone earnings in strikes, employer repression- are individual, while the benefits derived from union action –shorter hours, higher wages, or a safer workplace- are collective, that is enjoyed by all workers irrespective of their participation.<sup>4</sup> In small groups, like for example groups of skilled artisans in the cities of modern Europe, in which defection could be easily monitored, participation in the collective project could be guaranteed. However, 19<sup>th</sup> century unionism developed in rapidly growing urban centres and ever-increasing industrial establishments, relaxing the social controls over defectors that were characteristic of small communities and intensifying the free-rider problem inherent in collective action.

Traditional models of collective mobilisation stress large changes in political or economic exogenous variables when explaining changes in participation. One tradition in the academic debate over cycles of strikes and collective protest considers that workers go on strike when their bargaining power is stronger, for example with tight labour markets.<sup>5</sup> Alternatively, it is argued that protest emerges in communities

<sup>3</sup> Calhoun, Craig, "The problem of identity in collective action," in Huber, Joan (ed.), *Micro-macro linkages in sociology* (Newbury Park, CA, 1991).

<sup>4</sup> Olson, Mancur, *The logic of collective action. Public goods and the theory of groups* (Cambridge, MA, 16<sup>th</sup> edition, 1995), p. 67.

<sup>5</sup> Bargaining models in which bargaining power depends on the available rents discussed in Kennan, John, "The economics of strikes," in Ashenfelter, Orley and Richard Layard, *Handbook of labor economics* (New York, 1986).

experiencing an identifiable decline in their material well-being. *Deprivation* arguments focus on the rigours imposed by industrialisation, which were especially felt by unskilled workers and immigrants from rural areas.<sup>6</sup> As these groups joined unions, the argument goes, the labour movement became more strike-prone and politically radical.<sup>7</sup> Among this base of more impetuous workers, a key role is given to the “unassimilated peasant”, who having lost his traditional social networks of mutual help experienced relatively more hardship. As Gerald Meaker put it:

Indeed much of the history of Spanish labor in the early 20<sup>th</sup> century must center around what Adam Ulam has termed the “unassimilated peasant”. Large numbers of peasants-proletarians set the tone of the urban labor movement, both retarding it and radicalizing it by their presence – by their willingness to act as strikebreakers and their susceptibility to extremist appeals.<sup>8</sup>

Or as Gerald Brenan wrote in 1943:

From the very beginning [...] the peculiarity of Spanish anarchism has consisted in its having two distinct roots –the industrial workers of Catalonia and the agricultural workers of Andalusia. At first sight this might seem to be a rather unnatural partnership. For the Catalan workers were [...] the most highly paid workmen in Spain outside the Basque country. They had not better reason than any other body of workers in Europe to aim at revolution. But they were recruited to a great extent from the half-starving and embittered agricultural labourers of the south and east and penned up in the most unruly and excitable city in Europe.<sup>9</sup>

*Breakdown* arguments focus on the “dissolution of social bonds and controls by industrialisation,” on fundamental discontinuities in the lives of the people: “discontinuities produce strain, disorientation and *anomie*, people respond to those unpleasant conditions by producing or joining movements of protest.”<sup>10</sup> Discontinuities, for example, are produced by mechanisation and technological change bringing about the inevitable de-skilling of artisans and other skilled workers. The student of labour

<sup>6</sup> Shorter, Edward and Charles Tilly, *Strikes in France, 1830-1968* (Cambridge, 1974), pp. 6-7.

<sup>7</sup> One example of this line of reasoning is the debate on “new unionism” in Britain. For example, in Hobsbawm, E. J., “New unionism in retrospect,” in *Worlds of labour. Further studies in the history of labour* (London, 1984).

<sup>8</sup> Meaker, G. H., *The Revolutionary Left in Spain, 1914-1923* (Palo Alto, CA, 1974), p. 2.

<sup>9</sup> Brenan, *The Spanish labyrinth*, p. 185.

<sup>10</sup> Shorter and Tilly, *Strikes*, p. 6.

strife in early 20<sup>th</sup> century Barcelona, Angel Smith, argues that skilled workers rather than unskilled labourers were at the forefront of radical politics and revolutionary unionism in Barcelona:

We argue that in order to understand the situation it is necessary to bear in mind that many workshops were being penetrated by capitalistic modes of production and that the relationships among employers and employees were becoming increasingly conflictive. The major proportion of strikes (*in Barcelona*) did not originate in large factories employing unskilled labour but in the so-called *oficios* (crafts). Skilled workers had a most important role in the growing unionisation among the unskilled. Furthermore, they did often take the lead in constituting industrial federations or general confederations, and, thus, in the expansion of class consciousness.<sup>11</sup>

Other explanations focus on key changes in labour law easing the constraints on workers' collective mobilisation. One of the great intuitions of Mancur Olson's *logic of collective action* is the importance of union recognition and closed shop clauses in the growth of unions to overcome the free rider problem in collective action. In his view, large unions grow and stabilise themselves because membership is compulsory and/or because a particular union is granted a period of peaceful collective bargaining after it is recognised by employers. In Olson's explanation, since unions won recognition or the closed shop only exceptionally, the growth of unions resulted from what Richard Freeman labels "top-down" political changes like, for example, the Wagner Act of 1935 in the United States. In this case, by making collective bargaining "a goal of public policy" and enforcing union recognition, the Act brought about what "was undoubtedly the most phenomenal increase in membership in the history of modern American unionism."<sup>12</sup>

Rather than focusing on large exogenous shocks, a series of narratives of the evolution of collective protest emphasize endogenous forces. The main assumption of these explanations is that the individual decision to join depends on the expectation that others are doing so. When certain conditions are met, increasing participation brings further participants, mainly because the individual costs of collective action decrease

<sup>11</sup> Smith, Angel, "Trabajadores 'dignos' en profesiones 'honradas': los oficios y la formación de la clase obrera barcelonesa (1899-1914)," *Hispania*, LVI/2, 193 (1996), p. 655.

<sup>12</sup> Quote from Olson, *The logic*, p. 79. "Top-down" argument from Freeman, Richard, " 'Spurts' in union growth: defining moments and social processes," National Bureau of Economic Research working paper number 6012 (April 1997).

with (and expected benefits increase with) participation. For example, in large strikes, employers find it more difficult to employ strike-breakers, or symbolic strike successes spread the expectation that other strikes can be won. Under these assumptions, non-linear growth processes are generated by tipping or contagion effects.<sup>13</sup> Alternatively, in Richard Freeman's model of union spurts, union density depends on the organisational resources used by union to expand and on the resources used by employers to oppose unions. However, both unions' and employers' organisational resources depend on union density, being modest at very low and very high union densities but high in the middle. Non-linear resource functions create a union membership function in which the union grows very fast at medium union densities (in the model, what is growing is the ratio of new union members to employed workers in a given year).<sup>14</sup>

Using these models of the evolution of collective protest, I focus on the following features of movements of workers' protest in Spain between 1870 and 1923 that stress the importance of endogenous processes sparking strike waves and fast union implementation and the importance of union recognition for union stability:

1. Unions emphasized strikes rather than ordered collective bargaining and the supply of non-collective goods. Radical working organisations focused on the common as opposed to the individual benefits of strikes, while deploying a strategy to extend conflicts to other trades and localities.
2. Strikes were clustered in few years.
3. Important strikes pretended to re-shape the employee-employer relationship. This took the form of the drawing up of collective contracts regulating employment terms of a sector in a locality or region.
4. Employers' opposition to unions guaranteed union recognition was seldom obtained. As Olson noted, the potential for conflict was highest at low union densities when conflict was about the institution of the union. The absence of formal bargaining institutions amplified the role of the state in shaping collective bargaining institutions, first by mediating in important strikes and after 1919 by making collective bargaining an objective of public policy.

<sup>13</sup> Schelling, Thomas C., *Micromotives and macrobehavior* (New York, 1974), pp. 15-17.

<sup>14</sup> Freeman, "Spurts," p. 11.

## 2.2. Unions and strikes.

According to the theory of collective action, it is natural for unions to remain small and local because large organisations suffer from the problem of free-riding. But the rhetoric of working class organisations was radically opposed to this type of utilitarian analysis. Working class organisations, especially those of internationalist inspiration, believed in the gains of enlarging membership and building a powerful country wide movement organising all wage earners on the basis of industry, region and locality. This implied the existence of a theory of working class activism based on the potential benefits of federations of trade unions organised at the local level, which in the internationalist imagery mirrored the organisation of the Paris *Commune* of 1871, with local and industrial federations being co-ordinated by delegated representatives. For example, one leader of the *Federación Regional Española* (FRE, Spanish Federation of the (1<sup>st</sup>) International), Anselmo Lorenzo, stressed the need of pooling resources creating a large strike fund to be shared in solidarity among all FRE local federations to defeat capital. Another leader of the FRE, Jaime Balasch, noted the benefits of unity, large numbers and the existence of a delegated body co-ordinating strikes to fight against an enemy, the capitalistic class, with greater resources.<sup>15</sup>

Appeals to solidarity and unity did not immediately reach a community of interest that only existed in the minds of a handful of activists. In spite of that, the rhetoric of labour organisations highlighted the abolition of distinctions based on skill, geography or gender to organise a working class national movement with well defined collective objectives. In a congress held in 1900, the anarchist-led *Federación de Sociedades Obreras de la Región Española* (Federation of Workers' unions of the Spanish region) put emphasis in unity and solidarity above ideological, economic and religious divisions, extending membership to the unskilled: "no workers' union is anarchist. Unions encompass workers with different political opinions, religious beliefs and economic means. They include everyone pursuing the improvement of working conditions and the emancipation of the working class."<sup>16</sup> When *Solidaridad Obrera* (Workers' Solidarity) was created in Barcelona in 1907, one of its main proponents, the

<sup>15</sup> Termes, *Anarquismo y sindicalismo*, pp. 76-77; Abad de Santillán, Diego, *Contribución a la historia del movimiento obrero español* (Puebla, Mexico, 1962-65), chapter 4.

<sup>16</sup> Álvarez Junco, José, *Ideología política del anarquismo español (1868-1910)* (Madrid, 1976), p. 559.

socialist Antonia Badia i Matamala, remarked the “convenience of joining together all workers’ unions in close workers’ solidarity, which will unite all workers around what is common to them all without taking into account their individual ideals.”<sup>17</sup>

Strikes were the testing ground for the practice of class solidarity. Unions, in this regard, did not stress the individual benefits of joining in. The main emphasis of working class organisations was neither the collection of dues nor the supply of non-collective services for members like mutual benefit or burial funds or insurance against disease, death or workplace accident. Rather, working class leaders underscored the role of the mass strike as the means to satiate collective grievances. Even a moderate in matters of strike tactics like Pablo Iglesias, leader of the Spanish Socialist Party, considered strikes to be the only “weapon available to the working class to put an end to its state of slavery.”<sup>18</sup> Influenced by the contemporary rise of anarcho-syndicalism in France, early 20<sup>th</sup> century activists encouraged frequent strike action to increase workers’ awareness of their own power and of the unsolvable conflict between workers and employers.<sup>19</sup> It was argued that “the federated society believing to be ready for the struggle must do it immediately, (...) doing its best to extend the conflict as much as possible, because experience has taught us that what helps us to win strikes is a lot of agitation and not money, because workers’ funds are always depleted before the capitalists’.”<sup>20</sup> What were needed were short and spontaneous strikes to train workers “in the collective experience of solidarity.”<sup>21</sup> Syndicalism had to become “a fighting technique for winning more and more advantages for the workers –such is (was) its daily reivindicative task.”<sup>22</sup>

In these conflicts, union activists shaped a community of interests in which local struggles were related to wider grievances. In Manresa, a textile town in Catalonia, a strike of textile workers protesting a pay cut was backed by solidarity strikes organised in Barcelona and the most important textile towns. In a pamphlet published by the main

<sup>17</sup> Gabriel, “Clase obrera,” p. 398.

<sup>18</sup> Pérez Ledesma, Manuel, “La Unión General de Trabajadores: socialismo y reformismo,” *Estudios de Historia Social*, 8-9 (1979), p. 222.

<sup>19</sup> Prat, José, “Ser ó no ser,” public speech delivered to the Building workers’ union of Gracia in 1904 (Barcelona, 1905); p. 11; Prat, José, *Orientaciones* (Barcelona, 1916), p. 6.

<sup>20</sup> Pérez Ledesma, “La Unión General de Trabajadores,” p. 222.

<sup>21</sup> Álvarez Junco, *La ideología*, p. 432.

<sup>22</sup> Brenan, *The Spanish labyrinth*, p. 170.

textile union, the *Tres Classes de Vapor* (Three Steam Classes),<sup>23</sup> union leaders addressed “all Catalan workers” stating:

We must honour the memory of our parents and we do not forget that the grievances of the workers of Manresa are common to all wage-earners. Let's make sure the words solidarity, union and co-operation are not only abstract words, let's make them alive by our actions and transformed into facts so that all the world sees clearly that we are worthy of bearing the name of workers.<sup>24</sup>

The rhetorical power of working class' activists was especially felt in large strikes. Fuelled by radical appeals to change *status quo*, large strikes suspended the logic collective action implicating large numbers of workers in public demonstrations of working class solidarity and resoluteness. Large strikes encompassed public meetings and walk outs, the public collection of extraordinary dues, the public ostracism of strike-breakers and clashes with troops and the police. In Barcelona, a general strike in February 1902 originated from a long conflict of the metallurgical workers calling for the 9 hour day which had started in late 1901. In early 1902, other trades followed suit presenting their demands to employers. The strike reached momentum when the textile workers walked out of their factories. At this stage, strikers paraded the streets of the city, inviting other workers to join in the protest, and breaking the windows of open shops. On the 16<sup>th</sup> of February, a public meeting took place open to all workers in which activists rallied workers toward the general strike. A massive one-week general strike ensued. The local federation of unions blocked newspapers prints and obstructed the distribution of food in the city. Tramways did not circulate. When bakeries opened their doors, workers assaulted these establishments to distribute bread to the families of strikers.<sup>25</sup>

To put another example, the strikes of the mining workers of Biscay in 1890, 1903, 1906 and 1910 also left a profound imprint on public opinion because miners extended conflicts to the neighbouring city of Bilbao and the metallurgical towns of Sestao and Baracaldo. Following the success of the 1<sup>st</sup> of May of 1890, a strike of only

<sup>23</sup> Three Steam Sections refers to the three processes involved in cotton textiles: preparing and spinning, weaving and finishing.

<sup>24</sup> Ferrer, Joaquim, *El primer "Primer de Maig" a Catalunya* (Barcelona, 1972), pp. 64-65.

<sup>25</sup> Romero-Maura, Joaquín, *La "Rosa de Fuego". El obrerismo barcelonés de 1899 a 1909* (Madrid, 1989), pp. 207-212.



200 workers started in the Orconera Company (in the town of La Arboleda) on the 13<sup>th</sup> of May to protest the dismissal of 5 socialist workers.<sup>26</sup> However, by the 14<sup>th</sup>, the number of strikers had increased to 3,000 to 5,000 because daily pickets and patrols persuaded (or forced) other workers to follow suit. Groups of strikers paraded in other mining towns like Gallarta or Ortuella. In Ortuella, a public meeting of 4,000 striking workers decided workers would demonstrate in Bilbao the following day. On the 15<sup>th</sup>, a group of workers walked from Gallarta to Ortuella carrying red flags, cheering workers' unity and shouting against the *Guardia Civil* stations financed by the employers' of the *Círculo Minero* (employers' association). In spite of the presence of troops and armed policemen, 7,000 to 9,000 strikers were concentrated in Ortuella and it was decided to march towards Sestao, Baracaldo and finally towards Bilbao. Miners were dispersed by two infantry troops when they were abandoning the town. However, some strikers reached Sestao and encouraged (or coerced) metallurgical workers to join the strike. Another group of 6,000 to 8,000 workers was formed, which also clashed with the troops causing one dead and two seriously wounded. In spite of the failure to march over Bilbao, by the 15<sup>th</sup>, the strike was general in the mining towns and among the metallurgical workers of Biscay, encompassing 30,000 workers.<sup>27</sup>

### **2.3. Strike waves.**

Enlarged by participatory appeals to extend labour conflicts and extending membership towards the unskilled, mass strikes tied workers in different trades and different localities into one single movement. Symbolic strike successes like the Barcelona building workers 13,000 strong strike of 1901, or the Biscay mining strike of 1910, or the textile general strike of 1913 set a chain of events in which optimistic expectations passed from one group of workers to the rest.<sup>28</sup> In other cases, it was the focusing of activities in working class action days, like for example the first 1<sup>st</sup> of May celebrated in 1890, or exogenous factors like the protests against the colonial wars in 1911 or against the rise of prices in 1916.

<sup>26</sup> Fusi, Juan Pablo, *Política obrera en el País Vasco (1890-1923)* (Madrid, 1974), p. 88.

<sup>27</sup> *Ibid.*, p. 93.

<sup>28</sup> A discussion of the literature for example in Biggs, Michael, "Positive feedback in collective mobilization: the American strike wave of 1886," pp. 7-11, University of Oxford, Discussion Papers in Economic and Social History number 40 (April 2001).

Symbolic victories, or national action days for that matter, solved co-ordination failures and set in motion a series of strikes loosely related to economic conditions. During the Democratic Six Years (*Sexenio Democrático*) (1868-1873), the Paris *Commune* of 1871 became a catalyst for union action. Later on, when the First Republic was proclaimed in February 1873, the local Federation of Barcelona rallied workers to join the urban militias by professing: "Arms to the workers! Autonomous municipality! A shorter workday and higher wages!"<sup>29</sup> In Valencia, Alcoy and the Andalusian towns, the local leaders of the 1<sup>st</sup> International called for the general strike in which workers presented their demands to employers.<sup>30</sup> The socialist Francisco Mora remarked of the strike wave of 1873:

Instead of consolidating immediately the Regional Federation (...) and of constituting trade federations consciously practicing solidarity resistance, (...) workers responded with a chaotic wave of strikes that transformed the Region (Spain) into a battlefield between bourgeois and proletarians.<sup>31</sup>

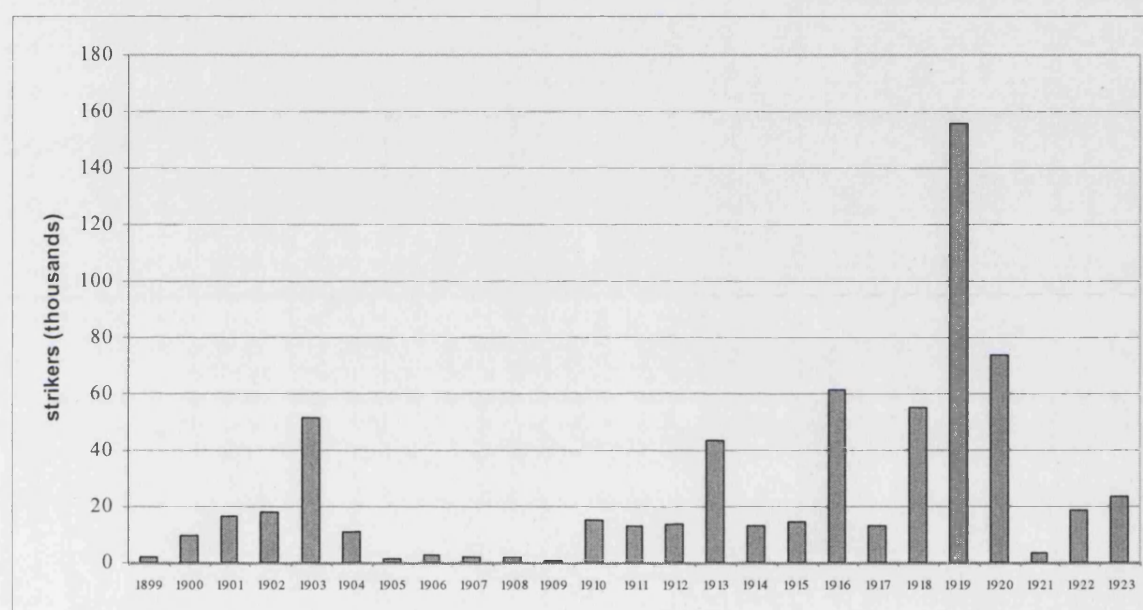
Some changes were not that drastic. At the turn of the century, the Restoration state eased the repression on anarchist circles after the campaign against the Montjuich trials and the legitimacy crisis brought about by the defeat with the United States in the Cuba war of 1898. In this context, a strike wave unfolded between 1899 and 1903 led by the *Federación Regional de Sociedades Obreras de Resistencia* (FRSOR, Regional Federation of Unions). During the Restoration, two strike waves were associated with more progressive Liberal governments. A period of tolerance toward labour organisations in 1881-1883 allowed for the expansion of the *Federación de los Trabajadores de la Región Española* (FTRE, Workers' Federation of the Spanish Region), which was especially active in the South of Spain. In 1910 and 1911, the forming of a government headed by Liberal-reformist José Canalejas also sparked important metal workers strikes in Barcelona and Sabadell or a miners' strike in 1910 and a general strike in 1911 in Bilbao.

<sup>29</sup> Termes, *Anarquismo*, p. 170.

<sup>30</sup> Engels, Frederick, "The Bakuninists at work. An account of the Spanish revolt in the summer of 1873," p. 7, English translation of the series of articles published in *Der Volksstaat*, October 31, November 2 and November 5 1873 available at the Marx-Engels internet library: [www.marxists.org/archive/engels/works/1873.htm](http://www.marxists.org/archive/engels/works/1873.htm)

<sup>31</sup> Mora, Francisco, *Historia del socialismo español* (Madrid, 1902), quoted in Elorza, Antonio and Michael Ralle, *La formación del PSOE* (Barcelona, 1981), p. 50.

Using the strike data published since 1905 by the *Instituto de Reformas Sociales* (Institute of Social Reforms, IRS), 1910, 1911, 1913, 1916, and 1918-1920 correspond to years in which aggregate strike activity was above an exponential trend for the period 1905-1923 (graph 2.1).<sup>32</sup> In order to observe the size of strike waves before 1905, in graph 2.2. I show the number of strikers between 1899 and 1923 in the city of Barcelona –the most strike-prone city in the country- excluding general and political strikes. The graph shows three periods of exceptional strike activity in 1903, 1913, 1916 and 1918-1920.



Graph 2.2. Strikers (thousands) in Barcelona, 1899-1923.

Source: Smith, "Trabajadores dignos," and Martín Ramos, "Anàlisi del moviment vaguístic."

Note: strikers' figures do *not* include general strikes.

The mechanics of strike waves made possible strikes clustered in short periods of time in which optimistic expectations passed from one group of workers to the other making union growth possible. But strike waves also brought about hostile reaction from the state and employers. As I explain in more detail in the next chapter, rather than collective bargaining or the profit squeeze caused by a shortening of the workday or an increase in wages, employers and state officials feared mass strikes and social upheaval. This led to periods of political repression and employers' retaliation, as in the early years of the Restoration, from 1874 to 1881, when the 1<sup>st</sup> International was banned, or

<sup>32</sup> Strike activity is measured by the yearly number of strikers. The exponential trend captures the fact that strike activity was increasing very fast during the period.

in 1903, or 1911 when the government crushed the rising strike movement. In Barcelona, during the strike wave of 1903, 371 workers were arrested out of 52,015 strikers. In this sense, some authors have argued that the policy of the government was the strategic arrest of the main strike leaders to stop the strike very early on.<sup>33</sup> Hostile reaction led to a period of demoralisation and collective de-mobilisation, like between 1905 and 1909.

In the strike wave of 1918-1920, a mixture of domestic and international events seems to have taken place. The roles of the Soviet and German Revolutions of 1917 and 1918 were as important as the political crisis of the Restoration state, the legitimacy crisis of the monarchy and the initial victories of the National Confederation of Labour (CNT) in late 1918 and early 1919. Domestic political instability was no doubt a critical factor, but the timing of the strike wave in Spain was roughly similar to other experiences of cycles of strikes in most European countries and in the United States, suggesting that forces other than purely domestic were at play.<sup>34</sup> Moreover, as in other European countries, labour markets were characteristically tight, giving additional bargaining power to strikers. Between 1910 and 1920 the annual rate of growth of the gainfully occupied in industry grew 3.12 per cent, with most gains concentrated in the period 1915-1919. In the textile industry, employment increased from 134,000 workers in 1910 to about 243,500 in 1920, while in mining, employment rose from 99,000 workers in 1910 to 173,000 in 1920.<sup>35</sup>

<sup>33</sup> This is for instance the interpretation in Bengoechea, Soledad, "Conflictividad social en Barcelona durante 1903 (un estudio realizado en base a la correspondencia cruzada entre el ministro de la Gobernación, Antonio Maura, con los gobernadores civiles de Barcelona y ciertos sectores de la patronal)," in Arenas Posadas, Carlos, Antonio Florencio Puntas and Jerònia Pons Pons, *Trabajo y relaciones laborales en la España contemporánea*, pp. 341-355 (Sevilla, 2001). Of the 371 arrests, 264 strikers ended up in prison. 181 spent less than one week in prison while the longest stay in prison was 3 months. Of the 264 jailed workers, 127 were prosecuted but only one was finally judged and there were 12 dismissals. On the remaining 115 cases, the Ministry of Interior García Aliz issued a collective pardon through a Royal Decree passed on the 14<sup>th</sup> August 1903. Sastre, Miguel, *Las huelgas de Barcelona y sus resultados en el año 1903* (Barcelona, 1904), pp. 72-74. In the following years, In 1904, 160 strikers were arrested out of 11,047. Of those Sastre noted "some of them went to prison, but they were freed almost immediately." Quoted in Sastre, *Las huelgas de Barcelona*, year 1904, p. 85. In 1905, 58 workers were arrested out of 1676 strikers. Again, Sastre remarked that "most of the arrested strikers did not go to prison and were freed almost immediately by either the Civil governor or the Judge." Sastre, *Las huelgas*, year 1906, p. 67.

<sup>34</sup> Different national experiences are treated in the collective volume: Haimson, Leopold H. and Charles Tilly (eds.), *Strikes, wars, and revolutions in an international perspective. Strike waves in the late 19<sup>th</sup> and 20<sup>th</sup> centuries* (Cambridge and Paris, 1989).

<sup>35</sup> Maluquer de Motes, Jordi, "De la crisis colonial a la Guerra Europea," *La economía española en el siglo XX* (Barcelona, 1987), pp. 64.

The strike wave of 1918-1920 shows again the limits of labour collective mobilisation in the context of the Restoration, with employers' and state repression intensifying in 1919-1920. In Barcelona, after the success of the *Canadiense* strike, employers staged a bitter 84-day long lock-out in Barcelona from the 3<sup>rd</sup> November 1919 to the 26th January 1920. Open class warfare gave way to the years of *pistolerismo*, when unionists and gangs paid by employers were routinely involved in gun battles in the streets of Barcelona.<sup>36</sup> In the years 1920 to 1923, union leaders like Salvador Seguí, or Valerio Boal were shot to death, while at the same time union membership and strike activity of the CNT diminished considerably. In January 1920, the civil governor of Barcelona ordered the closing of the offices of the CNT.<sup>37</sup> A similar course was taken with the strike wave of the rural towns of Cordoba organised as well by the CNT, when the government outlawed the unions and the army crushed the strike movement.<sup>38</sup> In the case of the socialist UGT unions, repression was milder. Union membership reached a maximum plateau in 1920 with over 200,000 dues paying members (more than doubling the 1918 membership figure), but membership losses after 1920 were minimal.

#### **2.4. Union recognition.**

In strike waves, optimistic expectations were crucial because workers expected to re-define the employee-employer relationship and obtain the recognition of the union. When prospects appeared to be good, the traditional organisational drive included a public meeting in which a set of demands were drawn up and presented to employers in the form of a written collective contract. For example in the first union drive in the Biscay iron mines, workers presented a contract which included shorter hours, the end of piece rate work and the abolition of barrack housing. The demands put forward by the Catalan textile union of *La Constancia* (Constancy) in the strike of 1913 considered higher wages, a workday of 10 hours and the end of night shifts in the industry. An

<sup>36</sup> The classic reference of this episode is Solano, E. G., *El ocaso del sindicalismo. Segunda parte* (Barcelona, 1933).

<sup>37</sup> Lamberet, Renée, *Mouvements ouvriers et socialistes (chronologie et bibliographie)* (Paris, 1953).

<sup>38</sup> Díaz del Moral, *Historia de las agitaciones campesinas andaluzas (antecedentes para una reforma agraria)* (Madrid, 1973), p. 335.

unusual unionisation drive among the chambermaids of Barcelona promoted by the CNT in 1918 shows how the collective contract was drawn up:

Maids and servants were convoked to a meeting at "*El Globo*", a popular dance hall in front of the Ciutadella Park. [...]

The spacious room of "*el Globo*" was not large enough to let everybody in, three other "*Globos*" would have been necessary. Almost everybody joined the union. A union committee was elected and a collective contract was drawn up and presented promptly to the "masters" (*los señores*). The contract included an increase in wages, a shortening of the workday and one and a half free days in the week.<sup>39</sup>

The final aim of most of these efforts was fundamentally employers' recognition of the union's bargaining power and the start of collective bargaining. For example, in the strike wave of 1903-1904 in Barcelona, 30 per cent of strikes were initiated by unions presenting written collective contracts to employers.<sup>40</sup> Between 1899 and 1902, building construction workers, coachmen or quarry workers had agreed upon the collective conditions of employment with their employers. For example, textile workers in the finishing trades (*cilindradores y aprestadores*) called for a 9-hour day, an increase in wages, a minimum age of 14 for apprentices, the end of work by young girls, union recognition and the union shop.<sup>41</sup> Shoe-makers went on strike to obtain the eight-hour day and the end of piece rate work.<sup>42</sup> Building construction workers demanded the eight hour day, an increase in wages, and the constitution of a joint board of workers and employers to solve eventual conflicts and avoid strikes.<sup>43</sup> In all these cases, union recognition was fundamental because most unions had been created only after 1898. A 60 per cent of the existing in Barcelona in 1904 had been organised or rather re-organised in the years 1899-1904 (graph 2.3) and were trying to re-shape their relationship with employers in the form of union recognition.

<sup>39</sup> Manent, Joan, *Records d'un sindicalista llibertari català, 1916-1943* (Paris, 1976), pp. 30-33.

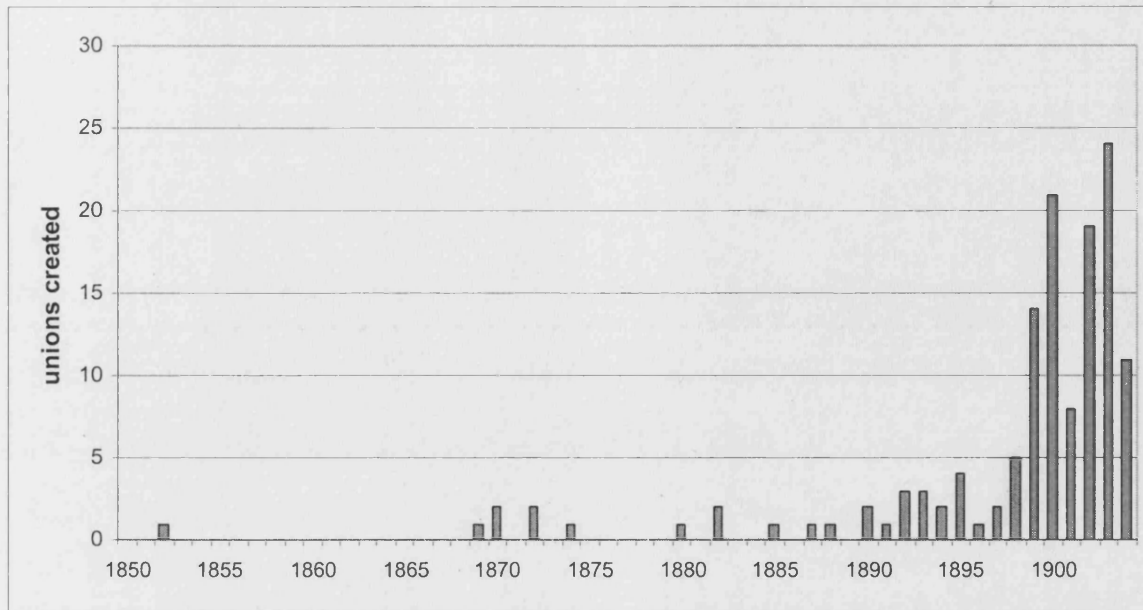
<sup>40</sup> In fact this is underestimating the extent of "union recognition strikes" since many of these strikes did not entail a written collective contract, but sometimes a crucial demand (for example, Sunday rest for bakers). Sastre y Sanna, Miguel, *Las huelgas de Barcelona y sus resultados en el año 1903* (Barcelona, 1904), *Las huelgas de Barcelona y sus resultados en el año 1904* (Barcelona, 1905). 14 of 47 registered strikes included written collective contracts.

<sup>41</sup> Sastre, *Las huelgas 1903*, "cilindradores y aprestadores."

<sup>42</sup> Ibid., "zapateros."

<sup>43</sup> Ibid., "obreros de la construcción."





Graph 2.3. Unions existing in 1904 by year of creation (Barcelona).

Source: Instituto de Reformas Sociales, *Estadística de asociación obrera 1904* (Madrid, 1907).

Note: this graph shows most unions operating in Barcelona in 1904 had been created between 1898 and 1904, and especially in 1899, 1900, 1902 and 1903.

In these strikes, membership typically increased during the strike and fell thereafter. Generally, strong employers' resistance to recognise unions undermined most efforts to stabilise the position in a particular trade. For example the members of the Barcelona Shoemakers' union joined 1,100 members before the strike called on June 1903 in a trade of approximately 10,000. After the strike in which the union failed to obtain union recognition, membership fell to 700. After the 1,200 strong dockers' strike, only 300 could come back to work, the rest saw their jobs taken by strike-breakers. In the tram workers strike of 1901, the union was banned and strikers were crushed by the military. A gas workers' strike in 1903 also ended with an order from the government banning the union. Lost strikes implied sharp decreases in membership and a period of demoralisation. Miguel Sastre estimated that there were more than 45,000 union workers in Barcelona at the peak of the strike wave in 1903, of an estimated working population of 88,000. By 1908, he reckoned this figure had gone down to less than 10,000.<sup>44</sup>

<sup>44</sup> Marvaud, Angel, *La question sociale en Espagne* (Paris, 1910), p. 135, figures based on : Sastre y Sanna, Miguel, "Las sociedades de resistencia de Barcelona," *La Paz Social*, 1909, pp. 238-240.

Union stability was not that problematic in small, local craft unions which had been able to lead a more continuous life. In Barcelona, a barrel-makers' union existed since 1870 with almost full unionisation and the printing trades' union had organised the trade since the early 1880s. In both cases, collective agreements between workers and employers had regulated the terms of employment for decades. Unions in large urban sectors like shoe-making, building construction or the metal trades experienced more discontinuous processes of union implementation. Table 2.1. shows union density values (union workers/ employment in the sector) for some trades between 1903 and 1906 in Barcelona taken at peak membership shortly before or during the strike and at the end of the year. Dockers, gas workers, the metal trades or textile workers had low union densities below 10 per cent. Building construction workers enjoyed almost full unionisation in 1903, but by 1906 union density had fallen to 25 per cent.

Table 2.1. Union densities in Barcelona, 1903-1906.

Trades	Peak union density	Density at the end of year	Year
Quarry workers	1	0.18	1903
Barrel-makers	1	1	1906
Hat makers	0.96	0.96	1906
Carpenters	0.89	0.89	1903
Building construction	0.86	0.86	1903
Lithographers	0.84	0.84	1903
Tanners	0.84	0.83	1906
Gas workers	0.69	0	1903
Typographers	0.64	0.64	1903
Agricultural labourers	0.39	0.04	1904
Lathe operators	0.36	0.76	1903
Carpenters	0.33	0.33	1906
Coachmen	0.3	0.3	1904
Building construction workers	0.26	0.26	1906
Typesetters	0.25	0.25	1903
Glass workers	0.21	0.09	1906
Cotton textiles (weaving and spinning)	0.16	0.16	1905
Cotton textiles (finishing)	0.09	0.07	1905
Locksmiths	0.05	0.06	1904
Dyers	0.04	0.04	1905
Shoemakers	0.1	0.06	1903
Foundry workers	0	0	1905
Shoemakers	0	0	1906

Source: Sastre, *Las huelgas de Barcelona*, years 1903-1906.

Numerically important sectors of the Spanish economy like the metal trades, the cotton textile industry or mining were characterised by having close to zero union densities in the late 19<sup>th</sup> and early 20<sup>th</sup> century. In all these cases, employers did not



recognise unions or union rights were severely contested. Below I discuss 5 case-studies in which I stress employers' opposition to union recognition, the consequent instability of unions and the organisation of strikes associated with union recognition.

### Cotton textile workers.

Unions had existed since the 1840s in the cotton textile industry.<sup>45</sup> In 1869, the *Tres Clases de Vapor* (Three Steam Classes) was created and presented their demands to employers. The union was especially active in 1870 and 1871 leading a series of successful strikes in Barcelona and Manresa.<sup>46</sup> In 1871, it joined the 1<sup>st</sup> International and in 1872 a wider federation called *Unión Manufacturera* was created joining local unions of 105 towns in late 1872. By early 1873, the union obtained a shortening of the workday to 11 hours and an increase in wages of 7.5 per cent. This led to an apparently uncontrolled wave of union recognition strikes in 1873, with union membership peaking at 30,000 members.<sup>47</sup>

The *Tres Clases*, like most unions, was extremely weak during the period going from the fall of the 1<sup>st</sup> Republic to 1881. In 1881, when the union started operating again, a textile worker remarked textile workers had gone "through a seven year eclipse."<sup>48</sup> A series of union recognition strikes took place in 1881, which met strong employers' resistance. In Mataró, employers staged a lock-out lasting 13 weeks. In 1882, a section of the textile union joined the *Unión Manufacturera*, which operated within the FTRE, while the *Tres Clases* remained outside the anarchist organisation. The period 1882-1883 saw further strikes and union gains. In 1883, there were more employers' lock-outs in Mataró and Igualada, but between 1883 and 1890 the union enjoyed a period of collective bargaining in the large establishments of Barcelona and its province, while being substantially weaker in the rest of the Catalan textile sector.<sup>49</sup> In

<sup>45</sup> The classic work on early Catalan unionism is Maluquer de Motes, Jordi, "La crisis del modelo liberal en España: el nacimiento del movimiento obrero y las primeras formulaciones socialistas: 1835-1868," unpublished PhD dissertation Universitat Autònoma de Barcelona, 1975; a recent contribution is Barnosell, Genís, *Orígens del sindicalisme català* (Vic, 1999).

<sup>46</sup> Izard, *Revolució industrial*, pp. 68-69.

<sup>47</sup> For example, the Federal Commission of the International wrote to the *Unión* asking for greater control of strikes to avoid losing resources. The letter remarked most strikes did not follow the rules set up by the International. In Izard, *Revolució industrial*, p. 72.

<sup>48</sup> *Ibid.*, p. 75.

<sup>49</sup> *Ibid.*, p. 115.

1890, a conflict in Manresa sparked a general strike in the sector in which the union was defeated. With a weak union, there is very little evidence of union activity in the 1890s.

The years from 1899 to 1901 saw a rapid rise of unionisation in the so-called *montaña* (mountain) region, located in inner Catalonia.<sup>50</sup> In February 1899 there was a series of strikes in the main towns of this area: Roda de Ter, Torelló, Vic, Ripoll, or Camprodon. In this area, they constituted the *Federació del Tèxtil de la Comarca del Ter i Fresser* (Textile Federation of the Ter and Fresser Valleys), which *3 Clases de Vapor* and *Unió Fabril Cotonera* (Cotton Union) joined in September 1899,<sup>51</sup> when the Spanish Federation of the Textile industry was created (*Federación de la Industria Textil Española*). The initial membership was exceptional high at about 40,000 members, most of them from outside Barcelona.<sup>52</sup> A representation of the Federation established itself in Madrid in order to negotiate with the Liberal party in power a law establishing a workday of 11 hours and a night shift of 8.

Yet any attempt to stabilise the union proved to be short-lived. In October 1900, employers in the Ter Valley staged a lock-out, to which workers responded with a general strike in November. The strike lasted seven weeks and was lost, with 800 union workers losing their jobs. By late 1901, the Textile Federation had disappeared and the sector had rates of affiliation below 5%.

From 1913 to 1916 there was another important strike movement in the Catalan textile sector. In March 1912, a *Sindicato del Arte Fabril y similares* (Textile Syndicate) had been legalised with 2,000 members in Barcelona. In April 1913, the syndicate adopted the name of *La Constancia* (Constancy). On the 14<sup>th</sup> June 1913, the Catalan federation of the Textile Syndicate presented to their employers a set of demands: higher wages, shorter hours and union recognition. As employers refused to deal with the union, a strike started on the 13<sup>th</sup> July with a participation peak of 85,000 on the 9<sup>th</sup> of

<sup>50</sup> The 'Mountain' was characterised by its use of hydraulic power to run the mills. It contained traditional textile towns like Manresa or Manlleu but also the town mills located along the rivers Ter, Fresser, Llobregat, and Cardener. Discussed in more detail in chapter 6.

<sup>51</sup> See Gabriel, "Clase obrera," p. 488. *Unió Fabril Cotonera* was a socialist oriented textile union with a strong hold in Mataró, north of Barcelona. In a conference held on the 29<sup>th</sup> June of 1900 they were to propose joining the socialist General Workers Union (UGT).

<sup>52</sup> *Federación Tres Clases de Vapor* had only 250 members in the city of Barcelona. See Gabriel, "Clase obrera," p.491. According to Miguel Sastre, about a 10 per cent of 10,000 textile workers in Barcelona were unionised. Sastre, *Las huelgas de Barcelona 1904*.

August.<sup>53</sup> On the 16<sup>th</sup> August a conciliatory formula was proposed by the Civil Governor of Barcelona contemplating higher wages, a ten-hour workday, and the effective enforcement of the 1900 law on the night work of children and women. These promises were later transformed into a government decree.

By late August 1913, *La Constancia* had gathered 18,000 workers (about one fifth of the Catalan textile workers). However, a series of strikes in 1914, 1915 and 1916 undermined again the position of the union. In Reus, an industrial city in the south of Catalonia, the employers' association locked-out workers for ten days. The employers' association of the Mountain area also adopted a strong anti-union stance laying off union workers. In 1916, *La Constancia* lost a 17,000 strong strike in the province of Barcelona that finally brought about the dissolution of the union.

#### Metal workers.

A similar case in Catalonia was that of the metal trades, encompassing about 13,000 workers in early 20<sup>th</sup> century Barcelona, with about a third being unionised at the time. In late 1901 and early 1902, foundry workers, locksmiths, tinsmiths and iron tinkers - organised under the umbrella organisation *Federació Metal·lúrgica* (Federation of metal workers)- went on strike calling for a 9-hour day, pay by the hour and overtime, the end of piece rate work and the restriction to employ boys over 14.<sup>54</sup> After two months on strike, on mid February 1902, a one week solidarity general strike was staged in Barcelona with between 80,000 and 100,000 striking workers at its peak.<sup>55</sup> But on late February, metallurgical workers finally gave up and resumed work with their traditional 10-hour day. As a consequence of the strike, 1500 metal workers were fired as their jobs had been taken by strike-breakers. In May-June 1903, after the 1903 Madrid conference of the FRSOR, a *Federación de Sociedades Metalúrgicas de España* (Spanish Federation of Metallurgical societies) held a conference in Barcelona with representatives mainly from Catalonia and Andalusia.<sup>56</sup> However, as the *Federación* failed to organise Barcelona, the most important concentration of metal workers, the

<sup>53</sup> The strike was general in the sector. A detailed follow-up of the strike is given in IRS, "Noticias relativas a la huelga en la industria textil," in *La jornada de trabajo en la industria textil*

<sup>54</sup> Cuadrat, *Socialismo y anarquismo*, pp.76-77; Romero Maura, *La Rosa de Fuego*, p.207.

<sup>55</sup> Ibid., p.211.

<sup>56</sup> There was another Metal workers union organised in 1903 belonging to the UGT with about 2800 members in 1903 mainly from Madrid, cities in Castilla-León and some from the Basque country and Asturias.

union disappeared in May 1905.<sup>57</sup> By 1910, only 300 of between 12,000 to 13,000 metal workers in Barcelona were unionised. The Catalan socialist leader, Josep Comaposada, claimed in 1909 that as a consequence of the failed 1901-1902 strike, most metal workers in Barcelona were “extremely reluctant to join unions.”<sup>58</sup>

However, in the summer of 1910, another important metal workers strike took place in Barcelona, followed by a three-months general strike in the trade from mid September to mid December.<sup>59</sup> The strike had sparked from a conflict in a factory (Rablons) in which a group of workers had demanded, but failed to enforce, the union shop. On the 9<sup>th</sup> September 1910, the local metal workers’ union called for the general strike in the trade and drew up a collective contract that included union recognition, the nine-hour day, work on holy days and an increase in pay for overtime hours. Workers were quite slow to mobilise but the tolerance of the civil governor towards picket lines made possible that the conflict extended to most of the metal workers of the city. Employers refused to meet the strike committee and the situation was blocked. Finally, workers surrendered and decided to go back to work, but 1,000 strikers saw their jobs taken by strike breakers.<sup>60</sup> In April 1914, when the first Catalan conference of metal workers’ unions met in Barcelona, it was decided to open a debate on the means needed to engage employers into collective bargaining and obtain the recognition of the union.<sup>61</sup>

#### Building construction workers.

Another interesting case was that of the building construction workers. In October 1901, a federation of the existing building construction workers’ unions in Barcelona had won a strike calling for the 8-hour day and obtained a formal collective bargaining board in the form of a joint commission of workers and employers (*Comisión Mixta*). In Barcelona by 1903, the union had become extremely successful with about 13,000 workers of the 15,000 employed, with some of its branches supplying schools and adult education to their members.<sup>62</sup> In Madrid, the union *El Trabajo* (Work) enjoyed a similar

<sup>57</sup> Gabriel, “Classe obrera i sindicats,” p. 532.

<sup>58</sup> Comaposada, Josep, *La organización obrera en Cataluña* (Reus, 1910), p. 24.

<sup>59</sup> Sastre, *Las huelgas de Barcelona*, year 1910, “Obreros metalúrgicos.”

<sup>60</sup> Ibid.

<sup>61</sup> Gabriel, “Classe obrera i sindicats,” p. 552.

<sup>62</sup> Sastre, *Las huelgas de Barcelona*, year 1903, “obrerros de la construcción.”

success up to 1911.<sup>63</sup> Nevertheless, most of this unionisation drive was supported by extraordinary labour market conditions in the sector, with an extremely tight market for building construction workers. In Barcelona, a second strike was attempted in the summer of 1903 to win a pay rise of 0,50 pesetas, but it ended in failure.<sup>64</sup> By 1906, employment in the building trades in Barcelona had fallen to 3,500 workers only, of which some 900 unionised.<sup>65</sup> It is not surprising that union activity in the sector was almost non-existent until 1913, when in Barcelona a local federation of building construction workers was formed, and only effective after 1916.<sup>66</sup> In Madrid, a two-month employers' lock-out in 1911, undermined both the implementation of the union and its ability to advance the interests of its members as individual contracting substituted for collective agreements between employers and *El Trabajo*.

### Miners.

The attempts of the Biscay iron mining workers to organise collectively date back to the celebration of the 1<sup>st</sup> May in 1890. A general strike in the area of about 30,000 participants was organised calling for the eight-hour day. In addition to a 10-hour day, the mining workers also demanded the suppression of the system of barrack housing, which was compulsory for all miners, and the abrogation of the so-called *tareas* (the payment according to individual or group output). As a consequence of the general strike, martial law was declared but the captain general of the province, general Loma, invited workers to present their demands to the employers. With Loma and the Prefect threatening to withdraw the military and police protection from the establishments on strike, employers had to bargain with workers and accept some of their demands, leading to the so-called Loma Agreement.<sup>67</sup>

In spite of this early success, most mining workers in the area remained outside unions. There were important strikes in 1903, 1906 and 1910, extended to the whole area of Bilbao and triggering a favourable intervention of the authorities, both by the prefect and the military. The miners' union, the *Federación de Obreros Mineros* (Mining

<sup>63</sup> Byrne, Justin, "Trabajo y conflictividad en el sector de la construcción en Madrid, 1900-1914," *Sociología del Trabajo*, 15 (Spring 1992), pp. 125-127.

<sup>64</sup> Sastre, *Las huelgas de Barcelona*, year 1903, "obreros de la construcción".

<sup>65</sup> Sastre, *Las huelgas de Barcelona 1906*, "obreros de la construcción;" Gabriel, "Clase obrera i sindicats," p. 525.

<sup>66</sup> *Ibid.*, p. p. 576.

<sup>67</sup> Fusi, Juan Pablo, *Política obrera en el País Vasco, 1880-1923* (Madrid, 1974), pp.92-93.

workers Federation), constituted in 1899, only had 723 members in 1904 of a trade of about 11,000 and was not recognised by employers. For instance, when in 1903 the *Federación* demanded the payment of weekly instead of monthly wages, employers refused to recognise the union as the collective voice of their employees. Despite the favourable intervention of the government, unionisation stood below 10 per cent (968 members in 1907) and their union had not obtained formal recognition from the mining firms.

In March 1910, another miners' conference agreed to call for a reduction of the workday, an issue that had been untouched since the Loma Pact of 1890. A miners' strike ensued in the summer. The strike was a considerable success, obtaining favourable state intervention and a decree establishing a workday of nine hours in the summer. Despite state support, the Biscay miners' union did not stabilise its position in the following years. Looking at membership figures, from 6,885 members in 1911 and union density over 50 per cent, this figure fell to 1,954 in 1912. Further, the onset of World War 1 did not favour the union, and membership fell further to 1,250 in 1914, 1,134 in 1915 and 870 in 1916.<sup>68</sup>

This contrasted sharply with the successful unionisation of Asturias coal miners before 1914, where there had been a first attempt to organise a union in 1899. The mining union suffered to important defeats in 1903 and 1906. After the 1906 strike, Manuel Llaneza, leader of the Asturias miners, spent three years exiled in the mines of the North of France, where he devised a union modelled on the French socialist mining unions. This implied a strict central authorisation of strikes and control over strike-funds. As Benjamin Martin notes: "centralised leadership and control and the pooling of resources to create a large strike fund gave it (the union) a formidable cohesion and force."<sup>69</sup> In 1910, the Asturias Miners' Union (*Sindicato Minero Asturiano*, SMA) was created under the leadership of Llaneza. After some initial victories, by 1912 the SMA had unionised more than half of the mining workers in Asturias and had reached about 10,000 members.<sup>70</sup> In 1913, when the big mining concerns joined forces under a common employers' association, the union was formally recognised as the legitimate

<sup>68</sup> Ibid., p. 360.

<sup>69</sup> Martin, Benjamin, *The agony of modernization*, p.110.

<sup>70</sup> Shubert, Adrian, *Hacia la Revolución. Orígenes sociales del movimiento obrero en Asturias (1860-1934)* (Barcelona, 1984), p. 142.

“voice” of mining workers (except in *Hullera Española*).<sup>71</sup> In 1914, a minimum wage agreed by the SMA and the employers’ association. In the World War 1 years, union densities fluctuated between 60 and 80 per cent. In 1919, a mining strike in Asturias in which 30,000 workers participated obtained the 7-hour day and portal-to-portal pay.

### Railway workers.

Railways companies employed 60,000 workers in 1905. The first evidence available on the association of workers had to do with the creation of funds to cover accident compensation.<sup>72</sup> Proper unions seem to have been created in 1892 in the workshops of *Ferrocarriles Andaluces* (Andalusian Railway Company) in Málaga, which reached about 1000 members in 1894.<sup>73</sup> In 1893, in Sant Martí de Provençals (next to Barcelona), drivers and stokers of the *Compañía del Norte* organised their union, *La Esperanza* (Hope).<sup>74</sup> From very early on, *La Esperanza* tried to unionise drivers and stokers in other railways companies with the aim of creating a national federation. But the company was to act diligently against the union by laying-off Luis Zurdo, the main leader of the union, and other eleven workers.<sup>75</sup>

In spite of strong employers’ resistance, a national General Railway Workers Union (*Sindicato General de los Ferrocarriles de España*) was organised in 1896, with Zurdo as secretary.<sup>76</sup> Proving the weakness of the union, the collective contract approved in the 1896 conference was presented to employers six years later, in 1902. After employers refused to come to terms with the *Sindicato*, the union threatened with a general strike in the sector, which never took place because it was not supported by the rank-and-file.

<sup>71</sup> The SMA stroke again against *Hullera Española* in 1916, and ending up in the temporary recognition of the union. When in 1917, *Hullera* refused to accept the collective agreement of that year between SMA and the employers’ association, another strike ensued. After 19 days, the IRS intervened, and a referendum was made among the workers of whether they wanted to be represented by the SMA or the catholic company union. The referendum was won by the SMA but still it was the government who had to force the company to recognise the union.

<sup>72</sup> The most notable case is the *Asociación General de Empleados y Obreros de los Ferrocarriles de España* (General Association of Spanish railways’ workers), created in 1903. Juez Gonzalo, Emerenciana, “El mundo social de los ferrocarriles españoles de 1857 a 1917,” unpublished PhD dissertation Universidad Complutense de Madrid 1997, p. 363.

<sup>73</sup> Castillo, Santiago, “El asociacionismo ferroviario y su génesis,” *Estudios de Historia Social*, 26-27 (July-December 1983).

<sup>74</sup> Juez Gonzalo, “El mundo social,” p. 372.

<sup>75</sup> Ibid., p.839.

<sup>76</sup> Ibid., p.840.

In 1909, a new attempt to create a national railways workers' union stemmed from the employees of the MZA Company (Madrid-Zaragoza-Alicante) in Madrid. This initiative was organised through the *Casa del Pueblo* (People's Home) of UGT. In order to avoid black listing and lay-offs of union organisers, it was decided that the leadership of the new union (*Unión Ferroviaria*, Railways union) was to be given to people associated with the Socialist Party (PSOE) and its union, UGT. Further, the register of members was encoded to avoid retaliation by the companies on union supporters.<sup>77</sup> In the second half of 1910, Vicente Barrio, leader of the *Unión*, gave a series of meetings and conferences in the main cities of the country. In a series of unionisation drives, local offices of the union were being opened across the Spanish geography. This was followed by conflicts and attempts by employers to curtail union activity. In December 1910, the PSOE, which had won a deputy in the election that had taken place in the same year, denounced in parliament the activities of companies and defended the activity of the union. By late 1910, the union had an estimated membership of 20,000. During the following year, membership more than doubled, reaching 45,000 in early 1912, and 60,000 at the end of the first conference of June 1912, in a sector of about 85,000 employees.

In the first conference of the *Unión Ferroviaria*, it was decided that the union was to be called *Federación Nacional de los Ferroviarios Españoles* and new statutes of the union were drawn up. Among the main regulations, the union was now open to all railway workers and was not limited to drivers and stokers. Furthermore, the union was divided into sections corresponding to each of the companies operating in Spain. Finally, a centralised mechanism to regulate strikes was instituted with control over strike funds.<sup>78</sup> This, however, as in 1912, did not prevent regional sections –namely the Catalan branch– to strike unilaterally, in spite of the opposition of the central office of the *Unión Ferroviaria*. A vote deciding whether to support the 1912 Catalan strike came out in favour of the strike. Moreover, the conference also passed a set of demands being presented to employers in the form of a collective contract (*bases de trabajo*).<sup>79</sup>

<sup>77</sup> Boletín del Instituto de Reformas Sociales, "Información sobre los orígenes de la Unión Ferroviaria," December 1912, p. 482.

<sup>78</sup> Juez Gonzalo, "El mundo social," pp. 390-391

<sup>79</sup> Ibid., pp. 854-857.



In this sector, the regulation of the state is a key factor to understand the further evolution of the union. The royal decree passed in October 1912 –during the preparation of a general strike in the sector- recognised the right of the railway workers to go on strike and also the right of railway managers to hire labour (in fact, strike-breakers) to guarantee the service.<sup>80</sup> More importantly, the enactment of two additional royal decrees authorised the minister of Defence to call on duty all railway workers having served in the Army between 1901 and 1911 to guarantee the service, severely limiting the right to strike.<sup>81</sup> The bill presented by the Liberal government to the approval of the *Cortes* had two salient characteristics. First, it required all railway companies to submit written collective contracts containing issues like wages, promotion policies, seniority rules, pensions, accident compensation, etc., to the Ministry of Public Works (*Ministerio de Fomento*) for approval. Second, it severely curtailed the right of workers to strike, through the creation of compulsory joint commissions arbitrating in conflicts between labour and management, through which all workers' demands had to be negotiated. Arbitration and conciliation was to be secured in two steps. There was a joint commission of labour and management (*junta de conciliación*). If the *junta* failed to reach an agreement, arbitration committees (*tribunales arbitrales*) were to be drawn up.<sup>82</sup>

In this sense, the right to strike was banned for railway workers as they were considered civil servants, which at the time had not the right to strike.<sup>83</sup> The curtailment of the right to strike for railway workers made it an easy target for opponents to the reform and the project never became a law, being blocked in parliament not only by Republicans and Pablo Iglesias (the only Socialist deputy), but also by Conservatives.<sup>84</sup> On the other hand, railway companies also opposed the law and accused the government in trying to intervene in the “private” dealings of each company with their employees.

<sup>80</sup> The issue is discussed in IRS, *Conflictos de obreros y empleados en las compañías de ferrocarriles*.

<sup>81</sup> The same solution had been given in France by the Briand government to crush the railway workers strike. Suárez, “La huelga de ferrocarriles de 1912,” p. 528. Since reservists had to wear an armband, the strike was popularly known as the “armband strike” (*huelga del brazalete*).

<sup>82</sup> The *tribunal* was formed by the chief engineer of the company in which the conflict had taken place, a deputy from parliament and a member from the senate, two members of the Instituto de Reformas Sociales, one representing labour and the other management, one of the presidents of the Supreme Court, and the Dean of the Madrid College of Lawyers.

<sup>83</sup> Ibid., pp. 530-532.

<sup>84</sup> IRS report quoted in Juez Gonzalo, “El mundo social,” pp. 500-501.

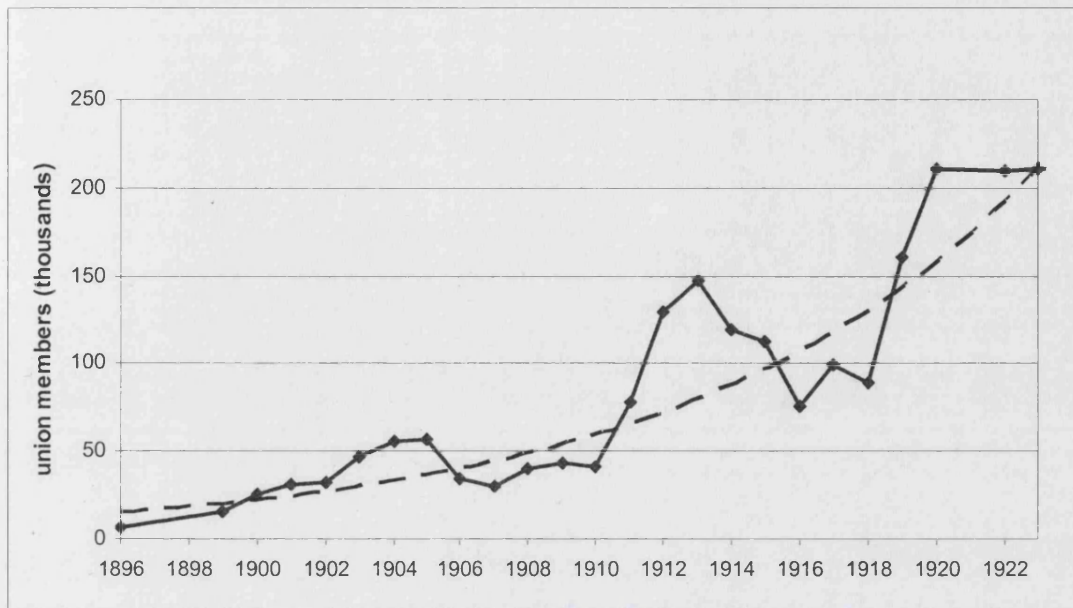
In July 1916, another strike in the sector brought about a determined reaction from the government. On the 13<sup>th</sup>, the executive suspended constitutional guarantees, closed the *Cortes* and declared martial law. The leaders of the *Federación Nacional de Ferrovianos*, those presiding the strike commission, and Socialist and UGT leaders like Largo Caballero and Julián Besteiro were arrested. Yet, the government commissioned a report on the strike to the *Instituto de Reformas Sociales*. In it, the experts of the *Instituto* remarked that strikes ensued because unions were not recognised by the railway companies. It also added “although our general legislation guarantees and gives room to the adequate constitution of unions (*sociedades*), the regulation is flawed with respect to the legitimate and efficient participation of those organisations in the conflicts and deliberations with employers (*entidades patronales*).”<sup>85</sup> Following this argument, the *Instituto* proposed making union recognition compulsory and the institution of mechanisms for prompt government intervention, when the negotiations between labour and employers were broken. In August 1916, a royal decree was sanctioned making union recognition compulsory for all industrial companies providing public services.

#### The General Workers' Union (UGT).

Union membership figures for the General Workers' Union (UGT) allow us to analyse the impact of the 1910-1913 unionisation drives in mining and railways on union membership. Before 1911, UGT's most solid footholds had been the building construction workers of Madrid and groups of agricultural workers in Andalusia. But between 1910 and 1913, UGT grew mainly in mining, both in Biscay and Asturias, and in railways. Graph 2.4. shows two membership bursts in 1911-1912 and in 1919-1920 (membership measured at the end of the year), with year-to-year increases of more than 50 per cent concentrated in 1911 and 1912 and an increase of 135 per cent in 1919-1920 with respect to 1918. The membership burst of 1911-1912 is associated with the unionisation drives in coal mining and railways. However, after peaking in 1913, union membership fell continuously until 1916, only to recover in 1919.

---

<sup>85</sup> Ibid., p.555.



Graph 2.4. Union members (thousands), General Workers' Union (UGT), 1896-1923.

Source: *Anuario Estadístico de España*, various years.

Note: the graph includes an exponential trend to underline periods of union decline and periods of fast union growth.

#### The strike wave of 1918-1920.

The link between strike waves, union creation and union recognition appears clearly in the strike wave of 1918-20, with the consolidation of the National Confederation of Labour (CNT) in Catalonia. Created in 1910, the CNT stemmed from the Barcelona federation of unions *Solidaridad Obrera* (Workers' Solidarity). In 1911, the *Confederación* led a series of general strikes in September 1911 in protest of the war in Morocco, which prompted the government of José Canalejas to outlaw the syndicate. After a two year period of clandestine activity, the CNT was made legal in the summer of 1914.<sup>86</sup> In the autumn of 1914, the CNT participated in the important movement against the rise of consumer prices caused by the onset of World War 1, concentrating most of the activity of the organisation up to 1916. In 1917, an ultimately failed national general strike was orchestrated by the UGT and CNT. From then onwards, the CNT

<sup>86</sup> The syndicate was legalised in July 1913, but as the legalisation took place at the same time of the important textile strike in the summer of 1913, most of its leaders were arrested accused of participating in the conflict.

agenda considered the creation, growth and consolidation of a new institution called the *sindicato único*, or “one big union.”<sup>87</sup> Instead of joining workers under trade federations (*federaciones de oficio*), the CNT wanted unions to organise into broader industrial federations devised to be massive organisations encompassing the workers of a particular industry, like transport, mining, textile or metals.

Most of these institutional innovations appeared in 1916 and 1917 in Barcelona and were developed initially by the carpenters’ and building construction workers’ unions. In June 1916, a conference of the *Federación del Ramo de la Construcción* (national federation of building construction workers) took place in Barcelona under the leadership of Salvador Seguí, the Sugar Boy, head of the Catalan branch of the CNT from 1918 until he was shot dead in 1923. The doctrine of the “one big union” was to become dominant in the Regional Confederation of Labour conference (CRT, the Catalan branch of the CNT) held in Sants (Barcelona) in late June of 1918.<sup>88</sup> Following more anarcho-syndicalist practices, the various craft, local or neighbourhood branches of the syndicate had relative autonomy, but strikes still had to be authorised by the *único* board. Once the approval had been given, the entire *único* was forced to provide support either in the form of solidarity strikes or through financial assistance.

If one looks at the evidence, there is no doubt this simple and persuasive idea had an extraordinary success. Taking figures from Catalonia only, membership stood at 34,000 in early 1918 and 73,860 during the Sants conference, but by late 1918 CNT there were 345,000 members, reaching 427,086 in 1919, with the movement peaking in the general strikes of March and April in Barcelona and in parts of Catalonia.

CNT membership figures, namely the figures of federated members provided in their conferences, have been subject to criticism. It has been noted that the syndicate overestimated its members, especially in the case of the Madrid conference of 1919. It is argued as well that even those who went to the conferences were not truly federated members, since most of them did not pay dues or did not attend the congress and hence did not belong formally to the organisation. Gerald Brenan, writing shortly after the

<sup>87</sup> Martin, Benjamin, *The agony of modernization. Labor and industrialization in Spain* (Ithaca, NY, 1990), p.198.

<sup>88</sup> The classic reference on the Conference is Lladonosa, Manel, *El Congrés de Sants* (Barcelona, 1975). As well, Lorenzo, César M., *Les anarchistes espagnols et le pouvoir, 1869-1969* (Paris, 1969), pp. 49-51.

Spanish Civil War, claimed that CNT's "core of persistent adherents did not exceed 200,000," which would have put UGT at the forefront of the labour movement.<sup>89</sup> However, with a policy of deliberately low dues and lacking any type of bureaucracy, membership in the CNT was not linked to the payment of dues. Furthermore, in the political and economic context of the time, no union could avoid having strong fluctuations of membership. In this sense, the use of persistent dues-paying members as unit of analysis does not capture periods of fast union growth.<sup>90</sup>

Seen under this light, CNT figures look plausible, especially for Catalonia, where the *unicos* were being created throughout 1918. The first *único* appeared among carpenters, cabinetmakers, etc. (*ramo de la madera*) even before the Sants conference. The printing trades organised their syndicate in July 1918. A building construction *unico* appeared in October 1918 (*ramo de la construcción*). The metal workers' big union joined in November.<sup>91</sup> Additionally, the local federations of unions of most of the important Catalan industrial towns like Sabadell, Terrassa, Badalona, Manresa, or Igualada also accepted to belong to the CNT in late 1918. By early 1919, the CNT had enforced the presence of their "workshop delegates" (*delegados de taller*) in most firms in the series of strikes of late 1918.<sup>92</sup> In February-March 1919, there were 3,500 CNT workshop delegates in Barcelona alone co-ordinating the strike in *La Canadiense*, the company supplying electricity to the city, a 44-day long strike coupled with a one-week long general strike.<sup>93</sup>

The symbolic victory of *La Canadiense* generated a process of explosive union growth in 1919 in which the CNT claimed to organise 800,000 workers across Spain. However, the benefits of this period of collective effervescence did not accrue exclusively to the anarcho-syndicalist union. As I have noted in the previous section, the

<sup>89</sup> Brenan, *The Spanish labyrinth*, p. 199.

<sup>90</sup> Using 'broad' membership figures is common in the literature on union growth. In his study of the US union spurt of the 1930s, Richard Freeman notes the differences between union membership figures based on dues payers and 'broad' membership figures given by unions and argues he has "a mild preference for measures that reflect the broadest possible membership in unions to those limited to annual dues-paying members, as the former may give a better indication of changes in periods of rapid growth." Freeman, "Spurts in union growth," appendix A, p. 53. A similar argument in the case of France, Friedman, Gerald, *State-making and labor movements. France and the United States, 1876-1914* (Ithaca, NY, 1998), pp.248-251, especially footnote 10.

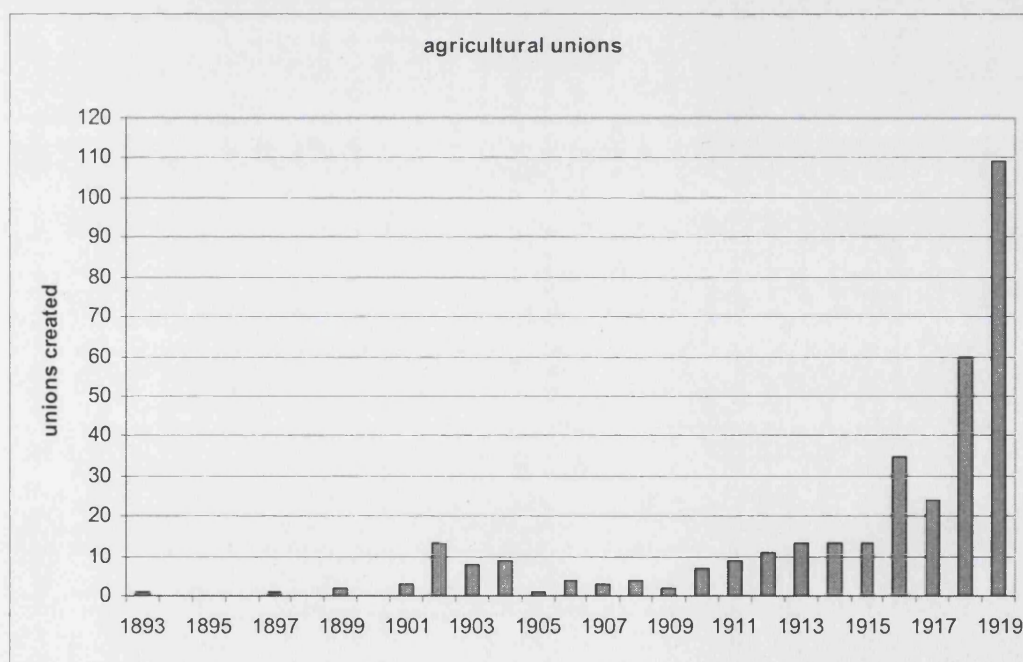
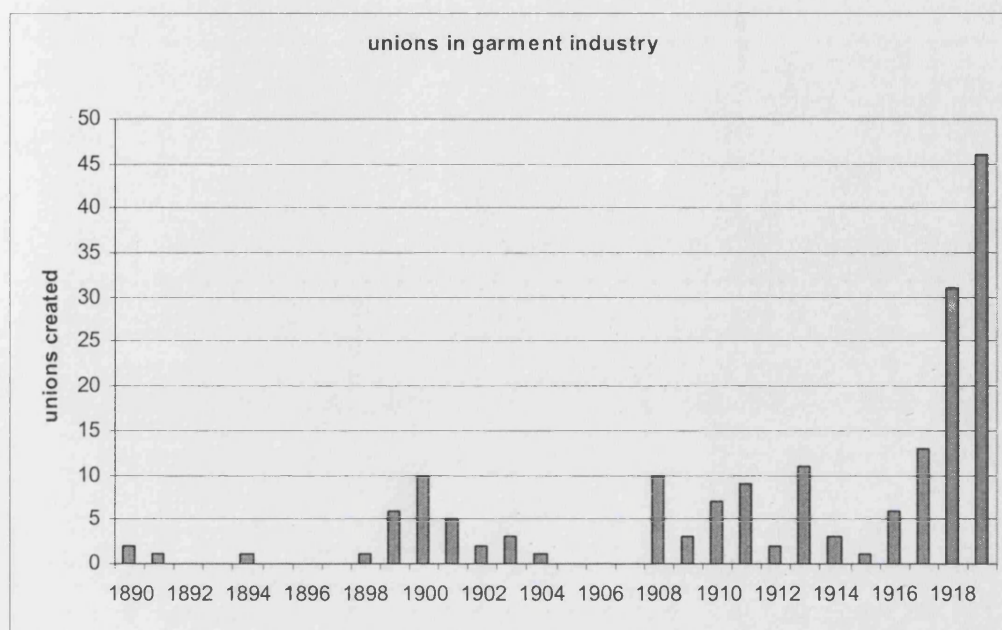
<sup>91</sup> Gabriel, "Classe obrera i sindicats," pp. 706-707.

<sup>92</sup> Ibid., p. 710. An account of the importance of workshop delegates in Pestaña, Ángel, "El sindicalismo en Cataluña" in *Trayectoria sindicalista* (Barcelona, 1974).

<sup>93</sup> Gabriel, "Classe obrera i sindicats," p. 728.

---

General Workers' Union doubled membership between 1918 and 1920, from less than 100,000 members to over 200,000. More importantly, union creation was also intense in sectors that were characterised by having low levels of unionisation. In graph 2.5. and 2.6., I use the date of creation of local union offices applying to participate in the elections of representatives to the local boards of employers and unions in two sectors like the garment industry –employing in most cases women on a putting out basis- and agriculture. In both cases, a sharp process of union creation were concentrated in 1918 and 1919, suggesting optimistic expectations had been spread motivating workers to invest in the organisation of unions, even in sectors that had been traditionally hostile to union development.



Graphs 2.5. and 2.6. Year of creation of unions applying to participate in IRS elections  
in garment industry and agriculture, 1919.

Source: Instituto de Reformas Sociales, *Censo electoral social* (Madrid, 1920).

Note: the IRS census of unions of 1919 was based on the information voluntarily sent by unions willing to participate in the election process.

---

### **2.5. Conclusions.**

This chapter has analysed the evolution of the labour movement in Spain since 1869 to the onset of the Primo de Rivera's Dictatorship in 1923. Emphasis is put on the inability of unions to enforce union recognition clauses not allowing unions to stabilise their position. Lost strikes caused large membership declines and employers' hostility checked the stabilisation unions. With conflicts over the institution of the union, strikes calling for union recognition were clustered in years in which exogenous (political opportunities, foreign events or tight labour markets) and endogenous factors (like early union successes) spread optimistic expectations among workers. 'Positive feedback' generated self-reinforcing processes of collective mobilisation in 1871-1873, 1881-1883, 1899-1903, 1910-1913 and especially in 1918-1920.



## Chapter 3

### A coalition for reform? Political responses to labour militancy, 1875-1923.

#### 3.0. Introduction.

The first attempts of the Spanish state at intervening in the labour market and the first legislative effort to regulate the expansion of both unions and strikes took place in the early twentieth century. Previously, there had only been the first enquiries on working class' living standards and the causes of labour unrest –the projects of the *Comisión de Reformas Sociales* (Social Reforms Commission) - during the 1880s. The turn of the century witnessed the abandonment of the “abstentionist” (*abstencionista*) stance on labour matters and a decisive move towards overcoming the principle of “free contracting” in the Napoleonic Civil law code, probably one of the most significant by-products of the liberal revolution. From 1900 to 1910, the state sanctioned 531 by-laws and regulations on labour matters: the first workmen accidents' compensation law in 1900, the regulation of children' and women's work, the creation of an agency devoted to studying and collecting data on labour issues and proposing legislation (the *Instituto de Reformas Sociales*, Institute of Social Reforms, IRS) in 1903, the law of industrial tribunals in 1908, and the first bills and laws on arbitration and conciliation mechanisms in strikes in 1909.

The purpose of this chapter is to offer a description of the contours of this reform from a perspective which takes into account coalition building, elite ideology, and policy implementation. In order to pursue this task, I shall discuss the collective decision-making process, describe as precisely as possible the character of the reform, and address some of the existing hypotheses on the expansion of state intervention in labour issues and over the character of this reform.

Labour and political historians have generally conceived the state as having both a sometimes passive and generally arbitrary role on labour matters. For instance, Gerald H. Meaker noted:

Like most weak governments, Restoration ministers aggravated proletarian unrest by constantly alternating between severity and laxity, so that periods of repression were often followed by intervals of conciliation and almost indiscriminate amnesty.<sup>1</sup>

In this setting, the evolution of the labour movement depended on political events and coalitions. As Mauro F. Guillén put it:

The history of the Spanish labor movement until 1939 is one of recurrent cycles of mobilization, unionization, strikes (often linked to political goals), repression and recovery of unions. The labor cycle appears to follow political events and to be constrained by economic downturns, although at some points it also affected the evolution of national politics and the economy. The right of association was initially acknowledged in 1869, although ambiguous legislation allowed for the discretionary repression of labor organizations.<sup>2</sup>

Contrary to these claims, I argue that the Restoration state's stance towards labour evolved over time and that a 'Conservatives-dominated' coalition for reform was created in the Conservative Party governments between 1899 and 1909 following the political crisis of 1898. Because Conservatives were less reluctant than Liberals to intervene in the labour market and had more cohesive government majorities, their governments introduced a series of reforms in 1900 and 1903 which included workers' accident compensation or the creation of the *Instituto de Reformas Sociales* (Institute of Social Reforms, IRS), which was to have a lasting influence as the main forum for discussion on labour-management relations and through the supply of its fair share of 'experts' on the labour problem. With respect to the most contended piece of legislation, the regulation of strikes and unions and the introduction of arbitration and conciliation mechanisms, Conservatives also had the lead and introduced a series of reforms like the Labour courts in 1908 or the Strikes law of 1909. The Liberals, on the other hand, also presented important bills, especially during the brief stint in which José Canalejas was

<sup>1</sup> Meaker, Gerald H., *The revolutionary Left in Spain, 1914-1923* (Palo Alto, 1974).

<sup>2</sup> Guillén, Mauro F., *Models of management. Work, authority, and organization in a comparative Perspective* (Chicago, 1994), p. 154.

at the Ministry of Agriculture, Industry, Trade, and Public Works. But as I will show, they were more divided along the intervention issue and most of these reforms were not passed.

My contention that a series of reforms were introduced is a controversial one, namely because most of these reforms were only partially or not at all enforced. Thus, one could argue that having non-enforced legislation and not having legislation were in fact analogous. This argument misses the point. As I will show, it ignores the political debate around the passing of legislation and the particular history of each of the laws being sanctioned at the time, with different political groups favouring or blocking the passing of legislation. Non-enforcement was endogenous to institutional change and was a consequence of some groups –notably employers and workers– blocking the implementation of reform. Had employers been able to veto reform in parliament, they would have done it, but in fact they lacked the political power to do so.

### **3.1. Responses to labour militancy.**

The growth of unions and the levels of social unrest shocked contemporaries in late 19<sup>th</sup> and early 20<sup>th</sup> century Spain. Probably no political or social issue generated more controversy than the so-called *cuestión social* (the social issue). The role of authorities in particular bursts of strike activity in large cities was discussed in parliament for weeks. A whole new academic field expanding in Spain, sociology, was mainly devoted to the study of social unrest. Newspapers, like the republican daily *La Publicidad*, dedicated specific sections exclusively to strikes and unions. After the massive general strike in Barcelona in 1902, a Conservative Catalan deputy claimed in Parliament: “I have known Barcelona for many years, I have seen her in the most tragic moments, in political revolts, I have witnessed mutinies etc; but I declare that (...) I had never witnessed the spectacle of nowadays.”<sup>3</sup> He then went on to note that the general strike of 1902 had been an attempt to “stage what was staged (sic) years ago in the Paris Commune.”<sup>4</sup> What had happened in Barcelona was “more serious than mutiny, more serious than sedition, more serious than revolution,” according to a leader of the Conservative Party.<sup>5</sup> *La Veu de Catalunya*, a conservative Catalan newspaper, woke up

<sup>3</sup> Diario de Sesiones del Congreso de los Diputados (DSC), 20<sup>th</sup> February 1902, number 124, p.3597. Speech by Bartomeu Robert.

<sup>4</sup> Ibid., p. 3773.

<sup>5</sup> Romero Robledo, DSC 15<sup>th</sup> March 1902, p. 3926.

the spectres of Jacobin terror: “We warn workers. Our middle class is not as tame as the one that got herself killed in 1793.”<sup>6</sup>

### **Employers.**

Opponents of the labour movement identified strikes and union expansion with social instability and, even further, with social revolution. They had grounds to do so. The progressive political experiment of the First Republic had collapsed in a spiral of strikes and social turmoil fuelled in some important cities by the alliance of the members of the 1<sup>st</sup> International (not particularly supported by more moderate unions) and the *intransigentes*, the left wing of the Republican movement, pushing for a replication of the Paris *Commune*.<sup>7</sup> At the beginning of the Liberal revolution of 1868, employers had but reluctantly supported a compromise between order and the liberal revolution, “the monarchy with republican institutions.”<sup>8</sup> However, after having experienced profound disagreements with the 1868 revolutionaries over crucial issues such as the freedom of conscience, and colonial or trade policy, by 1872-73, they ended up sponsoring Antonio Cánovas del Castillo and the return of the Borbon king, Alfonso XII, as the only means of re-establishing social order.

By identifying unions with revolution, employers and critics of the labour movement claimed labour strife was caused by outside agitators, “sectarian mobs” pursuing political rather than economic goals.<sup>9</sup> In 1902, the Catalan conservative press for instance asserted that “professional agitators paid by the government had come to Barcelona to wake up revolutionary passions” blaming the Republican Alejandro Lerroux and the anarchists for the sudden burst of labour strife.<sup>10</sup> In Parliament, Catalan conservative deputies accused foreign-born anarchists settled in Barcelona of being the

<sup>6</sup> Quoted in DSC, 18<sup>th</sup> March 1902, p. 4015 (Lerroux).

<sup>7</sup> Termes, Josep, *Anarquismo y sindicalismo en España (1864-1881)* (Barcelona, 2000, 3<sup>rd</sup> Edition), pp. 207-231.

<sup>8</sup> Riquer, Borja de, “Cánovas y los conservadores catalanes,” p.156 in *Escolta, Espanya. La cuestión catalana en la época liberal* (Madrid, 2001).

<sup>9</sup> Cu-Cut!, 21<sup>st</sup> April 1904, quoted in Romero-Maura, *La Rosa de fuego*, p. 433.

<sup>10</sup> Quote from *La Veu de Catalunya*, 24<sup>th</sup> February 1902, in Nadal, Jordi and Carles Sudrià, *Historia de la Caja de Pensiones* (Barcelona, 1983), p. 42. In fact they also blamed the Liberal government, but especially Segismundo Moret, for paying Lerroux to stir social conflict leading to the 1902 general strike. The literature has discredited this view: Culla, Joan B., *El Republicanisme lerrouxista a Catalunya (1901-1923)* (Barcelona, 1986), pp. 80-85; a similar but contemporary view is given in the autobiography of the Catalan republican Hurtado, Amadeu, *Quaranta anys d'advocat. Història del meu temps, 1894-1940* (Barcelona, 1969), tome 1, pp. 73-74.

“hidden hand” behind the general strike.<sup>11</sup> During the mining strike of 1910 in Biscay, the conservative press manifested not knowing if it was truly a workers’ strike or “a revolutionary plot” by Socialists and Republicans.<sup>12</sup>

Because unions only pursued political goals, it was argued, they also presented demands to their employers which were impossible to concede, truly exceptional with respect to normal relations between capital and labour. In the Parliamentary debate of 1910 over the strikes in Barcelona, Bertran y Musitu, having close ties with the employers’ association of the building construction trade,<sup>13</sup> noted “the anarchist influence over the unions of Barcelona, and Catalonia in general.” According to him, the bitterness of conflicts between labour and management was due to the carelessness and arbitrariness of unions influenced by anarchists when staging strikes, since “this (anarchist) influence, which is also due to international agreements, sparks labour conflicts at the worst of times when the special conditions of the industries do not allow for a prompt resolution of the conflict.”<sup>14</sup>

In their view, however, radical politics did not attract workers. The inability of unions to build up a persistent core of dues-paying members was evidence enough to support their claim that workers were truly conservative and did not approve of strikes and revolutionary politics. In the 1903 mining strike in Biscay, employers of the *Círculo Minero* refused to deal with the union on the grounds that it only represented a tenth of the labour force.<sup>15</sup> A similar argument was used in the large metal workers strike of 1910 in Barcelona. In spite of the fact that their conclusions might have been wrong, their evidence was accurate. By 1910, the miners’ union of Biscay joined less than one thousand members in a trade of about 14,000. In Barcelona, during the 1910 strike in the metal trades, union density stood below 10 per cent. In the textile or in the building construction trade in the province of Barcelona, membership also stood at levels below 10 per cent.<sup>16</sup>

<sup>11</sup> DSC, 27<sup>th</sup> February 1902, p. 3773.

<sup>12</sup> Quote from *El Pueblo Vasco*, 17 July 1910, in Fusi, J.P., *Política obrera en el País Vasco (1880-1923)* (Madrid, 1975), p.300.

<sup>13</sup> Bengoechea, Soledad, *Organització patronal i conflictivitat social a Catalunya. Tradició i corporativisme entre finals del segle i la dictadura de Primo de Rivera* (Barcelona, 1994), p. 45.

<sup>14</sup> DSC, 4<sup>th</sup> November 1910, p. 1629.

<sup>15</sup> Marvaud, Angel, *La cuestión social en España* (Madrid, 1975), p.140, originally published in French in 1910.

<sup>16</sup> See chapter 2.

Since unions and strikes were not truly supported by naturally conservative workers, demanded impossible concessions from employers, and pursued radical political goals imposed by foreigners or anti-system political parties, employers routinely called for the cancelling of public meetings during strikes, the crushing of strikes by the authorities, and the banning of revolutionary unions. Resenting what they considered an excessively tolerant policy from the authorities towards labour, their appeals for the crushing of strikes went hand in hand with the implementation of a programme aimed at re-establishing their authority in the workplace. Their first move was to demand their complete sovereignty when 'dealing' with their workers, claiming they "could only trust our (their) own effort and initiative" to solve conflicts with labour.<sup>17</sup> Bartomeu Robert, formerly mayor of Barcelona and president of the Catalan Regional League (*Lliga Regionalista*) noted in Parliament that he understood that "the conciliation formula between capital and labour must be pursued in that individualistic sense. The masters, the patrons, who we have to assume motivated by truly Christian feelings, have to show their love for their fellow men."<sup>18</sup>

This appeal to Christian values was quite common. A long tradition of Catholic thinkers claimed that modern societies were drifting towards dissolution and disorder. According to them, there was an inevitable straight link between Luther, the French Revolution, liberalism and anti-clericalism, anarchist terrorism, and the rise of the labour movement. This historical process inevitably led in their view to lawlessness and the inability to govern modern societies.<sup>19</sup> What was needed was a restoration of venerable Christian Catholic values and the bringing together of workers and employers, estranged by the industrial revolution and machinism. In the mid-19<sup>th</sup> century, Jaime Balmes, the leading Catholic conservative thinker, had already warned about the need to build up institutions for the poor, "to do them good and to make them good," as a moral responsibility of the rich.<sup>20</sup> In Europe, especially in France and Germany, Catholic thinkers stressed the need of moral reform to restore the natural

<sup>17</sup> *La Veu de Catalunya*, 8<sup>th</sup> March 1902, "Ensenyances", quoted in Riquer, Borja de, *La Lliga Regionalista: la burgesia catalana i el nacionalisme (1898-1904)* (Barcelona, 1977), p. 236.

<sup>18</sup> DSC, 27<sup>th</sup> February 1902, number 130, p. 3777.

<sup>19</sup> Intellectual origins of this tradition: Fradera, Josep Maria, *Jaume Balmes. Els fonaments racionals d'una política catòlica* (Vic, 1996), chapter 1, "L'intel·lectual catòlic." An example of this type of historical argument in the late 19<sup>th</sup> century is, for instance, Dallerés, Pere, *La Iglesia a favor de la clase obrera* (Vic, 1896).

<sup>20</sup> Quoted in Fradera, *Jaume Balmes*, p. 191.

harmony between masters and workers. In France, authors like Charles Périn or Léon Harmel, professed the role of the master as “head of the workers’ family” and emphasized employers’ moral obligations towards workers, through the payment of wages above the market and the provision of stable employment. Harmel also introduced work councils in his model Christian factory of Val des Rheims, an idea further developed by Count Albert de Mun and Colonel Tour de la Pin’s *Cercles catholiques d’ouvriers* (Catholic Workingmen’s Clubs) or in the appeals to restore catholic medieval guilds by Cardinal Manning in England or the German *Gesellenverein*.<sup>21</sup> In Spain, these ideas were pursued by the Jesuit Father Antonio Vicent, who, in a book dedicated to the powerful industrialist Marqués de Comillas, proclaimed the need to create workers’ circles, namely mixed employer-employee organisations, which according to the leading scholar on Catholic unions were “rigidly controlled by the Church and restricted to practicing catholics.”<sup>22</sup>

Influenced by Catholic conservative thought, employers advocated their moral authority over workers and the natural harmony of interests between capital and labour. In this regard, they devised institutions that conflicted with modern unionism and its appeals to working class participation. Camps y Fabrés, a catholic employer writing in 1880, acknowledged nostalgically that the dissolution of medieval guilds during the liberal revolution “had divided the industrial class in two factions, the factory owners heading towards bankruptcy and workers towards socialism.”<sup>23</sup> Writing after the first 1<sup>st</sup> of May celebrated in Spain in 1890, Juan Sallarés y Pla, president of the employers’ association of Sabadell (an industrial town near Barcelona), elaborated upon the need of reviving the medieval “guilds” (*gremios*) as mixed employers-employees institutions.<sup>24</sup> In other cases, as in the case of the Güell company town near Barcelona, the benefits of a healthy rural life were stressed as opposed to the dangers, both moral and physical, of urban concentrations, believing building factories in urban areas was a “powerful means

<sup>21</sup> Williams, Melvin J., *Catholic social thought. Its approach to contemporary problems* (New York, 1950), pp. 18-25.

<sup>22</sup> Vicent, S.I. Antonio, *Socialismo y anarquismo. La Encíclica de nuestro santísimo Padre León XIII ‘De conditione opificum’ y los círculos obreros católicos* (Valencia, 1893). Quote from Winston, Colin M., *Workers and the Right in Spain 1900-1936* (Princeton, NJ, 1985), p. 25.

<sup>23</sup> Camps i Fabrés, Antonio, *Apuntes sobre la cuestión industrial* (Manresa, 1894), quoted in Jutglar, Antoni, *Ideologías y clases en la España contemporánea. Aproximación a la historia social de las ideas*, volume 2 (Madrid, 1971), p. 129.

<sup>24</sup> Sallarés, Juan, *Las ocho horas. Algo sobre la cuestión obrera* (Barcelona, 1890).

of solving labour unrest (*la cuestión obrera*) in many industries.”<sup>25</sup> This implied control over the habits of workers, the closing of taverns “where the craziest and most absurd ideas about the social order are learnt,” and the banning of the working class press.<sup>26</sup> In its 1895-1896 session, the Academy of Legislation and Jurisprudence of Barcelona awarded a PhD thesis entitled *Industrial Law (La Ley jurídica de la industria)* written by Enric Prat de la Riba, a young lawyer who was going to lead the Catalan regionalists. In the book published in 1898 and dedicated to Eusebi Güell, Prat de la Riba wrote about the need to restore guilds and opposed the formation of independent unions and employers’ associations.<sup>27</sup> Later on, he went on to denounce the perils of life in the great cities and advocated the construction of company towns isolated from urban concentrations, where thanks to the “vigorous will of the owner” the economic and moral well being of workers was cared for.<sup>28</sup>

In this sense, employers developed an ambitious plan to create islands of authority outside the intervention of the state. The most famous case was that of the Marquis of Comillas, whose holding embraced mining concerns in Asturias, shipyards in Cádiz, a shipping company, and railways companies. For instance, the premises of Hullera Española in Aller (Asturias) contained schools, co-operative stores, dwellings, catholic circles, and institutions such as mutual aid and retirement funds. The premises of the Trasatlántica shipping company in Barcelona included dwellings for its workers. A whole neighbourhood had been erected next to the shipyards in Cádiz in 1893.<sup>29</sup> In these institutions, the virtuous employer only deserved “gratitude, respect and resignation.”<sup>30</sup> As Comillas once put it, “it is in the interest of workers that their

<sup>25</sup> *Colonia Güell y fábrica de panas y veludillos de Güell y Cía., Sociedad en Comandita. Breve reseña histórica escrita con motivo de la visita hecha a dicha colonia por los señores Congresistas de la Semana Social*, pp.43-45, quoted in Padró, Josep, “Fundació i inicis de la Colònia Güell,” p. 556, in Calvo, Àngel (ed.), *El pas de la societat agrària a industrial al Baix Llobregat* (Barcelona, 1995).

<sup>26</sup> *Ibid.*, p. 565.

<sup>27</sup> Prat de la Riba, Enric, *Ley jurídica de la industria. Estudio de filosofía jurídica seguido de bases para la formación de un código industrial* (Barcelona, 1898), p.247. As well in Appendix E of the book.

<sup>28</sup> *Ibid.*, chapter 6, pp. 266-267. Another example is for instance, Masdival i Puig, Narciso, *Cuestiones sociales* (Barcelona: Imprenta de Francisco S. Altés, 1901).

<sup>29</sup> Rodrigo Alharilla, *Los marqueses de Comillas, 1817-1925. Antonio y Claudio López* (Madrid, 2001), p.262; Shubert, Adrian, *Hacia la Revolución. Orígenes sociales del movimiento obrero en Asturias, 1860-1934* (Barcelona, 1984), chapter 4. As well, Sierra Álvarez, José, *El obrero soñado. Ensayo sobre el paternalismo industrial (Asturias, 1860-1917)* (Madrid, 1990).

<sup>30</sup> Rodrigo Alharilla, *Los marqueses de Comillas*, p.270.



associations are participated by patrons. Workers are truly convinced of that and that is why they want patrons to have a say in their associations.”<sup>31</sup>

Some of the most famous and well studied of these initiatives were run by devout catholics. Comillas, for instance, channelled a huge amount of resources towards supplying workers with catholic press and forbid not only anarchist or socialist press but also liberal newspapers. His most ambitious initiative, the General Association for the Study and Protection of the Interests of the Working Class, included the Catholic reactionary Juan Manuel Ortí y Lara and several members of the clergy (along with aristocrats and powerful members of the military).<sup>32</sup> In the Güell company town, near Barcelona, there were 6 different religious institutions in a mill town of about 330 inhabitants. It is also known that some well-studied Catalan company towns contained schools run by priests or nuns and sponsored catholic centres.

Despite these examples, the association of employers with catholic paternalism has probably been taken too much for granted in the literature.<sup>33</sup> Catalan employers, for instance, also used appeals to modern science and liberal values to protect their authority in the workplace. When arguing against laws forbidding the employment of children, Juan Sallarés struggled to adopt the language of contemporary sociologists by using arguments from household economics, studies of infant mortality, or the sociology of work (for example, the effect of machinery on the organisation of work). He used household budgets when pointing to the required children’s earnings in working class families to make ends meet. He argued as well about the beneficial effect of machinery in reducing physical exertion at work.<sup>34</sup> Employers exposed their opposition to unions by claiming the negative effect on growth and the competitive advantage of the industry. In 1891, the employers’ association of the Biscay mining sector, the *Círculo Minero*, rallied against the celebration of the second 1<sup>st</sup> of May to “start an honest but firm opposition campaign against all the unruly and rebellious

<sup>31</sup> Ibid., p.275.

<sup>32</sup> Asociación para el Estudio y Defensa de los Intereses de la Clase Obrera, *Proyectos de reformas sociales* (Madrid, 1899), pp.5-6.

<sup>33</sup> See for instance, Rey Reguillo, Fernando, *Propietarios y patronos. La política de las organizaciones económicas en la España de la Restauración (1914-1923)* (Madrid, 1992), p. 334-338; and his “Actitudes políticas y económicas de la patronal catalana (1917-1923),” *Estudios de Historia Social*, number 24-25 (January-February 1983), pp. 23-148.

<sup>34</sup> Sallarés y Pla, Juan, *El trabajo de las mujeres y de los niños. Estudio sobre sus condiciones actuales* (Sabadell, 1892). See as well, Borràs Llop. J. M., “Actitudes patronales ante la regularización del trabajo infantil,” *Hispania*, volume LV/2, number 190 (1995), pp.629-44.

workers (...) who avail themselves of every opportunity to obstruct and slow down the development of the mining and metallurgical industry (...).”<sup>35</sup> In Parliament, a Catalan deputy told of the project of a Catalan employer travelling abroad to buy “all the machinery necessary to establish a factory among the best in Europe” being brought down by a long and bitter strike.<sup>36</sup> In January 1902, the Barcelona employers’ association of the metal industries justified their position resisting a strike calling for the 9-hour day on the grounds that conceding the short workday would have been “the suicide of the Spanish metal industry.”<sup>37</sup> Other arguments resorted to the need of technical expertise accusing the government of not knowing enough about the ‘true’ economic conditions of the trade. This also protected employers from state intervention, since it was needed “to look for case-specific rather than general solutions,” for which “the action of those (directly) involved rather than the state” was more advantageous.<sup>38</sup>

Defending their right and ability to provide for their workers, employers rallied against state intervention in labour matters. Accordingly, they deployed an ambitious welfare programme for workers which, they believed, made state intervention not only unnecessary but harmful. Shortly after the 1902 general strike, the first issue of *Revista Social* devised a whole programme based on the “precepts of the Gospel and modern Science” that included funds to provide for old age, disability and other risks, unemployment agencies, profit-sharing plans, popular gyms, hospitals, elementary and technical schools, and so on.<sup>39</sup> The supply of those welfare goods was provided by big firms or employers’ associations. For instance, the 1901 general strike in the cotton textile town of Manlleu (in the north of Catalonia) had brought about an industrial tribunal (*jurado mixto*) and a friendly society (*montepío*), whose membership was restricted to those not belonging to the local independent union.<sup>40</sup> Distrustful “that the government, believing to oppose the social problem (*la cuestión social*), with its lugubrious procession of strikes and mutinies, might sanction a law on permanent industrial tribunals,” the Employers’ Association of the Ter and Fresser Valleys published a pamphlet to publicise “the principles backing (their) deeply rooted views

<sup>35</sup> Torres, Eugenio, *Ramón de la Sota, 1857-1936. Un empresario vasco* (Madrid, 1998), p. 74.

<sup>36</sup> DSC, 15<sup>th</sup> March 1902, number 135, p. 3921.

<sup>37</sup> Quoted in Riquer, Borja de, *La Lliga Regionalista*, p. 230.

<sup>38</sup> DSC, 27<sup>th</sup> February 1902, number 130, p. 3777.

<sup>39</sup> Francesc Moragas, “Seamos prácticos,” in the first number of *Revista Social* published in March 1902. Quoted in Nadal and Sudrià, *Historia de la Caja*, pp. 45-46.

<sup>40</sup> Smith, Angel, “Social conflict and trade-union organisation in the Catalan cotton textile industry, 1890-1914,” *International Review of Social History*, XXXVI (1991), p. 359.

against the passing by the state of arbitration and conciliation tribunals.”<sup>41</sup> Interestingly enough, they acknowledged the right of workers to associate and strike “with no other limitation than public interest and the freedom of others.” However, in their view, strikes collided with the common good since they were “a ruinous weapon” for both workers and employers, whose “natural and necessary consequence” was bankruptcy for employers and poverty for workers. Further, since the natural tendency of strikes was to “degenerate” into violence, this coerced the liberties of workers not willing to support the strikes, a coercion that the authorities necessarily needed to repress.<sup>42</sup>

To be sure, some of the institutions devised by employers provided benefits above those supplied by the state. Rusiñol, for instance, claimed that the Manlleu’s friendly society paid workplace accident compensations twice as high as those stipulated by the Accidents law of 1900.<sup>43</sup> But the truth was that those institutions were the exception rather than the rule. After his visit to Spain, Angel Marvaud, from the Paris *Musée Sociale*, wrote in 1910 that “one should not exaggerate the importance of employers’ sponsored institutions. They are few and most of them have had an ephemeral life.”<sup>44</sup> This did not depend on employers not being generous enough. Most of these institutions appeared in the big mining concerns of the North (Asturias and Biscay) and in some of the metallurgical plants of Bilbao, having some of the largest industrial concerns in Spain.<sup>45</sup> In Catalonia, the atomistic nature of the textile sector and cyclical demand shocks hampered their development and restricted the supply of housing, retirement funds and friendly societies to big companies such as Güell, Sert or Rusiñol.<sup>46</sup> Profit sharing plans also faced very reticent employers. An attempt was made in the 1880s in the Duró coal mining company of La Felguera (Asturias) but the plan

<sup>41</sup> Asociación de Fabricantes de la cuencas del Ter y del Fresser, *Los jurados mixtos en España. Datos y consideraciones acerca de la conciliación y el arbitraje entre patronos y obreros* (Barcelona, 1902). As well, Rusiñol, Alberto, *Bases para la creación y funcionamiento de los jurados mixtos en Manlleu – proyecto de montepío redactado por D. Federico Rahola por encargo de la Junta de Conciliación* (Barcelona, 1902).

<sup>42</sup> *Ibid.*, p. 6.

<sup>43</sup> For temporary disability the 1900 accident compensation law paid 50 per cent of the salary while unable to work. Most employers’ sponsored accident compensation schemes claimed to pay the full salary. DSC, 28 February 1902, number 131, pp. 3818-3819.

<sup>44</sup> Marvaud, *La cuestión social*, p. 211.

<sup>45</sup> *Ibid.*, p. 213; Fusi, *Política obrera*, pp. 76-77.

<sup>46</sup> Marvaud, *La cuestión social*, p. 211. On the role of demand and the development of employers’ sponsored welfare institutions, see the introductory chapter in Jacoby, Sanford M., *Modern manners: welfare capitalism since the New Deal* (Princeton, NJ, 1997).

was finally abandoned;<sup>47</sup> there were some individual exceptions like the cases found in the 1910s in Barcelona and Sabadell.<sup>48</sup> Most of the experiences appeared after 1919 in some of the largest Spanish companies: the Bilbao shipyards, Papelera Española, Bank of Bilbao, Transmediterránea, Duró-Felguera, Fundación Vulcano, Madrid-Penot, or Electricidad del Norte de Madrid.<sup>49</sup>

At the peak of the strike wave of 1902-1903, the Chamber of Commerce of Barcelona devised a plan to solve strikes following the experiences of employers in the textile town of Manlleu.<sup>50</sup> Some friendly societies, industrial tribunals (*jurados mixtos*) were created, and mixed unions of employers and workers, especially in the summer of 1903, with strike activity at its peak. For instance in July 1903, a bakers strike gave way to the oxymoron *Patronal Obrera de panaderos de Barcelona "La Concordia"* (harmony, concord).<sup>51</sup> Section 5 of article 11 of the union's rules stated that membership would be withdrawn from those "promoting (...) ideas hostile to the harmony between workers and employers." A strike by stone cutting workers was also arbitrated by the Chamber of Commerce in 1903 and brought about the constitution of a mixed employee-employer union, which signed a collective contract in 1906,<sup>52</sup> and a mixed tribunal formed by 3 workers, 3 employers and the president of the Chamber (the traditional formula). Other similar cases include foundry workers or lathe operators.

But these cases were rare, representing only 5 out of 74 recorded strikes in 1903.<sup>53</sup> In most cases, the striking workers or employers refused to accept the intervention of the Chamber.<sup>54</sup> "The Dispossessed" (*Los Desheredados*), the union of card box makers in the area of Barcelona, refused on the grounds that it was "absurd" to

<sup>47</sup> Marvaud, *La cuestión social*, p.211.

<sup>48</sup> Prats, Antonio, "La participación en los beneficios. La voz de un patrono." *Revista Social*, IX, number 123 (December 1910), pp. 1035-1042.

<sup>49</sup> Rey Reguillo, Fernando del, "La polémica sobre el control obrero. Los orígenes en España," *Sociología del Trabajo*, number 8 (Winter 1989-1990), p.137.

<sup>50</sup> The material on this initiative is located at the Archive of the Chamber of Commerce of Barcelona: ACCB, 18 K8 1902-1903, *vagues a Barcelona*, 88-10.

<sup>51</sup> The noun *patronal* means 'employers' association', and the adjective *obrera* 'workers'. *Reglamento de la Patronal Obrera de Panaderos de Barcelona "La Concordia"* (Barcelona: Tipografía la Artista de P. Patau (1903).

<sup>52</sup> *Bases de las Sociedades de Patronos y Oficiales Picapedreros de Barcelona y su radio* (Barcelona: Tipografía "El Arte" de Vicente Martínez, 1906).

<sup>53</sup> Sastre, Miguel, *Las huelgas de Barcelona y sus resultados en el año 1903* (Barcelona, 1904); Smith, Angel, "Trabajadores 'dignos' en profesiones 'honradas': los oficios y la formación de la clase obrera barcelonesa (1899-1914)," *Hispania*, LVI/2, number 193 (1996), p. 672.

<sup>54</sup> Romero Maura, *La Rosa de Fuego*, p.226 sustains it was the employers who turned the mediation of the Chamber down.

accept an intervention when they had not been recognised by their employers. In another case, the employers' association of the building construction sector refused by claiming that the arrangement ending the strike in 1901 did not allow them to do so. The shoemakers union, *La Igualdad* (Equality), also turned down the arbitration from the Chamber expressing doubts about the true aims of the Chamber and calling for the abolition of private property.<sup>55</sup>

More ambitious programmes and institutions requiring co-operation from other groups –engineers, human resources specialists, etc. - were not developed. Employers were slow to adopt scientific management or other experiments like vocational guidance or human relations, being introduced in the early 20<sup>th</sup> century in more developed economies like Germany or the United States. As Mauro Guillén, who has studied the diffusion of scientific management in the US, Britain, Germany, and Spain, has noted, there were only few isolated cases of implementation of scientific management techniques in “a handful of small firms in Barcelona and the experiments at the Ciudad Lineal in Madrid during the late 1910s (...).”<sup>56</sup> Guillén stressed his argument up to the point of defending the thesis of a “theoretical failure of scientific management” in Spain before 1939. For instance, the leading engineering journal in Spain –the *Revista Minera, Metalúrgica y de Ingeniería*- published only 8 brief notes on scientific management in the 1,300 weekly issues from 1910 to 1936, the first one in 1918, 4 in 1919, and 3 in 1920.<sup>57</sup>

Unable to build up stable welfare institutions, employers could only associate themselves in powerful associations protecting the freedom to work and rallying against the passing of pro-labour legislation. However, no matter how powerful their associations were after 1919, employers were slow to mobilise and the decisive move was not done before 1914. They had reasons to do so. The onset of the Restoration had witnessed a severe curtailment of civil liberties and the harassment of the labour movement by the authorities. In spite of the success of the 1890 May Day, during most of the 1890s the labour movement was still weak and routinely harassed as a side-effect

<sup>55</sup> All cases in ACCB 18 K8 1902-3 vagues a Barcelona 88-10: letter from “Sociedad de constructores de cajas de embalajes y sus contornos, Los Desheredados” to the Chamber; letter from the “Centro de Contratistas generales de obras y maestros albañiles de Barcelona”; letter from “Sociedad de Zapateros La Igualdad.”

<sup>56</sup> Guillén, *Models of management*, p.173.

<sup>57</sup> *Ibid.*, p. 167.

of the excesses of the anarchists. A law allowing unions to exist (*Ley de Jurisdicciones*) was passed in 1887. Created in 1888, the UGT had only about 6,000 members by 1896. Particular episodes such as the ‘*Mano Negra*’ (Black Hand) events of the early 1880s, the riots in Jérez in January 1892 or anarchist terrorism in Barcelona in the mid 1890s also provided opportunities to the authorities to close union offices and jail labour leaders. In most of these cases, authorities resorted to the military and more severe martial tribunals.<sup>58</sup> Furthermore, political demonstrations by the working class, where union leaders rallied workers to join unions, were banned up to the early 1900s. For instance, in spite of the organisational success of the 1<sup>st</sup> of May of 1890, its celebration was prohibited by authorities up to 1902.<sup>59</sup>

With public order guaranteed by the government and the activities of unions severely curtailed, employers needed not to worry about organising against the labour movement up to the very late 1890s or early 1900s. An exception to the rule was the mining employers’ association, the *Círculo Minero*, which was not concerned with labour issues at its inception. In 1887, the *círculo* (circle) was on the verge of disappearing when its leaders urged owners to join in but failed to increase membership. In the same year, it was decided to lobby against the tax imposed by the municipality of Bilbao on each tone of iron exported abroad.<sup>60</sup> With little activity in the next two years, the circle only met once. A general strike in the area after the 1<sup>st</sup> May of 1890, in which employers were forced by the military to concede some of the workers’ demands, radically altered the focus of the *círculo*, whose main purpose became the protection of the mining concerns from strikes. In 1891, for instance, the *círculo* agreed upon building barracks to shelter units of the *Guardia Civil* in the mining towns. Other means to counter the spread of unions and the Socialist Party included calling for the crushing of strikes and workers’ meetings by the authorities, the laying off of Socialist workers, and the drawing up of ‘black’ lists of militant workers to force them to migrate.<sup>61</sup> Later on, in 1890s, a federation of employers’ association, the *Centro Industrial de Vizcaya*, united diverse employers’ associations under a powerful umbrella group.

<sup>58</sup> Ballbé, Manuel, *Orden público y militarismo en la España constitucional (1812-1923)* (Madrid, 1985), p. 254, p.257..

<sup>59</sup> Rivas, Lucía, “El Primero de Mayo, jornada obrera, 1890-1930,” *Estudios de Historia Social*, number 38-39 (1986), p. 288.

<sup>60</sup> Díaz Morlán, Pablo, *Horacio Echevarrieta, 1870-1963. El capitalista republicano* (Madrid, 1999), p.48.

<sup>61</sup> Torres Villanueva, Eugenio, *Ramón de la Sota*, pp. 72-74.

In Catalonia, employers organised their associations later on and, as we shall see, quite ineffectively. Their main association, *Fomento del Trabajo Nacional* (created in 1889), was a powerful lobby against free trade, but was not initially concerned with labour unrest. In fact, some of its most influential members, like Guillermo Graell and later Eduardo Calvet maintained a more conciliatory position towards strikes and unions,<sup>62</sup> which led to the creation of an alternative, harsher *Federación de Fabricantes de hilos y tejidos de Cataluña* in 1913 (Catalan Federation of Textile patrons). However, after the huge general strike in the summer 1913, *Fomento* also adopted a more anti-union stance.<sup>63</sup> Local initiatives explicitly conceived to oppose workers' militancy appeared generally around the turn of the century. In the textile town of Sabadell (Barcelona), the local employers' association *Gremio de Fabricantes de Sabadell* created in the late 1890s a *Unión Industrial* (Industrial union), exclusively aimed at solving of conflicts between capital and labour. Another example was Manresa (in the province of Barcelona), where some employers' associations were created in the late 1890s: the *Asociación de Fabricantes de Manresa y su comarca*, the *Asociación de Patronos de Artes y Oficios* and *Unión de Patronos de Artes y Oficios*. In the textile towns along the rivers Ter and Freser, after the strike of 1891 in Manlleu, the *Asociación de Fabricantes de Manlleu* (factory owners association) was founded. However, a more decisive and cohesive move was the *Asociación de Fabricantes del Ter y del Freser* created in 1899. In Barcelona, the *Centro Algodonero* appeared in 1903.<sup>64</sup> In building construction, a *Centro de Contratistas de Obras* was created in 1892, which in 1900 incorporated a *Gremio de Maestros Albañiles*. An employers' association in the metal trades –*Sociedad de Industriales Metálicos y Metalarios*– only appeared after a strike in 1901.

Nevertheless, most of these institutions only gained momentum after 1910 and especially in 1919. Using data from the register of employers' association located at the archive of the *Gobierno Civil* of Barcelona, the leading historian on Catalan employers'

<sup>62</sup> For instance in the pamphlet Graell, Guillem, 'L'acció econòmica' (Barcelona: Viuda D. Casanovas Societat d'Estudis Econòmics, 1907), speech delivered on the 26<sup>th</sup> October 1907.

<sup>63</sup> Romero-Maura, *La Rosa de Fuego*, p. 429-431; Rey Reguillo, *Propietarios y patronos*, p. 159-160; Bengoechea, Soledad, *Organització patronal i conflictivitat social a Catalunya. Tradició i corporativisme entre finals de segle i la dictadura de Primo de Rivera* (Barcelona, 1994), pp. 126-141. As well, Sellés, Magda, *El Foment del Treball Nacional 1914-1923* (Barcelona, 2000).

<sup>64</sup> Bengoechea, *Organització patronal*, pp.127-130.

associations, Soledad Bengoechea, noted two sharp rises in the number of employers' associations in the province of Barcelona, namely 1910-1914 and 1919, with strike activity at its highest.<sup>65</sup> In Barcelona, the metal industries and construction employers' associations gave way to the creation of the *Federación Patronal* after the strikes of 1910. In the textile industry, the *Fomento del Trabajo Nacional* became a powerful organisation integrating an array of local employers' associations after its failure to solve the strike of 1913. In many textile towns like Reus or Igualada, or in the textile neighbourhoods of Barcelona like Sant Martí de Provençals and Hostafrancs, several associations appeared in 1914 and in 1915. Next to Barcelona, in Gracia, an employers' association of textile factory owners was founded in 1917.<sup>66</sup> The first conference of Spanish federation of employers' associations, the *Confederación Patronal*, was celebrated in 1914, but this organisation was to have an important role only from 1919 onwards.

Several indicators concur with the idea that the activity of employers associations was apparently quite ineffective up to 1919. For instance, one of the most important associations after 1914, the *Federación de las Industrias de la Construcción* (of the Barcelona building construction sector), had problems in attracting membership and resorted to occasional coercion to force reluctant employers to join.<sup>67</sup> By 1915, after a period of continuous dues collection, the strike fund of the *Federación* amounted to merely 1215,50 *pesetas*, a much smaller figure than what an ordinary workers' union counted upon when staging strikes.<sup>68</sup> In 1918, the *Federación* acknowledged of the free rider problem by announcing the decision to "bestow the necessary authority on the directors of our *Federación* to inflict serious penalties to federated members not complying with their duties (...)." <sup>69</sup>

With little internal cohesion up to 1919, employers could do little to confront workers and strikers. Taking data from Catalan strikes from 1912 to 1915, the only period and region in which there are data on employers' associations, in 46 per cent of the cases striking workers had to deal with an employers' union. However, the effect of

<sup>65</sup> Bengoechea, Soledad, "Los sindicatos patronales en Catalunya: dispersión y unidad (1887-1919)," *Historia Social*, number 32 (1998), p. 41 and table 1 in page 40.

<sup>66</sup> Bengoechea, *Organització patronal*, p. 151.

<sup>67</sup> Bengoechea, "Los sindicatos patronales," p. 44.

<sup>68</sup> On strike funds collected by unions see chapter 2.

<sup>69</sup> Bengoechea, "Los sindicatos patronales," p. 47.



the existence of an employers' association on the probability that the strike was won could not be distinguished from 0, with a negative but not significant sign (results presented in table 3.1., discussion in chapter 4), showing employers' unions were inefficient or simply irrelevant. Furthermore, employers' associations neither had any effect on the number of days on strike –in spite of strikes with an employers' association being on average longer than strikes without- nor were they able to force the authorities to intervene in the conflict. These results contrast sharply with the advantages for striking workers belonging to a union. With respect to non-union workers, union workers conducted on average much longer strikes (more than doubling strike duration), were substantially more successful (a 50 per cent higher probability of winning a concession from their employers), and generally brought about the favourable arbitration of the prefect (the probability was 5 times higher).

**Table 3.1. Effects of unions and employers' associations on strikes, 1912-1915.**

	<u>Union workers vs</u> <u>Non-union workers</u>	<u>Employers' association</u>
Strike success [1]	53.46 per cent	Negative, small, not significant.
Prefect intervention [2]	440 per cent	Positive, small, not significant.
Strike duration [3]	2.36	1.3

Notes and sources: data on 315 strikes from: Museu Social, *Estadística social de Catalunya*, various issues (1912-1915).

Full results presented in appendix to chapter 4, table 4A.1. Reported figures are marginal effects for [1] and [2] when the relevant variable changes from 0 to 1 measuring the percentage change in the baseline probability. Reported figures from coefficients significant at 5 and 1 per cent levels.

[1]: logit regression with the dependent variable taking value 1 if strikers won or obtained a compromise against a set of strike characteristics (days, strikers, strike participation rate), and dummy variables for the existence of a union, an employers' association, the type of settlement (arbitration by the prefect, the mayor, the junta local de reformas sociales, or none of these), strike issues, struck trade and year of the strike, the province (Barcelona, Tarragona, Gerona, Lérida), and if the strike occurred in the city of Barcelona.

[2] logit regression taking value 1 if the prefect arbitrated the strike and 0 otherwise against same set of variables as [1] except type of settlement.

[3] Average strike duration union/ average non-union workers and average employers' association/ average non employers' association.

### Reformers.

In Spain, advocates of reform in labour matters were not precisely original. Much has been written about *krausism*, the intellectual tradition of Spain's progressive liberals, being the main driving force bringing about reform in Spain.<sup>70</sup> Put this way, it is true that an important group of reformers belonged or were disciples of the krausists circles at the *Institución Libre de Enseñanza* (Free Institute of Education, created in 1876), the so-called *institucionistas* (institutionists). A founding father of the *Institución*, Gumersindo de Azcárate, former professor of Law at the University of Madrid, became one of the leading advocates of reform in Parliament and headed the reformist *Instituto de Reformas Sociales* from 1903 to his death in 1917.<sup>71</sup> People like Adolfo Posada or Rafael Altamira, later at the University of Oviedo (Asturias), or Constancio Bernaldo de Quirós, having a leading role in reformist circles and institutions, also had been disciples of Giner de los Ríos at the *Institución*.<sup>72</sup> But krausism was a complex philosophical system connected to German idealism with little use for the kind of policy-oriented arguments put forward by reformers, which used contemporary sociology and jurisprudence and were influenced by developments taking place in more advanced nations in Europe, notably France and Germany, and sometimes Britain. Mainly, their thought depended on French reformism (Charles Gide, Paul Bureau, or Joseph Paul Boncour), German and Austrian progressive social Catholicism (Ketteler, Vogelsang) and their interpretation of Pope XIII's encyclic *Rerum Novarum* (1891), and Bismarck's state 'socialism' (which in the Spanish debate meant 'interventionism')<sup>73</sup> most often blending an eclectic mix of the three.

<sup>70</sup> De la Calle Velasco, M. Dolores, "Sobre los orígenes del Estado social en España," *Ayer*, number 25 (1997), pp. 127-150; De la Calle Velasco, M. Dolores, "Comisión de Reformas Sociales, de la represión al análisis de la conflictividad social," *Studia Historica*, vol. II, number 4 (1984). A definitively more plural view is offered in Gil Cremades, Juan José, *El reformismo español. Krausismo, escuela histórica, tomismo* (Barcelona, 1969); Guillén, Ana M., "The emergence of the Spanish welfare state (1876-1923): the role of ideas in the policy process," *International Journal of Political Economy*, (summer 1990), pp. 82-96; Montero, Feliciano, "La polémica sobre el intervencionismo y la primera legislación obrera en España, 1890-1900. Primera parte: el debate académico," *Revista de Trabajo*, number 59-60 (1980). On the "accidental" but pervasive influence of K.C.F. Krause, an obscure disciple of Fichte and Schelling, on Spanish social thought see Carr, Raymond, *Spain, 1808-1939* (Oxford, 1982), pp. 303-304.

<sup>71</sup> The classic approach to Azcárate is his son's account, Azcárate, Pablo de, *Gumersindo de Azcárate. Semblanza, epistolario, escritos* (Madrid, 1969).

<sup>72</sup> Díaz, Elías, *La filosofía social del Krausismo español* (Valencia, Fernando Torres, ed., 1983), p. 159.

<sup>73</sup> "Socialist" was used in the debate as "interventionist". Definition of "State socialism" in Zancada, Práxedes, *El obrero español. Notas para una historia política y social* (Madrid, 1902), p.236; Buylla, Adolfo, *Economía* (Barcelona, 1901), pp.153-154. See as well, Montero, Feliciano, *El primer catolicismo social y la Rerum Novarum en España (1889-1902)* (Madrid, 1983), p.78; Montero, "La polémica sobre el intervencionismo."

In addition, there were other intellectual, more conservative traditions joining in the fray for reform having little to do with krausist circles, especially 'socialist' social Catholicism, connected to the Conservative Party, which favoured a 'state interventionist' interpretation of the encyclic *Rerum Novarum*,<sup>74</sup> and, in some cases, the Catalan conservative "historical school" of law, also close to social Catholicism.<sup>75</sup> Even among *institucionistas* there was a mix of influences, being republicans or progressive liberals they nonetheless frequently resorted to the social catholic literature. For instance, an important influence on the institutionists was Nitti's *Il Socialismo Cattolico* (Social Catholicism), translated by Dorado Montero (a Law professor at the University of Salamanca) and with a foreword by Buylla, which favoured a progressive interpretation of the encyclic based on Henry George's, *The condition of labour, an open letter to Pope Leo XIII*.<sup>76</sup>

In spite of fundamental differences in the interpretation of Spanish recent history and their belonging to diverse political traditions, when analysing their contemporary social and political situation, reformers and critics of the labour movement did not disagree about facts. The symptoms of the social illness were the expansion radical, politically oriented unions, an increasing trend in violent strikes, and the pervasive threat to political order. A supporter of reform -Miguel Fernández Jiménez- noted "revolutionary agitation is not receding, all the contrary, it is gaining strength, predominating in our country, among the working classes, the influence of the anarchist element, which has caused the violence and social indiscipline which characterise the most recent strikes staged in Spain."<sup>77</sup> Another, José Gascón y Marín, a professor of Administrative Law at the University of Seville, a member of the IRS, wrote that "in

<sup>74</sup> On different interpretations of the encyclic: Botella, Cristóbal, *El socialismo y los anarquistas* (Madrid, 1895).

<sup>75</sup> An example of Catalan conservative-reformist thought is Duran y Bas, Manuel, *Estudios morales, sociales y económicos* (Barcelona, 1895), with a foreword by Federico Rahola who had a leading role in the creation of popular savings banks and the *Instituto Nacional de Previsión* and was president of the Barcelona Academy of Jurisprudence and Legislation. In 1898, the president of this institution gave the inaugural lecture adopting a reformist view: Soldevila y Boixader, Carlos M., *Consideracions histórico-filosóficas sobre el contrato de trabajo* (Barcelona, 1898). Other examples are Rahola, Federico, *El trust del capital y el sindicato obrero* (Barcelona, 1910) and Gay de Montellà, Rafael, *Reformas del código civil español en orden al proletariado* (Barcelona, 1910); Gay de Montellà was secretary of the Barcelona Academy of Jurisprudence and Legislation.

<sup>76</sup> Nitti, F. *El socialismo católico* (Salamanca, 1901).

<sup>77</sup> Fernández Jiménez, Miguel, *El problema obrero y los partidos españoles (Estudio de política contemporánea)* (Granada, 1904).

Spain, unions have a distinct socialist or libertarian character.”<sup>78</sup> The Spanish working class was dominated by “anti-social anarchism” as the conservative sociologist Sanz y Escartín (also a member of the IRS) put it.<sup>79</sup> An alarmed Melquíades Álvarez, one of the venerable leaders of the Republican movement, noted that because of the “too frequent disorders” and the “violence of the popular masses,” he feared “despotism and dictatorship” might be embraced for the sake of social stability.<sup>80</sup>

However, in spite of a fundamental agreement on the available evidence, reformers’ theory of union growth was opposite to the one defended by critics of the labour movement. Violence and radicalism were not a consequence of the strength of unions but rather the proof of their weakness. Establishing a clear divide between unions and politics, unions were “not only resistance societies” (*sociedades de resistencia*) but legitimate participants of the polity supplying socially useful institutions to their members. It was only necessary “to take a look at the rules governing many workers’ unions” to appreciate “their articles containing the supply of vocational training, the election of conciliation committees, unemployment agencies, mutual benefit and old age funds, (...)” Their main aim was not political but rather “the elevation of wages, the shortening of the working day, and the improvement of working conditions.”<sup>81</sup> Even in more conservative quarters, it was accepted that “the activities of unions not only bring about material results but also contribute powerfully to create the habits of order and morality.”<sup>82</sup> According to their theory of union maturation, naturally conservative unions had become radical and politically oriented because of employers’ “blindness” and “selfishness”, their “greed” and “survival instinct”,<sup>83</sup> an “obstinate resistance” to unions which hampered the latter’s stabilisation and the peaceful pursuit of economic interests.<sup>84</sup> They recognised unions broke the principle of the freedom to work by organising picket lines, boycotts, labels, or the closed shop, but that it was also “necessary to remember the coercion stemming from employers, both political and

<sup>78</sup> Gascón y Marín, José, *Los sindicatos y la libertad de contratación* (Barcelona, Second edition, 1907), tome I, p. 49.

<sup>79</sup> Quoted in *ibid.*, p. 132.

<sup>80</sup> Melquíades Álvarez, DSC 10<sup>th</sup> March 1902, number 139, page 4048. On Melquíades Álvarez: García Venero, Maximiliano, *Melquíades Álvarez. Historia de un liberal* (Madrid: Tebas, 1974).

<sup>81</sup> Gascón Marín, *Los sindicatos*, tome I, p. 120.

<sup>82</sup> Sanz y Escartín, Eduardo, *El individuo y la reforma social* (Madrid, 1896), p. 243.

<sup>83</sup> José Canalejas’ foreword, p. XIII, in Buylla, Adolfo, Adolfo Posada and Luis Morote, *El Instituto de Trabajo. Datos para la historia de la reforma social en España* (Madrid, 1902).

<sup>84</sup> Quote from the liberal newspaper *El Imparcial* on the Barcelona general strike of 1902 in Alejandro Lerroux, DSC, 8<sup>th</sup> March 1902, number 136, p. 4014.

religious, their refusal to employ union workers, their imposing of company stores or company dwellings.”<sup>85</sup>

Using an international comparison, reformers opposed to radical Italian or Spanish unions, the example of moderate British, American and German unions, a line of reasoning they adopted from French and Italian reformers. In Britain or Germany, unions “so powerful that employers do not dare to refuse to negotiate with” had brought about social peace and a decline in strike activity. Where unions were weak, like in Italy, Russia or Spain, and in some cases France, political radicalism, strikes, and revolutionary hopes were the norm.<sup>86</sup> Taking for granted that “the bitterness of strikes is inversely related to the progress, the strength, and the discipline of unions,”<sup>87</sup> the process of union implementation led inevitably to bread-and-butter unionism, the respect for property rights, and the abandonment of political radicalism. In their view, the control of strike-funds by a central bureaucracy, and the supply of institutions like friendly societies or unemployment insurance, tamed workers’ revolutionary hopes and led them to a more gradualist agenda.<sup>88</sup> Employers, Gumersindo de Azcárate remarked, should not fight unions but rather “wish all their workers belonged to the union,” because a union “allows to substitute reflection for impulse.”<sup>89</sup> Reformers admired the “self-control”, the “virility” and the “instruction” of the British trade unionist, as opposed to the ignorant and hot-headed Spanish worker.<sup>90</sup>

Identifying recalcitrant employers as the main cause of unions’ weakness, reformers did not hesitate to use state coercion to compel employers to negotiate and recognise unions. The conservative sociologist Sanz Escartín asserted “the future civilization, (...), if it is not going to be subjected to revolution or Caesar’s type of

<sup>85</sup> José Canalejas’ foreword, p.CXLV, in Buylla, Posada, Morote, *El Instituto de Trabajo*; a similar argument in Fernández Jiménez, *El problema obrero*, pp.221-222.

<sup>86</sup> Examples of this argument: José Canalejas’ foreword, p. XVII, in Buylla, Posada and Morote, *El Instituto de Trabajo*; Gascón Marín, *Los sindicatos*, tome I, p.26; Fernández Jiménez, *El problema obrero*, p.131; Zancada, Práxedes, *El obrero en España (Notas para una historia política y social)* (Madrid, 1902), p.225; Sanz Escartín, *El individuo*, p.243; Buylla, Adolfo A. and G. Alegre, *La protección del obrero (Acción social y acción política)* (Madrid, 1910), p.105 and p.115; Roig y Bergadà, 6<sup>th</sup> March 1902, number 136, p.3949; Eduardo Dato, 28<sup>th</sup> February 1902, number 131, pp.3809-10, quoting Fernández Villaverde’s speech to the Madrid Academy of Jurisprudence in the 1901 session.

<sup>87</sup> José Canalejas’ foreword, p. CXL, in Buylla, Posada, Morote, *El Instituto del Trabajo*.

<sup>88</sup> See for instance Álvarez Junco, J., *La ideología política del anarquismo español (1868-1910)* (Madrid, 1976), p. 567.

<sup>89</sup> Gumersindo de Azcárate, DSC, 19<sup>th</sup> October 1910, number 45, p. 1227.

<sup>90</sup> Sanz Escartín, *El individuo*, p.28.

oppression, must rest on freely constituted associations (...) able to harmonise all social interests by means of a higher coordinating body.”<sup>91</sup> The *institucionista* Azcárate went further and argued that “the moral duties of property are nowadays trusted to private initiative, (but) there is no social guarantee of their indispensable compliance, (therefore) it is absolutely necessary to pass laws to make sure they are effective.”<sup>92</sup> Following this line of reasoning, José Canalejas, the liberal Minister of Agriculture, Trade, and Industry argued: “where the State does not intervene to regulate or soften the battle of the classes, where governments are reluctant to address the social problem, everything is burned down by the anarchist fire.”<sup>93</sup> In Parliament during the debate over the creation of the *Instituto de Trabajo* (Institute of Work) in 1902, after an intervention by the Catalan textile manufacturer Ferrer Vidal, who was alarmed by the possibility that the government might sanction compulsory arbitration, Canalejas replied: “the fact that employers do not respect the law (mainly thinking about the non-recognition of legal unions) is what drives thinkers (*“hombres pensadores”*) toward the option of compulsory arbitration and the coercion of the State.” He then went on to say: “we require (...) the worker to respect the law and to keep away from the streets, (...) to make life in freedom viable, making social progress possible, but let’s ask employers as well (...) to respect legal precepts.” And he concluded: “modern times are costly, modern times demand sacrifice (...), it is natural that social legislation wakes up in capitalists’ minds the impression and the belief that, to some extent, it is a tax, and a serious one.”<sup>94</sup> In other cases, social conflict was simply a misunderstanding, caused by “the distance existing between those demanding work and those supplying it” triggering “indifference towards the worker” and “hatred towards the capitalist.”<sup>95</sup> But the action of the state was still needed to bring both groups together.

Based on these ideas, and in spite of employers’ demands to crush union meetings and strikes, reformers insisted on arbitration and conciliation procedures resting on powerful independent unions for a quick and less acrimonious settlement of

<sup>91</sup> Ibid., p.237.

<sup>92</sup> A slightly more conservative view was put forward in Azcárate, Gumersindo de, “Estudios sobre los deberes de la riqueza,” (speech delivered in November 1892) (Barcelona, 1904); quote from Fernández Jiménez, *El problema obrero*, p.111.

<sup>93</sup> Canalejas’ foreword, p.XXIX, in Buyla, Posada, Morote, *El Instituto del Trabajo*.

<sup>94</sup> José Canalejas, DSC, 8<sup>th</sup> April 1902, number 5, p.53.

<sup>95</sup> Maura Gamazo, Gabriel, *Jurados mixtos para dirimir las diferencias entre patronos y obreros y para prevenir ó remediar las huelgas* (Madrid, 1901), p.202.

disputes.<sup>96</sup> In their opinion, the “most effective (state) intervention is to sponsor large unions, with strong funds making them powerful and conservative at the same time; the mixed commissions, elected by the unions and the employers’ associations, will follow to protect the common good”<sup>97</sup> an argument they supported by resorting to the examples of France, Belgium, Germany, the United States or even New Zealand, the country with no strikes about which Eduardo Dato and José Canalejas were equally enthusiastic (the former Conservative and the latter Liberal, both reformers and future Presidents).<sup>98</sup> For instance, considering the work councils of Belgium, Roig i Bergadà, a Catalan deputy who had advocated compulsory arbitration in Parliament, claimed that “those councils include workers and employers, (...) creating among them the habit of friendship, fraternity, and affection, that in the future will probably become a buffer against solvent theories and to the dreadful ideas that anarchists try to instil in our working classes.”<sup>99</sup> Minister Canalejas summarised the optimistic view of reformers on conciliation mechanisms by claiming that when “workers’ associations finally reach their full development, there will be no more strikes.”<sup>100</sup>

According to critics of the labour movement, reformers’ insistence on protecting the right of workers to associate violated the principle of “freedom of contract”, which was at the heart of the liberal (Napoleonic) Civil Law Code. Forcing workers to join unions and strikes, and combining to change employment conditions and bringing employers to ruin, critics argued, curtailed the right to work and the right of employers to adequate wages, hours, and working conditions to exogenously determined economic conditions. To confront those arguments, reformers made a theoretical effort to demolish the principle of freedom of contract, “this sarcastic fiction,”<sup>101</sup> struggling to find a middle way between “the individualistic *status quo* and supporters of the collectivist or anarchist revolution.”<sup>102</sup> In an interpretation that has become canonical in all textbooks of Spanish labour law, reformers considered the worker the weak contractual party and doubted accordingly that he was ‘free’ when accepting a contract

<sup>96</sup> For instance, Sanz Escartín, *El individuo*, p. 351.

<sup>97</sup> Maura Gamazo, *Jurados mixtos*, p. 217.

<sup>98</sup> Zancada, *El obrero en España*, pp.19-20. In the case of Australia and New Zealand, reformers cited Métin’s *Le socialisme sans doctrines. Australie et Nouvelle Zélande* (Paris, 1901).

<sup>99</sup> Roig y Bergadà, DSC, 6<sup>th</sup> March 1902, p. 3950.

<sup>100</sup> Quoted in Fernández Jiménez, *El problema obrero*, p.365.

<sup>101</sup> Maura Gamazo, *Jurados mixtos*, p.212.

<sup>102</sup> Canalejas’ foreword, p.XLIII, in Buylla, Posada, Morote, *El Instituto del Trabajo*. This argument was also put forward in Dorado, F., *El problema obrero* (Salamanca, 1901).

and its implicit working conditions.<sup>103</sup> For instance it was argued “in order to have free contracting, the first condition is being free, and a worker who accepts any job that is being offered to him is not economically free,”<sup>104</sup> an idea they associated with Pope Leo XIII encyclic *Graves de Communi*.<sup>105</sup> Using Turgot’s iron or Lassalle’s bronze law of wages, and influenced by mounting evidence on working class destitution, reformers affirmed that, under conditions of competition, workers’ wages inevitably fell below subsistence levels, restricting their ability to choose among different job offers, and forcing other members of the family, namely children and women, to enter the labour market, which further depressed wages.

For instance, quoting Ketteler, the social catholic propagandist, bishop of Mannheim, the professor at the University of Oviedo, Adolfo Buylla, argued about how in Kettelers’ book *Die Arbeitfrage and das Kristenthum* (The labour question and Christianity) “labour nowadays is treated as another commodity, (...), subject to the terrible effects of competition, a fact aggravated after the abolition of the old organisation of work (guilds) and the use of machinery as well as the development of the big industry.”<sup>106</sup> It was also claimed that after the abolition of medieval guilds “the worker found himself face to face with the employer, isolated and defenceless, accepting a labour contract which, according to orthodox principles, is purely economic and determined by the law of supply and demand.” He also remarked that “machinery saves labour; women and children compete with adult men; and the excess labour supply (*la sobra de brazos*) determines an absurd fall in wages or an exorbitant increase in the hours of work.”<sup>107</sup> Arguing wages did not catch up with the rising cost of living, José Canalejas quoted Gaspar Decurtins, the Swiss socialist catholic: “the excess of production (...) is the cause that wages have been falling to intolerable levels, since they generally only allow the worker barely to avoid starvation.”<sup>108</sup> Thus, in their view, the principle of free contracting lost its fundament because “the wage regime (...) has

<sup>103</sup> Posada, Adolfo, *Tratado de derecho* (Madrid, 1895), p.237; Gallart Folch, Alejandro, *Derecho español del trabajo* (Barcelona, 1936), pp.18-20; Palomeque, Carlos M., *Medio siglo de derecho del trabajo español, 1873-1923* (Madrid, 1980).

<sup>104</sup> Luis Canalejas (member of the Parliamentary Commission on the *Instituto de Trabajo*), DSC 5 May 1902, number 27, p.677.

<sup>105</sup> Gascón Marín, *Los sindicatos*, p.116.

<sup>106</sup> Buylla, *Economía*, p.151.

<sup>107</sup> Maura Gamazo, *Jurados mixtos*, p.9.

<sup>108</sup> José Canalejas’ foreword, p.XLVI, in Buylla, Posada, Morote, *El Instituto del Trabajo*.



become an exploitation regime”<sup>109</sup> and “the wage system has substituted the chains of the slave.”<sup>110</sup>

The criticism to the idea of freedom of contract was associated with a far-reaching project to overcome the liberal Civil law Code (passed in 1889). In this regard, most of the political debate on labour unrest concentrated on overcoming liberal jurisprudence rather than opposing conservative reaction. In 1885, Gumersindo de Azcárate wrote about the need to pass “a new code adapted to the needs of today’s society,” because “he was beginning to feel uncomfortable in the mould of the Napoleonic code.”<sup>111</sup> In 1902, Canalejas affirmed that “the *individualistic* (emphasis in the original) period in which the Napoleon Civil law code and others similar to ours, has finished, and the new period of *sociability* (*sociabilidad*) for the Civil law code has started.”<sup>112</sup> In this sense, the 5 articles applied to labour matters from the 1889 Civil law Code (from article 1583 to 1587, regulating lease or rent agreements *‘arrendamiento de servicios’*) needed to be overcome by new labour contract law including clauses “on the number of hours of work, requiring a written contract, the compensation scheme,” or treating accident compensation and so on.<sup>113</sup> Therefore it was necessary to draw up a new set of regulations containing maximum hours laws, minimum wages, abolishing or reducing the work of children and women, and regulating workplace safety. For instance, using Decurtins again, wages needed to be kept above the level necessary to “cover the needs of the worker, compensate him for the risks of death or mutilation, and (...) the wear of his strength.”<sup>114</sup> The shortening of the working week was essential for the worker to “restore her strength”, avoid her “falling prey to anaemia or tuberculosis,” the reduction of the accident rate, and the increase of average labour productivity.<sup>115</sup> In their opinion, state action on hours or wages was premature given the poor state of

<sup>109</sup> Fernández Jiménez, *El problema obrero*, p.15.

<sup>110</sup> Canalejas quoting the Austrian social catholic Meyer in his foreword, p.XLV, in Buylla, Posada, Morote, *El Instituto del Trabajo*.

<sup>111</sup> Azcárate, Gumersindo de, *El régimen parlamentario en la práctica* (Madrid, 1978 [1885]), p.189. As well, excerpts from his 1893 conference “El problema social y las leyes obreras,” in Azcárate, *Gumersindo de Azcárate*, pp.82-83.

<sup>112</sup> Canalejas’ foreword, p.CXVI, in Buylla, Posada, Morote, *El Instituto de Trabajo*.

<sup>113</sup> *Ibid.*, p.CXVII. This became the IRS, *Bases para un proyecto de ley acerca del contrato de trabajo, presentadas al Instituto de Reformas de Sociales* made public in 1904. Palomeque, Carlos M., “La intervención normativa del Estado en la ‘cuestión social’ en la España del siglo XIX,” *Ayer*, number 25 (1997), p.122.

<sup>114</sup> Fernández Jiménez, *El problema obrero*, p.234.

<sup>115</sup> *Ibid.*, p.307. On hours of work the most important reference is Revenga, Ricardo, *La jornada de ocho horas* (Madrid, 1903), with a foreword written by José Canalejas.

statistics in Spain. Accordingly, reformers pressed initially for the creation of an Institute of Work (*Instituto de Trabajo*) (in 1902), based on the experiences of the US Commissionate of Labor or the French *Office du Travail*, which had, among others, the objective of collecting and publishing data on the conditions of work, strikes and union membership. Furthermore, the new legislation required new institutions to solve conflicts, since “some conflicts (...) can only be solved in ordinary tribunals,”<sup>116</sup> something that would reduce the number of strikes. For instance, article 1584 of the Civil Code put the burden of the proof on the worker so that, in the Tribunal, it was “always the owner who was believed.” Article 1590 did observe compensations for contractors but not for workers.<sup>117</sup>

In pursuing this task, progressive reformers considered they were bringing further democracy and “restoring the social content of democratic ideas” through social legislation,<sup>118</sup> belonging to “a new individualistic school (...), which separates itself from the unyielding view of 18<sup>th</sup> century individualists and recognises that the French revolution has not finished the task: political freedom has been achieved, but economic freedom does not exist.”<sup>119</sup> This was probably too optimistic. Rampant electoral fraud and a restrictive electoral system severely curtailed the electoral possibilities of progressive coalitions, bringing about too small republican minorities and leaving the Socialist party (created in 1879) outside Parliament. In this sense, most reformers saw a moderately powerful workers’ party pressing for further reform as a committed ally in the coalition for reform and a guarantee of social pacification. Gumersindo de Azcárate, who in 1885 had opposed the creation of a working class party, later changed his views to say “in most of the English colonies of Australia (sic) there is a *workers’ party* (his emphasis) with an important role in public affairs, but none of them is collectivist.”<sup>120</sup> For instance, Fernández Jiménez, who defended the reformist action of the Conservative party, remarked that in France, “next to Vaillans, Zevaës, and other enemies of participating in the legalist battle of political parties, (...) Millerand triumphs in the peaceful conquest of power, having a decisive influence in French policy, with the

<sup>116</sup> Maura Gamazo, *Los jurados mixtos*, p.14.

<sup>117</sup> Canalejas’ foreword p.CXVII, in Buylla, Posada, Morote, *El Instituto del Trabajo*.

<sup>118</sup> Zancada, *El obrero en España*, p.223.

<sup>119</sup> Luis Canalejas (member of the parliamentary commission on the *Instituto de Trabajo*), DSC 5<sup>th</sup> May 1902, number 27, p.677.

<sup>120</sup> Azcárate, *El régimen parlamentario*, chapter XV, “El partido obrero y el régimen parlamentario.” Quoted in Buylla, Posada, Morote, *El Instituto del Trabajo*, p.CLIV.

support of Waldeck-Rousseau and other notable politicians, being responsible with their constancy of an important series of reforms.”<sup>121</sup> “As in France, Germany, Belgium, even in Austria,” the author went on, “working class parties need to be legalised and start working (...) for government solutions to advance their interests.”<sup>122</sup> Quoting the Conservative politician Eduardo Dato, he added: “with this tactic, not only a duty of strict justice but also a wise political strategy, the angry protest of the working class has been disarmed in most European nations.”<sup>123</sup>

### **3.2. A coalition for reform?**

It took a while for a ‘coalition for reform’ to take shape. During the 19<sup>th</sup> century, episodes related to the liberals revolutions had brought about the alliance between the progressive politic groups and the working class in the main cities to defeat *absolutism*. In Barcelona, joint commissions of workers and employers had been tried for some time to solve strikes. This was the case of the ultimately failed experience of the joint commission of textile workers and employers in Barcelona at the onset of the Espartero regency (1840).<sup>124</sup> Similar experiments appeared during the Progressive Biennium (1854-55). During the First Republic (1873), there were mixed commissions in Barcelona, Valencia, and Alcoy (Alicante). In a brief stint in government, lasting less than two months, the republican federalist Pi y Margall brought about a reformist agenda based on industrial tribunals to arbitrate on labour conflicts, and even projects to reduce the workday to nine hours, to establish a minimum wage of 6 *reales*, and laws prohibiting child labour and regulating women work in industry.<sup>125</sup> But this experience was aborted by the collapse of the First Republic in July 1873.

The Restoration of the monarchy in 1874 severely curtailed the political power enjoyed by Republicans. Their offices were closed, and authorities forbade republican meetings and the singing of *La Marselleise*. Repressed or silenced up to 1881, republicans were also internally divided among the ‘possibilist’ faction of Castelar, and the different groups of Pi i Margall, Salmerón, Figueras and Ruiz Zorrilla (the 5 having

<sup>121</sup> Fernández Jiménez, *El problema obrero*, p.163.

<sup>122</sup> *Ibid.*, p.191.

<sup>123</sup> *Ibid.*, p.191.

<sup>124</sup> Barnosell, Genís, *Orígens del sindicalisme català* (Vic, 1999), pp. 169-186.

<sup>125</sup> Hennessy, C.A.M., *The Federal Republic in Spain. Pi y Margall and the Federal Republican movement, 1868-1874* (Oxford, 1962), pp.200-201. The ‘social’ ideas of Pi y Margall collected in Molas, Isidre (ed.), *Ideario de Pi y Margall* (Barcelona, 1966), pp.68-75.

been presidents during the revolutionary period). Furthermore, their electoral possibilities were severely limited by a restrictive electoral system based on single-member districts.<sup>126</sup> The introduction of universal male suffrage in 1890 and the reduction of electoral fraud in the great cities made way for the participation of republicans in parliament but they never attained more than 10 per cent of the seats in the chamber.

Nevertheless, except in the case of Pi y Margall's *Federales* and Catalan unions, the links between the Republican and labour movements were not particularly strong.<sup>127</sup> The first republican programme, signed by Ruiz Zorrilla and Salmerón, contained a programme of social reform including free compulsory elementary schooling, popular housing, rural credit co-operatives, or a shortening of the workday. But it was considered "internationalist, socialist, and demagogue" by other republican factions.<sup>128</sup> With an incomplete liberal revolution, most of the republican agenda in the late 19<sup>th</sup> century focused on classic liberal objectives such as demanding the curtailment of the power of the church, a popular and compulsory army, trial by jury, and universal suffrage. Ruiz Zorrilla, exiled in Paris, was still committed to revolution and used his connections with the military to plan the overthrowing of the crown. In 1880, a second republican programme drawn up by Ruiz Zorrilla openly expressed its opposition to the International and stressed the commitment to social order and to property.

However, at the turn century, there was a generational change in leadership of the republican movement. Estanislao Figueras had died in 1883, Ruiz Zorrilla in June 1895, and Pi y Margall in 1901, and Castelar retired from politics and then died in 1901. By the early 20<sup>th</sup> century, only Nicolás Salmerón remained active among the "men of 1873". In spite of the fact that the leadership of Salmerón was uncontested, the more open electoral politics of the big cities like Valencia, Madrid and Barcelona gave way to a new generation of young republicans with closer ties with working class voters and, occasionally, with revolutionary circles. With leaders such as Alejandro Lerroux, a

<sup>126</sup> The 1878 electoral law established a system of election based mainly on single-member districts and about 20 multi-member districts in the big cities. A restrictive electoral system assured that Conservatives and Liberals remained the two dominant parties and reduced pluralism in Parliament. Universal male suffrage was granted in 1890.

<sup>127</sup> Duarte, Àngel, *El republicanisme català a la fi del segle XIX* (Vic, 1987), chapter "Republicanisme i obrerisme," pp. 69-98.

<sup>128</sup> Dardé, Carlos, "Los partidos republicanos de la primera etapa de la Restauración (1875-1890)," p. 445-447, in Jover, J.M. (ed.), *El siglo XIX en España. Doce estudios* (Barcelona, 1974).

journalist settled in Madrid who became famous during the campaign against the Montjuich trials in the mid-1890s,<sup>129</sup> or the writer Blasco Ibañez in Valencia, the emphasis now shifted towards radicalism rather than reform.<sup>130</sup> In the mid 1890s, Francesc Ferrer Guardia, secretary of Ruiz Zorrilla in Paris in the mid 1890s and later a martyr of the Tragic Week in 1909, had already proposed a vague political programme resting on “a popular republic” reaching out to working class voters.<sup>131</sup> Writing at the height of the anarchist terrorist campaign in the 1890s, Ferrer argued that “the Spanish Republic would not generate such atrocities” and proposed following the “firm and prudent” French strategy of “doing as much as possible for workers” while repressing as severely as possible the “loathsome criminal monotony” of anarchists.<sup>132</sup> Later on, in 1898, Alejandro Lerroux also claimed “that only the Republic can sanction the necessary reforms that will satiate the legitimate aspirations of the working class.”<sup>133</sup> The ties with the labour movement were tightened in 1900 when Lerroux’s newspaper, *Progreso*, became the official periodical of the bakuninist *Federación de Sociedades Obreras*.<sup>134</sup> Political influence over the civil governor of the city was used to solve strikes or to free union and strike leaders.<sup>135</sup> Some republican lawyers, probably the best known was Emiliano Iglesias, offered legal protection to union leaders and strikers.<sup>136</sup> After the electoral success of 1901 in Barcelona, Lerroux shocked the Parliament during the debate over the 1902 general strike by stating that the “general strike was the only weapon” against a well organised and armed bourgeois society “which could be used by the working class to win economic wars.” According to his view, strikes were bitter because of exploitative employers, not because of disorderly and intractable workers. He then went on to praise the “moderate” and “generous” metal workers and their “noble spirit of transaction.”<sup>137</sup> In the period 1901 to 1906, there were at least 50 parliamentary interventions by Lerroux, or his group (Emilio Junoy and Jaume Anglès -

<sup>129</sup> The Montjuich trials was a campaign developed in Barcelona by the government in reaction to the a series of terroris attacks in the mid 1890s which included the arrest of many union leaders, torture, and death penalty sentences. This led to a wide outcry in the Spanish and foreign press. Finally, a conservative government gave amnesty to most prisoners.

<sup>130</sup> On Valencia: Reig, Ramiro, *Obrers i ciutadans. Blasquisme i moviment obrer: València, 1898-1906* (València, 1982).

<sup>131</sup> Álvarez Junco, José, *El emperador del Paralelo. Lerroux y la demagogia populista* (Madrid, 1990), pp. 144-145, p. 212.

<sup>132</sup> Quote from *El Progreso*, 27<sup>th</sup> April 1892, in *ibid.*, pp.146-147, footnote 32.

<sup>133</sup> *Ibid.*, p. 195.

<sup>134</sup> On the *Federación* see next chapter.

<sup>135</sup> See one case in Culla, Joan B., *El republicanisme lerrouxista a Catalunya (1901-1923)* (Barcelona: Curial, 1986), p. 87.

<sup>136</sup> *Ibid.*, p.88.

<sup>137</sup> DSC, 22<sup>nd</sup> February 1902, number 122, pp.3536-7.

the first blue-collar worker to enter the Restoration Parliament) related to the labour movement, denouncing the treatment to strikers, protesting for the closing of union offices, defending the right of association or the improvement of working conditions.<sup>138</sup>

Radicalism however did not have enough political power to build up reform coalitions. In spite of electoral success in some important urban cities, the electoral system generated one-winner election outcomes and favoured the two dominant parties at the expense of smaller political groups. Within these constraints, the Republican parliamentary group remained small and unable to reach other political groups to promote labour-friendly laws. Furthermore, with radicals still committed to a violent overthrowing of the monarchy at least up to 1909, and their well known links with the anarchists, there was little room for the development of a gradualist reform agenda in the context of the monarchy.

The limited political power of Republicans contrasts sharply with the wide majorities obtained by the dominant parties. The restrictive electoral system was coupled with the practice of *encasillado*, through which liberals and conservatives agreed the deputies to be elected in most electoral districts. This made sure large government majorities were obtained, while a pact between Liberals and Conservatives also guaranteed both parties took turns in power. Therefore, the problem for governments was not building majorities with the minor parties, but rather disciplining their own large majority. Divided among different political factions and lacking internal discipline, the government had substantially less control over the members of its majority than what is common nowadays.

In this context, parliamentary or senate initiatives necessarily fell on the government and depended on internal developments within the dominant parties.<sup>139</sup> The first important and finally aborted step in the direction of reform was taken in the early 1880s by the government headed by Posada Herrera, belonging to the left of the Liberals (Dynastic Left). It lasted less than 4 months after it was unable to pass a law on universal suffrage. In 1883, its Interior minister, Segismundo Moret, a man of the 1869

<sup>138</sup> Culla, *El republicanismo*, p. 87.

<sup>139</sup> By this I mean "the action" putting the process of legislating in motion. For instance, Aragón, Manuel, "La iniciativa legislativa," *Revista de la Facultad de Derecho de la Universidad Complutense* (1986-87), pp.75-98.

Revolution and an *institucionista*, passed a Royal Decree creating the *Comisión de Reformas Sociales* (Social Reforms Commission). This body was devoted to the study, as it was defined at the time, “of all issues related to the welfare and advance of the working classes in agriculture and industry and affecting the relationship between capital and labour.”<sup>140</sup> In spite of the symbolic importance of the Commission, the truth was that it obtained very little political support. Azcárate, a member of the *Comisión*, blamed “the apathy of the government” and “the lack of means,” a “budget without a single peseta to start collecting statistics on labour,”<sup>141</sup> as the main causes making the project fail. The Commission could not gather the funds to publish the famous enquiry of 1884-1885 until 1889.<sup>142</sup> Even after the agency was re-organised in May 1890 (shortly after the 1<sup>st</sup> of May), its bills were turned down in parliament, for instance the 1893 bill on joint committees of capital and labour to solve strikes or the one on Sunday rest.<sup>143</sup> Others, like the bill on labour contracts, never reached the political debate.

It is necessary to wait until the political crisis brought about by the Cuba war in 1898 to see further movements in the direction of reform. This first legislative effort corresponded to the Conservative party in which some internal currents favoured a shift towards reform. In 1890 after the successful first May Day, Cánovas del Castillo, leader of the Conservative party, had delivered a speech in the Ateneo de Madrid entitled “The labour question and its new character.” In the same year, another Conservative notable, Salvador Bermúdez Castro (Marquis of Lema) gave a speech with the title “The social question and political traditions” in front of the same audience. Adolfo Buylla considered the first speech, by Cánovas del Castillo, an example of what he defined as state socialism or conservative socialism, a tradition he also identified with the

<sup>140</sup> Palacio Morena, Juan Ignacio, *La institucionalización de la reforma social en España (1883-1924). La Comisión y el Instituto de Reformas Sociales* (Madrid, 1988), p.25. The most frequently cited contributions to the literature on the *Comisión* are: Castillo, Santiago, “El reformismo en la Restauración: del Congreso Sociológico de Valencia a la Comisión de Reformas Sociales,” *Estudios de Historia Social*, number 30 (July-September 1984), pp.21-78; Castillo, “Introducción,” in *Reformas Sociales. Información oral y escrita* (Madrid, 1985 [1889-1893]); Calle Velasco, M. Dolores, “Comisión de Reformas Sociales, de la represión al análisis de la conflictividad social,” *Studia Historica*, volume 2, number 4 (1984); Elorza, A. and M. C. Iglesias, *Burgueses y proletarios. Clase obrera y reforma social en la Restauración (1884-1889)* (Barcelona, 1973).

<sup>141</sup> Quoted in Buylla, Posada, Morote, *El Instituto del Trabajo*, p.183.

<sup>142</sup> The petitions for funds from the members of the *Comisión* to the Minister of Interior in Palacio Morena, *La institucionalización*, pp.42-44.

<sup>143</sup> Zancada, *El obrero en España*, p.215. The project was ordered through a Royal decree in 1883 and finalised in 1884.

academic Eduardo Sanz y Escartín.<sup>144</sup> Acknowledging the multiple meanings that socialism (*socialismo*) had in the Spanish debate, Buylla identified state socialism with Bismarck, and defined it as “the economic school that, aware that the distribution of wealth is unfair and sympathetic towards the state of the labouring classes, opposes firmly all violent and revolutionary solutions.” Harsh opposition to radical politics, he went on, was also coupled with “the belief that the state is able to introduce reforms advancing the welfare of the working classes, gradually and not threatening the present order.”<sup>145</sup>

In addition to the authoritarian connection with Bismarck, social Catholicism and the encyclic *Rerum Novarum* were essential ingredient of the first Conservative reforms.<sup>146</sup> Characteristically, the first bill proposed by Cánovas was the Sunday rest law in the early 1890s, which attracted obvious support from the Catholics. In the Senate, the debate brought the law closer to the reactionary Catholics and away from the original contents devised by the *Comisión de Reformas Sociales*, which in turn caused uproar in the laic, liberal minorities.<sup>147</sup> Evidence of the lack of political will and support for the project, the law was not passed, while instead two laws drawn up to repress anarchism were made effective in 1894 and 1896.<sup>148</sup>

A series of profound political developments suddenly changed the political context in the late 1890s. Most important of all was the so-called “regenerationist” movement, which gained momentum during the Cuba war with the United States in 1898. Headed by another *institucionista*, Joaquín Costa, “regenerationism” in fact included a myriad of sometimes contradictory perspectives on the economic and political state of Spain. Classic themes of the regenerationist literature were the backwardness of the Spanish economy (especially in agriculture), and the need to moralise and modernise a passive, illegitimate, and fraudulent liberal state unable to

<sup>144</sup> Buylla, *Economía*, p.153. As well in Botella, *El socialismo*, pp.346-347. Another definition (“legal socialism”) is given Pereira, Luis, “Socialismo jurídico,” in Galán Eguizábal, Félix and Francisco Nuñez Tomás, *Anuario obrero*. 1915. (Madrid, 1916), pp.9-13.

<sup>145</sup> Buylla, *Economía*, pp.153-154.

<sup>146</sup> Montero, *El primer catolicismo social*, pp.82-83

<sup>147</sup> Montero, Feliciano, “La polémica sobre el intervencionismo y la primera legislación obrera en España. 1890-1900. 2a parte: el debate político-parlamentario,” *Revista de Trabajo*, number 61-62 (1981), pp.59-65.

<sup>148</sup> Zancada, *El obrero en España*, p. 215.



address the most pressing problems of the country.<sup>149</sup> Moreover, it affirmed the need for the state to overcome the liberal revolution, which had ended with the liberal reforms of the 1880s (universal male suffrage, the associations' law of 1887, homogenisation of the administrative and taxation system), and led to a more active role of the state in the economy.<sup>150</sup> Characteristic as well were the appeals to increase the supply of state-funded, free secular schools, which for instance contradicted with their appeals to reign in public expenditure and government deficits. A book by Macías Cavea advocated it was necessary that the state improve its administration and bureaucracy, decentralise administration towards the province and the municipality, and introduce social reforms to solve labour unrest. In the latter case, regenerationists approached social Catholicism, for instance affirming that "in order to avert *destructive* socialism (his emphasis) (...) there is no other way, in the moulds of the current public law in Europe, but to adopt what the great archbishop of Westminster called *constructive* socialism, or Christian socialism (...)." <sup>151</sup> However, regenerationism did not push for a democratic agenda and, instead, fantasised about a 'benevolent' dictator or authoritarian president, to the point of affirming, like Macías Picavea did, that "in government we need Bismarcks, with grafts from (*injertos de*) Saint Francis of Assisi."<sup>152</sup> In fact, the ideas put forward in the period have the flavour of a "revolution from above," as politicians associated with the movement like Antonio Maura put it,<sup>153</sup> and were an effort to implement the movement's idea of "making the monarchy national" and solving the crisis of legitimacy of the state.<sup>154</sup>

Regenerationism gained momentum in the midst of political crisis and gained influence across the political spectrum. Nevertheless, it was from conservative ranks that this programme was pushed forward. In August 1897, the Conservative leader Antonio Cánovas del Castillo was shot to death by an Italian anarchist paid by Cuban

<sup>149</sup> Maurice, Jacques and Carlos Serrano, *Joaquín Costa: crisis de la Restauración y populismo (1875-1911)* (Madrid, 1977), pp.27-30. Examples of regenerationist literature are: Mallada, Lucas, *Los males de la patria* (Madrid, Alianza Editorial, 1969); Macías Picavea, R., *El problema nacional. Hechos, causas remedios* (Madrid: Seminarios y Ediciones, 1972).

<sup>150</sup> This went hand in hand with developments in political economy, Pan-Montojo, Juan "El atraso económico y la regeneración," in Pan-Montojo (ed.), *Más se perdió en Cuba. España, 1898 y la crisis de fin de siglo* (Madrid, 1998), pp.261-335.

<sup>151</sup> Quote is from Joaquín Costa in Maurice and Serrano, *Joaquín Costa*, p.84.

<sup>152</sup> *Ibid.*, p.31.

<sup>153</sup> Cabrera, Mercedes, "El conservadurismo maurista en la Restauración. Los límites de la 'Revolución desde arriba'," in J.L. García Delgado (ed.), *La España de la Restauración. Política, economía, legislación y cultura* (Madrid, 1985), pp.55-71.

<sup>154</sup> Maurice and Serrano, *Joaquín Costa*, p.30.

exiles,<sup>155</sup> paving the way for the arrival of a new generation of Conservative politicians, some of them with typically regenerationist objectives. This was especially the case of Antonio Maura, who probably entered in contact with the regenerationist literature when, earlier in his political career, he was associated with Germán Gamazo, an important political figure of the Liberal party.<sup>156</sup> First as Minister of Interior (*Gobernación*) and later on as president, Maura sponsored three typical regenerationist projects such as a new electoral law, the law on the merchant navy, and the finally aborted law on administrative decentralisation.<sup>157</sup> Another regenerationist project, the reduction of government deficit and the first efforts to rationalise the tax system were also tried by Fernández Villaverde, finance minister during the Silvela-Polavieja government, who favoured intervention in labour matters. Member of the *Comisión de Reformas Sociales*, in 1900 Fernández Villaverde delivered a moderately reformist speech at the Academy of Jurisprudence of Madrid entitled “Industrial combinations and workers’ strikes from the point of view of the law.”<sup>158</sup> Fernández Villaverde also became one of the leading voices in the elaboration by the *Comisión* of the 1901 bill on strikes.

In this context, the Silvela- General Polavieja government, with Eduardo Dato as Interior minister, introduced the first reforms in 1900: the accidents law, which established employers’ liability for workplace accidents, and the law regulating children and women’s work. This legislation perfectly defined conservative interventionism. In the case of the accidents’ law, Eduardo Dato later related the passing of the workplace accidents’ law to the 1884 law passed in Germany by Bismarck,<sup>159</sup> but also there had been an original proposal by the *Comisión de Reformas Sociales*. The project had a clear social catholic leaning as a priest was allowed to sit in the boards of social reforms (*juntas de reformas sociales*), which were to supervise the implementation of workplace safety regulations. Regenerationism was an important influence as well. When asked by Dato to intervene in the elaboration of the bill, the leadership of the cotton textile union

<sup>155</sup> Eisdale, Charles J., *Spain in the Liberal Age. From Constitution to Civil War, 1808-1939* (Oxford, 2000), p.192.

<sup>156</sup> Tusell, Javier, *Antonio Maura. Una biografía política* (Madrid, 1994), pp.49-50.

<sup>157</sup> On the latter, Tusell, Javier, *La reforma de la administración local en España (1900-1936)* (Madrid: Instituto de Estudios Administrativos, 1973), pp.89-128.

<sup>158</sup> Gascón Marín, *Los sindicatos*, tome 1, p.100.

<sup>159</sup> Eduardo Dato, DSC 28<sup>th</sup> February 1902, number 131, p.3809.

*Tres Clases de Vapor* answered affirmatively on the grounds that “it is (was) a true task of regeneration, which every citizen is obliged to.”<sup>160</sup>

There is no evidence that the accidents law found much opposition in Parliament, with its discussion taking place in the midst of the debate on the budget in late 1899 and early 1900. This led the liberal notable Count Romanones to remark that Dato was trying to pass “a fundamental law” as if it was a minor vote approving the building of a provincial road.<sup>161</sup> The law was discussed on the 17 January with an amendment by Gumersindo de Azcárate, which was accepted by the parliamentary commission. This in turn led to the creation of a mixed commission of parliament deputies and senators adopting a final text to be passed in the Senate. Práxedes Zancada, writing in 1902, perceived that “based on generous motives, (the law) did not find opposition in the chambers (and) (...) was enthusiastically welcomed by public opinion.”<sup>162</sup>

Because the textile industry employed mainly women and children, the law regulating female and child work found more opposition. Employers responded late to the passing of the law in the Senate, which was sent to congress on the 19<sup>th</sup> December 1899. Through its deputies (Sallarés, Ferrer i Vidal, Sala i Argemí, Sedó), the *Fomento del Trabajo Nacional* (the main Catalan employers’ association) managed the suspension of the debate for two weeks until employers could write their reports and send them to the parliamentary commission.<sup>163</sup> There was also an amendment to the bill put forward by Sedó, one of the largest cotton textile employers, accepted by the commission but voted out later on.<sup>164</sup>

Opposition from Catalan employers to the government had not only been caused by the laws of Dato. The Silvela government of 1899-1900, a purely regenerationist government combining both authoritarianism (general Polavieja) and reform (notably administrative de-centralisation and tax reform), had initially won the support of

<sup>160</sup> Quoted in Seco Serrano, Carlos, “Regeneracionismo y tensiones sociales (en torno al Gobierno Silvela de 1899-1900), p.37, in *Alfonso XIII y la crisis de la Restauración* (Madrid, 1992).

<sup>161</sup> Conde Romanones, DSC 17<sup>th</sup> January 1900, numer 107, p.3568.

<sup>162</sup> Zancada, *El obrero*, p.218.

<sup>163</sup> Borrás Llop, “Actitudes patronales,” pp.636-637. Excerpts of the report were published in *La Veu de Catalunya* during January 1900.

<sup>164</sup> DSC 22<sup>nd</sup> January, number 111, appendix 8.

Catalan employers. However, the new taxes levied by Fernández Villaverde to reduce the government deficit brought about a three months tax strike by the storekeepers of Barcelona, which in turn triggered a vigorous reaction by the Minister of Interior Eduardo Dato, who did not lift the state of war in the city in the following seventeen months.<sup>165</sup> It was clear then that in early 1900, there was little room for accommodation.

In 1901, a new liberal government (headed by Sagasta) submitted a new bill on strikes, with Alfonso González at the Minister of Interior. Based on a restrictive versions of the strike bill elaborated by the *Comisión* by the likes of Sanz Escartín, Fernández Villaverde, the *institucionista* economist Piernas Hurtado, and Moreno Rodríguez, the law defended the right to strike in the preamble but limited it by stipulating the cases of illegal strikes in the following articles (based on article 556 of the Criminal Law code).<sup>166</sup> Among the most polemic points of the law was its treatment of the coercion of strikers to non-union workers or the right of employers to lay off union workers and employ only non union workers. The labour movement's opposition to the law was warranted by the restrictive interpretation of all these issues.<sup>167</sup> A parliamentary commission presided by Gumersindo de Azcárate changed the bill substantially by easing most of the restrictions, especially the ones referring to the distinction between legal and illegal strikes.

The constitution of these parliamentary commissions helps understand the internal workings of legislative work in the Restoration parliament. Generally, commissions reflected the political composition of parliament but reformers, and most notably the republican Azcárate, were able to sit and even preside the parliamentary commissions on labour issues. This guaranteed that the commission presented a bill equally or more progressive than the original purposes of the government or the senate.<sup>168</sup> In turn, it diminished the chances of the bill being passed in a notably more

<sup>165</sup> Riquer, Borja de, "La crisis del 98 y la irrupción del catalanismo en la política española," in *Escolta, Espanya. La cuestión catalana en la época liberal* (Madrid, 2001), p.195. The details of the fiscal reform in Martorell Linares, Miguel, *El santo temor al déficit. Política y hacienda en la Restauración* (Madrid, 2000), pp.68-87.

<sup>166</sup> Article 556 penalising combinations of workers aimed at altering the 'normal' levels of wages and hours had been not used since 1882 (Pablo Iglesias, DSC 19<sup>th</sup> October 1910, number 45, p.1226), and as such was recognised by the Supreme Court in early 20<sup>th</sup> century. Probably, the reason for this were the difficulties in gathering evidence to judge strikers rather than judiciary's progressivism.

<sup>167</sup> Canalejas' foreword, p.CLVI, in Buylla, Posada, Morote, *El Instituto del Trabajo*.

<sup>168</sup> On the election of commissions Pons y Umbert, Adolfo, *Organización y funcionamiento de las Cortes según las Constituciones españolas* (Madrid, 1992 [1906]), pp.712-714. It says little about the selection

conservative parliament, divided among the issue reform/abstention in labour matters, with little room for middle ground solutions.<sup>169</sup> This is what happened in the case of the 1901 strike law, which by late 1902 had not been discussed in parliament and had few chances of being passed.

Lacking parliamentary support, the first Sagasta government fell but, in early 1902, the government obtained the support of José Canalejas. An erstwhile republican, Canalejas had entered the left of the Liberal party (the so-called Dynastic Left) and served in important ministries in the Sagasta governments. During the 1890s he developed his reformist programme. In 1895 he had published *Aspecto jurídico del problema social* (Legal aspects of the social question) in which he proposed overcoming the legal principle of “freedom of contract” in the spirit of the reformist literature.<sup>170</sup> In the late 1890s, he also made a much criticised move towards the regenerationist project of the General Polavieja, understanding regenerationism as a “true revolution” in the administrative and legal system.<sup>171</sup> In early 1902, he conditioned his entry into the Sagasta government to an ambitious programme of reforms which included laws restricting the power of the church, social reforms, and an agrarian reform, which was embodied in a pact signed by the liberal notables Sagasta, Vega de Armijo, Moret and Weyler.<sup>172</sup>

In 1902, the *cuestión social* was at the centre of the political debate. In early 1902 another bill creating conciliation boards of employers and workers entered the

---

process of members from the different parties. One author has argued that generally representation from all political groups was warranted by an ‘implicit’ rule guaranteeing the representation of all parties: Martorell Linares, Miguel, “Gobierno y parlamento: las reglas del juego,” pp.215-221, in Cabrera, Mercedes (ed.), *Con luz y taquígrafos. El Parlamento en la Restauración (1913-1923)* (Madrid, 1998). Even if the selection rule more or less maintains the composition of the Parliament, self-selection assures members of the commission are preference outliers. However the direction of the effect in the case of social reforms is in principle ambiguous. In practice however commissions’ preferences were biased towards more reform with respect to a notably more ‘conservative’ parliament. On committee (commissions) power, see for instance Shepsle, Kenneth A. and Barry R. Weingast, “The institutional foundations of committee power,” *American Political Science Review*, 81 (March 1987), pp.85-104; a survey of the literature in Peter C. Ordeshook, “The spatial analysis of elections and committees: four decades of research,” in Mueller, Dennis C. (ed.), *Perspectives on public choice. A handbook* (Cambridge, 1997), chapter 12.

<sup>169</sup> The only contrary case was the coalition between conservative’s reformism and social Catholicism, that could even incorporate reactionary Catholics (like in the case of the Sunday rest law or votes on laws like the one limiting the workday for women).

<sup>170</sup> Discussed in Forner Muñoz, Salvador, *Canalejas y el partido liberal democrático (1900-1910)* (Madrid, 1993), pp.56-57.

<sup>171</sup> Ibid., p.100.

<sup>172</sup> Buylla, Posada, Morote, *El Instituto del Trabajo*, pp.8-12.

process of parliamentary discussion. The parliamentary commission again contained representatives of all political parties. Among them there were republican reformers such as Melquíades Álvarez, conservatives like Isasa or an anti-reform liberal such as López Puigcerver.<sup>173</sup> Shortly after the general strike of Barcelona, Canalejas, from the Ministry of Agriculture, Industry, and Trade, tried to pass his project, for which he had been advised by the University of Oviedo professors Buylla and Posada, to create an institute devoted to the study of the state of the working classes and the elaboration of legislation (*Instituto de Trabajo*).<sup>174</sup> Canalejas tried to obtain the maximum political support by contacting the conservative Dato, the republican Azcárate and the socialist Iglesias, to whom he even proposed the directorship of the Institute. In this case, the parliamentary commission, headed by the liberal Alvarado and including Gumersindo de Azcárate, did not change the original bill much and was submitted for vote with the only opposition of the conservative member of the commission, Eugenio Silvela, who opposed some of the articles of the law.

In the midst of the political debate after the general strike and of the crisis of the second Sagasta government, a crisis Canalejas' entry did not solve, the bill did not raise much interest in the chamber, but was mentioned frequently and discussed ardently in other ongoing debates. During the debate, it was the Conservative Romero Robledo who proposed amendment and led much of the discussion, along with Maura and Silvela. However, later on, in a strategic move not even understood by his contemporaries, Romero Robledo finally withdrew all his amendments and the law was passed thanks to the votes of his parliamentary group on the 7<sup>th</sup> May 1902.<sup>175</sup> This helped overcoming the opposition from inside the liberals' ranks, who were profoundly divided by the law. Liberals like Moret and López Puigcerver had expressed their opposition to the project in the parliamentary debate. A speech by the radical republican Alejandro Lerroux in February 1902 reflected the confusion by remarking there was "a Liberal Party which should lead the enactment of social reforms (...) but still has not passed any." Adding as well that "in spite of its reactionary and clerical background, the Conservative Party has

<sup>173</sup> DSC 22<sup>nd</sup> February 1902, number 126, p.3661. Profiles of parliamentarians and senators in Doderó Vázquez, J.F., *Las últimas cortes de la Regencia* (Madrid, 1902)

<sup>174</sup> The *Instituto* was to depend from the Ministry of Agriculture, with a budget 170,000 *pesetas*, in order to increase the efficiency of the institution Canalejas warranted the permanence of elected officials (traditionally, government officials were aligned to political parties and lost their post when their party lost the election).

<sup>175</sup> Buylla, Posada, Morote, *El Instituto del Trabajo*, pp.177-183.

taken the initiative and has passed social reforms.”<sup>176</sup> As Lerroux evidenced, the truth was that the Liberal party sided with the principle of “freedom of contact” as expressed in the 1889 Civil Law code. The law was finally blocked in the Senate, but by that time Canalejas, the “Spanish Millerand” as he was called, had abandoned the government and had distanced himself from the Liberal Party.<sup>177</sup>

In 1903 a new general election organised by Antonio Maura as Minister of Interior led to a new conservative majority in Parliament with Silvela as president. In April 1903 a royal decree created the *Instituto de Reformas Sociales* (IRS), which, being based on the Canalejas’ project, was transferred to the Ministry of Interior (but Maura was not behind the project). Furthermore, compared to the original project, the government now limited the number of representatives elected by employers and workers and instead increased the number of members appointed by the government (12 for workers, 12 for employers, 30 for government). In spite of the unilateral decision by the government to push forward a ‘conservative’ and loyal institute, the government through a royal decree elected a rather pluralistic list of members.<sup>178</sup> In a concession to reformists, Gumersindo de Azcárate was called to be the president of the Institute. Other elected members had previously been at the *Comisión de Reformas Sociales* –the most notable figures being Moret and Fernández Villaverde. The list also included the republican and reformist Melquíades Álvarez, the economist José María Piernas Hurtado, linked to the reformist *Institución de Libre Enseñanza*, and José Maluquer y Salvador, from social catholic circles.<sup>179</sup> It was clear that the royal decree creating the IRS had been a move to control the original Canalejas bill (still in the Senate for approval).

The fall of the Silvela-Maura government in July 1903 triggered a more purely reformist, if weaker, government with Fernández Villaverde as president and García Alix as minister of Interior. The summer of 1903 had witnessed an increase in strikes and industrial conflict. With the prisons full of trade unionists, one of the first decisions of the new minister was to give amnesty to arrested workers. Later on, García Alix

<sup>176</sup> Lerroux, DSC 19<sup>th</sup> February 1902, number 122, p.3539.

<sup>177</sup> The identification of Canalejas with the Socialist French minister Millerand in Buylla, Posada, Morote, *El Instituto del Trabajo*, p.140.

<sup>178</sup> Royal Decree 13 May 1903.

<sup>179</sup> Palacio Morena, *La institucionalización*, p.66.

agreed with Azcárate to submit, along with the bill on strikes, bills on conciliation boards and industrial tribunals, plus another one regulating apprenticeship.<sup>180</sup> However, none of these gathered enough political support. In the case of strikes, the law was first submitted to the Senate, which after approving it, passed it on to the Parliament much later on the 14<sup>th</sup> of October 1904. The Villaverde government, however, unable to pass the budget for 1904, had fallen in late 1903.

The next parliamentary attempts to pass legislation corresponded to the period of Count Romanones as Minister of Interior in the liberal government of 1906, which on the 27 January of 1906 presented the bills on strikes and boards of conciliation. However, by that time the political debate on the *ley de jurisdicciones* (law of jurisdictions, a severe limitation of the freedom of press and reunion) was about the start, with a famous campaign led by republicans and other minor groups to obstruct the normal functioning of the parliament to delay the final vote of the chamber.<sup>181</sup>

It was another conservative government which finally passed the laws on strikes, on boards of conciliation and arbitration, and on industrial tribunals. Paradoxically, this happened during the 'long government' of Maura with the hard-liner Juan de la Cierva at the Interior Ministry. Maura himself had favoured a notably more repressive tactic during his time in the Interior ministry at the height of the strike wave of the summer of 1903; but De la Cierva saw himself as an even more authoritarian Interior minister. For instance, defending one of his first polemical decisions, he noted "it is another act of government which can be used as an example of firm and serene resolution, which impresses adversaries and compels them to give in before an implacable Power. When one doubts at every step, one encourages subversion and lawlessness."<sup>182</sup>

In spite of de la Cierva and Maura's sheer lack of reformist credentials, it was their government which was pushing more decisively for reform, backed by a cohesive majority in Parliament. It was de la Cierva who allowed the IRS to work more actively,

<sup>180</sup> Buireu Guarro, Jorge, *Antonio García Álix: un ministro del regeneracionismo (1852-1911)* (Madrid, 1990).

<sup>181</sup> The practice was called *obstruccionismo*. Posada, Adolfo, "Obstruccionismo", *Enciclopedia Jurídica Española*, volume XIII, pp.749-752, citing famous cases of parliamentary obstruction: the 1893 debate on municipal elections, the Maura law of 1907 on the local administrative system or the 1916-17 financial reforms of the liberal Finance minister Santiago Alba, page 751.

<sup>182</sup> Cierva, Juan de la, *Notas de mi vida* (Madrid, 1955), p.79, written in 1932.



doubling its budget from 150,000 to 290,000 pesetas in 1908 and further to 314,000 pesetas in 1909. Through a series of royal orders in early 1907, the factory inspectors' service was also organised. He also allowed the IRS to intervene in the most important strikes of the period 1907-9 (a period however of low strike activity) and kept Adolfo Posada and Adolfo Buylla, who were required by the Education Ministry to return to their chairs at the University of Oviedo.<sup>183</sup> In 1908, the *Instituto Nacional de Previsión*, which was going to organise the Social Security, was created, but it took quite a long time to organise the pensions system.

The law on strikes of 1909 originated from a bill passed in the Senate. The parliamentary commission was led by two reformers: Gumersindo de Azcárate as president and Gabriel Maura Gamazo as secretary.<sup>184</sup> Another member, Alvarado, representing the Liberal party, had been in the 1902 strike law commission.<sup>185</sup> Moreover, this same commission also started drawing up the bill on industrial tribunals.<sup>186</sup> The strike law was voted on the 7<sup>th</sup> March 1909, with the *canalejista* Luis Morote willing to eliminate any restriction on the right to strike.<sup>187</sup> Remembering his participation on the 1902 campaign for the *Instituto del Trabajo* and the resistances it found, a suspicious Morote remarked in the parliamentary debate: "it is remarkable how things have changed! Today, on the benches of the parliamentary commission, presiding a commission of a reactionary and conservative government, sits Mr. Azcárate, who represents the radical extreme of Spanish politics (referring to republicans), (...) defending the right to strike. Heading the chamber (referring to the Conservative reformist Eduardo Dato), there is a distinguished man who agrees on everything with the presidency of the commission, as everyone else does; and Mr. Moret applauded the words just pronounced by Mr. Azcárate; he who once belonged to that distinguished

<sup>183</sup> Ibid., p.119.

<sup>184</sup> Maura Gamazo, son of Antonio Maura, also sponsored the more conciliatory policy of the prefect of Barcelona, Ángel Ossorio, a fact de la Cierva resented, *ibid.*, p.101, p.131-135.

<sup>185</sup> DSC 30<sup>th</sup> March 1907, number 172, p.5562. On the 5<sup>th</sup> November 1908, two members of the Commission were changed but not Azcárate, Maura Gamazo or Alvarado.

<sup>186</sup> DSC 1907, number 180, p.5597.

<sup>187</sup> Luis Morote was a journalist linked to Canalejas, he wrote on the most important regenerationist texts *La moral de la derrota* (Madrid, 1900), in 1901 he wrote a series of influential articles criticising the living and working conditions of Catalan company towns (the series "Feudalismo en las fábricas"), in 1902 he had an active participation in the *Instituto de Trabajo* project. Pérez Garzón, J.S., *Luis Morote. La problemática de un republicano (1862-1923)* (Madrid, 1976).

school of (theoretical) individualists that some time ago were the glory of the Spanish democracy (referring to his participation in the revolution of 1869).”<sup>188</sup>

The strike laws of Maura’s ‘long government’ established mechanisms to settle strikes in a less acrimonious way. Industrial tribunals had jurisdiction over labour contracts and were designed to settle minor disputes avoiding costly strikes or inefficient ordinary tribunals. Furthermore, the law on conciliation boards allowed the local boards of social reforms (*juntas locales de reformas sociales*, established by the 1900 accidents law) to arrange the settlement of strikes if the contending parties accepted to do so. The laws officially recognised unions by allowing their participation in mixed institutions with representatives of employers, authorities and workers. The strike law of 1909 explicitly recognised the right of workers to strike, while at the same time put a limit on employers and workers ability to coerce each other.

The historical literature has considered these laws to be quite conservative, given the limitations on workers’ right to strike. But this judgement lacks comparative perspective; Belgium, Italy, or even France had more restrictive laws, for instance stipulating more severe penalties for picket lines.<sup>189</sup> For example, contemporary critics of conciliation procedures remarked only some years later that “shortly after being passed, the law was implemented in the social reality (sic), even by the Conservative government (...), in its most extreme and radical sense. The law is the cause of the terrifying general strikes we have witnessed lately (referring to the 1911 and 1916 general strikes).”<sup>190</sup>

### **3.3. The failure of arbitration.**

But how was the reform implemented, if implemented at all? An answer to the question can be found by looking at the strikes of the period and the way they ended using the strike statistics published by the IRS from 1905 to 1922. These data contain a specific entry on the type of settlement of the strike.<sup>191</sup> Before the reform was implemented,

<sup>188</sup> Luis Morote, DSC 17<sup>th</sup> March 1909, number 107, p.3174.

<sup>189</sup> DSC, 17 March 1909, number 107, pp.3167-3185.

<sup>190</sup> Financiero Hispano-Americano, *El problema ferroviario. Proceso social y jurídico de nuestro derecho a huelgas. Recopilación de documentos de actualidad y comentarios* (Madrid, 1916), p. 22.

<sup>191</sup> Instituto de Reformas Sociales, *Estadística de huelgas* (Madrid, 1905-1915).

from 1905 to 1909, 14 per cent of strikes (N=548) were solved by a recognised union and their employers, 2.9 per cent solved by the local *junta de reformas sociales* (the local boards created by the 1900 accidents' law), 11 per cent through the mayor, and 17 per cent by the prefect of the province (the representative of the Minister of Interior in the city). The remaining 55.1 per cent ended without any conciliation procedure. Between 1910 and 1915 (N=838), the proportion of strikes using either conciliation boards, tribunals or local *juntas* was a scant 3.5 per cent, the percentage of strikes solved formally by a union and employers was only 10.5 per cent. Since the IRS strike data for the period 1910-1915 gave much poorer information on the intervention by the prefect of the city, I also collected the strike data published by the Catalan *Museu Social* (Social Museum), a Catalan initiative modelled on the French *Musée Sociale*.<sup>192</sup> Looking at Catalan strikes only is important since they represented 31 per cent of Spanish strikes, 50 per cent of the total number of strikers, and 62 per cent of total man-days lost, between 1910 and 1915. In the Catalan provinces, the prefect intervened in 18 per cent of the cases, the mayor another 18 per cent, and the local *juntas* only 5 per cent, in the 315 strikes recorded for 1912 to 1915.

The evidence clearly shows how the laws failed in their implementation. Writing with historical perspective in January 1932, de la Cierva commented about the laws on conciliation boards and industrial tribunals that "they have not been implemented since I left the Ministry."<sup>193</sup> However, this approach adds little to our understanding of the problem because more information is needed on the different bargaining alternatives open to workers in strikes. This I will explore in chapter 4.

The main reason explaining the failure of boards of conciliation is that employers considered any type of conciliation as an intrusion in their private affairs. Above, I have discussed how in 1902, when a law on strikes was discussed, employers feared government might pass compulsory conciliation and argued they had the exclusive authority within their establishments. In important strikes where the state was forced to intervene, like in the Bilbao mining strike of 1910 or the Catalan textile strike of 1913, employers refused the intervention of the *Instituto de Reformas Sociales* as an

<sup>192</sup> The only monograph I know of about the *Museu* is Rovira Rosés, María Asunción, "El Museo Social, 1909-1919," unpublished dissertation University of Barcelona, 1968.

<sup>193</sup> Cierva, *Notas de mi vida*, p.120.

illegitimate intrusion into private affairs. Workers, on the other hand, refused to co-operate with what they considered inefficient institutions and, as shown in chapter 4, preferred the intervention of state officials and local authorities to force employers to negotiate with unions. If the state was to force employers into formal collective bargaining to avoid the dangers of workers' militancy, state's authority would have to be extended.

### **3.4. Conclusion. The decisive configuration of the labour code.**

In spite of the general impression that reforms were difficult to implement, by 1909 our so called 'coalition for reform' was firmly established among the Spanish political elite. The resilient principle of freedom of contract, a consequence of an incomplete Liberal revolution, was now superseded by the notion that state intervention in the labour market was needed to tame workers' militancy and protect weaker contractual parties. In this favourable context, the configuration of the labour law code that reformers sponsored was only a matter of time, accident, and political will. In subsequent governments, laws limiting the number of hours in the textile industry and in mining, another law on industrial tribunals and laws regulating apprenticeship were passed. State action involved the protection of unions in mining, railways and the cotton textile industry. Moreover, the *Instituto de Reformas Sociales* had an increasing participation in the solution of conflicts and providing first-hand reports on working conditions in agriculture, cotton textile, mining, or railways, and providing conciliation settlements and recommending the passing of legislation. In Catalonia, the *Museu Social* was created in 1909 by the provincial government of Barcelona, (*Diputació*) after the Tragic Week.<sup>194</sup> With an insufficient budget, the Museu did not have enough room to manoeuvre and had but a secondary role compared to state reformers. The museum published, however, a bulletin and a yearbook of social statistics, organised a successful unemployment agency, published foreign studies on workplace safety and health, and created an influential school of training and vocational guidance.

The surge in strike activity and social conflict after 1917 paved the way for a definitive move towards the elaboration of a labour law code. Convinced only more reform could appease social conflict and willing to extend state authority, the government passed a new set of regulations at an almost frantic pace. A decree

<sup>194</sup> Rovira Rosés, "El Museo Social," p.7.

establishing an eight-hour day was passed in early 1919, a 7 hour workday in mining in 1919, and an 8 hour day in railways in 1921. Providing formal bargaining institutions became a goal of public policy. In October 1919 the government ordered the creation of a mixed committee in Barcelona with delegates from employers, unions (including the anarcho-syndicalists) and state officials. Previously, in May 1919, the government had pushed forward joint committees to solve labour disputes which attempted to re-establish the ineffective conciliation boards designed by the 1909 strike law.<sup>195</sup> The IRS, on the other hand, elaborated a bill on the labour contract (as it had done in 1904) which included arbitration and conciliation boards and even wrote a report considering the benefits of compulsory unionisation. In 1920, the Ministry of Labour was created. The ministry's budget for the Institute of Social Reforms doubled in nominal terms in 1920 and increased by 65 per cent in real terms. In 1921 another nominal doubling occurred (a 122 per cent in real terms because 1921 was a deflationary year). In 1922 a more generous accidents law was passed and more resources were channelled towards factory inspection. In 1922, a motherhood subsidy was granted for working mothers.

The literature has stressed that continuity rather than change characterised the labour policy of the Primo de Rivera dictatorship (1923-1930).<sup>196</sup> However, most independent unions were forced into clandestine activity, notably the National Confederation of Labour (CNT), and there was a severe reduction in the number of strikes. However, in 1924, a Board of Labour (*Consejo de Trabajo*) was created which Largo Caballero, as representative of the General Workers' Union (UGT) was allowed to sit. In late 1925 and early 1926 a series of labour laws were passed and this process

<sup>195</sup> There is a vast literature on this issue: Rey Reguillo, Fernando, "La polémica sobre el control obrero. Los orígenes en España," *Sociología del Trabajo* (new series), number 8 (winter 1989-1990), pp.135-165; Instituto de Reformas Sociales, *Contestación sobre la redacción del anteproyecto de ley acerca del Contrato de Trabajo, la responsabilidad contratante, los organismos llamados a intervenir en la reglamentación y en los conflictos de trabajo y sobre la vindicación profesional* (Madrid, 1921); Instituto de Reformas Sociales, *Información relativa al proyecto sobre sindicación obligatoria. Real Orden de 16 enero de 1919* (Madrid, 1921); Instituto de Reformas Sociales, *Información relativa al proyecto sobre sindicación obligatoria. Real Orden de 16 de enero de 1919* (Madrid, 1921) Marichalar y Monreal, Vizconde de Eza, *El sindicatorio obligatorio y la organización profesional* (Madrid, 1919); Instituto de Reformas Sociales, *La reglamentación colectiva del contrato de trabajo* (Madrid, 1922); Instituto de Reformas Sociales, *Legislación sobre asociaciones. Leyes y proyectos de ley sobre el derecho de asociación y sobre asociación obrera* (Madrid, 1922); Instituto de Reformas Sociales, *El contrato de trabajo. La discusión en el Instituto de Reformas Sociales. Actuación de la representación patronal* (Madrid, 1924).

<sup>196</sup> McIvor, Anthony David, Spanish labor policy during the Dictablanda of Primo de Rivera Unpublished PhD dissertation, University of California, San Diego, 1982. Gómez Navarro, J.L., *El régimen de Primo de Rivera* (Madrid, 1991), chapter X; Calle, María D. de la, "Sobre los orígenes del Estado social en España," pp.145-149.

ended in the constitution of the National Corporatist Organisation of Work (*Organización Corporativa Nacional del Trabajo*) organised though a mixed commission of unions (socialist or non-revolutionary) and employers.<sup>197</sup> The labour law code was compiled in 1926<sup>198</sup> and this basic legal body continued to organise labour relations until the Republic was overthrown by the Franco dictatorship.<sup>199</sup>

---

<sup>197</sup> Preston, Paul, *The coming of the Spanish Civil War* (London, 1983), pp.6-10.

<sup>198</sup> Gómez Navarro, *El régimen de Primo de Rivera* (Madrid, 1991), p.327.

<sup>199</sup> On the Republic, Linz, Juan José, "A century of politics and interests in Spain," pp.382-387 in Suzanne Berger (ed.), *Organizing interests in Western Europe. Pluralism, corporatism, and the transformation of politics* (Cambridge, 1981).

## **Chapter 4. Winning Spanish strikes. Public order and state intervention in labour conflict, 1900-1920.**

### **4.0 Introduction.**

Comparing Spanish unions with the model German and British counterparts, Spanish reformers did not quite understand either the strategies of Spanish unions or their processes of growth and decline. Reformers believed unions grew through ordered dues collection and the provision of socially useful institutions. In their view, it was the supply of benefits, insurance and recreational centres, along with peaceful collective bargaining, that attracted membership to the union. Their interpretation of the processes of union growth in Britain and Germany concluded that the expansion of working class institutions tamed, rather than encouraged, the revolutionary expectations of workers.

But the Spanish case did not quite fit in these narratives of union growth. As described in chapter 2, rather than through gradual advance, unions grew through a series of bursts in strike activity, like for instance in 1899-1903 or 1910-1913, embracing many economic sectors and whole cities or regions. Strike waves suspended the logic of collective action by spreading positive feedback effects with optimistic expectations percolating from one group of workers to the next.<sup>1</sup> In this context, Spanish unions remained distinctively socialist or anarchist, in principle committed to the violent overthrow of capitalist institutions. In their daily practice, unions developed strike and recruitment strategies based on low dues and the opening of unions to the unskilled, women and apprentices. Strike tactics were notably participatory, did not depend on the collection of strikefunds, and were based on the doctrine of the mass general strike. The practice of co-ordinated solidarity was guaranteed by the

---

<sup>1</sup> Biggs, Michael, "Positive feedback effects in collective mobilization: the American strike wave of 1886." University of Oxford discussion papers in Economic and Social History, number 40 (April 2001). See chapter 2, section 2.2. "Unions and strikes."

organisation of local and trade federations of unions, which tended to appear in periods of high strike activity.<sup>2</sup>

In chapter 3, I have exposed how contemporaries argued that politically radical working class institutions prevented the orderly development of the labour movement because they antagonised employers and workers alike. For example, in the early 20<sup>th</sup> century, the supporter of Catholic unionism, Miguel Sastre, wrote that after the strike wave of 1903 in Barcelona “the strike became a scourge for the proletarians themselves and they ended by hating it.”<sup>3</sup> This view has also been incorporated in the historical literature, in which it is argued that the unrealistic expectations of anarchists and anarcho-syndicalists in strike waves and their explicit lack of interest in setting up bureaucracies delayed the organization of effective unions.<sup>4</sup> In other cases, it is asserted union strategies were radical because state and employers’ oppression pushed workers to embrace desperate solutions.<sup>5</sup>

Rather than see in radicalism as an exogenous or endogenous irrational union strategy, in this chapter I argue strategies of strike participation that included the unskilled, responded dialectically to the way strikes were settled in the period, with inclusive, politically radical working class institutions being, with important exceptions, a ‘winning strategy’ in the largest cities in the first two decades of the 20<sup>th</sup> century. The survival of radical politics in unions This in turn guaranteed the survival of radical working class traditions in big city unions, which appeared more clearly in the period

<sup>2</sup> A comparison of Spanish unions with German and French union stressing the lack of union funds in Spanish unions: Marvaud, Angel, *La question sociale en Espagne* (Paris, 1910), p. 72. A thorough study of the creation of local and regional federations of unions in Gabriel, Pere, “Classe obrera i sindicats a Catalunya, 1903-1920,” pp. 417-568. Unpublished PhD dissertation, Universitat de Barcelona, 1981. He shows that the ‘organisational’ moments of local and trade federations of unions in Catalonia but also in Spain developed especially in 1902-1905, 1910, and 1913-1915.

<sup>3</sup> Sastre, Miguel, *Las huelgas de Barcelona y sus resultados en el año 1903* (Barcelona, 1904), p. 5.

<sup>4</sup> An attribution of millenarian instincts to the Anarchist and Anarcho-syndicalist movements is especially dear to the historiography written in English: Carr, Raymond, *Spain, 1808-1939* (Oxford, [1966] 1981), p. 446; Brenan, Gerald, *The Spanish labyrinth*, “The anarcho-syndicalists,” and on the 1918-1919 Andalusian anarcho-syndicalists Hobsbawm, Eric J., *Primitive rebels: studies in archaic forms of social movements in the 19<sup>th</sup> and 20<sup>th</sup> centuries* (New York, 2<sup>nd</sup> edition, 1965), p. 84.

<sup>5</sup> A nuanced perspective: Malefakis, Edward. 1993. “A Comparative Analysis of Workers’ Movements in Spain and Italy,” in Richard Gunther, ed., *Politics, Society, and Democracy: The Case of Spain* (Westview), p. 60. As well, Gabriel, Pere, “Classe obrera i sindicats a Catalunya, 1903-1920,” p. 825; Balcells, Albert, *Cataluña contemporánea, II (1900-1939)* (Madrid, 1981), p. 6. Views stressing anarcho-syndicalists acted strategically: Martin, Benjamin, *The agony of modernization. Labor and industrialization in Spain* (Ithaca, NY, 1990), chapter 7; Meaker, Gerald H., *The Revolutionary Left in Spain, 1914-1923* (Palo Alto, CA, 1974), p. 4; Molas, Isidre “Introducció” in Seguí, Salvador, *Escrits* (Barcelona, 1974).



1918-1920 and during the 2<sup>nd</sup> Republic. Using strike data from 1905 to 1915, I show that the implication of state and local authorities in the resolution of conflicts was substantial. Moreover, I also argue that state and local authorities intervention tended to favour strikers by promoting compromise settlements. Finally, I discuss the determinants of state intervention, indicating that it was more probable in large strikes, in big urban concentrations, and where the vote to anti-system parties (republicans and socialists) was highest. This suggests strikers in big cities enjoyed some level of political power over state officials. In turn, the fact that state officials shielded unions in big cities might be a contributing factor in explaining the persistence and expansion of political radicalism and inclusive union and strike tactics among Spanish unions.

#### **4.1. Strike outcomes, 1905-1920.**

Without state mediation, strikes were wars of attrition which ended in either total failure or victory of the union.<sup>6</sup> But especially in large cities, implication of state officials reduced the failure rate of strikes and substantially increased the probability of a compromise settlement (a partial victory). Complete union victories probably granted larger wage increases or greater reductions in the hours of work, but they were rare and generally required extraordinary economic conditions. In contrast, compromise settlements sponsored by state officials were not limited by the business cycle, bringing about modest but more probable material advances and reducing the risks and costs of collective action.<sup>7</sup>

---

<sup>6</sup> The difference in the distribution of strike outcomes with and without state intervention and regulation over strikes in Card, David and Craig Olson, "Bargaining power, strike duration, and wage outcomes: an analysis of strikes in the 1880s." NBER working paper number 4075 (May 1992), where it is argued that without state intervention, strikes became wars of attrition until one of the sides surrendered. Thus, strike outcomes are inevitably complete victories or complete defeats, rather than compromises or partial victories.

<sup>7</sup> The distinction between won and lost strikes and compromises can have several empirical problems if strike outcomes—for instance over wage increases or shorter hours—are distributed continuously, but it was the natural taxonomy used to describe strike outcomes during the period, suggesting contemporaries identified clearly when a strike was won, lost or partially won. The distinction between successful or failed strikes and compromises was adopted by Miguel Sastre in his analysis of the Barcelona strikes between 1903 and 1914, by the Instituto de Reformas Sociales and the Ministry of Labour from 1905 to 1935 and by the Museu Social from 1912 to 1915. Moreover, this taxonomy was also used in the French, Canadian or American strike data in the period. Sastre, Miguel, *Las huelgas de Barcelona y sus resultados*, years 1903-1904; Instituto de Reformas Sociales, *Estadística de huelgas*, years 1905-1920; Museu Social, *Anuari d'Estadística Social*, years 1912-1915. On American and French strike data for 1880-1914: Friedman, Gerald, "Strike success and union ideology: the United States and France, 1880-1914," *Journal of Economic History*, 48, 1 (March 1988), pp. 1-25. On Canada, Huberman, Michael and Denise Young, "Cross-border unions: Internationals in Canada, 1901-1914," *Explorations in Economic History*, 36 (1999), pp. 204-231.

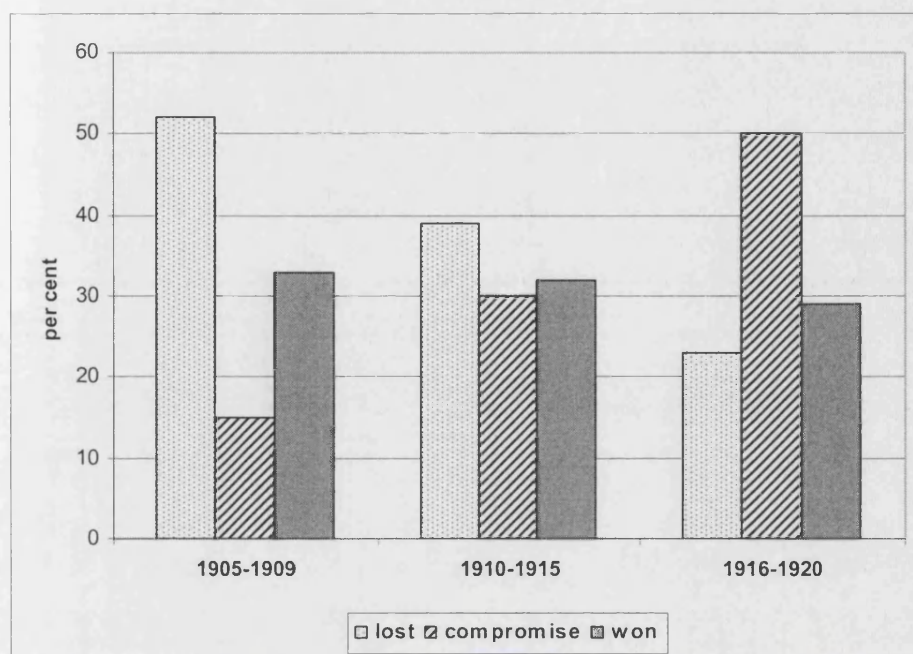
In the period, compromise settlements and complete union victories did not differ qualitatively. With unions hardly recognised by employers and strikes being considered subversive challenges to employers' authority, compromises showed unions could alter the conditions of employment. In fact, where unions were not recognised, employers refused both union grievances and meeting with union officials to negotiate a settlement, which in their views conflicted with the principle of owners' authority in the workplace.<sup>8</sup> In important strikes, like the mining strikes of Bilbao in 1903, 1906 and 1910 or the metal workers strikes of Barcelona in 1902 and 1910, employers did not accept to meet the strike committee on the grounds that it did not have the authority to represent workers. In these cases, compromises, as much as complete strike victories, established a *de facto* recognition of the union.

In graph 4.1. I show the evolution of strike outcomes over time with the data on strikes published by the *Instituto de Reformas Sociales* between 1905 and 1920. The data show a clear trend toward more compromises in the period,<sup>9</sup> increasing from 15 per cent in 1905 to 1909 to over 50 per cent in 1916-1920. This contrasts with complete victories, which represented about a third of all strikes in the whole period. The years 1905-1920 witnessed a clear reduction in the failure rate of strikers: strikes in which none of the strikers' demands were satisfied fell from 52 per cent in 1905-9 to only 23 per cent in 1916-20.

---

<sup>8</sup> Martin, *The agony*, p. 237.

<sup>9</sup> In the strike data, won strikes were entered as "*huelga ganada*", lost strikes as "*perdida*" and compromise settlements as "*ganada parcialmente*."



Graph 4.1. Strike outcomes in Spain, 1905-1920.

Source: Instituto de Reformas Sociales, *Estadística de huelgas*, 1905-1920.

Notes: strikes with information on strike outcome are used. Number of observations for the 1905-1909 period is 548, 838 for 1910-1915 and 1426 for 1916-1920. In the sub-period 1918-1920, with 1077 recorded strikes, a 20 per cent were lost strikes, 53 per cent were compromises and 28 per cent were victories. Numbers do not add up to 100 due to rounding.

At least up to 1915, the ability of strikers to reduce their failure rate and obtain compromise settlements depended on third actors stepping in the conflict. The laws on strikes, industrial tribunals and conciliation boards passed in the years 1908 and 1909 instituted mechanisms to reduce the cost of strikes by favouring a quick, less costly settlement of the strike. However, as table 4.1 shows, the state failed to enforce this reform and the role of arbitrating strikes kept in the hands of local authorities and civil governors (the representative of the Ministry of Interior in the province). In the 838 strikes recorded for the period 1910-1915, only 3.5 per cent were terminated by a local joint commission of workers and employers or a similar institution, compared to the 5 per cent in the period 1905-1909. In Cataluña, in the 315 strikes recollected by the *Museu Social*, joint commissions intervened in only 5 per cent of the cases, while civil governors and mayors arbitrated 36 per cent of strikes.<sup>10</sup>

<sup>10</sup> What is understood by intervention of the civil governor or the mayor is problematic. In the Catalan strikes I used the entry "*personas que intervengueren en la solució*" (persons involved in the settlement of the strike), while for the 1905-1909 strikes I have used the entry "*observaciones*" which included comments like "*intervino el señor Gobernador Civil*" (the civil governor intervened) or "*a propuesta del alcalde se avinieron las dos partes en conflicto*" (workers and employers reached an agreement after the

Table 4.1. Strikes by type of settlement, 1905-1915.

	<u>N</u>	<u>Civil governor</u>	<u>Mayor</u>	<u>Local junta or similar</u>	<u>Union-employers</u>
IRS 1905-1909	548	17 per cent	11 per cent	2.9 per cent	14 per cent
IRS 1910-1915	838	n.a.	n.a.	3.5 per cent	10.5 per cent
Museu Social, 1912-1915	315	18 per cent	18 per cent	5 per cent	n.a.

Sources: Instituto de Reformas Sociales, *Estadística de huelgas*, years 1905-1915; Museu Social, *Anuari d'Estadística Social de Catalunya*, years 1912 to 1915.

Notes: the strike data for the years 1910-1915 systematically underreported the activities of civil governors and mayors. Comparing the IRS data for Catalan strikes in 1912-1915 with the data provided by the *Museu Social*, the IRS data give 271 strikes as opposed to 315 strikes reported by the *Museu Social*. In these strikes, the IRS reported the governor intervened in a 4 per cent of strikes and the mayor a 8 per cent, which contrasts with the joint 36 per cent in the *Museu* data. There is no such evidence of underreporting in the case of arbitration institutions (local junta or similar). Both the *Museu* and the IRS reported that a local *junta* or similar intervened in 5 per cent of the Catalan strikes of 1912-1915 (in the IRS data, 13 out 271 strikes, and in the *Museu*, 16 out of 315, most of them in the province of Tarragona).

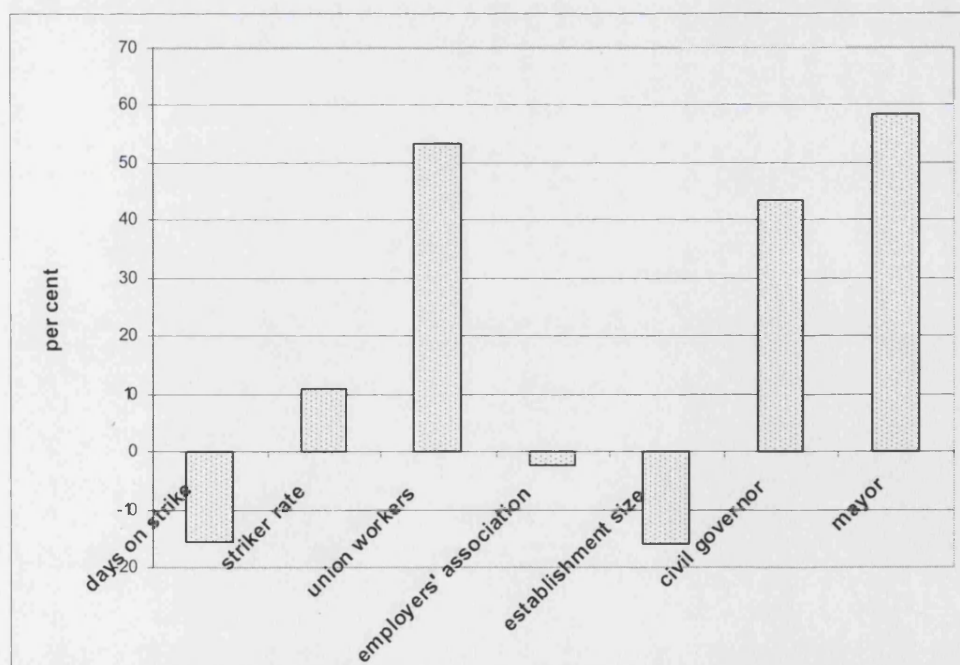
Analysis of the determinants of strike success between 1905 and 1915 shows that state or local authorities intervention was closely associated with strike victories or compromises. Using data for Spanish strikes between 1905 and 1909, state intervention in strikes increased the probability of a compromise or a complete victory by 41 per cent and complete victories by 96 per cent, controlling for other strike characteristics (full results in the appendix of the chapter, table 4.A1 and 4.A2).<sup>11</sup> In Catalan strikes in 1912-1915, civil governors increased the probability of a compromise or a complete victory by 40 per cent and the probability of complete victories by 67 per cent (graph 4.2). In the case of mayors, the probability for 1905-1909 in Spanish strikes was 33 per cent and 60 per cent in Catalan strikes in 1912-1915, in both cases for compromises and victories. Local *juntas de reformas sociales* and other types of mixed boards of employers and workers had more mixed results. In the Spanish strikes of 1905-1909, the 3 per cent of strikes with the involvement a local *junta* had a 60 per cent higher probability of ending up with a compromise or a victory, while in the Catalan data, their

initiative of the mayor). This does not include the cases in which police or the military stepped in to crush strikes or strikers were arrested.

<sup>11</sup> Based on a logit regression in which the dependent variable takes value 1 if the strike was won or settled with a compromise. Marginal effects are compared to non-intervention while keeping all variables at their sample means.

impact on the probability of obtaining some gains in the strike was not statistically different from 0.

The implication of authorities in the resolution of strikes gave a strategic advantage to strikes attracting public notice. Looking at the determinants of state intervention in the Spanish strikes of 1905-1909, state officials were more likely to intervene in large strikes, with an increase of one standard deviation in the number of strikers increasing the probability of the intervention of civil governors by 35 per cent (full results in the appendix, table 4.A3). Civil governors were almost four times more likely to step in strikes in cities over 50, 000 inhabitants and where the provincial share of anti-system vote (vote for Republicans and Socialists) was largest, with an increase in one standard deviation in the share increasing the probability of intervention by 87 per cent (graph 4.3). Looking at Catalan strikes in 1912-1915, the civil governor was more than twice more likely to intervene in Barcelona and in larger than average strikes, with an increase in one standard deviation in the number of strikers bringing about a 150 per cent increase in the probability that the strike was won, and three times more likely to intervene in strikes of unionised workers (graph 4.4).



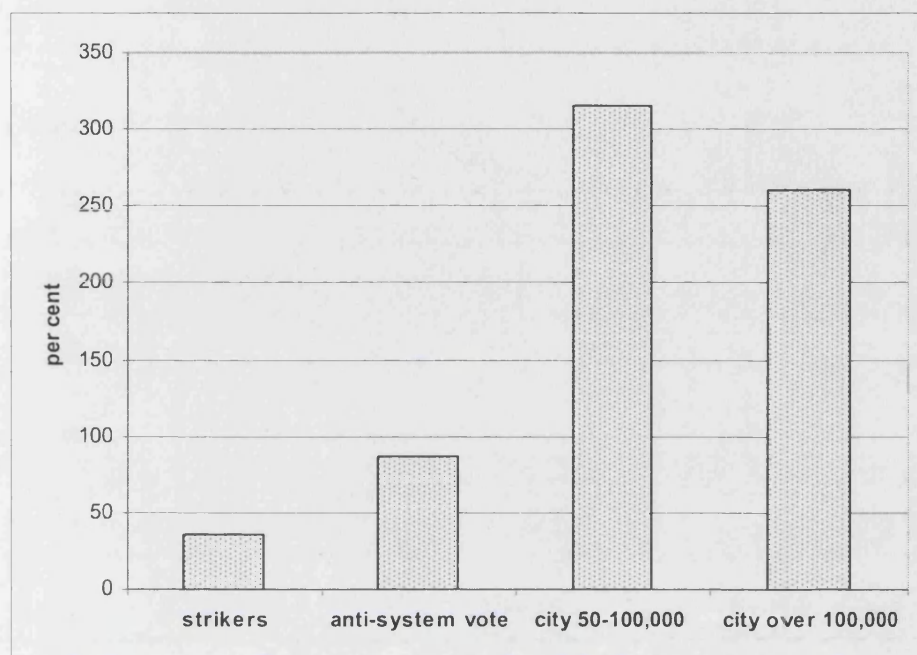
Graph 4.2. Factors affecting the probability of winning strikes, Catalan strikes 1912-1915.

Note: percentages reflect the change in the baseline probability caused by a change in the relevant independent variable of one standard deviation in the variable is continuous or of passing from 0 to 1 if



the variable is a dummy variable, while keeping all other variables constant. Coefficients and marginal effects presented in the appendix.

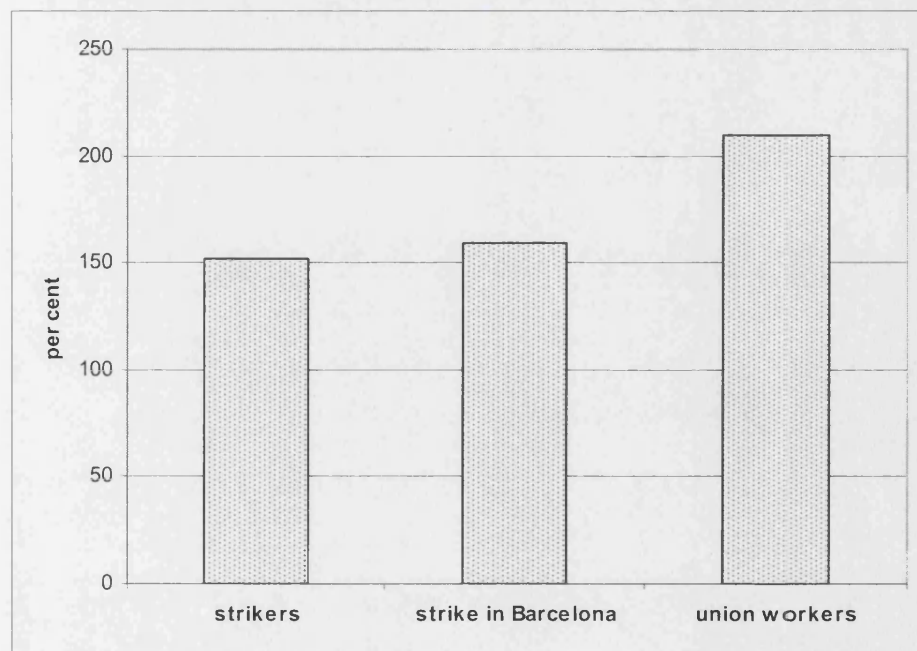
Source: Museu Social, *Anuari d'Estadística Social*.



Graph 4.3. Determinants of the intervention of Civil Governors, 1905-1909.

Note: percentages reflect change in baseline probability. Coefficients used to calculate probabilities from a logit regression in which the probability of intervention depends on a series of strike characteristics, type of strike issue, the size of the city.

Source: IRS, *Estadística de huelgas*.



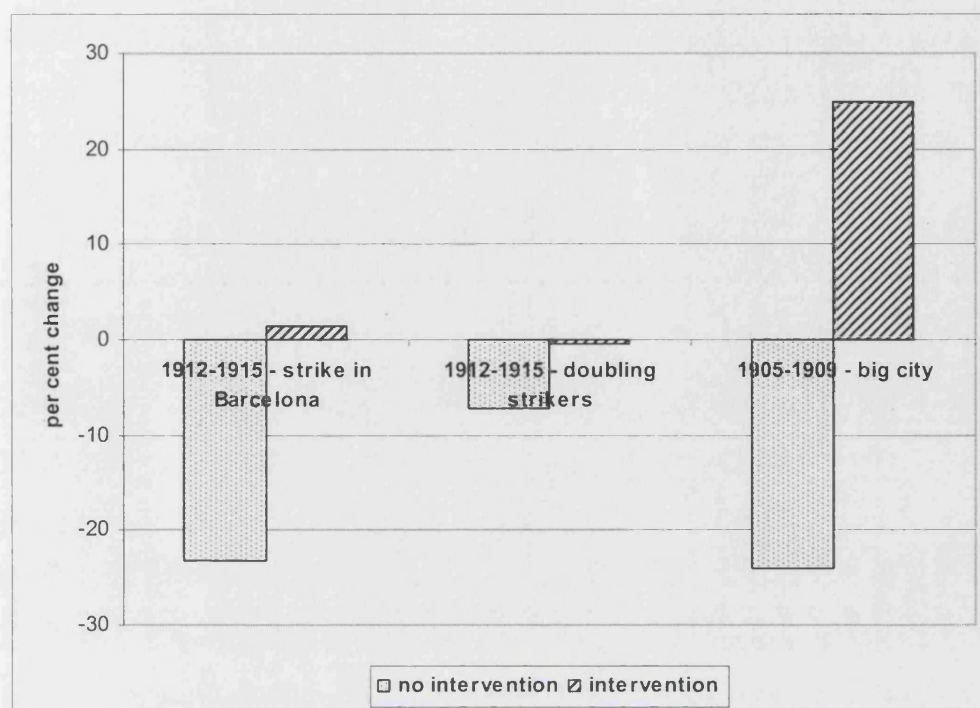
Graph 4.4. Determinants of civil governor intervention, Catalan strikes 1912-1915.

Note: percentages reflect change in baseline probability. Coefficients used to calculate probabilities from a logit regression in which the probability of intervention depends on a series of strike characteristics, type of strike issue, if the strike happened in Barcelona and dummy variables for eleven industries.

Source: Museu Social, *Anuari d'Estadística Social*.

In this context, state mediation favoured workers' collective action in the big cities, where the links of the labour movement with radical ideologies were more consistent. Cities like Barcelona, Bilbao, Valencia or Zaragoza became the centres of labour militancy in the period, where generally granted civil liberties reinforced the political outlook of unions and their links with radical republicanism, socialism and anarchism. But with employers' fearing social revolution, radical ideologies also faced greater resistance. In addition, in big cities, fast urbanisation and immigration generated a large pool of strikebreakers which the unions found difficult to control.<sup>12</sup> In fact, strikes in big cities and larger than average strikes were less successful than were those in small cities and towns. Nevertheless, because a significant part of strikes in large urban centres were mediated by civil governors and mayors, this difference was substantially reduced or compensated. In order to offer a direct test of this hypothesis, in graph 4.5., the "big city" effect is decomposed into an effect on the probability of a victory or compromise when there is no government intervention and the effect when there is government intervention. In 1912-1915, strikes in Barcelona with no government intervention were a 23 per cent *less* likely to be won with respect to other Catalan cities and towns (with no government intervention), while strikes in Barcelona where the Civil Governor intervened were a 1.5 per cent *more* likely than strikes in smaller cities (with no intervention) to be settled in favourable terms for workers. The effect was larger for strikes in 1905-1909 compared to strike outcomes in cities with less than 50,000 inhabitants, with strikes in cities over 100,000 with no government intervention a 24 per cent *less* likely to be settled with a compromise or a victory and 23 per cent *more* likely to be settled favourably when there was intervention. Similarly, state mediation also diminished the costs associated with large strikes. In regressions using the strikes for the years 1912-1915, the doubling of the average number of strikers is associated with a decrease in the probability of settling the strike in favourable terms for the workers when there is no intervention, but the effect was almost zero when there was government intervention.

<sup>12</sup> On the presence of a pool of migrant workers in the cities willing to act as strikebreakers, Meaker, Gerald, *The Revolutionary Left in Spain, 1914-1923* (Palo Alto, CA, 1974), p. 2.



Graph 4.5. The effect of size of city and doubling the number of strikers on strike successes, 1905-1915.

Source: IRS, *Estadística de huelgas*; Museu Social, *Anuari d'Estadística Social*.

Notes: Columns 1-2 and 5-6 represent the effect on the probability of winning all or some of the strike demands when the strike occurs in a city over 100,000 inhabitants with and without government intervention compared to the rest of cities, controlling for other strike characteristics. Marginal effects are based on regressions in which the dummy variable "big city" is interacted with the dummy variable "civil governor intervention". Columns 3-4 show the effect of a doubling of average strike size on strike success.

#### **4.2. Protecting the freedom to work.**

In big cities, strikes became public displays of working class power that necessarily brought the authorities into action. Important strikes were preceded by public meetings in which collective demands were drawn up and unions leaders rallied workers towards the strike. Typically, a strike started in a particular establishment and gradually strikers paraded in front of other establishments inviting workers to join the strike. Picket lines, where strikers harrassed strike-breakers, also created potential situations of conflict. In this context, strikes required public notice and the tolerance of the authorities when workers took the streets. State authorities could force recalcitrant employers to accept some of the strikers' demands because employers needed protection from strikers and the enforcement of the freedom to work. In this sense, employers' interests collided



with civil governors wanting to protect public order and avoiding larger social explosions.

For example, in Catalonia, where civil governors and employers were deeply divided on matters of public order, civil governors were criticised for being *governadors a la madrilenya* (civil governors in the style of Madrid) because they did not handle conflicts firmly enough. In the parliamentary debate over the Barcelona general strike in 1902, Catalan deputies blamed the civil governor of Barcelona, Miguel Socías, for having allowed a metal workers' strike to derive into a general strike. In this case, Socías was accused of acting in connivance with anarchist agitators and not having crushed the revolutionary meetings that preceded the general strike. A conservative journalist backing the complaints of employers remarked that "the responsibilities of the civil governor do (did) not entail meddling in the affairs between workers and employers, but only imposing the respect for the law and the liberty to work, the same for workers and employers without siding with one or the other."<sup>13</sup> The Catalan employer Rusiñol interrupted the speech of the Minister of Interior González, who was defending his civil governor, and manifested that "we (employers) could not visit him; we did not trust him (...)."<sup>14</sup>

When the miners' strike started in Bilbao in 1903, a deputy expressed in parliament (Gandarias): "I require the minister of Interior<sup>15</sup> (...) to give firm instructions to the first civil authority in the province of Biscay (the civil governor) to warrant everyone's rights are respected, especially the right to work for those who want to work."<sup>16</sup> Later on, the main employers' association, the *Círculo Mercantil é Industrial* (Commercial and Industrial Circle), wrote a telegram to some allied deputies demanding more protection from the state where it was said: "we beg you to ask the government about its position on the incidents which have taken place in Bilbao caused by the strike and forcing us to close our establishments (...)." And it was added: "We deplore the passivity of authorities."<sup>17</sup> Once the conflict was terminated, an employer confessed to

<sup>13</sup> Peris Mencheta, DSC 15<sup>th</sup> March 1902, p.3919.

<sup>14</sup> DSC 27<sup>th</sup> February 1902, number 130, p.3780.

<sup>15</sup> At that time it was the conservative García Alix.

<sup>16</sup> Gandarias, DSC 27<sup>th</sup> October 1903, number 57, p.1285.

<sup>17</sup> Urquijo, DSC 28<sup>th</sup> October 1903, number 58, p.1313.

the Conservative politician Antonio Maura that the strike had ended with “masters being sacrificed by an order from the government.”<sup>18</sup>

Similarly, in the large metal workers strike of 1910 in Barcelona, the civil governor was accused by a conservative Catalan deputy of having allowed a narrow conflict eventually to end up affecting the whole of the trade: “it was a conflict limited to a negligible number of workers (...) and in spite of that the civil governor of Barcelona, (...), tolerated every class of intimidation.” The deputy went on: “if the civil governor had remembered there existed a law on strikes, I am sure that we would not have reached today’s situation. I do not doubt that protecting the freedom to work, nothing of this would have happened.” According to this account, when the strike was declared “the civil governor said he was not going to tolerate violence against those willing to work, but that he was going to allow committees of strikers to go to factories where the strike was not being supported and to invite workers in those establishments to join the strike.” According to this source, “these committees, formed from lists that, I have been told, were drawn up in the premises of the Civil Government, were made up of 3 or 4 persons, but these committees followed by groups of 200 or 300 (strikers).” And it concluded “the general strike has been fed by the civil governor.”<sup>19</sup> The situation finally prompted employers to express to president Canalejas that: “revolutionary meetings where attacks to persons are encouraged (...) go unpunished with the result that those who decide to work are attacked on a daily basis. (...) We complain about this incitement to crime being tolerated, in spite of being penalised in our laws. The non-compliance of these laws is the main contributor to the current state of agitation and social anarchy.”<sup>20</sup> But rather than dancing to the tune of employers, state officials showed remarkable autonomy. As Soledad Bengoechea put it:

From simple complaints employers moved on to action. The visits to the civil governor, Buenaventura Muñoz Rodríguez, started multiplying, demanding (...) a firm handling of strikers and picket lines that did not allow the return to work for those wishing to do so. However, in spite of employers’ pressure, Muñoz was not willing to use

<sup>18</sup> Quoted in Fusi, *Política obrera*, p.241.

<sup>19</sup> The Spanish sentence is “a los pechos del Gobernador Civil se ha ido amamantando esta huelga general.” Ibid., p.1630.

<sup>20</sup> The letter was signed by Económica de Amigos del País, Fomento del Trabajo Nacional, Círculo de la Unión Mercantil, Liga de la Defensa Industrial y Comercial, Cámara de Comercio and all the economic societies (*sociedades económicas*) of Barcelona. In Ibid., pp.1630-1631.

force but rather wanted to arbitrate the conflict through a negotiation with each of the parties. (...).

The attitude of Muñoz was intolerable in the eyes of employers, but the strike went on without being solved. Finally, employers were forced to accept the demands of the civil governor and sit at the negotiating table.<sup>21</sup>

The history of civil governors in Barcelona, the most contentious city in the period, shows that before 1919 the ministry of Interior in many cases chose governors who did not have an aggressive anti-union stance. Above I have mentioned Miguel Socias and Buenaventura Muñoz, both selected by liberal governments. Conservative governors include Ángel Ossorio in 1907-1909, who, as a lawyer, had defended a group of socialist activists and was close to the reformist Conservative politician Gabriel Maura Gamazo. Eduardo Sanz Escartín, civil governor of Barcelona during the Silvela government, also had well-established reformist credentials. In a letter to the Interior Minister Eduardo Dato, Sanz Escartín wrote: "about the strike in Sabadell, (...) I want to put you on guard against the peculiar attitude of Mr. Sallarés (a prominent industrialist of Sabadell and president of *Fomento del Trabajo Nacional*), who by all means tried to force employers to keep their establishments closed, condemning (...) more than 12,000 (workers) to starvation. According to him, this decision will punish the audacity of workers when they decide to stop working without the consent of employers. (...) Sallarés not only has acted according to class interest (...) but he has also other motivations: his recent (political) defeats in Sabadell have upset him and he vaguely hopes, as others do here, that if there are some incidents, a Polavieja dictatorship will come."<sup>22</sup> In another strike in Ripoll (north of Catalonia), stubborn employers were also accused of not allowing workers to go back to work. There, the civil governor said: "they want us to run over everything, destroying what is in our way, to put workers' councils behind the bars, to beat them up treacherously, if necessary, to recognise the employers' association but not the workers' union. (...) What employers in Ripoll want are two battalions in order to show off their power."<sup>23</sup>

<sup>21</sup> Bengoechea, Soledad, *Organització patronal i conflictivitat social a Catalunya* (Barcelona, 1994), p.105.

<sup>22</sup> Quoted in Seco Serrano, Carlos, "Regeneracionismo y tensiones sociales (en torno al Gobierno Silvela de 1899-1900)," pp.40-41 in *Alfonso XIII y la crisis de la Restauración* (Madrid, 1992). On Polavieja see chapter 3. A full treatment in Romero Maura, *La Rosa de Fuego*, chapter 1.

<sup>23</sup> *Ibid.*, p.42.

Especially during the Liberal governments of 1910-1914, the divide between government officials and employers widened. During the 1910 mining strike of Bilbao, the minister of Interior complained about “the pitiful unyielding attitude of employers.” Later on, president Canalejas threatened to withdraw the troops because it was only “a problem caused by some (referring to employers), the fact that troops (were) staying in Bilbao (could) not be accepted.” Later on he asserted “if employers persist in their obstination, the government will take definitive solutions.” When the Interior minister visited Bilbao to force a conciliatory solution, he encouraged journalists to “convince workers they must go back to work because it is (was) absolutely certain that the government will solve the conflict, with the certainty that by all possible means the government will obtain the immediate reduction of the 10-hour day in August from employers.”<sup>24</sup> Finally, the minister denounced in Parliament that employers had refused any agreement and the arbitration of the Institute of Social Reforms.<sup>25</sup>

The fact that conciliatory strategies dominated the way government and local authorities settled conflicts did not prevent authorities to resort to repression when they believed it was necessary to do so. In big cities, the position of unskilled workers in the utilities or transports sectors, like tramway or gas workers, was extremely weak because authorities crushed their strikes to ensure public order. In May 1901, the Barcelona tram workers went out on strike to demand a pay rise and the closed shop. After some attempts to turn the conflict into a general strike, strikers were crushed by the military on the 8<sup>th</sup> and 9<sup>th</sup> of May and a considerable number of arrests were made.<sup>26</sup> The more modest tram workers’ strike of 1903 also ended up in the authorities protecting strike-breakers and crushing picket lines. Similarly, in 1903, in a strike of gas workers, most strikers were replaced by strike-breakers and more than 350 workers lost their jobs. The union, with more than 700 members, was banned by the government.<sup>27</sup> Similarly, dockers and coachmen were also replaced by strike-breakers.<sup>28</sup> In Madrid in the early 20<sup>th</sup> century, the civil governor temporarily closed the Socialist centre of Madrid, which had sponsored the unionisation of the gas utilities’ workers.<sup>29</sup> In a similar fashion, in the

<sup>24</sup> Quotes from Ibarra, DSC 15<sup>th</sup> October 1910, number 44, pp.1177-1179.

<sup>25</sup> Merino (Ministro de la Gobernación), DSC 19<sup>th</sup> October 1910, p.1216.

<sup>26</sup> Cuadrat, Xavier, *Socialismo y anarquismo en Cataluña (1899-1911). Los orígenes de la CNT* (Madrid, 1976), p.74.

<sup>27</sup> Sastre, Miguel, *Las huelgas de Barcelona*, year 1903, ‘Gas Lebon’.

<sup>28</sup> Ibid., ‘descargadores’ and ‘carreteros’.

<sup>29</sup> Morato, Juan José, *Pablo Iglesias Posse. Educador de muchedumbres* (Barcelona, 1968 [1931]), p.116.

railways' workers strike of 1912, the so-called "armband strike", the government forced reservists to work, under threat of a military tribunal and mobilised military engineers to keep the railways working.<sup>30</sup>

But nothing antagonised employers and state officials more than the mass general strike. Large strikes in big cities and occasional episodes of local general strikes in 1901-1902 and 1910-1911 prompted the reaction of state officials and the military against labour. In 1901-1902, an important strike movement was led the Regional Federation of Workers' Resistance Societies (FRSOR), organising local general strikes in the province of Barcelona and in Gijón, La Coruña, Sevilla, Valencia, Reus, Oviedo or Badajoz, which the government was forced to crush.<sup>31</sup> Later on, in 1911 a general strike in Bilbao was followed by sympathy general strikes in Gijón, Zaragoza and Valencia, an insurrection in Cullera (Valencia), and strike waves in Oviedo, La Coruña, Málaga, Santander, Langreo and Mieres. When the emerging National Confederation of Labour (CNT), created in 1910, called for the national general strike to protest for the sending of troops to Morocco, the liberal government of José Canalejas, which had first adopted a conciliatory stance, decided to crush the strike movement.<sup>32</sup> At the same time, a court in Barcelona outlawed the CNT and all the affiliated unions.<sup>33</sup>

The general strike of Sabadell in 1910 shows the limits of activists' appeals to the mass general strike. There, the local federation of unions had staged a strike against Seydoux, a French company that had laid off union workers. In response, the local employers' association, the *Unión Patronal*, ordered a lock-out. The state initially adopted a conciliatory stance, while groups of Civil Guards protected some of the largest establishments to guarantee the freedom to work.<sup>34</sup> Later on, the Interior minister visited Sabadell in an attempt to reach an agreement between workers and employers. When the minister called the contending parties to a meeting, the president of the

<sup>30</sup> Suárez González, Fernando, "La huelga de los ferrocarriles de 1912," in Anes, Gonzalo, Luis Ángel Rojo and Pedro Tedde (eds.), *Historia económica y pensamiento social* (Madrid, 1983), pp.523-538.

<sup>31</sup> Díaz del Moral, Juan, *Historia de las agitaciones campesinas andaluzas – Córdoba (Antecedentes para una reforma agraria)* (Madrid, 1973, originally published in 1928), p. 170. Cuadrat, *Socialismo y anarquismo*, p.126.

<sup>32</sup> See for instance telegram from Canalejas to the civil governor of Bilbao and intervention of Azcárate and Pujol, from the Institute of Social Reforms, on the conflict in Asturias, Cuadrat, *Socialismo y anarquismo*, pp.546-547.

<sup>33</sup> Díaz del Moral, *Historia de las agitaciones*, p.171.

<sup>34</sup> In the case of Barcelona: Emiliano Iglesias, DSC 7<sup>th</sup> November 1910, number 57, p.1721.

employers' association (*Unión Patronal*) did not attend it. Likewise, the *Unión* did not accept the arbitration of the Institute of Social Reforms. At this stage, the local *Federación* declared a general strike, and in some meetings its leaders rallied for a revolutionary general strike. This brought about the prompt arrest of its members, the closing of union offices and the crushing of demonstrations. During this episode, *El Progreso*, the radical republican newspaper directed by Emiliano Iglesias,<sup>35</sup> published the following words: "the workers of Sabadell have suffered all rigours, they have been miserably cornered, they have been forced, pushed by a senseless government, to act beyond the law, the only alternative they had after the outrageous alliance between authorities and employers."<sup>36</sup>

#### **4.3. The limits of participatory unionism.**

The case of Sabadell exemplifies the dialectical relationship between unions and state authorities and the potential dangers brought about by strategic interaction with state officials. As results in the previous section show, large, well publicised strikes in big cities had the greatest chance of obtaining state support and winning concessions from employers. This required tolerance on the part of authorities towards unions meetings, strikers' parades and picket-lines. Participatory strikes, however, occasionally bordered on social revolution antagonising state officials and employers alike.

But at least until 1915, participatory unionism was a winning strategy preparing the ground for the rise of the National Confederation of Labour (CNT) in Catalonia, the Levant and Andalucía. The CNT success in Barcelona in 1918-1919 sent their leaders on a mission around Spain to publicise the benefits of revolutionary syndicalism. The payment of union dues was symbolical because "the Catalan worker has always rejected strike funds, because he believes strike funds numb his eagerness to struggle." To the question of how were strikes sustained without strikefunds, it was added "in Catalonia, workers pay weekly dues of 20, 25 or 30 cents; but we have devoted ourselves to promote the spirit of solidarity among workers."<sup>37</sup>

<sup>35</sup> On Emiliano Iglesias, see chapter 3.

<sup>36</sup> Quoted in Bertran y Musitu, DSC 11<sup>th</sup> November 1910, number 61, p.1889.

<sup>37</sup> Pestaña, Ángel, "El Sindicalismo en Cataluña," p.366, in *Trayectoria sindicalista* (Madrid, 1974). 30 cents was about 1-2 per cent of the average weekly wage in Barcelona.

But Catalan unions were not the only ones to practice co-operative resistance. Large cities like La Coruña, Oviedo, Gijón, Zaragoza, Valencia and the smaller towns of the province of Córdoba also had vibrant local federations organised by anarchists in the early 20<sup>th</sup> century.<sup>38</sup> The reformist unionism practiced by the General Workers' Union (UGT) did not differ substantially in the important urban and industrial concentration of Bilbao, where socialist activists co-ordinated four general strikes between 1890 and 1911.

The burst in strikes in 1918-1919 decisively widened the divide between employers and state officials. In Barcelona, believing themselves unprotected from riotous workers, employers finally organised private police forces and supported the military in their firmer handling of strikes. After a second general strike in 1919, the civil governor was suspended and the military governor Milans del Bosch took charge without the consent of the government.<sup>39</sup> With the support of the military and with constitutional guarantees suspended in the city, employers launched a full scale attack on the CNT. An eight-thousand strong armed militia of armed citizens, the *Somatén*, was formed to supplement the police. Employers staged a 84 days long lock-out from November 1919 to late January 1920. Shortly after, private gangs supported by employers were engaged in the elimination of some of the most prominent union leaders like Salvador Seguí, Valerio Boal or the lawyer Francesc Layret.<sup>40</sup> The Barcelona employers' Federation (*Federación Patronal*) declared that:

Since the police in Barcelona has repeatedly shown its inability to stop coercions and attacks on employers and free workers (*obreros libres*), we have agreed upon the creation of a private police force that will overcome these deficiencies and become the protector of lives that are constantly being threatened (...).<sup>41</sup>

<sup>38</sup> A brief summary of developments in Spain: Díaz del Moral, *Agitaciones campesinas andaluzas*, pp. 170-172.

<sup>39</sup> Martin, *The agony*, p. 216.

<sup>40</sup> The best account of the Barcelona lock-out in Bengoechea, Soledad, *El lock-out de Barcelona. Els precedents de la dictadura de Primo de Rivera* (Barcelona, 1998). Accounts of the period by contemporaries: a list of murdered syndicalists is given in Manent Pesas, Joan, *Records d'un sindicalista llibertari català* (Paris, 1976), pp.60-64; on the Sugar Boy, Foix, Pere, *Apòstols i mercaders. Seixanta anys de lluita social a Catalunya* (Barcelona, 1976 [Mexico, 1957]), pp.51-120; on Martínez Anido and Arlegui, Solano, E.G., *¿El ocaso del sindicalismo? Segunda parte de El sindicalismo en la teoría y en la práctica* (Barcelona, 1933).

<sup>41</sup> Quoted in Bengoechea, *Organització patronal*, p.210.

Tolerated by the weak late-Restoration governments, it was the employers and the military in open revolt the ones who were to repress more decidedly the CNT in Catalonia, while the government alternated between hesitant conciliatory and repressive policies.<sup>42</sup> Open class warfare finally led the economic and political elites in Barcelona to support a military dictatorship to handle “the bolshevik threat”. As Francesc Cambó, leader of the Catalan *Lliga Regionalista* and representative of the Catalan high bourgeoisie, admitted outspokenly:

The Spanish dictatorship was born in Barcelona and was the product of the ambiance of Barcelona where syndicalist demagogy possessed an intolerable intensity and chronicity. All the normal ways of defending the society and all the conventional measures of government have failed to cope with this syndicalist demagogy. (...) A society in which the demagogic avalanche puts in grave danger ideals and interest would submit itself to anything in order to feel protected. (...) The instinct of life and defence would be given first priority, and the troubled society would clamour for a dictator, it would demand him unconditionally; it would not even ask him to serve or respect its ideal. It would only ask him to maintain order, to secure the possessive state, (...), or a degree of civilization that the demagogic surge threatens to devour.<sup>43</sup>

---

<sup>42</sup> On policies of the civil governors: Martin, *The agony*, pp. 218-224; Balcells, *El sindicalismo*, pp. 67-81.

<sup>43</sup> Francesc Cambó, translated by and quoted in Ben-Ami, Shlomo, *Fascism from above. The Dictatorship of Primo de Rivera in Spain, 1923-1930* (Oxford, 1983), p. 34.



**APPENDIX.**

In table 4.A1. I present the results based on a logit regression on the Catalan strikes with the dependent variable taking value 1 for victories and compromises and 0 when none of the strikers' demands was conceded. Independent variables include strike characteristics like strike duration, the number of strikers, the strike participation rate (the ratio between strikers and employees in the struck establishments) and average establishment size in the sector. Dummy variables are added taking value 1 if the strike was organised by a union and if an employer's association existed in the sector. Furthermore, additional dummy variables are included to control for the types of issue motivating the strike (strike over wages, hours, re-admission of workers, unionshop, multiple, with the control group being other demands), for unobserved industry characteristics (12 categories), for each year and to control for differences between Barcelona and other towns. Finally, the probability of winning the strike to vary is allowed to vary if there was intervention of the civil governor, the mayor or a local joint commission (the control group is no intervention). Model 1 and model 2 in table 4.A1., compromise and complete victories take value 1, while in model 3 and model 4 only complete victories do so.

Table 4.A1. Factors affecting the probability of winning strikes, 1912-1915 (logit).

Variables	Mean	Model 1		Model 2		Model 3		Model 4	
		Coeff	Mg	Coeff	Mg	Coeff	Mg	Coeff	Mg
			Effect		Effect		Effect		effect
Dependent variable	0.57								
	0.36								
Constant	1	0.39		0.9		0.49		0.08	
Log (days on strike)	2.2	-0.26 <sup>a</sup>	-15.5	-0.27 <sup>a</sup>		-0.28 <sup>a</sup>		-0.23 <sup>b</sup>	
Log(strikers)	4.15	-0.01		0.12		-0.16 <sup>c</sup>		-0.08	
Log(strike participation rate)	-0.29	0.45 <sup>c</sup>	11.03	0.41 <sup>c</sup>		0.29		0.02	
Log (establishment size)				-0.29 <sup>b</sup>				-0.07	
Union (Yes=1)	0.81	0.88 <sup>b</sup>	53.46	1.09 <sup>a</sup>		0.82 <sup>b</sup>		1.01 <sup>b</sup>	
Employers' association (yes=1)	0.46	-0.05	-2.39	-0.08		-0.16		-0.3	
In Barcelona (city) (yes=1)	0.49	-0.44		-0.51		0.01		0.11	
Civil governor (yes=1)	0.18	0.88 <sup>b</sup>	43.57	0.78 <sup>b</sup>	37.32	0.74 <sup>c</sup>	66.81	0.75 <sup>b</sup>	67.08
Mayor (yes=1)	0.18	1.25 <sup>a</sup>	58.51	1.3 <sup>a</sup>	61.43	0.43		0.46	
Junta Local (yes=1)	0.05	0.16		0.01		0.25		-0.05	
Type of strike issue (4)		Yes		Yes		Yes		Yes	
Type of industry (11)		Yes		Yes		Yes		Yes	
Year dummies (3)		Yes		Yes		Yes		Yes	
Province dummies (3)		Yes		Yes		Yes		Yes	
Log L		-181		-158		-172		-150	
Chi-Squared		67.64		66.81		67.38		62.28	
% correctly classified*		71.97		72.03		69.43		69.45	
Number of observations		315		277		315		277	

Notes: superscripts a,b, and, c indicate statistical significance at better than 1, 5 and 10 per cent in two sided z-tests. Marginal effects measure the percentage change on the estimated baseline probabilities caused by one standard deviation change in each particular's variable mean, holding all other variables at their sample means. The estimated marginal effects of the dummy variables are changes from 0 to 1. Marginal effects in italics are significant at standard levels of significance.

\*correctly classified at cut-off probability = 0.5.

Overall signification of the regressions is satisfactory, with only 30 per cent of the observations assigned to the wrong category (the model predicts probabilities higher

than 0.5 to observations that take value 1 in 70 per cent of the cases). The negative coefficient on the number of days shows how the probability of winning the strike declined as the strike grew longer; a result that makes intuitive sense. Furthermore, another expected result is that the probability of winning the strike increased with the strike participation rate. In addition, establishment size is negatively related to the probability of settling the strike on favourable terms. Union workers have a much larger probability of winning the strike, with an increase in the baseline probability of 53 per cent with respect to non-union strikes. Employers' associations, on the other hand did not have much of an impact on the settlement of the strike, with negative, but small and statistically insignificant coefficients. Moving on to the type of settlement, the available conciliation procedures (civil governor, mayor, *junta*) are superior alternatives to the absence of third party intervention, keeping all other things constant. However, the civil governor and the mayor have a larger effect on the probability of settling the strikes on favourable terms, while the coefficient of the *junta*, if positive (but small) in most specifications, has a large standard error (mainly because there are only 16 observations taking value 1). Mayors increased the probability of obtaining a compromise, controlling for all the other variables, by 60 per cent, while the contribution to complete victories could not be distinguished from 0. Civil governors increased the probability of obtaining a victory or a compromise by about 40 per cent and the probability of a complete victory by 67 per cent. Note that the favourable mediation of the civil governor not only generated compromises but also had a large effect on the probability that strikers obtained all their demands. This suggests the civil governor was not creating compromises from possible victories. Using Spanish strikes in the years 1905-1909, the impact of civil governors was also substantive, with an increase in the baseline probability of winning the strike. Results from a very similar regression are presented in column 1 table 4.A2.

Table 4.A2. Factors affecting strike outcomes, 1905-1915 (logit).

Variables	Means	Strike outcomes, 1905-1909 [1]		Strike outcomes, 1905-1909 [2]	
		Mean: 0.5		Victories only Mean: 0.34	
		Coeff	Mg eff	Coeff	Mg eff
Constant	1	1.69***		1.73***	
Log (days on strike)	2.29	-0.4***	-25.84	-0.46***	
Log(strikers)	3.81	-0.07		-0.2***	
Log(strike participation rate)	-0.45	0.48***	17.69	0.45***	
City 10,000-25,000	0.17	0.22		0.37	
City 25,000-50,000	0.09	0.03		-0.3	
City 50,000-100,000	0.08	-0.14		0.1	
City over 100,000	0.4	-0.41*		0.01	
Civil governor (yes=1)	0.17	0.69***	40.71	1.1***	95.52
Mayor (yes=1)	0.11	0.56*	32.86	0.35	
Junta Local (yes=1)	0.03	0.99*	57.38	0.48	
Type of strike issue (5)		Yes		Yes	
Type of industry (15)		Yes		Yes	
Year dummies (4)		Yes		Yes	
Region dummies (3)		Yes		Yes	
Log L		-328.43		-294.3	
Chi-Squared		102.83		113.54	
% correctly classified****		67.15		74.82	
Number of observations		548		548	

Notes: \*\*\*, \*\*, \* indicate statistical significance at the better than 1, 5 and 10 per cent in two-sided z-tests. Marginal effects measure the percentage change on the estimated baseline probabilities caused by one standard deviation change in each particular's variable mean, holding all other variables at their sample means. The estimated marginal effects of the dummy variables are changes from 0 to 1. Marginal effects in italics are significant at standard levels of significance.

Region dummies: Mediterranean, South, North, with control group being the two Castiles.

\*\*\*\*cut-off probability=0.5.

In order to understand the determinants of state intervention, it is necessary to analyse what forces drove the civil governor to step in a conflict and arbitrate the strike. In table 4.A3, I look at the determinants of strike mediation by the civil governor using both the IRS data for 1905-1909 and the data compiled by the *Museu Social*. I consider as independent variables a series of strike characteristics -days on strike, the number of strikers, the participation rate (strikers/employed)-, institutional characteristics like if there was a union or an employers' association, and controls for the size of the city, the share of anti-system vote (measured by the results on the 1907 general election) and a dummy variable taking value one if the strike happened in Barcelona.<sup>44</sup>

---

<sup>44</sup> Data on share of Socialist and Republican vote from Martínez Cuadrado, *Elecciones y partidos políticos, 1868-193* (Madrid, 1968), volume 2.

Table 4.A3. Factors affecting government intervention in strikes, 1905-1915 (logit).

Variables	Means	Intervention in Strikes, 1905-9. [2]		Intervention in strikes, 1912-15 [3]	
		Coeff	Mg eff	Coeff	Mg eff
Dependent variable		(0.17)		(0.18)	
Constant	1	-3.49***		-7.64***	
Log (days on strike)	2.29	-0.21**		0.17	
Log(strikers)	3.81	0.23**	35.29	0.62***	151.67
Log(strike participation rate)	-0.45	0.31		-0.01	
Share antisystem vote in 1907	0.11	7.38***	86.76		
City 25,000-50,000	0.09	0.67			
City 50,000-100,000	0.08	1.08**			
City over 100,000	0.4	0.76**	260		
Strike in Barcelona (yes=1)	0.49			1.03**	159.5
Civil governor (yes=1)	0.17				
Mayor (yes=1)	0.11				
Junta Local (yes=1)	0.03				
Union-employers	0.14				
Union workers (yes=1)	0.81			1.75**	
Employers' association (yes=1)	0.46			0.45	
Type of strike issue (5)		Yes		Yes	
Type of industry (11)		Yes		Yes	
Year dummies (4)		Yes		Yes (3)	
Region dummies (3)		Yes		Yes*****	
Log L		-191.52		-95.77	
Chi-Squared		122.39		105.94	
% correctly classified****		85.77		81.3	
Number of observations		548		315	

Notes: \*\*\*, \*\*, \* indicate statistical significance at the better than 1, 5 and 10 per cent in two-sided z-tests. Marginal effects measure the percentage change on the estimated baseline probabilities caused by one standard deviation change in each particular's variable's mean, holding all other variables at their sample means. The estimated marginal effects of the dummy variables are changes from 0 to 1. Marginal effects in italics are significant at standard levels of significance.

\*\*\*\*\* 4 provincial dummies. \*\*\*\*\*cut-off probability=0.5.

---

Looking at the determinants of state mediation in strikes, the civil governor tended to mediate the dispute in larger than average strikes. In the case of the Spanish data for the period 1905-1909, an increase in one standard deviation in the number of strikers increases the probability that the state stepped in the dispute by 35 per cent. For Catalonia, the effect of strike size on the probability of intervention is substantially larger, with a marginal effect of 152 per cent for every standard deviation. On the other hand, the civil governor only mediated in the main cities of the province and it was in Barcelona where he was more active, with 159 per cent higher probability of arbitrating the strike with respect to other Catalan cities. Considering the Spanish data, the civil governor tended to intervene more in cities with a population greater than 100, 000 (almost 4 times more likely) and where the share of anti-system vote was larger (vote for Republicans and Socialists in the 1907 general election), with a one standard deviation increase in anti-system vote increasing the baseline probability by 87 per cent.

## **Part II. Workplace public goods.**

---



## Chapter 5.

### The shortening of the workday from the mid 1880s to 1920.

#### 5.0. Introduction.

The first First of May in Spain was celebrated in 1890. The main aim of the protest was to obtain the eight-hour day with its familiar white flags with three eights painted in black: “eight hours for work, eight for sleep, and eight for whatever we want.”<sup>1</sup> In spite of the extraordinary importance of the short hour movement in Spain and the evidence pointing to a decline of the workday and working week until 1936, there are no systematic studies explaining the historical experience of the decline of the workday in this country. One of the aims of the chapter is to describe the decline and put forward some hypotheses about the factors explaining the shift in the number of hours supplied in early 20<sup>th</sup> century Spain.

In the international literature, the analysis of the number of hours workers supply to the market has attracted a great deal of attention. First, because it has implications for workers' welfare and living standards as leisure has been increasing during the 20<sup>th</sup> century. With a working year of approximately 290 days, workers in early twentieth century Spain supplied some 2,900 hours per year.<sup>2</sup> In long-hours sectors like the textile industry, workers supplied well above 3,000 hours. In contrast, in 1997 the average Spaniard worked yearly 1,809 hours according to the International Labour Office. Therefore, the secular decline in the number of hours of work is in the range of 40 per cent. Second, changes in the amount of time devoted to work also have important

---

<sup>1</sup> Depiction of an early 1<sup>st</sup> May protest in Eugeni d'Ors, *Glosari* (Barcelona, 1990), p.300, original article published in “La Veu” on the 5<sup>th</sup> October 1919.

<sup>2</sup> This figure is based on calculations for the number of working days in the area of Barcelona in the 1910s. To a year of 365 days, 52 Sundays are subtracted. Then there were 7 holy days that did not fall on a Sunday (for instance, Maundy Thursday), there were 3 additional days for the town's festival (*fiesta mayor*) and 15 other festivities. Of these 18 additional non-working days, it is assumed 3 fall on a Sunday. This calculation gives a working year of 291 days.

implications regarding inequality trends if workers at different income levels supply different number of hours to the market. Therefore, estimates on income inequality based solely on earnings under- or overestimate the inequality in individual welfare.<sup>3</sup> Finally, the study of the workday also offers a fundamental case study of the effects of unions and collective bargaining on labour market outcomes. As unions take into account the preferences of more long-term, skilled workers with a preference for short hours, the effect of unions' collective bargaining will be a reduction of the working week.<sup>4</sup>

### **5.1. The historical evolution of the workday in Spain.**

#### **The 1880s:**

The first systematic, albeit incomplete, source of information on the working day was the evidence collected and published by the *Comisión de Reformas Sociales* during the 1880s. The *Comisión* was created in an effort to produce the first enquiry into the state of the working class.<sup>5</sup> Responses to group XIII of the questionnaire, "Hours of work," provide some observations on the number of hours worked in different Spanish towns and in different occupations. The information is divided into different types of material. First, provincial commissions were created in which responses to the questionnaire were discussed publicly and this material was published verbatim. Second, unions, local authorities, or even academics, doctors, or lawyers, could also send their responses to the questionnaire. Because the questions were so specific and the questionnaire was so long, not all questions were answered and some of them asked the respondent to gather costly information, which, in some cases, was impossible to summarise in one statistic. For instance, if one had to know the average number of hours worked in a particular trade in which establishments had different time schedules, the entry for the question of hours of work was not, say, "9 hours 57 minutes," but rather "from 8 to 11." This obviously poses a problem for the adequate computation of hours of work. However, on the other hand, most responses were followed by comments on the length of the work week, the type of work, method of payment, employment of women, use of artificial lighting, or the evolution of hours, which make some of them particularly interesting.

<sup>3</sup> Costa, Dora L., "The unequal work day: a long-term view." *American Economic Review*, 88, 2 (May 1998), pp. 330-334. Costa, Dora L., "The wage and the length of the work day: from the 1890s to 1991." *Journal of Labor Economics*, 18, 1 (2000), pp. 156-181.

<sup>4</sup> Freeman, Richard and James Medoff, *What do unions do?* (New York, 1984), p. 44.

<sup>5</sup> I have discussed the literature on the *Comisión* in chapter 2.

Another problem is the geographical coverage of the information, which is quite extensive for Madrid, Valencia and Alicante, but is much poorer for other regions, especially for Catalonia, which neither answered the full questionnaire nor organised the provincial commission.<sup>6</sup> However, some patterns can be detected that I expose below.

In most sectors the hours of work were determined by the hours of sunlight. Accordingly, hours varied almost five hours between summer and winter. This was obviously true for agricultural workers, but also for many urban. Work in summer generally started at about 6:00 AM and ended at around 8:00 PM with an hour for breakfast and two or two and a half for lunch –from noon to 2:00 PM. In winter, work started at 7: 00 AM and generally finished at 5:00 or 5:30 PM, with generally a shorter lunch break. Time schedules thus varied from seven to eight hours in winter to eleven or twelve in the summer and about ten in autumn and spring.

Building construction workers in Madrid worked on average ten hours, but as one of their representatives recognised in front of the *Comisión*, they worked only with sunlight, or in Spanish “*de sol a sol*” (from dawn to dusk) and were paid a daily rather than hourly wage.<sup>7</sup> In summer, the period of rest at mid day was a bit longer, which allowed for a nap after lunch (*siesta*). In Valencia, according to the local federation of unions, building construction workers worked “*de sol a sol*”, about thirteen hours in summer and nine in winter. Since these figures, contrary to common practice, included the time for breakfast and lunch, generally from two hours to two hours and a half, the effective number of hours of work was about eleven in summer and seven in winter, with an average of about nine during the year. The *Ateneo* (the local workers’ council) noted that building construction workers in Valencia had recently obtained a reduction of the workday from their employers.<sup>8</sup> Similarly, building construction workers in Barcelona also reduced their average workday from 11 to 10 hours without a cut in pay.<sup>9</sup> In Sueca (province of Valencia), the average workday for the trade was ten

<sup>6</sup> There is however information on hours for a wide array of sectors for Mataró (province of Barcelona), where the conditions of work could not have differed much from the ones prevailing in Barcelona.

<sup>7</sup> Santiago Castillo (ed.), *Información oral y escrita de la Comisión de Reformas Sociales*, Tome I, Villegas, Sociedad de Canteros, p.106.

<sup>8</sup> Ibid., tome III, “Memoria de la Comisión Provincial de Valencia,” p.106.

<sup>9</sup> Ibid., tome II, “Contestación Corporaciones,” “Grupo XIII. Horas de Trabajo,” José Rodríguez Mourelo, p.141.

hours.<sup>10</sup> In Ontinyent (in the province of Alicante) the average ranged between ten and eleven hours.<sup>11</sup>

Carpenters, who generally worked alongside building construction workers and in some cases belonged to the same union, also worked about the same number of hours with the same differences between summer and winter hours:<sup>12</sup> an average of ten in Madrid, nine in Valencia, ten in Sueca (Valencia) and from ten and a half to eleven in Ontinyent (Alicante). Quarry workers also worked only with sunlight and their hours of work, according to one respondent from Madrid, were “from ten to eight, depending on the season.” He also added that, in the case of quarry workers, “these hours are rather common in our country and only vary depending on the season.”<sup>13</sup> Quarry workers in Valencia, like the rest of the building trades, had shortened their average workday from ten to nine hours.

In contrast to the traditional determination of the hours of work, workshops and factories worked longer hours in winter. Artificial light allowed for an extension in the hours of work in winter to ten or more and regularised the number of hours between winter and summer. In winter, workers extended their work during the night to about seven or eight pm. In Spanish, working during the night was called *velar*, which means “keeping awake voluntarily during the night.” The pattern seems to be that the hours of *vela* were about two or three in winter and only surpassed this number in exceptional circumstances when a job needed to be finished. In Oviedo (Asturias), an observer remarked “the most common average number of hours is ten. In winter, some workshops reduce the workday to nine hours and a half and workers lose a day of pay per month during four months. In other cases, work continues through the night until the ten hours are completed.”<sup>14</sup> However, in Valencia, the *velada* apparently was not so common. Vives Mora, representing the local federation of unions, claimed that the extension of the workday in winter was “not known, except in the case of typographers,

<sup>10</sup> Ibid., tome III, “Informe del Ateneo Sueco del Socorro,” p.372.

<sup>11</sup> Ibid., tome III, “Memoria de la Comisión Provincial de Valencia,” p.106, “Informe de la Comisión local de Onteniente,” p.274.

<sup>12</sup> Ibid., tome II, Contestación Corporaciones, Grupo XIII, “Horas de Trabajo,” José Rodríguez Mourelo, p.141.

<sup>13</sup> Ibid., tome II, Contestación Corporaciones, Grupo XIII, “Horas de Trabajo,” José Rodríguez Mourelo, p.141.

<sup>14</sup> Ibid., tome V, información oral Oviedo, p.450.

and among these, only these who work in newspapers' prints. In the remaining trades, if artificial light is used, it is only to complete the scheduled hours of work."<sup>15</sup>

Workers in the printing trades had a regular work schedule of 10 to 11 hours, which included about 2 hours of *vela* in winter. A bookbinder from Madrid noted "in my trade, we work ten hours, from 8:00 am to 1:00 pm and from 2:00 pm to 7:00 pm; in winter, when it gets dark (...) we light the lamp."<sup>16</sup> In Albacete, typographers worked 10 hours, and reported they had won a shorter workday in a recent strike.<sup>17</sup> In Almería, they used to work twelve hours.<sup>18</sup> In Oviedo, typographers worked generally eleven hours, and sometimes twelve.<sup>19</sup> In Castellón, the norm was ten hours and a half. In Ávila, the usual workday for the printing trades was about 10 hours, as in Barcelona, Madrid, Cuenca, Guadalajara, Navarra, Palencia, Segovia, Valencia, and Vizcaya.<sup>20</sup> In Huelva, León, Málaga, or Sevilla, nine hours were the usual.<sup>21</sup> Only Logroño records a work day of eight hours for the printing trades.<sup>22</sup> Apparently, typographers employed in newspapers' prints had a more irregular work schedule and worked longer at night, while they also earned higher wages.<sup>23</sup>

The *vela* was also very common in other sectors. Bakers and millers were known to work continuously day and night in shifts of approximately ten hours.<sup>24</sup> In the case of workshop carpenters (*carpinteros de taller*), shoemakers, tailors, or cabinetmakers, the supply of hours of work was regular throughout the year, including two or three hours of *vela* from November to February.<sup>25</sup> In the province of Ávila, tailors, shoemakers, and workshop carpenters worked about 10 hours.<sup>26</sup> In the province of Barcelona, cabinetmakers worked ten hours, whereas shoemakers and tailors supplied eleven hours

<sup>15</sup> Ibid., tome III, Información oral Valencia, p.174.

<sup>16</sup> Ibid., tome I, Ordoñez, encuadernador Madrid, p.225.

<sup>17</sup> Comisión de Reformas Sociales, *Contestación del interrogatorio formulado por la Comisión de Reformas Sociales sobre la limitación de las horas de trabajo y extracto de los datos y observaciones referentes al grupo XIII del cuestionario 1884 'Horas de Trabajo' que se encuentran en las informaciones practicadas en ese año* (Madrid, 1891), p.70.

<sup>18</sup> Ibid., p.71.

<sup>19</sup> Castillo, *Información*, tome V, información oral Oviedo, p.450.

<sup>20</sup> Comisión, *Contestación*, p.73, p.80, p.84, p.86, p.88, p.91, p.98.

<sup>21</sup> Ibid., pp.84-85, p.89, p.92.

<sup>22</sup> Ibid., p.86.

<sup>23</sup> Castillo, *Información*, tome I, p.144; tome III, p.174; tome V, p.35.

<sup>24</sup> Ibid., tome V, memoria Comisión local de Navarra, p.202; tome III, Memoria Comisión provincial de Valencia, p.106.

<sup>25</sup> Ibid., tome I, "Contestación Corporaciones:" Don José Rodríguez Mourelo, p.140.

<sup>26</sup> Comisión, *Extracto*, p.72.

per day.<sup>27</sup> In Madrid, shoemakers worked from eight to eleven hours with three hours of *vela* in winter. In Málaga, they worked “during the day and some hours at night.”<sup>28</sup> In Navarra, cabinetmakers worked ten hours and half. In Valencia, ten hours were common.

Metal workers tended to work continuously in shifts of 10 to 12 hours. A blacksmith from Madrid indicated that blacksmiths worked twelve hours a day, with the necessary *vela* in winter.<sup>29</sup> Another observer from Madrid provided a more conservative estimate of 10 hours for both trades. As well, he remarked tinsmiths never worked more than 10 hours.<sup>30</sup> In Barcelona, tinsmiths supplied 10 hours, foundry workers 10 and a half, locksmiths 11 and blacksmiths above 11.<sup>31</sup> In Jaén, the workers in a foundry worked 9 hours in winter and 10 hours in summer. Foundry workers in Málaga worked 9 hours. In Valencia, blacksmiths and foundry workers worked 10 hours.<sup>32</sup> In Ontinyent (Valencia), they worked from 10 to 11 hours.<sup>33</sup> In Sueca (Valencia), the local *Ateneo* reported 12 hours for foundry workers and 11 for locksmiths.<sup>34</sup> In Navarra, an establishment reported working from 11 to 12 hours in summer and 13 in winter (from 5 in the morning to 8 in the evening with a two hour lunch break).<sup>35</sup> In Oviedo (Asturias), the local *Comisión* informed that the usual shift in metallurgical establishments was about 8 to 10 hours.<sup>36</sup> In Gijón (Asturias), metal workers supplied 10 hours during the whole year.<sup>37</sup>

Manufacturing workers worked extraordinarily long hours, generally above eleven hours in the textile or paper industries. In Navarra, for instance, the local *Comisión* affirmed that “only industrial workers work during the night in winter,” referring to the traditional hours of *vela* from November to February.<sup>38</sup> In these sectors,

<sup>27</sup> Ibid., p.73.

<sup>28</sup> Ibid., p.86.

<sup>29</sup> Ibid., tome I, Contestaciones particulares de Madrid, Sociedad de Socorros Mutuos de Herradores, p.486.

<sup>30</sup> Ibid., tome I, José Rodríguez Moruelo, p.141.

<sup>31</sup> Comisión, *Extracto*, p.73.

<sup>32</sup> Ibid., p.84, p.87, p.96.

<sup>33</sup> Castillo, *Información*, tome III, Onteniente, informe operarios herreros, p.277.

<sup>34</sup> Ibid., tome III, Sueca, informe del Ateneo Sueco del Socorro, p.372.

<sup>35</sup> Ibid., tome V, informe del Sr. D. Jenaro Mendía, dueño de la fábrica de hierro “Las dos hermanas,” p.294.

<sup>36</sup> Ibid., tome V, informe de la Comisión local de Oviedo, p.374.

<sup>37</sup> Ibid., información oral de Oviedo hecha en el Ateneo Casino Obrero de Gijón per el socio D. Fernando García Arenal, p.396.

<sup>38</sup> Ibid., tome V, Memoria Comisión Local Navarra, p.202.

factories sometimes operated continuously with day and night shifts in order to minimise the increased costs of idle fixed equipment. However, this was still an unusual alternative and was only implemented in factories using water power, which tended to work less days during the year. Continuous operation was generally organised with two different 12 hour shifts that alternated every week or every month. There were two shifts of 12 hours each, with half an hour and one hour breaks. It was common that workers organised shifts so as to keep the machinery going on while meanwhile some could eat and rest (the so-called *relevos*).<sup>39</sup> Factories that organised day and night shifts generally ran longer hours. One of the reasons was the strong resistance to a shortening of shifts below 11 to 12 hours, when two shifts were in operation. Further reductions required either three identical shifts of eight hours or a combination of three shifts with different hours schedules. Any reduction of the workday in factories operating continuously therefore forced employers to organise an additional shift of perhaps scarce or expensive workers.

Hours in manufacturing rarely varied between winter and summer. Cotton textile workers in Catalonia worked from 66 to 68 hours a week in the spinning, weaving and finishing trades, with a workday of about eleven hours.<sup>40</sup> In Ontinyent (Valencia), manufacturing workers worked from 10 to 11 hours in the cotton and silk textile industries, and 10 in the woollen industry (in this case they remarked they worked only with sunlight). In Alcoy, an important industrial centre in the province of Alicante, the workday for manufacturing workers ranged from 11 to 12 hours and included night shifts in some establishments. According to the employers of a factory producing woollen cloths, men who tended machinery worked eleven hours and women and children nine. In the cases where night shifts were introduced, generally in water driven factories, the shift lasted 12 hours.<sup>41</sup> In Valencia, it was noted that "today the average workday is about 9 to 11 hours; some industries (translation of '*industrias*' not of the more usual '*oficios*', trades), which employ an ever increasing number of women, operate for 12 hours or more."<sup>42</sup> In the silk industry, for instance, the average workday was 12 hours. In the paper industry, workers supplied ten hours in Ontinyent (Valencia)

<sup>39</sup> This practice was denounced in Instituto de Reformas Sociales, *La Jornada de trabajo en la industria textil. Trabajos preparatorios del Reglamento para la aplicación del Real Decreto de 24 de agosto de 1913* (Madrid, 1914), p.362.

<sup>40</sup> Comisión, *Contestación*, p.73. Data from Mataró (province of Barcelona).

<sup>41</sup> Castillo, *Información*, tome IV, Informe de la Corporación de fabricantes de paños, p.103.

<sup>42</sup> Ibid., tome III, Información oral Valencia, Sr. Vives Mora, p.174.

and “between 7 and 12” in Alcoy depending on the occupation.<sup>43</sup> A factory making blankets in Palencia worked 11 hours and a half in summer and 11 in winter, with artificial light needed from 6pm to 8pm.<sup>44</sup>

Nevertheless, some examples reveal that the use of artificial lighting and regular hours schedules were not always implemented. In the report submitted by the employers of a woollen factory in Navarra –*Tejería Mecánica Pamplonesa*–, it was stated that their factory worked between a maximum of twelve hours in May, June, and July and a minimum of eight in November, December, and January, with an average workday during the year of about 10 hours. Further, the managers also declared they had considered running night shifts or longer hours in winter but that the cost of artificial lighting was too high and that it was difficult to organise a second shift of workers.<sup>45</sup>

Finally, it is important to note that in some cases, these establishments worked only periodically, and this was common as well in many trades like for instance the sub-contracted work for tailors. For example, woollen cloth manufactures in Alcoy did not work continuously. As it was said, “in Alcoy, in most factories the work is not perennial (literal translation of *perenne*, which meant that production was regular throughout the year).”<sup>46</sup>

A case in point were the workers paid by the piece, who were known to supply irregular but sometimes very long hours of work. This was for instance the case of handloom weavers, tailors, women employed in the garment industry, and shoemakers. A weaver from Alcoy (Alicante) affirmed he worked from 13 to 14 hours per day when he had to finish a piece for an employer.<sup>47</sup> When asked about the number of hours in its trade the Alcoy local union of weavers responded: “there are no established hours of work because this trade works on a piece rate basis.”<sup>48</sup> Shoemakers working in factories on piece rates or on a putting out basis from home supplied about 10 to 11 hours per day, with two or three hours of *vela* required in winter. In Madrid, seamstresses and

<sup>43</sup> Ibid., tome III, Ontinyent, informe de los operarios de la industria papelera, p.266; tome IV, informe de la Unión Papelera, p.105.

<sup>44</sup> Ibid., tome V, información local Palencia fabricantes de mantas, p.511.

<sup>45</sup> Ibid., tome V, informe del señor director de la Tejería Mecánica Pamplonesa, p.295.

<sup>46</sup> Ibid., tome IV, Memoria de la Comisión Local de Alcoy, p.63.

<sup>47</sup> Ibid., tome IV, información oral Alcoy, p.43.

<sup>48</sup> Ibid., tome IV, informe de la Sociedad de Tejedores, p.119.



dress makers working by the piece in workshops had a work schedule of ten hours both in winter and summer: work started at eight, at twelve there was a lunch break of two hours, and then they worked from 2 pm to 8 pm. Furthermore, sometimes the work at night could be longer if a piece had to be delivered and occasionally work on Sunday was required -the so-called *remate*.<sup>49</sup> In this trade, some women worked from home, about them it was remarked, “they work excessively, some days about twelve hours.”<sup>50</sup> In the silk industry of Valencia, women paid by the piece were reported to work fourteen to sixteen hours at times.<sup>51</sup>

Miners tended to work day and night shifts in all the mining towns except in Biscay, where there was not underground mining and hours of work were determined by sunlight, i.e. a minimum of 7 to 8 hours in winter and 12 in summer.<sup>52</sup> The chief engineer of the Linares mines (Jaén) remarked there were two underground shifts of eight hours each: a first shift from 8 in the morning to 4 in the afternoon and another from 5 pm to 1 am. When necessary, a third shift was added. A common practice among miners was to work two shifts in a row and then rest the whole following day, a practice called ‘*endoble*’. In the surface, labourers worked from 9 to 10 hours a day depending on the season, while machinists worked continuously for 24 hours and then rested a whole day.<sup>53</sup> In the coal mining region of Asturias, underground shifts of 8 hours were also continuous, with six hours of effective work, while surface personnel worked 12 hours in summer (from the 3<sup>rd</sup> May to the 14<sup>th</sup> September) and about 8 in winter.<sup>54</sup>

Finally, sales and service workers were known to work very long hours under very bad conditions and working on Sundays. For instance, waiters in Madrid supplied 15 hours of work per day, as did the sales workers employed in grocery stores. In bookshops the standard workday lasted about 13 hours.<sup>55</sup> In Valencia, a respondent remarked “the number of hours work supplied by sales workers is unlimited. (...) In the stores, personnel commonly work all day until 10, 11 or 12 at night (...). In retail sales, counters close at 8 or 9 at night, but there are some additional hours of work (...)” And

<sup>49</sup> Ibid., tome I, contestación José Rodríguez Mourelo, p.140.

<sup>50</sup> Ibid., José Rodríguez Moruelo, p.141.

<sup>51</sup> Ibid, tome III, Memoria de la Comisión provincial, p.106.

<sup>52</sup> Ibid., tome V, informe Comisión local de Vizcaya, p.613.

<sup>53</sup> Ibid., tome V, informe del ingeniero jefe de las minas de Linares, p.175.

<sup>54</sup> Ibid., tome V, informe de la Comisión Local de Oviedo, p.375; información oral engineer Gascue, p.452.

<sup>55</sup> Ibid., tome II, José Rodríguez Moruelo, p.145.

he went on “in Sueca (Valencia) the sales workers start work at five in the morning and stop at eleven at night in summer, in winter they start work at six in the morning and finish at ten at night; on Sundays they work until noon.” Similarly, “in Alcira (Valencia) they work with sunlight and some hours at night, holy days and Sundays they work until noon.”<sup>56</sup> In La Coruña (Galicia), work typically started at eight in the morning and ended at ten at night and stores remained open on non-working days until noon.<sup>57</sup> Similarly, barbers and hairdressers also had very long work schedules and were known to work a fair number of hours during the night.<sup>58</sup>

Several patterns can be detected from the evidence on hours of work in the 1880s. Where hours of work were determined by sunlight, the workday varied by as much as three or four hours between winter and summer. In general, hours of work fluctuated between 7 or 8 in winter and 11 to 12 in summer, with an average workday throughout the year of 9 to 10 hours (table 5.1). Workers in workshops and factories had longer hours schedules in winter with two hours of *vela* from November to February. In this case, a more regular work schedule of 10 to 11 hours throughout the year was the rule. In manufacturing, winter and summer workdays were similar, with hours of work being scheduled above 11 in winter and summer. In mining, underground miners had regular work schedules of 8 hours, while surface workers worked 10 hours on average following the pattern of hours of work determined by sunlight. Finally, the longest hours are observed among retail and service workers in cities.

Table 5.1. Hours of work, 1880s.

Trade	Observations. Averages throughout the year.
Building construction workers	10, 9, 10, 10, 10, 10 to 11, 9, 9
Carpenters	10, 9, 10, 10, 10 to 11, 9.
Printing trades	10 to 11, 10, 11, 11, 10 ½, 9
Workshop carpenters, tailors, cabinet makers, shoemakers	10, 10 ½, 11, 10 ½, 11, 10
Metal workers	10, 10 ½, 11, 11 ½, 9, 10 to 11, 12, 11, 10
Textile and paper industries	11 ½, 10 ½, 11 to 12, 12, 11 to 12.

Source: Comisión de Reformas Sociales, *Información oral y escrita*; Comisión de Reformas Sociales, *Contestación al interrogatorio*.

<sup>56</sup> Ibid., tome III, Memoria de la Comisión Provincial de Valencia, p.108.

<sup>57</sup> Ibid., tome V, Memoria de la Comisión local La Coruña, p.35.

<sup>58</sup> Ibid., tome II, p.145, tome III, p.109.

### **The early 20<sup>th</sup> century.**

Evidence on hours of work in the early twentieth century is quite limited. The first reports of factory inspectors, which included detailed information on hours of work, were not published until 1908. For Catalonia, the evidence on hours and wages published in 1899 by Miguel Renté y Cassola, a typographer member of the *Ateneo Obrero* of Barcelona, and the information collected by Miguel Sastre y Sanna on strikes in Barcelona from 1903 to 1914 are useful, if incomplete, sources.

Compared to the mid 1880s in the province of Barcelona, the data provided by Renté and by Sastre show there were substantial reductions in the hours of work. In workshops of male skilled workers, the working day approximately fell by an hour from 11 to 10 to 9 to 10. In some trades like shoemakers or dyers, workers were already demanding the eight hour day. In these sectors, work started at 6:30 am and ended at 5:30 or 6:30 pm, with an hour for breakfast and one and half or two hours for lunch, and hours of work did not increase in the summer. In sectors in which hours of work depended on sunlight, like building construction workers, carpenters, painters, bricklayers, quarry workers, and so on, there was a sharp reduction in the hours of work to about 7 or 8 in both winter and summer. In the latter season, they no longer had to supply long shifts of about eleven to twelve hours. Manufacturing workers, on the other hand, were less likely to obtain reductions in the workday. In the textile and garment industries, which employed a large share of women, hours of work remained at 11 or 12 hours. Sales and services workers also kept their long working days above 12 hours both in winter and summer. In table 5.2. I compared hour observations for different trades in the province of Barcelona using the data of the *Comisión* for 1884 and the data gleaned by Miguel Renté in 1899. This table shows many trades obtaining a reduction of the working day of one hour between 1884 and 1899.

Table 5.2. Hours of work in the province of Barcelona, 1884 and 1899.

Trade	Comisión 1884	Renté 1899	Percentage change
Bleachers	11h 20 min	10 h day	-11.5
Dyers	11 h	10 to 11 h	-4.5 <sup>a</sup>
Tailors	11 h	10 h	-9.1
Locksmiths	11 h	10 h	-9.1
Building construction	10 h	9 h	-10
Blacksmiths	11 h 40 min	10 h	-14.3
Foundry workers	10 h 30 min	10 h	-4.8
Tinsmiths	10 h	10 h	0
Sawyers	11 h 20 min	10 h	-11.8
Cabinetmakers	10 h	10 h	0
Barrel makers	9 h	9 h 30 min	+5.6
Tanners	8 h 30 min	9 h	+5.9
Coach-makers	11 h 30 min	10 h	-13
Shoemakers	11 h	10h	-9.1

Sources and notes: Comisión de Reformas Sociales, *Contestación*; Renté, Miguel, *La abolición del salario por la participación en los beneficios* (Barcelona, 1899), pp.24-29.

Superscript a: the hours of work chosen were 10 and a half.

By 1901, building construction workers in Barcelona, a trade that included an important group of carpenters and painters, already worked an eight hour day after having eliminated their extra summer hours. In 1903, Sastre noted: “the hours of work supplied by building construction workers are eight since the 18<sup>th</sup> October of 1901 when they won a shorter workday after a strike.” In 1899, Miguel Renté reports a workday of 9 hours for this trade. The collective contract of 1901 also included a clause for overtime. One could argue that the decline in hours was only nominal since overtime gave incentive to workers to supply longer hours. However, the building construction workers’ union made sure the collective contract forbade overtime above two hours and only considered this possibility in these construction works that had started before October 1901.<sup>59</sup> On the other hand, roofers were reported to work seven hours from 8am to noon and from 2pm to 5pm in 1907.<sup>60</sup>

<sup>59</sup> Sastre, Miguel, *Las huelgas de Barcelona 1903*, “Albañiles.”

<sup>60</sup> Sastre, Miguel, *Las huelgas de Barcelona 1907*, “Yeseros adornistas (constructores de cielos rasos).”

Similarly, stonecutters commonly worked 7 hours in winter and summer. In 1903 they led an unsuccessful strike to win a pay rise of four *reales*, a reduction of the workday in establishments that still worked eight hours, the regulation of the number of apprentices and the rules governing laying off workers.<sup>61</sup> In March 1906, a joint strike of stone and marble masons obtained the seven hours day, union recognition, and a mixed employers-workers commission.<sup>62</sup> Dockers, on the other hand, worked between seven to eight hours.<sup>63</sup> Typically, work started at 6:30 a, there was a rest period from 8 to 9 am which included breakfast, there was another hour and a half of work from 9 to 10:30, then a rest of 15 minutes, work continued from 10:45 to noon, lunch took one hour and a half, and then they worked from 13:30 to 15:30 and from 15:45 to 17:30.<sup>64</sup>

Urban trades also obtained further reductions in the hours of work (table 5.3). A case in point were carpenters, both in workshops or working alongside building construction workers, who obtained the eight hour day in a strike in 1903. The first article of the collective contract they signed with their employers established a regular eight hour day throughout the year. Work was scheduled to start at 8am, at noon there was a two hours lunch break, from April to September, work continued from 2pm to 6pm, while from October to March, it did so from 1:30pm to 5:30pm or from 1 pm to 5pm. Article 3 restricted overtime to "exceptional cases, not as a rule," while article 4 stipulated overtime work was paid a fifty per cent higher the first two hours and double after ten hours on Sundays.<sup>65</sup> In sawmills, the common workday was ten hours in 1899 and nine in 1903. In 1903, of the 370 sawyers employed in Barcelona, only 80 worked ten hour shifts. In 1903, they staged a strike to generalise the nine hour day in the trade, which they obtained by giving up overtime pay.<sup>66</sup> In the same trade, which was regulated by a collective contract dating from 1899, lathe operators and workers engaged in the construction of beds ("*torneros en madera*" and "*montadores de camas torneadas*") also won the nine hour day.<sup>67</sup>

<sup>61</sup> Ibid., "Picapedreros."

<sup>62</sup> Sastre, *Las huelgas de Barcelona 1906*, "Marmolistas."

<sup>63</sup> Ibid., "Descargadores de carbón del puerto," "Descargadores de maderas del puerto," "Descargadores de cereales y demás géneros del puerto," "Lancheros del carbón mineral."

<sup>64</sup> Sastre, *Las huelgas de Barcelona 1904*, "Descargadores de los depósitos comerciales del puerto."

<sup>65</sup> Sastre, *Las huelgas de Barcelona 1903*, "Carpinteros," very detailed information as well in *Las huelgas de Barcelona 1905*, "Carpinteros."

<sup>66</sup> Sastre, *Las huelgas de Barcelona 1903*, "aserradores mecánicos."

<sup>67</sup> Ibid., "torneros en madera" and "montadores de camas torneadas." As well in Sastre, *Las huelgas de Barcelona 1904*, "Constructores de sillas y muebles torneados," and *Las huelgas de Barcelona 1905*, "torneros y barnizadores."

The metal trades were one of the most active in their efforts for a shorter working day, leading to the massive strikes of 1902 and 1910 in Barcelona. If in the mid 1880s their workday was about 10 to 11 hours, by the turn of the century a 10 hour day was the norm (table 5.2). Of the foundry workers, Sastre remarked "their main objective is obtaining the eight hour day." However, their strike of 1903 calling for the eight hour day was unsuccessful as employers did not even accept nine hours. The collective contract for the sector that ended the strike maintained the 10 hour day with overtime being paid an additional 50 per cent of the wage.<sup>68</sup> In 1905, Sastre also reported that foundry workers supplied ten hours of work, from 6am to 6pm with breaks adding up to two hours, and that "in only one or two establishments, the workday is nine hours and a half."<sup>69</sup> Among locksmiths the prevalent workday was ten hours, with some but few establishments working nine or even eight hours. For these working ten hours, work started at 6:30am and ended up at 6:30pm with half an hour for breakfast and one and a half hours for lunch.

In the printing trades of Barcelona, the workday was agreed at nine hours, with only some marginal establishments running ten hour shifts (in the mid 1880s, the printing trades worked on average 10 hours). In 1903, the whole sector in Barcelona went on strike to increase overtime pay. Strikers finally obtained an additional 25 per cent for normal overtime hours and 50 per cent in the case of Holy days or Sundays.<sup>70</sup> According to Miguel Sastre, the main objectives of their union "*El Arte de Imprimir*" was abolishing piece rate work and instituting the eight hour day.<sup>71</sup> After 1903, a nine hour day was the norm.<sup>72</sup>

Other sectors also experienced substantial reductions in the hours of work. The Barcelona shoemakers' union "*La Igualdad*" staged a strike in 1903 and again in 1906 to abolish piece rate work and win the eight hour day. In both cases the union failed and hours remained at nine hours and a half -from a previous level of 10 hours in 1899- in factories and workshops. There, work time was scheduled from 6am to 8am, from 8:30

<sup>68</sup> Sastre, *Las huelgas de Barcelona 1903*, "fundidores de bronce y otros metales."

<sup>69</sup> Sastre, *Las huelgas de Barcelona 1905*, "fundidores de hierro."

<sup>70</sup> Sastre, *Las huelgas de Barcelona 1904*, "Cajistas."

<sup>71</sup> Sastre, *Las huelgas de Barcelona 1905*, "Cajistas."

<sup>72</sup> For instance, Sastre, *Las huelgas de Barcelona 1907*, "encuadernadores y rayadores."

to noon, and from 2pm to 6pm in summer; and from 7am to 8am, from 8:30am to noon, and from 1:30pm to 6:30 pm in winter.<sup>73</sup> In 1904, coach-makers obtained a reduction of the workday from ten to nine hours after a 22-week long strike of 500 workers, with the first hour of overtime being paid a 25 per cent higher and from then on a 50 per cent.<sup>74</sup> Saddlers tended to work ten or ten and half hours. In 1906, they obtained the nine-hour day in a strike. In the collective contract they sent to their employers overtime was allowed, but forbade it “when there are one or more union members unemployed.”<sup>75</sup> Barrel-makers, with a union since 1870, worked nine hours and a half in 1899 (table 5.2), while in 1905 they were reported to work eight hours. A rule for union members stated that their weekly earnings could not go beyond 30 *pesetas* a week –they were paid by the piece-, so when an operative reached this amount, he did not work on Saturdays. On that issue, Sastre indicated “they have imposed themselves this restriction in order to maximise the number of employed barrel-makers.”<sup>76</sup> In addition, tanners supplied nine hours per day in 1899 and 1907.<sup>77</sup> Finally, glass workers had a work schedule of ten hours in 1907.<sup>78</sup>

In workshops, tailors, hatters and glove makers, worked on average about 10 hours. Hatters worked from 6 in the morning to 6 in the evening in summer and from 7 am to 7 pm in winter. Of these workers, Sastre remarked in 1904 “hatters are satisfied with their working conditions, their salaries and their hours of work” and that they did not have any collective contract signed with their employers.<sup>79</sup> Of glove makers, who were paid according to an elaborate piece rate list, it was noted “one cannot tell their hours of work because they are paid by the piece.”<sup>80</sup> Umbrella makers worked nine hours as a rule.<sup>81</sup>

As in the 1880s, manufacturing workers worked distinctively longer hours. In the knitwear industry, women worked 12 hours by 1899. The jute or the woollen cloth industries, men and women worked for 11 hours. In Barcelona, the cotton textile

<sup>73</sup> Sastre, *Las huelgas de Barcelona 1906*, “Zapateros,” *Las huelgas de Barcelona 1907*, “Zapateros.”

<sup>74</sup> Sastre, *Las huelgas de Barcelona 1904*, “Constructores de carruajes.”

<sup>75</sup> Sastre, *Las huelgas de Barcelona 1906*, “Guarnicioneros y guarnecedores de carruajes,” “Talabarteros.”

<sup>76</sup> Sastre, *Las huelgas de Barcelona 1905*, “Toneleros.”

<sup>77</sup> Sastre, *Las huelgas de Barcelona 1907*, “curtidores.”

<sup>78</sup> Ibid., “vidrieros.”

<sup>79</sup> Sastre, *Las huelgas de Barcelona 1904*, “Sombrereros de plancha.”

<sup>80</sup> Sastre, *Las huelgas de Barcelona 1906*, “Guanteros.”

<sup>81</sup> Sastre, *Las huelgas de Barcelona 1907*, “paragüeros.”

industry, as in the 1880s, worked eleven hours from Monday to Friday; from 5:30 am to 6:30 pm with breaks amounting to two hours. On Saturday, factories closed two hours in advance to allow for the cleaning of machinery, which took from fifteen to thirty minutes, and to collect pay. The whole working week was therefore 64 hours. Some factories also organised a night shift of eight hours. As Sastre noted, these conditions of work were “uniform across all factories.” According to him, “through an agreement between the union *“Tres Clases de Vapor”* and the patrons, the piece rate workers employed in night shifts have experienced an increase of 25 per cent in pay to compensate for the their shorter shifts.”<sup>82</sup> In the finishing trades, characteristically dominated by skilled male workers, hours of work were shorter, generally ranging from 9 to 10 hours. Cotton, wool, and silk dyers went on strike in February 1903 to reduce their workday from 10 to 8 hours, finally obtaining and successfully implementing the nine-hour day. In addition, these workers also got an increase in overtime pay of 0.25 *ptas*.<sup>83</sup> In other finishing trades (*“cilindradores y aprestadores”*), workers presented a collective contract to their employers stipulating a nine hour day, wages in different occupations, and overtime pay. On overtime, they stated that “if there are unemployed union members, overtime work is forbidden.”<sup>84</sup> In this case, strikers could only obtain a reduction of fifteen minutes in their hours of work. In 1906, it was reported they worked nine and a half hours, from 6:30 to 8:30, 9:15 to 12:30, and 2:00 pm to 6:00 pm.<sup>85</sup>

Service workers worked the longest hours. Coachmen had work shifts of 13 hours with irregular meal times.<sup>86</sup> According to Sastre, bakers, whose main objective was abolishing work on Sunday, suffered shifts of 16 hours with short rest periods in the middle. In 1904, after a strike, employers conceded a continuous rest period of 24 hours from seven am on Sunday to seven am on Monday. Dairy workers were reported to work from dawn to midnight.<sup>87</sup> Barbers and hairdressers worked 13 hours from Monday to Friday and 15 hours on Saturdays. According to Sastre, the objectives of the barbers’ union were “obtaining a day of rest on Sunday, limiting the workday from

<sup>82</sup> Sastre, *Las huelgas de Barcelona 1905*, “Arte fabril.”

<sup>83</sup> Sastre, *Las huelgas de Barcelona 1903*, “Tintoreros en algodón y seda” and “Tintoreros en lana y piezas.”

<sup>84</sup> Ibid., “Cilindradores y aprestadores.”

<sup>85</sup> Sastre, *Las huelgas de Barcelona 1906*, “cilindradores y aprestadores;” as well 9 and a half hours in *Las huelgas de Barcelona 1907*, “aprestadores.”

<sup>86</sup> Sastre, *Las huelgas de Barcelona 1903*, “carreteros.”

<sup>87</sup> Ibid., “dependientes de vaqueria.”



eight in the morning to eight in the evening with adequate periods for meals, and being spared the cleaning of the shop.”<sup>88</sup>

To summarise: evidence from the province of Barcelona shows a substantial reduction of work took place for some occupations between the mid 1880s and the early 20<sup>th</sup> century (table 5.3). That was the case for urban trades, which worked roughly between 10 to 8 hours. Manufacturing workers, on the other hand, still worked over 11 hours except in the male-dominated finishing trades of the textile industry. Service and sales workers supplied the longest workday and there are no differences with respect to the situation in the 1880s.

Table 5.3. Hours of work in Barcelona, early 20<sup>th</sup> century

Trade	Workday	Year of observation
Building construction	8	1901
Roofers	7	1901
stonecutters	7	1906
Marble masons	7	1906
Dockers	7 to 8	1903
Carpenters	8	1903
Sawyers	9	1903
Lathe operators	9	1899
Metal workers	10	1899
Printing trades	9	1903
Shoe-makers	9 ½	1903
Coach-makers	9	1904
Saddlers	9	1906
Barrel-makers	8	1905
Tanners	9	1907
Glass workers	10	1907
Tailors, hatters, glove makers	10	1904
Knitwear industry	12	1906
Jute and woollen industries	11	1906
Cotton textile (except finishing)	11	1906
Cotton textile (finishing only)	9 ½	1906

Source: Sastre, *Las huelgas de Barcelona*, various years.

<sup>88</sup> Sastre, *Las huelgas de Barcelona*, “Barberos y peluqueros.”

It is interesting to examine the factors that explain the cross-sectional variation in hours among occupations in Barcelona between 1904 and 1909.<sup>89</sup> When analysing the variance in hours of work, it is usually considered that the elasticity of the supply curve with respect to hourly wage rates is negative because the income effect created by rising hourly earnings dominates the substitution effect.<sup>90</sup> A formal model of hour determination cannot be estimated because observations for many of the required labour demand and labour supply variables do not exist. However, the analysis of wage-hours pairs is approached here by estimating a relationship in which the hourly wage rate depends on the number of hours. The natural step should have been to estimate the elasticity of hours with respect to wages as in a labour supply model, but the estimation was inverted so as to make results in this section comparable with those of the next. If longer hours are related to lower hourly rates, then this is evidence pointing at a trade off between hourly wages and leisure. Moreover, the size and sign of the coefficient also offers a crude approximation to the market compensation for a longer workday. A wage-hours elasticity bigger than -1 (estimated from a group of workers with similar characteristics) is consistent the existence of some compensation differential for longer hours.<sup>91</sup>

Using data on working conditions in trades from Barcelona between 1904 and 1909, information on real wages and union density was gathered for different trades. The method is necessarily crude. Occupations were grouped in five different skill and demographic categories: overseers and supervisory personnel, male craftsmen and male semi-skilled workers, male unskilled, adult women, and apprentices with boys and girls working in factories.<sup>92</sup> Four dummy variables were constructed covering the trades, manufacturing, construction, and a "miscellaneous" category. Then, the natural logarithm of the reported hourly wage deflated by the price level is regressed against the

<sup>89</sup> In this period (but not in 1903), Sastre included a special appendix on hours of work and wages in all the striking trades of Barcelona broken down by occupation.

<sup>90</sup> Costa, "The wage and the length of the work day," p. 163. The study of 1909-1919 is Whaples, Robert "Winning the eight-hour day, 1909-1919," *Journal of Economic History*, L, 2 (June 1990); Attack, Jeremy and Fred Bateman, "How long was the workday in 1880?," *Journal of Economic History*, 52, 1 (March 1992).

<sup>91</sup> Sundstrom, William A. and Joshua L. Rosenbloom, "Occupational differences in the dispersion of wages and working hours: labor market integration in the United States, 1890-1903,"

<sup>92</sup> Supervisory personnel includes *encargados*, *contramestres*, *mayordomos*. Semi-skilled and craftsmen includes *oficiales de primera* and *oficiales de segunda*, male adult occupations in the manufacturing sector, barbers. Unskilled includes all *peones*, *mozos*, *ayudantes*. Adult women occupations include semi-skilled and unskilled positions occupied by adult women, generally recorded as *mujeres*. "Apprentices" groups apprentices of first, second and third year (*aprendices de primer, segundo y tercer año*).

logarithm of hours and union density in each of the ‘occupational’ groups.<sup>93</sup> Two obvious problems are that union density affects real earnings and hours and that the hours affect the hourly real wage if there are compensating differentials. In both cases, a problem of endogeneity biases the estimated coefficients. The natural solution would have been to attempt to run a two-stage regression, first for hours and then for earnings. Unfortunately, an adequate variable to be used as instrument in the first stage regression with hours could not be found. A third problem is related to the fact that the effect of union density is probably underestimated since only trades that went on strike are being considered. The average union density is high –40 per cent-, and this could be a problem if the alleged union effect only occurs when passing from very low to higher densities. Different thresholds levels for union density (10 per cent, 25 per cent and 50 per cent) were tried without obtaining significantly different results results.

In table 5.4, alternative specifications of the exercise are shown for the different categories of workers. The control group in most regressions is “miscellaneous industries” in 1904. However, there were some cases where different control groups were used because there were insufficient or no observations in the “miscellaneous” group. For example, there were not enough observations for unskilled workers employed in “other” industries, so in this case I use the trades as the control group.

---

<sup>93</sup> Consumer price index for the province of Barcelona from Ballesteros Doncel, Esmeralda, “Una estimación del coste de la vida en España, 1861-1937,” *Revista de Historia Económica*, XV, 2 (1997).

Table 5.4. Relationship between hours and wages, 1904-9. Dependent variable: log of the hourly real wage.

	<u>Overseers and supervisory personnel</u>		<u>Semi-skilled and skilled adult male occupations</u>	
Log (hours)	<b>-1.43*</b> (-1.72)	<b>-1.36</b> (-1.55)	<b>-0.71**</b> (-3.05)	<b>-0.69**</b> (-2.94)
Union density		-0.66 (0.64)		0.23 (0.44)
<u>Sector dummies</u>				
Trades	-0.22 (-1.99)	-0.24 (-1.91)	0.138** (2.3)	0.217** (2.91)
Construction	-0.33 (-1.62)*	-0.327 (-1.62)	0.207** (2.45)	0.293 (2.87)
Manufacturing	0.12 (0.91)	0.11 (0.82)	0.001 (0.024)	0.013 (0.17)
<u>Year Dummies</u>	Yes (4)	Yes (4)	Yes (5)	Yes (5)
Constant	-1.95 (-1.04)	-2.18 (-1.07))	-4.0 (-7.37)	-4.05 (-7.08)
Adj-R-Sq	0.28	0.28	0.37	0.38
N	36	36	247	247

	<u>Unskilled male occupations</u>		<u>Adult women occupations</u>	
Log (hours)	<b>-0.93**</b> (-2.04)	<b>-1.075*</b> (-1.77)	<b>0.81</b> (1.54)	<b>0.91*</b> (1.69)
Union density		-0.16 (-0.76)		-0.163 (-1.29)
<u>Sector dummies</u>				
Trades				
Construction	-0.36** (-3.02)	-0.37** (2.89)		
Manufacturing	-0.23 (-1.43)	-0.24 (-1.42)	-0.101 (-1.27)	-0.15 (-1.56)
<u>Year Dummies</u>	Yes (3)	Yes (3)	Yes (4)	Yes (4)
Constant	-3.56** (-3.41)	-3.11 (-2.2)	-8.04** (-6.79)	-8.2 (-6.84)
Adj-R-Sq	0.31	0.32	0.03	0.04
N	42	42	87	87

Apprentices		
Log (hours)	-2.53** (-4.67)	-2.29** (-3.9)
Union density		0.13 (0.86)
<u>Sector dummies</u>		
Trades	0.13 (0.64)	0.11 (0.52)
Construction	-0.2 (-0.95)	0.22 (-1.01)
Manufacturing	0.41* (1.72)	0.42* (1.68)
<u>Year Dummies</u>		
Constant	Yes (5) -1.38 (-1.22)	Yes (5) -1.97 (-1.56)
Adj-R-Sq	0.21	0.21
N	106	106

Notes: White-heteroskedasticity consistent standard errors. Control group is "miscellaneous" and "1904" except in these cases where there were no observations in one or both groups. In the case of "adult women occupations" there were no observations in "construction" and "other",

"trades" was the control group. Absolute t-statistics in parentheses.

\*\* significant at less than 5 % levels.

\* significant at less than 10 %.

The hypothesis of a significant negative relationship between the hourly wage and hours receives support from the data in male occupations. For all groups, longer hours are associated with lower hourly rates and the coefficients are robust to the inclusion of the union density variable. Coefficients for overseers, unskilled workers and apprentices are negative, significant at standard levels and generally smaller than or close to -1, suggesting the market did not compensate workers for longer hours. Only for skilled and semi-skilled workers the value of the coefficient is bigger than -1, while semi-skilled female workers get positive coefficients. The main reason for the observed pattern of wages and hours is that women enjoyed higher wages in the long-hour, low-union density manufacturing sectors, especially in the cotton textile industry. A positive coefficient also suggests the premium for long hours was substantial. In the textile industry, piece rate female workers earned the same as men, in many cases over 4 *pesetas* a day, when the average wage for women was 2.4 *pesetas* (unweighted average of all female occupations). The historical literature on gender and unions' policies has not been developed so far, but the sorting of women towards the long-hours

manufacturing sectors can be explained by entry restrictions to the skilled trades, while employment opportunities existed in the manufacturing sector as semi-skilled workers.<sup>94</sup>

While a formal labour supply model could not be estimated, the negative correlation between hours and wages found in the data for Barcelona suggests the elasticity of the labour supply was negative and that workers enjoying higher wages wanted to restrict their hours of work. This evidence is supported by the qualitative information on the limiting the supply of hours in some of the short hour sectors. I have mentioned the case of carpenters and building construction workers in which clauses were introduced to limit overtime. On the other hand, the link between higher wages and shorter hours was commonplace among trade union propaganda. Interestingly enough, the causality of the argument linking higher wages to shorter hours –a backward bending labour supply- was reversed. Instead, unions claimed that by limiting the supply of labour and obtaining monopoly rents, they were able to increase wages. In 1905, the anarchist newspaper *El Trabajo*, from Sabadell, near Barcelona, published a pamphlet called “*La Jornada de Ocho Horas*” (the eight-hour day). The document was a translation of an original by the French *Confédération Générale du Travail* aimed at preparing the events of May Day 1906. The first argument put forward by anarcho-syndicalists was the relationship between shorter hours and higher wages, the familiar “the shorter the hours, the greater the pay.” The cases of Australia and New Zealand were mentioned as successful cases where eight-hour days had been enforced with no loss in wages. Moreover, they offered a more than biased comparison of wages in the US and in the UK, showing how in the US hours were shorter and consequently wages higher than in the UK for the same occupation.<sup>95</sup> Another argument in favour of a shorter workday had to do with the fact that unions claimed shorter hours did not reduce total output:

Some (...) believe that a reduction in working hours is going to lead to industrial ruin.

(...) But the opposite effect is observed, a renewed industrial progress generally has been the consequence of a reduction in working hours.

<sup>94</sup> In Barcelona, there is evidence that unions tried to restrict the employment of women in the printing trades and shoe-making.

<sup>95</sup> Trabajo, El, La Jornada de Ocho Horas. Folleto editado por el periódico “El Trabajo” de Sabadell. Translated by Lorenzo Pahissa (Barcelona, 1905), pp.10-12.

(...) In the middle of the last century, in 1847, in England, the working day in the textile industry, being of 13 hours or more, was reduced to 10 with neither a significant loss for the industry nor a decrease in wages.

(...) After the transition, with a new time schedule, output was almost the same as before and in some cases even higher.

(...) The hypothesis that output will be the same under eight hours than it has been under nine or more hours is not absurd.

If a machine used, it is likely that output will be the same as before, thanks to an improvement in the machinery and its use, as well as thanks to the worker, who, less tired and more alert, avoids mistakes and misuses.<sup>96</sup>

Third, and most important, unemployed workers were to find a job if working hours were shared:

Is there anything more fraternal and simpler than giving a job to our companions, in the workshop, in the office, in the warehouse, etc. by reducing the length of our day?<sup>97</sup>

Nevertheless, it was noted, employment creation was only to happen in establishments where output would fall with the introduction of the eight hour day, i.e. in establishments in which the intensity of work could not increase. For instance, in a strike called on the 22 February 1903 by Barcelona's carpenters, demanding higher wages and a working day of 8 hours, Miguel Sastre commented:

They justify their attitude by the fact that with modern machinery more work is done in less time. By reducing hours, four hundred unemployed workers of the trade could find a job.<sup>98</sup>

In this case, according to Sastre, the reduction of hours from 9 to 8 created jobs for the four hundred unemployed. Among typographers, the reduction of the working day from 10 to 9 provided a job for ten of the twenty unemployed; in the case of lithographers, for nineteen of twenty-five unemployed; bookbinders hoped to provide

<sup>96</sup> Ibid., p.16-17 and p. 20.

<sup>97</sup> Ibid., p.27.

<sup>98</sup> Sastre, *Las Huelgas de Barcelona en 1903*, "Carpinteros." See as well for similar cases: "Constructores de cajas de embalajes," "Fundidores en bronce y otros metales," "Litógrafos," "Tipógrafos," "Encuadernadores y rayadores."

jobs for twenty unemployed workers, but they failed. The evidence seems to point to some work sharing solidarity among workers of the same craft.

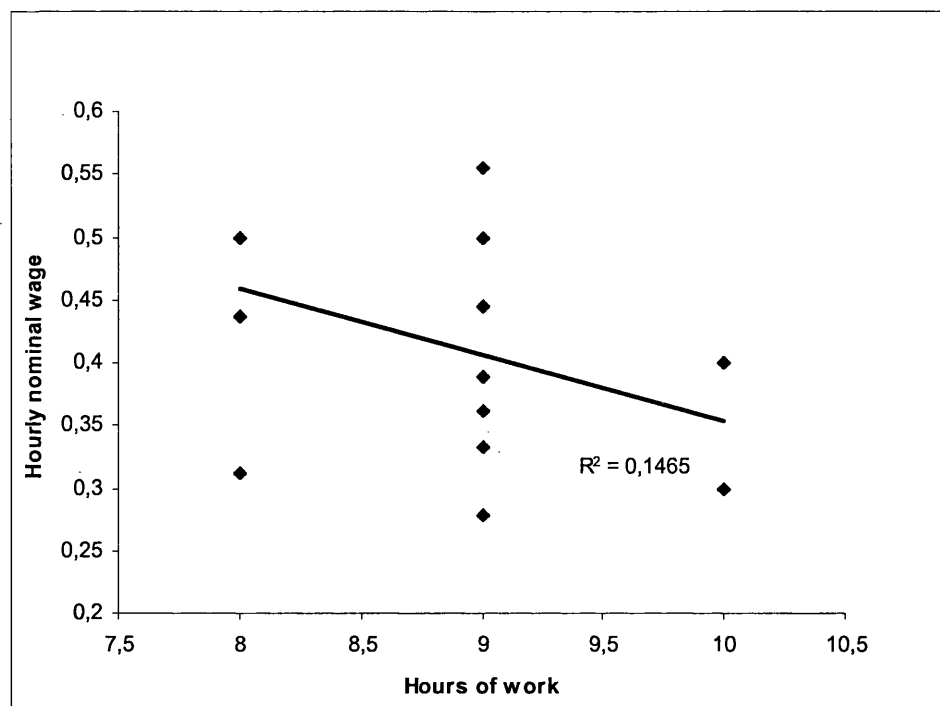
The evidence from Barcelona can be complemented with two additional local studies on hours and wages for the cities of Madrid and Valencia, included as appendixes to Angel Marvaud's book *La question sociale en Espagne* published in Paris in 1910. The first one is a report containing data for 1903 published in 1907: *Memoria acerca del estado de la provincia de Madrid en el año 1903*. There, we learn that in the city of Madrid quarry workers, stone and marble masons, and sculptors worked 8 hours in winter and summer. Building construction workers, manual sawyers, and carpenters worked 8 hours in winter and 9 in summer. Plasterers, 8 hours in winter and 9 and a half in summer. Mechanic sawyers, cabinetmakers, woodcarvers, or upholsterers nine during the whole year. Coach makers laboured nine hours in winter and ten in summer. Chocolate-makers, blacksmiths, dyers, electricians, basket-makers, rail workers and tramways workers supplied a regular schedule of 11 hours. Gardeners, nine and a half hours in winter and eleven in summer. Card-box makers and gas workers, up to 12. Finally, according to this source, bakers worked 17 hours.<sup>99</sup> Therefore, the distribution of hours across occupations is very similar to that of Barcelona, in spite of the fact that some sectors still kept differentiated winter-summer schedules. Hours of work in summer, nonetheless, were now substantially shorter.

Evidence from Valencia from the 1900s also supports the view of a reduction of the workday below the 10 hours in most sectors, especially through the reduction in the hours of work supplied in summer. There, carpenters, saddlers, and cabinetmakers, and gold- and silversmiths worked 8 hours. Most trades worked 9 hours and only tanners and stokers laboured 10 hours. Furthermore, the negative relationship between the hourly wage and hours of work emphasized in the case of Barcelona is also confirmed using the data on nominal wages and hours of work. Graph 5.1 shows this negative correlation for forty trades of Valencia in the mid 1900s.<sup>100</sup>

<sup>99</sup> Marvaud, Angel, *La question sociale en Espagne* (Paris, 1910), appendix 3.

<sup>100</sup> Ibid., appendix 4.





Graph 5.1. Hours of work and nominal wages in Valencia, mid 1900s.

(N=40)

Source: see text.

### The 1910s. Maximum hours legislation in mining, the cotton textile industry and sales workers.

In the previous section I have shown that workers in the urban trades had obtained a reduction in the working day towards 8 to 10 hours. In the case of manufacturing and sales workers, the workday had remained roughly constant since the 1880s. Nevertheless, the reduction in the working day had only been observed in the case of Barcelona and therefore this conclusion needs to be extended with data covering the whole of Spain. An obvious source of data is the labour inspectors' yearbooks published daily by the *Instituto de Reformas Sociales* from 1908 to 1924. The average number of hours of work in 1910 for several industrial and agricultural sectors are presented in table 5.5.

Table 5.5. Sector hours of work by 1910.

Sector	Workers covered in 1910	Average hours of work (weighted means and standard deviations)
Mines, salt mines, and quarries	30,429	9 h 36 min (37 min)
Metals	32,271	9 h 37 min (23 min)
Chemicals	10,877	10 h 06 min (38 min)
Tobacco	12,193	9 h 16 min (29 min)
Textiles	72,947	10 h 38 min (25 min)
Construction	8,897	9 h 22 min (35 min)
Electrical industry	3,254	11 h 04 min (57 min)
Printing	5,990	9 h 42 min (31 min)
Garment industry	25,102	10 h 19 min (43 min)
Food	11,416	9 h 14 min (44 min)
Transports	15,308	10 h 08 min (56 min)
Furniture	4,489	9 h 44 min (17 min)
Glass	3,387	9 h 15 min (41 min)

Notes: average hours of work are the weighted average of 7 inspectors' regions.  
Standard deviations in parentheses.

Compared to the data collected in Barcelona, the industry averages are somewhat higher. Generally, the trades worked below 10 hours per day (construction, printing, wood or glass) while manufacturing still maintains on average longer working hours –like for instance in the case of the textile and garment industries. Compared to the 1880s, in some sectors, the reduction in the workday was on the range of half an hour to one hour. Metal workers, confirming the downward trend in their workday observed for the Barcelona data, worked on average 9 hours and 37 minutes, while in the 1880s they worked from 10 and half to eleven hours. Data for building construction workers suggests the reduction in hours of work towards the eight-hour day observed in Barcelona, Madrid or Valencia might have been exceptional: the trade reported to work about 10 hours in the 1880s, while in 1910 the average for the whole of Spain is 9 hours and 22 minutes. Among carpenters, the reduction of the working day was in the range of

half and hour and one hour compared to the observations for “workshop carpenters” in the 1880s. The printing trades, reporting from 10 to 11 hours in the 1880s, now worked on average 9 hours and 42 minutes. Miners, who at that time campaigned for a shorter work day, also worked below 10 hours across Spain, but they already did so twenty-five years before. Finally, industries arising from the second industrial revolution –like the electrical and chemical industries- had longer than average work schedules over 10 hours.

In order to understand variation in hours across sectors and regions, I use the labour inspector’s yearbooks which give data on daily hours of work, average male wages and workforce characteristics for 24 sectors of the Spanish economy aggregated at the level of the Inspectors’ regions. The inspectors’ regions were quite compact. For example, region 3 contained the Basque country but also the Northern provinces of Logroño and Santander. Region 2 covered the Catalan provinces. Region 4 included the North-Western provinces and Region 6 the Levant. One problem at this level of aggregation is to develop adequate cost-of-living indices so as to measure regional real wages. Since my main objective here is describing wage-hours pairs and not estimating a labour supply model, one way to solve this problem is to estimate a “crude” hedonic wage equation for nominal hourly wages (the same procedure than in the previous section). This allows me to use nominal instead of real wages letting regional nominal wages to adjust to the regional cost of living. In order to do this, I estimated the following relationship:

$$\begin{aligned} \ln \text{ hourly nominal wage } (i, j, t) = & \text{constant} + a \ln (\text{hours}(i, t)) \\ & + b(i) \text{ } i \text{ sector dummies} + c(j) \text{ } j \text{ region dummies} + d(t) \text{ } t \text{ year dummies} \\ & + \text{error term } (i, j, t), \end{aligned}$$

where  $i$  stands for the 24 sectors,  $j$  for the seven inspectors’ regions and  $t$  for the years included in the sample. The hourly wage being used here is the average male wage reported by inspectors in each of the sectors.

In this case, I have restricted my sample to the years 1909 to 1914. I have decided to exclude the years of World War 1 because price shocks caused by the disruption of the war shifted wage functions and complicated the estimation of

parameters. Regional fixed-effects capture unobserved variables affecting nominal wages like price level variations among regions and other characteristics like city sizes, climate, alternative employment opportunities, or a more organised labour movement. Sector fixed-effects capture labour demand variables such as technology or average labour productivity and labour supply characteristics like the levels of human capital or workers' collective action. In table 5.6. I present the two estimates of the relationship between hours and wages (full tables in the appendix to the chapter). The first one is done through ordinary least squares, while in the second especification I also allow hours to be affected by nominal wages using lagged hours and lagged nominal wages and all the dummies as instrumental variables. Again, a value of the elasticity of nominal wages with respect to hours over -1 is consistent with the existence of partial market compensation for long hours.

Table 5.6. Elasticity of the nominal wage with respect to hours, 1909-1914.

	<u>Value of coefficient</u>	<u>t-statistic</u>
<i>OLS</i>	-0.97	-10.72
<i>Instrumental variables</i>	-0.752	-2.67

Notes: full results of the nominal wage equation in appendix. 848 and 728 observations.

Sources: IRS, *Memoria general del servicio de inspección*, 1909-1914.

In both cases, the regressions perform quite well (see table 5A.1 in appendix) and I find negative coefficients significant at the one per cent level, showing that shorter hours were related to higher hourly earnings. Despite the fact that I am not able to approximate a labour supply equation, this results are in line with the existence of an income effect in a backward bending labour supply curve in which workers with higher hourly earnings get more leisure time. Additionally, in both cases I get estimates of the elasticity of wages with respect to hours of work greater than -1, suggesting long hours were partially compensated by the market. The compensation according to the OLS estimate, though, was almost negligible. Finally, the size of the coefficients is not off the mark with respect to the coefficients calculated in the case of Barcelona for the period 1904-1909, which in the case of adult males clustered around -1.

Government intervention:

One of the puzzles of the evolution of the workday is the persistence of long hours of work in sectors like the Catalan cotton textile industry or retail and service workers. On the other hand, in these sectors and in sectors like Biscayan mining, conflicts over hours of work became salient issues in the early 20<sup>th</sup> century. This in turn prompted the first government interventions in the regulation of hours of work, with mandatory hours ceilings being established in mining in 1910, in the cotton textile industry in 1913 and in the retail and service sectors in 1903 and again in 1918. My explanation for these interventions is that a collective action problem existed in these sectors preventing the adjustment of hours.

Mining unions in Biscay had been calling for a regular nine hour day throughout the year since 1890. Up to the government intervention in 1910, miners in Biscay worked 11 hours in summer, 10 hours in spring and autumn, and 9 hours in winter.<sup>101</sup> In this case, the particular labour force mix generated a conflict between workers willing to supply long hours and those pressing for a reduction in the workday. In the report by *Instituto de Reformas Sociales* on the working conditions of the mines in Biscay it was observed: “one of the most remarkable characteristics of the mining population in Biscay is the division between *permanent* (“fijo”) and *temporary* (“ambulante”) workers.”<sup>102</sup> According to the 1904 report, about a 70 per cent of miners were employed on a temporary basis. Most of them migrated from the provinces of Galicia and the North of Castilla to be employed for a limited number of years or during the slack season in winter.<sup>103</sup> For instance, one of the managers (Mr. Woolf) of the “Orconera Iron Ore Company Limited” recognised the costs of employing transient workers “who stay in our mines one, two or three years, most of them only for some months.”<sup>104</sup> The *ambulante* was “reluctant to unionise because (...),” it was said, “he believes his ties

<sup>101</sup> There was not underground mining.

<sup>102</sup> Instituto de Reformas Sociales, *Informe de las minas de Vizcaya* (1904), re-printed in *Revista de Trabajo*, number 19 (year 1967), p.187; Instituto de Reformas Sociales, “Información sobre el trabajo en las minas. A propósito de las peticiones que las sociedades obreras elevaron al gobierno el año 1909,” re-printed in *Revista de Trabajo*, number 1 (1968), pp.138-139.

<sup>103</sup> A colourful depiction of the life in the mines of Vizcaya which puts emphasis on the rivalries created by the different regional origins of miners (quoting songs for example) is given in Ibárruri, Dolores, ‘La Pasionaria,’ *El único camino* (Moscow, 1963), chapter 3, “Proletariado,” pp. 15-20.

<sup>104</sup> Instituto, *Informe*, p.189.

with mining work are temporary.”<sup>105</sup> Generally, union membership in the sector rarely surpassed ten per cent of the labour force. Additionally, the *ambulante* also accepted barrack housing, credit in the company store, being paid by the month rather than the week, and longer hours to maximise pay. On the other hand, transient, immigrant workers were employed as unskilled workers, while “the Biscayan worker,” it was said, “rarely works as a labourer,” occupying positions of foremen or skilled workers instead.<sup>106</sup>

The relationships between these two groups were undoubtedly tense.<sup>107</sup> During strikes, strikers regularly clashed with temporary workers who did not support the strike.<sup>108</sup> The traditional demands of the Biscay mining unions had been the abolition of barrack housing and the truck system, the setting of a regular pattern of hours of work based on winter hours, and the abrogation of *tareas* (the payment on the basis of individual or group output). However, as I have explained in chapter 2, employers refused to deal with the union because they argued it did not represent the interests of all workers. Therefore, working conditions were by and large determined by the preferences of the transient workers: long hours in summer, payment by the piece, and barrack housing. When the members of the *Instituto de Reformas Sociales* asked some Biscayan workers which system of payment they preferred, a group of miners answered: “This you have to ask to the *ambulantes*.”<sup>109</sup> Similarly, the employment of workers with a strong preference for long hours and an inefficient collective action mechanism -the union was not formally recognised by employers- assured summer hours remained long in Biscay mining work until 1910.

Sales and service workers (in the Spanish debate *dependencia mercantil*) also worked very long hours up to 1918 and generally had to work on Sunday in spite of the December 1903 law establishing the right to rest on Sundays.<sup>110</sup> For instance, of the 358 respondents of the questionnaire sent by the *Instituto* in 1912, more than a fifty per cent answered sales workers supplied between 12 and 14 hours in winter and 12 to 15 in

<sup>105</sup> Ibid., p.189.

<sup>106</sup> Instituto de Reformas Sociales, *Informe*, p.187.

<sup>107</sup> Ibárruri, *El único camino*, p. 17.

<sup>108</sup> See for instance account of the 1903 general strike: Fusi, Juan Pablo, *Política obrera en el País Vasco, 1880-1923* (Madrid, 1975), p.268.

<sup>109</sup> Ibid., p.188.

<sup>110</sup> On these workers: Nielfa, Gloria, *Los sectores mercantiles en Madrid en el primer tercio del siglo XX. Tiendas, comerciantes y dependientes de comercio*, (Madrid, 1985).

summer (table 5.7).<sup>111</sup> Clearly, these hours did not have the intensity of work in industry and included rest and meal times. In the survey of working conditions in this sector, the mean response to the question of how many hours of “intense work” there were in these establishments was about 5 hours.<sup>112</sup> But the contemporary depictions of working conditions for sales and retail workers, waiters, etc. suggest that they worked all day from dawn to almost midnight for almost seven days a week, in many cases even sleeping in the store (in caves, warehouses or sleeping on the floor behind the counter) in the harshest conditions.

Table 5.7. Hours distribution among sales workers in 1912 (percentages of responses).

	10 h	11 h	12 h	13 h	14 h	15 h
Winter	10.1	9.8	21.3	13.4	15.4	12.6
Summer	5.8	6.9	11.8	12.2	21.7	11.5

Notes and sources: see text.

Again, a collective action problem explains the persistence of extraordinary long hours among the sales and service workers. First of all, the atomistic distribution of establishments employing one or two workers made it difficult and costly to punish defectors from reductions of work instituted by the union or by the state. In Barcelona, the proportion of barbers per establishment was below two.<sup>113</sup> In the taverns of Madrid, by 1910 there were 1454 workers employed in 1073 establishments.<sup>114</sup> Labour inspectors repeatedly expressed their inability to supervise the conditions of work in stores and retail establishments. The law of Sunday rest of 1903 proved extremely difficult to implement, and by 1919 it was still considered to have failed to be enforced. As a result, the atomistic distribution of establishments contributed to the fact that violations of either state or union regulations on hours and rest periods were difficult to detect.

More importantly, the demographic characteristics and preferences of sales workers were different from the rest of the traditional craft workers. The data provided

<sup>111</sup> Instituto de Reformas Sociales, *Preparación de un proyecto de ley regulando la jornada de trabajo de las personas empleadas en los establecimientos mercantiles* (Madrid, 1914).

<sup>112</sup> Ibid., p.30.

<sup>113</sup> Sastre, *Las huelgas de Barcelona 1906*, “Barberos y peluqueros.”

<sup>114</sup> Of the 1797 taverns existing in Madrid in 1910, 904 did not hire workers outside the family, Instituto de Reformas Sociales, *El descanso dominical en las tabernas de Madrid* (Madrid, 1910), p.20.

by labour inspectors in the city of Madrid on the ages of waiters in the taverns of Madrid shows how the age distribution was skewed toward younger than average workers: 28 per cent of workers were older than 23, 32 per cent were between 18 to 23 years old, while 40 per cent were younger than 18. Evidence also suggests that these were “blind alley occupations”: jobs occupied by adolescents in big cities not requiring an initial set of skills and providing little on-the-job training. As a result, sales workers had flat earnings profiles as their earnings had little chances to increase after reaching twenty-five years of age. For example, in the agreements signed by the members of the Barcelona joint commission of sales workers and patrons in 1918-1919, minimum wages were stipulated to increase with each year of service for 14 to 24 years olds, but not after this age.<sup>115</sup>

In addition, their employment package was substantially different from the one prevailing in industry or the trades. Most sales workers were *internos*, meaning they lodged and ate at their patron's house, generally in the same establishment. In the taverns of Madrid, this arrangement covered 90 per cent of workers and all qualitative evidence points to the fact that *internado* was the rule. For example, the 1912 study of the IRS stated that, as a rule, commercial workers were paid by the year or even had to wait until the termination of their employment at the establishment to be paid at all.<sup>116</sup> Moreover, because workers needed lodgings and food, the practice of the *internado* suggests that in big cities sales workers were recruited from nearby provinces and not from the city. Again in the cases of the taverns of Madrid, the labour inspectors remarked “the *interno* is very unstable and changes frequently when there are no family ties with the patron,” and added “he (the *interno*) is hired from all the provinces of Spain, but preferably from these neighbouring Madrid.”<sup>117</sup>

Therefore, the sector characteristically employed workers operating a regional labour market for unskilled, adolescent work. In the case of *interno* workers, employment spells were short. This labour market offered little prospects for workers after the age of marriage. Again, the collective action problem appears with weak trade

<sup>115</sup> Cámara Oficial de la Industria de Barcelona, *Memoria reglamentaria 1920-1921*, “Acuerdos de carácter general y obligatorio publicados por la Comisión Mixta del Trabajo en el Comercio de Barcelona,” pp.179-183.

<sup>116</sup> Instituto, *Preparación de un proyecto*, p. 58.

<sup>117</sup> Instituto, *El descanso dominical*, p.19.



unions and in the conflict between these workers willing to invest in the improvement of working conditions in the sector and these planning to shift to other occupations or return to their towns of origin.

Finally, long hours also prevailed in the manufacturing sectors. Cases in point were the Catalan cotton textile sector, with a 66-hours week until 1913, or the paper or garment industries, having a workday well over 10 hours during the early 1910s. A distinctive characteristic of these sectors is that they employed mainly women. For example, women represented a 62 per cent of the working population in the textile industry, a 64 per cent in the garment industry and a 55 per cent in the paper industry in the early 1910s according to data provided by the labour inspectors. An exception was the case of the tobacco industry, with a 94 per cent of women in the total working population, which worked relatively short hours.<sup>118</sup>

In order to establish that women tended to work in long hours sectors, in table 5.8. I present the correlations of the logarithm of hours of work with respect to the different age groups selected by the labour inspectors: women over 23, between 14 and 22, and below 14 years old. In all the three cases the correlations with respect to the log of hours appear to be positive. In a second descriptive exercise, the log of hours is regressed against the share of women in the different age groups, allowing for regional differences in hours of work. In this case the relationship is positive and statistically significant for all age groups. Taking into account the mean share of women and young girls of each age group in total employment, the coefficients are largest for the 15-22 and for the age group below 14.

---

<sup>118</sup> Lina Gálvez argues that the sector employed mainly married women and their fundamental demand was a flexible, short hours regime that allowed working mothers to keep up with housework. Gálvez Muñoz, Lina, *La Compañía Arrendataria de Tabacos (1887-1945): cambio tecnológico y empleo femenino* (Madrid, 2000), chapter 3.

Table 5.8. Correlations of hours of work with age and share of women in the labour force, 1909-1914.

	Log(hours)
% women	0.13
% women age group 23 and over	0.11
% women age group 15-22	0.14
% girls age group younger than 14	0.06
N=848, 24 sectors in 8 inspection regions.	

Source: IRS, *Memoria general del servicio de inspección*, years 1909-1914.

	1	2	3	4
Constant	2.25**	2.26**	2.25**	2.26**
% women	0.04**			
mean: 0.31	(4.65)			
% women age group 23 and over		0.06**		
Mean: 0.11		(3.85)		
% women age group 15-22			0.13**	
Mean: 0.10			(5.47)	
% girls age group: younger than 14				0.4*
mean: 0.007				(2.51)
Region dummies		Yes	Yes	Yes
Year dummies		Yes	Yes	Yes
Adj-Rq		0.08	0.04	0.02
N=848				

Notes: \*\* significant at less than 1 per cent. \* 5 per cent. White-heteroskedasticity-consistent standard errors.

Sources: IRS, *Memoria general del servicio de inspección*, years 1909-1914.

Explaining why hours of work were long in manufacturing (here I consider manufacturing mainly the textile and knitwear, the garment and the paper industries) thus requires to explain this in relation to the labour supply of female workers. It has generally been argued that the labour supply of women during the life cycle in the past differed substantially from that of men.<sup>119</sup> This is especially so because women participated in the labour market for a shorter period of time than men, generally before marriage. A purely market-based explanation of long hours in sectors employing women would thus consider that since women worked fewer years than men, they might have had a preference for longer hours in order to maximise earnings while being

<sup>119</sup> For example discussed in Goldin, Claudia, *Understanding the gender gap. An economic history of American Women* (New York, 1990), chapter 1.

indifferent about their future productivity (which has a negative correlation with hours of work supplied in the past). On the other hand, an alternative explanation would consider that since trade union entry restrictions prevented career advancement in the skilled trades, women were crowded out to the long hours manufacturing sectors. Furthermore, if, as it is generally stressed in labour history, women were more docile workers and lacked trade union experience, trade union action to shorten hours of work must have been weaker than in traditionally skilled male-dominated sectors. Union density figures in the textile sector were generally below five per cent, while employers fiercely opposed the recognition of the union. In the garment or paper industries, unions were also weak and almost non-existent until 1918-1919.

Because the willingness to invest in unions and the preference for short hours probably depended on the number of years of paid work that an individual expected to work in a particular trade, it is difficult to disentangle both hypotheses. There is some evidence, however, that shows that older, working mothers could fulfil their preferences for shorter hours. In the tobacco industry, employing urban, married women, a strong preference for short hours and a flexible work regime was the norm.<sup>120</sup> In the Catalan textile industry, detailed studies on female workers' life cycle participation have been provided by Enriqueta Camps for the textile town of Sabadell. Her research shows that the participation of married women was substantially greater in the 1920s than in the second half of the 19<sup>th</sup> century, when women left paid work shortly after marriage, in spite of the fact that the detailed timing of this transition is not known.<sup>121</sup> By 1919-1920, in the Sabadell woollen sector the average age of female weavers and spinners was about 30 years and about 25 in the preparatory stages of both weaving and spinning. There is some evidence that the continued employment of women after the age of marriage was accompanied by a reduction in hours. In the woollen factories of the town, the English week (working fewer hours on Saturday) and a working week of 62 hours were the rule already in the 1910s.<sup>122</sup> In the cotton factories, this transition seems to have been slower. Before 1913, there was little union concern for excessive hours of work in the urban factories, except for the existing differentials in hours between rural

<sup>120</sup> Gálvez Muñoz, *La Compañía*.

<sup>121</sup> Camps Cura, Enriqueta, "Transitions in women's and children's work patterns and implications for the study of family income and household structure: a case study from the Catalan textile sector (1850-1923)," *The History of the Family*, volume 3, number 2, p. 149.

<sup>122</sup> Instituto de Reformas Sociales, *La jornada de trabajo en la industria textil* (Madrid, 1914).

and urban establishments. The main agenda of unions in the period seems to have been to protect employment and the levels of pay.<sup>123</sup> Grievances however changed in the early 1910s. By 1913, “*La Constancia*” (constancy), the cotton textile union almost exclusively formed by women, staged an extremely long and massive general strike in the summer of 1913 to shorten the hours of work and win the English week.<sup>124</sup>

Summarising, in manufacturing, mining and retail and service workers, in which hours remained long, weak unions could not reconcile the different preferences for hours of workers with different characteristics and expectations about their future in a particular trade. In this regard, a collective action problem assured the workday could only be reduced through state intervention and shifts in public opinion. In retailing and services, the state supported a reduction of the workday and the right to rest on Sunday. In the mining strike of the 1910, a government headed by José Canalejas established a maximum nine-hour day in mining. In the textile industry, another Liberal government passed a decree setting the statutory working week at 60 hours and a 10 hour workday to put an end to the textile general strike of summer 1913. In this case, however, it was still difficult to implement the decree (its *Reglamento* was never passed in Parliament) and textile workers had to wait until the concession of the eight hour day in October 1919 to experience a sharp decline in their workday. Finally, retail workers were granted a reduction of their workday in 1918 to 10 hours both in winter and summer and a further reduction to eight hours under the April 1919 Decree. A law passed in early 1919 also defined maximum hour ceilings in bakeries.

## **5.2. Winning the eight hour day.**

In April 1919, Count Romanones’ government sanctioned a royal decree establishing the eight hour day for all sectors of the Spanish economy from the 1<sup>st</sup> October 1919, therefore conceding one of the oldest grievances of the Spanish working class.<sup>125</sup> It was

<sup>123</sup> Smith, Angel, “Social conflict and trade-union organisation in the Catalan cotton textile industry, 1890-1914.” *International Review of Social History*, XXXVI (1991).

<sup>124</sup> A gripping analysis of the patterns of protest among women textile workers in the area of Barcelona in Kaplan, Temma, *Red city, blue period. Social movements in Picasso’s Barcelona* (Berkeley, CA, 1992). Instituto de Reformas Sociales, *La jornada de trabajo en la industria textil. Trabajos preparatorios del Reglamento para la aplicación del Real decreto de 24 de agosto de 1913* (Madrid, 1914), “Noticias relativas a la huelga del llamado Arte Fabril, remuneración del trabajo y estado de la industria textil, remitidas en el mes de agosto de 1913 a la Inspección Central por los Inspectores de Trabajo,” p.407.

<sup>125</sup> In his political autobiography Count Romanones says little about his decision to sanction the decree, the episode is treated Conde de Romanones (Álvaro de Figueroa y Torres), *Notas de una vida* (Madrid,

the *Instituto de Reformas Sociales* which proposed this project to the government after having accepted it unanimously in the plenary session of the institute (the project had in fact been drawn up by the General Workers' Union (UGT)). After the vote, employers' associations claimed that they were not represented in the *Instituto* and did not recognise their representatives sitting at the session.<sup>126</sup>

Several factors precipitated the passing of the eight-hours decree. First, the long general strike in Barcelona in early 1919 which culminated the spectacular rise of the National Confederation of Labour (CNT) in Catalonia. Second, a weak government and the spectre of the Russian revolution with industrial conflict extending from Barcelona to other cities. Third, in late April 1919, it was agreed that the treaty of Versailles should include an article fixing the eight hour day and the 48 hour working week. This decision was later on ratified in the Washington conference (29 October 1919 to 29 November 1919). Some countries had already adopted this decision: Germany in late 1918 and Italy in February 1919. Others, like Austria or Belgium, were to ratify the 8 hour day on the condition that other countries also did so.<sup>127</sup>

The decision caused a stir among conservative politicians and employers' associations. The Catalan regionalist politician, Francesc Cambó, in a conference delivered on the 10<sup>th</sup> April 1920 considered the decree to be "one of the craziest things Humanity has ever made."<sup>128</sup> According to *Fomento del Trabajo Nacional*, the eight-hour day was "such as sudden change that it resembles an economic coup disrupting the whole of the national economy." And it went on to say that "even in Russia, the Bolshevik government has been forced to mandate a substantial increase in the number of hours, but in this country the government is more severe on this [the hours'] issue than on the handling of social disorders." The Chamber of Industry of Barcelona claimed that the eight hour day would bring about "a complete economic disaster."<sup>129</sup>

---

1999), p.434. Rey Reguillo quotes Romanones saying he was "proud of signing that decree." In Rey Reguillo, Fernando del, *Propietarios y patronos. La política de las organizaciones económicas en la España de la Restauración (1914-1923)*, p.365, footnote 69.

<sup>126</sup> *Ibid.*, p.367.

<sup>127</sup> Cámara Oficial de la Industria de Barcelona, *Informe de esta Cámara sobre los efectos de la aplicación de la jornada de ocho horas* (Barcelona, 1926), pp.1-3. Spain and the Treaty of Versailles: Cesta Bustillo, Josefina, *Una esperanza para los trabajadores. Las relaciones entre España y la Organización Internacional del Trabajo, vol. 1 (1919-1939)* (Madrid, 1994).

<sup>128</sup> Quoted in Bengoechea, Soledad, *Organització patronal i conflictivitat social a Catalunya* (Barcelona, 1994), p.203, footnote 42.

<sup>129</sup> All quotes from Rey, *Propietarios y patronos*, p.370.

The eight hour day was implemented on the 1<sup>st</sup> October 1919. In spite of employers' opposition to the decree, according to the Interior Minister at the time, (Burgos y Mazo) "the transition to the new regime was made without any alteration of public order."<sup>130</sup> In late 1919 and early 1920, all Spanish sectors in principle had a statutory working day of 8 hours, except some notable cases like the rail workers, who obtained their eight hours in 1921.<sup>131</sup> Furthermore, a decree in 1920 inaugurated a period to negotiate overtime clauses for each sector. In the inspectors' yearbook for 1920, with some exceptions, most sectors reported hours of work close to eight hours, generally from 8 to 8 and half hours. In some cases, a sharp drop in the number of hours is detected well before the passing of the law. Coinciding with the rise of the National Confederation of Labour (CNT) and the widespread implementation of their workshop delegates, in Catalonia a move towards the eight-hour day is evident in 1918, except in the textile industry.<sup>132</sup>

Turning to the qualitative evidence presented by the labour inspectors, it is important to note that they seem to have been aware of the benefits of a shorter workday according to the contemporary debate. For example, they echoed the debates on the intensive workday –stating that a reduction in hours was not necessarily related to a drop in labour productivity or pay- and the beneficial effects of a shorter workday on the accident rate and the detrimental effect of long workdays on the health of the worker.<sup>133</sup> In some other cases, they also show themselves committed to the reduction of the workday by lamenting their inability to detect all violations or enforce fines.<sup>134</sup>

In addition, available evidence suggests that the 8-hour law was effectively implemented in the main cities, where powerful unions could enforce the eight-hour day. In 1920, labour inspectors of the third region (Basque country) claimed that "the

<sup>130</sup> Burgos y Mazo, Manuel, *Para otras páginas históricas. El verano de 1919 en Gobernación* (Madrid, 1921), p.406.

<sup>131</sup> Instituto de Reformas Sociales, *Adaptación del régimen de la jornada de ocho horas a los servicios ferroviarios* (Madrid, 1922). The reason was railway workers had a special status since 1912 being considered public servants. Thus, they were excluded from state legislation.

<sup>132</sup> Using the inspectors' data for Region 2, a regression with log (hours of work) in the years from 1909 to 1920 for eighteen sectors of the Catalan economy against dummies for the sector and year dummies finds the negative coefficients on the 1918, 1919 and 1920 dummies to be significant at the one per cent level.

<sup>133</sup> *Memoria* year 1921, p.83.

<sup>134</sup> *Memoria* year 1920, p.182, *Memoria* year 1921, pp.165-166.

eight hour day has been implemented in the large industrial centres.”<sup>135</sup> In the 4<sup>th</sup> Region (Oviedo, Santander), it was noted in 1920: “the general pattern is the compliance of the decree, with very rare exceptions,” while remarking that “there are still some establishments where patrons are reluctant to institute the eight hour day (...).”<sup>136</sup> Inspectors in Region 7 (Ávila, Cáceres, Salamanca, Segovia, Valladolid) affirmed flour mills and the electric industry were working 12-hour shifts “under the pretext that they could not dispose of scarce skilled personnel to implement overtime.”<sup>137</sup> In the Andalusian region (region 10), which in contrast had one of the highest violation rates, “the eight-hour day has been adopted in almost all industries in the region (...).”<sup>138</sup> In addition, compliance was more frequent in large cities than in smaller towns. For example the inspectors of the 8<sup>th</sup> Region claimed in 1921: “the large establishments do not violate the law, while medium and small establishments, especially in smaller localities, work two additional unremunerated hours after their legal 8 hours of work.”<sup>139</sup>

From the reports, some evidence is obtained on the extent of overtime work. In the Catalan region in 1922, it was noted: “initially workers and even patrons were pleased by the enactment of the decree introducing the eight-hour day (...) However, the clauses for overtime work, in which workers are not adequately compensated, (...), give way to unjust situations that this Inspection has detected and has sought to correct.”<sup>140</sup> In 1920, the inspectors of the 3<sup>rd</sup> Region (Basque Country) expressed: “where overtime agreements exist, the workers are willing to supply more hours. Some do not want to do so influenced by the orders given by unions, which in this area forbid overtime work.”<sup>141</sup> Later on in 1921, the same inspectors stated that “agreements over overtime work are rarely reached.”<sup>142</sup> Similarly, inspectors in the 10<sup>th</sup> Region (South-West) in 1922 remarked their efforts at informing employers on the need to establish clauses for overtime work with their workers, stating that they expected that “more agreements will be reached making possible that workers increase their hours of work

<sup>135</sup> *Memoria* year 1920, p.101.

<sup>136</sup> *Ibid.*, p.102.

<sup>137</sup> *Ibid.*, p.182.

<sup>138</sup> *Ibid.*, p.253.

<sup>139</sup> *Memoria* year 1921, p.179.

<sup>140</sup> *Memoria* year 1922, p.79.

<sup>141</sup> *Memoria* 1920, p.101.

<sup>142</sup> *Memoria* 1921, p. 83.

according to the law.”<sup>143</sup> Inspectors in the 4<sup>th</sup> Region (North-East) remarked in 1922 how the adequate enforcement of the eight-hour law was the first step to implement overtime clauses, which in many industries, they noted, were not fully enforced.<sup>144</sup>

### **5.3. Conclusions.**

One of the reasons the eight-hour day was accommodated in many sectors of the Spanish economy is that there had been a long-term declining trend in the hours of work. The analysis of cross-sectional variation of wage-hours pairs shows hours and wages were negatively correlated. I suggest this is evidence that workers with higher hourly wages were obtaining shorter workdays, because income effects dominated substitution effects in the labour supply. In the “urban trades” -employing unionised, permanent male workers-, hours had been brought down first by reducing summer hours and shortening the shifts to 10 to 9 hours in the early 1910s. In these sectors, homogenous preferences assured the hours of work slowly fell towards the objective of eight-hours, in which case the 1919 eight-hour day could be accommodated or codified existing practices. However, hours in manufacturing, some mining regions and among sales workers, changed little from the mid 1880s to 1919. I have put forward the hypothesis that in these sectors hours remained high because weak unions could not reconcile the preferences for hours of workers with different characteristics and expectations about future employment in the sector. State intervention and shifts in public opinion warranted hours fell precipitously by 1919 and 1920 in these sectors. My analysis of the evidence surrounding enforcement of the eight-hour day shows how generally the eight-hour day was broadly enforced while overtime agreements were more problematic given the inexistence of adequate formal bargaining procedures.

---

<sup>143</sup> *Memoria* 1922, p. 250.

<sup>144</sup> *Memoria* 1922, p. 121. A similar conclusion in: *Memoria* 1921, p. 179.



## Appendix to chapter 5.

### A. Nominal wages, 1909-1914.

Table 5.A1. Nominal wage functions, 1909-1914.

	OLS		IV	
	Coefficients	t-statistic	Coefficients	t-statistic
<i>Dependent variable:</i>				
<i>Log hourly nominal wage</i>				
Constant	0.851***	4.2	0.342	0.54
Log (hourly real wage)	-0.972***	-10.72	-0.752***	-2.67
<u>Sector dummies</u>				
Mines, saltmines, quarries	0.061	1.44	0.079**	2.48
Metallurgy	0.12***	3.23	0.107**	2.48
Iron and other metals	0.078***	2.73	0.086***	2.77
Chemical industries	0.047*	1.73	0.05	1.55
Tobacco	0.045	1.51	0.081*	1.77
Textiles	-0.041	-1.37	-0.035	-0.93
Agricultural services	-0.133***	-2.94	-0.1***	-2.64
Construction	0.036	1.2	0.051	1.62
Electrical industry	0.154***	5.32	0.137**	2.72
Food	0.061*	1.92	0.054	1.31
Printing	0.075**	2.56	0.097***	3.07
Paper	-0.009	-0.28	-0.006	-0.19
Garment industry	-0.051	-1.49	-0.064*	-1.7
Leather	-0.071**	-2.35	-0.06*	-1.9
Lumber	0.009	0.29	0.02	0.65
Transports	0.146***	4.29	0.14***	4.01
Furniture	0.049*	1.79	0.067**	2.07
Crafts	0.018	0.57	0.037	1.19
Pottery	-0.031	-1.05	-0.028	-0.84
Glass	0.123***	3.36	0.15***	4.02
<u>Regional dummies</u>				
Region 1	-0.028	-1.22	-0.016	-0.68
Region 2	0.269**	15.94	0.276***	12.4
Region 3	0.127***	6.65	0.123***	5.56
Region 4	0.128***	6.21	0.142***	6.84
Region 6	-0.053***	-2.82	-0.059***	-2.9
Region 7	0.004	0.17	0.01	0.46
<u>Year dummies</u>				
Yes (5)			Yes (5)	
<hr/>				
N	848		728	
Adj-R-Squared	0.59			
Durbin-Watson	1.9		1.91	
F-statistic	34.86		12.63	

Notes: White-heteroskedasticity-consistent standard errors. \* significant at less than 10 per cent levels

\*\* significant at less than 5 per cent levels.

\*\*\* 1 per cent levels.

Control group is region 5 and "miscellaneous industries".

Region 1: Madrid, Cáceres, Ciudad Real.

Region 2: Barcelona, Gerona, Tarragona, Lérida.

Region 3: Vizcaya, Álava, Guipúzcoa, Logroño, Santander.

---

Region 4: Oviedo, León, Orense, Lugo, Coruña, Pontevedra.

Region 5: Granada, Sevilla, Málaga, Huelva, Córdoba, Almería, Cádiz, Jaén.

Region 6: Albacete, Alicante, Castellón, Cuenca, Murcia, Valencia.

Region 7: Salamanca, Valladolid, Burgos, Ávila, Palencia, Segovia, Zamora.

## Chapter 6.

### **The collective negotiation of piece rates. A case study on the management of piece rate lists in the Catalan cotton textile sector, 1880-1910.**

#### **6.0. Introduction.**

When analysing the historical demands of the Spanish labour movement, the abrogation of piece rates is certainly one of the most persistent grievances. It was for instance a classic demand of Anarcho-syndicalist and Socialist unions. Both *Solidaridad Obrera* and the National Confederation of Labour (CNT) had the complete abrogation of piece rates as one of the top priorities in their agenda. One of the oldest demands of the socialist mining unions of Biscay was the end of payment by *tareas*, the payment according to group output. Piece rates were seen by unions as a particularly rapacious system of extracting more work from workers, which enhanced the commodity status of their supply of labour. In this chapter, I study the management of piece rates in the cotton textile industry, an industry employing about 80,000 workers or a 1/5 of the Catalan working population in the late 19<sup>th</sup> century and a sector in which historians have emphasized working conditions became more volatile after 1885.

In the chapter dedicated to piece wages in *Das Kapital*, Marx claimed that as opposed to time rates, piece wages were difficult to manage and sparked conflicts between workers and their masters: “the quality of the labour is here controlled by the work itself, which must be of average perfection if the piece-price is to be paid in full. Piece wages become, from this point of view, the most fruitful source of reductions of wages and capitalistic cheating.” Further, piece rates encouraged the intensification of workers’ effort, increased the hours of work, and brought about a fall in the price of labour: “given piece rates, it is naturally the personal interest of the labourer to strain his

labour-power as intensely as possible; this enables the capitalist to raise more easily the normal degree of intensity of labour. It is moreover now the personal interest of the labourer to lengthen the working-day, since with it his daily or weekly wages raise.” Consequently, “(the) piece-wage is lowered in the same proportion as the number of the pieces produced in the same time rises, and, therefore, as the working time spent on the same piece falls. This change in piece-wage, so far purely nominal, leads to constant battles between capitalist and labour. Either because the capitalist uses it as a pretext for actually lowering the price of labour, or because increased productive power of labour is accompanied by an increased intensity of the same.” This effect awoke an artificial competition among workers: “(...) the wider scope that piece-wage gives to individuality on the one hand tends to develop that individuality, and with it the sense of liberty, independence, and self-control of the labourers, and on the other, their competition with one another.”<sup>1</sup>

Unions believed they lived in a world very similar to the one described by Marx, characterised by recurrent periods of excess supply with the consequence of overproduction crises, falling prices, and unemployment. Under these economic laws, piece rates, rather than increasing pay, enticed more work effort. This in turn brought wages down, eroded the relationship between effort and pay, and increased the levels of unemployment. Moreover, piece wages undermined the solidarity ties of the working class as a whole or the members of the trade in particular. The evidence compiled by the *Comisión de Reformas Sociales* occasionally provides information on the views of workers on piece rates. For instance, in Plasencia (Cáceres) the local commission observed that the “the most important effect of piece rates (...) is an artificial increase in the number of hands, because since the worker is interested in finishing the tasks as soon as possible, he works at twice his normal level of activity and only four workers are necessary to do what, under normal circumstances, would require eight operatives.”<sup>2</sup> A typographer from Madrid remarked to the *Comisión de Reformas Sociales* in 1884 that piece rates favoured employers because “under this system, (...) with lower wages, they obtain more output. Further, by paying by the piece, they are able to spark the competition among workers to produce more. But this harms rather than benefits the

<sup>1</sup> All quotes from the 1886 English edition of *Capital*, volume I, chapter 21, “Piece wages,” p.550-558, this part translated by Dr. Aveling. Available at [www.marxists.org/archive/marx/works/1867-c1/ch21.htm](http://www.marxists.org/archive/marx/works/1867-c1/ch21.htm)

<sup>2</sup> Santiago Castillo (ed.), *Información oral y escrita de la Comisión de Reformas Sociales*, tome IV, memoria Comisión local de Plasencia, p. 534.

workers, since the more they produce, the sooner they will be unemployed.” In his view, this was equivalent to “the exploitation of the worker by the worker.”<sup>3</sup> The representative of the Madrid stone cutters union reported to the *Comisión de Reformas Sociales*: “there is a(n) (...) evil in piece rate work and it is that one tends to work too much, orders get finished and then the crises come, harming everybody.”<sup>4</sup>

Moreover, it was argued that, by enhancing work effort and longer hours, payment by the piece threatened the health of workers and reduced their expected working life. A representative of the friendly society of the silk workers of Valencia considered it to be a “slow suicide.”<sup>5</sup> Another union member from Madrid considered that, under piece rates, the worker “earns more than under time rates but also wears himself down and dies very soon.”<sup>6</sup> A carpenter from Madrid claimed “everybody likes to earn an additional *peseta* per day, but (...) if I work by the piece and I lose twenty years of my life, what would I have won?”<sup>7</sup>

Modern contract theory also underlines the problems associated with the management of piece rates. Generally, piece rates are treated as a prisoners’ dilemma game in which next period’s pay depends on the current period’s output, leading to strategic behaviour by managers and workers. Game theoretical approaches have shown how there is a time inconsistency problem because employers cannot credibly commit to keep the rates of pay when labour productivity increases.<sup>8</sup> If repeated interaction is limited in time, the inevitable outcome of the piece rate game is slow productivity growth and resistance to organisational and technical innovations.<sup>9</sup>

In this chapter, my strategy to deal with the historical debate on piece rates is analysing the behaviour of piece rates in the Catalan textile industry, where collective bargaining over piece rates was widespread. The main questions that arise from the historical debate are:

<sup>3</sup> Castillo, *Información*, tome I, session 2<sup>nd</sup> November 1884, sr. Gómez, Sociedad de tipógrafos, p.65.

<sup>4</sup> Castillo, *Información*, tome I, session 14<sup>th</sup> December 1884, Villegas, Sociedad de Canteros, p.106.

<sup>5</sup> Ibid., tome III, *informe de la Comisión Provincial de Valencia*, p.100.

<sup>6</sup> Castillo, *Información*, tome I, p.106.

<sup>7</sup> Castillo, *Información*, tome I, session 6<sup>th</sup> January 1884, Sr. Serna, p. 162.

<sup>8</sup> Gibbons, Robert, “Piece rate incentive schemes,” *Journal of Labor Economics*, 5, 4 (1987), p. 413.

<sup>9</sup> Miller, Gary M., *Managerial dilemmas. The political economy of hierarchy* (Cambridge, UK, 1992), chapter 5 (co-authored with Jack Knott, “Vertical dilemmas. Piece rate incentives and credible commitments.”)

1. what is the relationship between intensification of worker effort and piece rates?
2. how stable are agreements on piece rates?
3. What determines the bargaining power of workers when protecting piece rates from competitive cuts?

### **6.1. Piece rate and working conditions in the Catalan cotton textile industry, 1880-1910.**

Since the publication of a seminal article by Albert Balcells in 1974, Spanish labour historians have been emphasising the erosion of the terms of employment in the Catalan cotton textile industry following the recession of 1885-1890.<sup>10</sup> For example, Balcells remarked the declining trend in real wages between 1895 and 1915 in the industry caused by nominal wage cuts and increases in the cost of living.<sup>11</sup> On the other hand, a recent contribution by Carles Enrech has focused on the destruction of a previously existing “craft culture” caused by the expansion of the town mill system since the 1870s, de-skilling technical change and the associated increase in female employment, and periodical overproduction crises.<sup>12</sup> Angel Smith, who has carefully studied conflicts in the textile industry in the early twentieth century, also suggests that excess capacity and technical change led to irreversible shifts in labour demand. Employers “anxious to cut labour costs and unwilling to negotiate with trade unions” altered the traditional terms of employment in the cotton textile industry, which finally led to a decrease in cotton workers’ living standards.<sup>13</sup>

Implicit in these views, it is accepted that the labour market became more competitive eroding customary practices prevalent in the factories since the mechanisation of artisan work. This line of reasoning holds that workers’ bargaining power weakened as a consequence of unemployment caused by economic decline and periodic industrial downturns and the competition of women in skilled or semi-skilled jobs such as weaving or spinning. Competitive forces were especially strong in recessions, when employers reduced wages, intensified work, fired male workers and

<sup>10</sup> Balcells, Albert, “La mujer obrera en la industria catalana durante el primer cuarto del siglo XIX,” in *Trabajo industrial y organización obrera en la Cataluña contemporánea* (Barcelona, 1974).

<sup>11</sup> Ibid., p. 35.

<sup>12</sup> Enrech, “L’ofensiva patronal”, p. III.

<sup>13</sup> Smith, “Social conflict,” p. 331.

curtailed the power of unions by sacking union workers.<sup>14</sup> Similar views also appeared among contemporaries. In the early 1890s, a popular song written by the textile workers of the so-called Mountain (*Muntanya*), employed in the water-powered factories of inner Catalonia, stated that unremunerated increases in the length of pieces of woven cloth were common:

*“los teixidors mechanics com ja se sap per tots,  
‘ls allargan los trossos y’ls pagan mes poch .  
Es molt clara la cosa com ja poden pensà,  
Que del guany y de la feina ja no podém menjà.”*<sup>15</sup>

(we, mechanised weavers, as everybody knows, / get longer pieces and lower pay  
/ it is all too clear / that from our work and our pay we can only starve)

Another example, Juan Martí, a weaver leader of the textile union *La Constancia* in 1913 offered a testimony of how piece rates were managed in the weaving rooms since 1890:

(...) Years ago, work was paid according to count and type of warp, but today we are paid [strictly] by the piece. As each year there are changes in the type of yarn, pay varies accordingly without taking into consideration these changes. Even if the type of yarn does not change, the number of picks increases by one or two per piece, and each additional pick meaning three additional, unremunerated metres per piece. This means the worker is paid less for his effort (...).<sup>16</sup>

However, these contributions rely on scattered (but eloquent) evidence provided by the union press, which can be biased or is not straightforward to interpret. Smith focuses on the conflict of spinners in the Ter Valley and especially in Manlleu, a small textile town in the north of the province of Barcelona, where the presence of men in spinning rooms was abnormally high with respect to other areas where female work was more common. The contention by Balcells that the cost of living was increasing in

<sup>14</sup> Ibid., p. 336.

<sup>15</sup> Serra, Rosa and Ramon Viladès, *La colònia Pons de Puig Reig (1875-1987)* (Berga, 1987), p. 138.

<sup>16</sup> Instituto de Reformas Sociales, *La jornada de trabajo en la industria textil (trabajos preparatorios para el Reglamento para la aplicación del Real Decreto de 24 de Agosto de 1913)* (Madrid, 1914), pp. 59-60.

Barcelona is mainly based on the working class press (*La Nació*) and this evidence is not supported by the available cost-of-living indices.<sup>17</sup>

The emphasis on the erosion of working conditions contrasts sharply with other studies pointing to nominal wage stability between 1890 and 1910 in a period of very low inflation and even deflation.<sup>18</sup> Moreover, authors like Enriqueta Camps have drawn attention to the existence of internal labour markets in the Catalan cotton textile firms.<sup>19</sup> This implies that, especially in the case of men, well defined career paths existed based on promotion from one job title to the other, from unskilled work up to supervisory tasks.<sup>20</sup> This, in turn, suggests the existence of customary rules of promotion and the preservation of lengthy attachments between firms and workers. The survival of these rules depended on the fact that firms did not renege on their side of the implicit agreement.

Finally, there is also evidence that firms worked short-time during recessions. The earliest quantitative evidence on short time among Catalan textile firms is from 1848, but there is some qualitative evidence firms also worked short time in recessions in the late 19<sup>th</sup> century.<sup>21</sup> This shows that labour-hoarding might have been an extensive practice during the period through which employers and workers tried to preserve lengthy attachments with the same firm.

Since available evidence is scattered and sometimes contradictory, what could be labelled as the “increasing competition” as opposed to the “stability of norms and customs” hypotheses need to be tested against available data on wages and piece rates paid in the cotton textile industry. In order to do that, I use insights from models of employment and wage setting which derive predictions on the behaviour of wages and

<sup>17</sup> Maluquer de Motes, Jordi, “Los salarios,” in Carreras, Albert, (ed.), *Estadísticas históricas de España. Siglos XIX y XX* (Madrid, 1985); Ballesteros Doncel, Esmeralda, “Una estimación del coste de la vida en España, 1861-1936,” *Revista de Historia Económica*, 15, 2 (1997).

<sup>18</sup> Camps, Enriqueta, *La formación del mercado de trabajo industrial en la Cataluña del siglo XIX* (Madrid, 1995), pp. 214-215; Maluquer de Motes, “Los salarios;” Soler, Raimon, “La evolución del salario en una empresa téxtil algodonera. La fábrica de la Rambla de Vilanova i la Geltrú (1891-1925),” *Revista de Historia Económica*, 15, 2 (1997); Dorel-Ferré, Gràcia, *Les colònies industrials a Catalunya. El cas de la Colònia Sedó* (Barcelona, 1992), p. 302.

<sup>19</sup> Camps, Enriqueta, “La teoría del capital humano: una contrastación empírica. La España Industrial en el siglo XIX,” *Revista de Historia Económica*, 8, 2 (1990).

<sup>20</sup> *Ibid.*, p. 320.

<sup>21</sup> For example, noted in “La crisis industrial,” *El Trabajo Nacional*, 30th September 1900, number 225.



employment over the business cycle, which depart from the traditional spot market adjustment to recessions in which prices are totally flexible.<sup>22</sup> Moreover, I also use the empirical applications of these models, which are based on the comparison of wage, employment and output movements over the business cycle,<sup>23</sup> to characterise the behaviour of the labour market in the Catalan cotton textile industry. In table 6.1, I present the main labour market characterisations which follow each of the hypotheses, along with the implications derived from a standard spot market in which wages are flexible:

Table 6.1. Behaviour of firms during economic downturns (hypotheses).

<u>Increasing competition</u> <u>hypothesis</u>	<u>Spot market</u>	<u>Norms and customs</u>
Competitive piece rate cuts	Piece rates adjust downwards	Piece rates are stable (sticky)
Intensification of labour effort	Minimal labour input adjustments, labour markets clear.	Labour hoarding
Increasing hours of work		Hours of work fall
Lay-offs		Lay-offs

Given the paucity of data before 1890, a comparison of labour market performance in cotton textile before and after the 1885-1890 crisis cannot be done. I can only test for the existence of competitive forces in the period after 1885 causing cuts in piece rates and declining wages. In this chapter, I analyse the trends in piece rates and output in the main processes of cotton manufacturing, namely spinning and weaving, using data collected from corporate records of several textile firms for the period 1885 to 1910. I focus here on *nominal* adjustment, because the period on the whole was *deflationary* (available cost of living indices are shown in table A6.1 in the appendix). Contrary to the views emphasising growing competitive pressures, I show how piece

<sup>22</sup> Solow, Robert M., *The labor market as a social institution* (Oxford, 1990), chapter 2.

<sup>23</sup> Hanes, Cristopher, "The development of nominal wage rigidity in the late 19<sup>th</sup> century," *American Economic Review*, 83, 4 (1990); Carter, Susan and Richard Sutch, "The labor market a hundred years ago: new, micro-level evidence on long-term change from the depression of 1893-1894," in Dick, Trevor J. O., *Business cycles since 1820. New international perspectives from historical evidence* (Cheltenham, UK, 1998); Sundstrom, William, "Was there a golden age of flexible wages? Evidence from Ohio manufacturing, 1892-1910," *Journal of Economic History*, 50, 3 (1990).

rates remained fixed in spite of the absence of local and regional piece rate lists. Analysis of employers' decisions in economic downturns shows how firms adjusted the amount of labour input, through short-time (the working of fewer days in a given week) and layoffs, rather than adjusting wages. The pattern of wage adjustment in recessions in the period conforms to a labour market model in which *custom* still plays an important role and "insiders" enjoy considerable labour market power. To a great extent, this means "insiders" were relatively isolated from the vagaries of the firms' product market.

The remainder of the chapter is organised as follows. Section 6.2 presents the main institutions organising pay in the sector and their characteristics and coverage. Section 6.3 describes the sources being used in this study. Section 6.4 discusses the evolution of piece rates over time and adjustment to economic recessions between 1890 and 1910. Section 6.5 studies the possible origins of nominal rigidity. Section 6.6 concludes.

## **6.2. Institutions governing pay.**

Pay in the Catalan cotton textile industry was governed by piece rate or price lists (*listas de precios*), which in few occasions covered whole towns or regions (public lists) and were generally bargained at the firm level (private lists). The evidence on both public and private lists is scarce and in the following section I present new evidence on piece rates collected from firms' payroll records.

Piece rates in cotton weaving depended on the number of picks (*pasadas*) per inch (*pulgada española*) –the pick being a technical term referring to the number of times weft yarn is passed through warp yarn to produce cloth– as well as the size of pieces, and yarn characteristics. In spinning, the standard unit was the weight of output, with the payment per Catalan pound or kilogram increasing with the fineness of yarn. Yarn fineness was measured by the count, defined as the number of Catalan hanks (*madejas*) of yarn –the standard unit of length corresponding to 500 *canas*, or 777.50 metres– weighting 1.1 Catalan pounds or 440 grams.<sup>24</sup> Therefore, one hank or 777.50 metres of count number 1 weights 440 grams, one hank of count number 10 weights 44 grams.

<sup>24</sup> Ferrer Vidal, José, *Conferencias sobre el arte de hilar y tejer en general y especialmente sobre el de hilar y tejer algodón, hechas en el Ateneo Barcelonés* (Barcelona, 1875), p. 70; Rabasa, Francisco, *Tratado teórico-práctico del sistema de numeración y peso de algodones, lana y estambre* (Barcelona, 1923), p. 3.

Since it took longer to spin one kilogram of yarn at higher counts, pay increased with the count of yarn.

The first public local lists in cotton processing appeared in the early 1840s for hand-loom weavers, associated with a short period of formal collective bargaining.<sup>25</sup> During the “self-actings conflict” (*conflicto de las selfactinas*) in 1854, there is evidence of the first local lists for power-loom weavers (mechanised looms).<sup>26</sup> A similar list was agreed upon in Sallent –a traditional textile town in the Llobregat valley- on March 1855.<sup>27</sup> Formal collective bargaining made possible other public lists appeared in other textile towns like Manresa, Vilanova i la Geltrú or Manlleu.

In the case of lists for weaving, the payment associated with each piece of cloth depended on the size of the piece and the number of picks. In the 1854 list, the number of ‘picks’ for each type of piece could vary from 14 to 20. For instance, a piece of size 4/4<sup>28</sup> with 14 to 16 picks was paid 11 *reales*, with every additional two picks being paid an additional *real*. Similarly, a piece of size 6/4 was paid 15 *reales* for a piece of 14 to 16 picks and 17 *reales* for a piece of 18 to 20 picks.

Evidence on cotton spinning local lists is relatively scarce. Manlleu spinners’ drew up a local list in 1855,<sup>29</sup> but it is not known exactly how it worked. In Barcelona, a mixed commission of employers and spinners negotiated a spinning list for Barcelona, but conflict over the introduction of self-acting mules postponed every possible agreement on the list.

In the 1<sup>st</sup> Republic (1872-1873), with another period of formal collective bargaining, a regional textile union belonging to the 1<sup>st</sup> International –the *Unión Manufacturera*- tried to enforce a regional list which included a 7.5 per cent rise in pay. In this case, the regional list contemplated discounts in rates proportional to the distance from each town to Barcelona –Barcelona being considered to have the highest cost-of-

<sup>25</sup> Ollé, Josep Maria, *El moviment obrer a Catalunya, 1840-1843* (Barcelona, 1973), p. 109; Barnosell, Genís, *Els orígens del sindicalisme català* (Vic, 1999), p. 130.

<sup>26</sup> Benet, Josep and Casimir Martí, *Barcelona a mitjan segle XIX. El moviment obrer durant el bienni progressista (1854-1856)* (Barcelona, 1976), vol. I, pp. 570-572.

<sup>27</sup> *Ibid.*, p. 627.

<sup>28</sup> Units are not defined. The two units of length used in the period were *canas* and metres (1 *cana* being equal to 1.56 metres).

<sup>29</sup> *La Publicidad*, morning edition, 17<sup>th</sup> February 1899.

living and thus having higher wages.<sup>30</sup> However, evidence on the particular form of this list is not available.

In the 1880s, thanks to the union press, especially the newspaper of the leading cotton textile union, the *Tres Clases de Vapor* (three steam sections),<sup>31</sup> there is some scattered evidence on the nature of lists. As in 1873, the textile unions also tried to enforce a regional list,<sup>32</sup> but these efforts failed after the defeat in the general strike of 1890. Contrary to the previous examples, in the general strike the bargaining of lists was made over nominal wages, a standard weekly wage, rather than piece rates. In mechanical weaving, nominal earnings for weavers increased with the size of looms, the number of shuttles per loom and the type of cloth being produced. For example, the standard wages drawn up by the *3 Clases* for Manresa (province of Barcelona) stipulated that weavers of white fabrics on two looms were to earn from 17 to 18 *pesetas* per week, those tending looms with only one shuttle weaving coloured fabrics from 20 to 21 *pesetas* and weavers tending looms with more than one shuttle from 24 to 25 *pesetas*.<sup>33</sup> In Sant Andreu del Palomar (next to Barcelona), target earnings varied with the size of looms, with 19, 21 and 23 *pesetas* week being paid to weavers tending looms of 5, 8 and 10 hand spans.

Similarly, in cotton spinning target earnings depended on the size of self-acting mules. In Manresa in 1890, nominal weekly wages increased with the number of spindles. In self-acting mules of 400 to 500 spindles, spinners were entitled to 19-20 *pesetas* week, with pay increasing to 22 to 24 *pta* for spinners tending 600 to 700 spindles and to 25 to 28 *pta* for those tending 800 to 1000 spindles.<sup>34</sup> No premium was given to faster machine speeds (self-acting mules could be driven at different revolutions per minute). Once workers and managers had agreed upon standard wages, each firm adjusted piece rates according to its particular labour productivity, with less productive firms paying in principle higher piece rates to meet the required standard.

<sup>30</sup> Izard, Miquel, *Industrialització i obrerisme: les Tres Clases de Vapor* (Barcelona, 1970), p. 171.

<sup>31</sup> Refers to the 3 processes of cotton processing: spinning, weaving, finishing.

<sup>32</sup> Dalmases Gil, F., *El socialismo en Barcelona* (Barcelona, 2nd ed, 1890), p. 15.

<sup>33</sup> Enrech, "L'ofensiva patronal," p. 448.

<sup>34</sup> *Ibid.*, p. 285.

### 6.3. Data.

Data for this study were drawn up from available records of Catalan textile firms –*La España Industrial*, *Manufacturas Sedó* and *Almeda, Alemany y Cía.*– located at the National Archive of Catalonia (ANC). There are obvious potential biases in the use of these sources to describe labour market conditions. The records of these firms might not be representative if they were exceptionally successful in dealing with the problems of their product and labour market. However, these firms were selected because they represented very different labour market conditions. Contemporaries divided the sector into two different areas: the Lowlands (*Pla*) –which included the steam powered factories of the area of Barcelona and coastal towns like Mataró and Vilanova i la Geltrú– and the Mountain (*Muntanya*), containing traditional textile towns like Manlleu or Manresa and the town mills located on the banks of the rivers Llobregat, Cardener, Ter, and Fresser (map of the main Catalan textile towns is provided in the Appendix to the chapter).<sup>35</sup>

Some of the steam powered factories (*vapors*) in the Lowlands were among the largest establishments in the sector. Next to Barcelona, in Les Corts, *can Batlló* concentrated some 2,500 workers circa 1880. Nearby, in Sants, *La España Industrial* employed more than 1,500 workers and *Vapor Güell* about 1,000. In the Mountain, because water power did not allow large establishment sizes,<sup>36</sup> firms employed between 150 to 300 workers, with the only exception of *Sedó*, employing 2,500 workers in 1900.<sup>37</sup> The largest concern in Manresa in the late 1880s did not employ more than 300 workers. In Manlleu, a spinning centre in the Ter Valley, average establishment size in 1892 was 187 workers.<sup>38</sup>

In order to analyse the behaviour of piece rates, I have taken data on earnings in the weaving and spinning sections of *La España Industrial*, *Manufacturas Sedó* and *Almeda, Alemany y Cía.* In all these firms, weavers and spinners were paid by the piece, except ring spinners at *La España Industrial* after 1887. In both processes, it is necessary to take into account technical change and different skill requirements. Cotton spinning in the big factories around Barcelona initially employed female spinners on mules to break

<sup>35</sup> IRS, *La jornada*.

<sup>36</sup> Valls Casas, Pere, *De colònies tèxtils a parc fluvial. El sistema de colònies tèxtils del Baix Berguedà. Gènesi i revaloració* (Barcelona, 1999), p. 90.

<sup>37</sup> Dorel-Ferré, *Les colònies industrials*, p. 301.

<sup>38</sup> Sallarés y Pla, Juan, *El trabajo de las mujeres y los niños. Estudio sobre las condiciones actuales* (Sabadell, 1992), p. 130.

out resistance of male spinners employed in mule-jennies.<sup>39</sup> However, the employment of women limited the ability of employers to extend the number of spindles per mule because longer mules required more physical exertion.<sup>40</sup> As a result, men were hired to tend the longest mules. A similar process happened in the power looms, where men were known to be hired to operate the largest power looms. In fact, between 1840 and 1861 (the two available benchmark years), the proportion of adult men increased from 5.40 per cent to 29 per cent in cotton spinning and from 61.80 to 76.90 per cent in cotton weaving.<sup>41</sup>

In cotton spinning, since the 1880s there was another available technology, ring spinning, which substantially reduced skill and strength requirements and had a significant productivity advantage in coarse and medium yarns.<sup>42</sup> Except in Manlleu, where male spinners resisted the hiring of women to replace them,<sup>43</sup> ring spinners were mainly women assisted by a piecer and occasionally a helper, in both cases generally young girls.

*La España Industrial*, created in 1847, is representative of the experience of a large steam-powered factory of the lowlands. In the 1880s, the firm used 27,332 mule spindles and 3,250 throstle spindles and some 900 power looms.<sup>44</sup> After a strike lasting three and a half months, a reform of machinery in 1887 brought about the substitution of rings for mules and throstles. In 1891, 21,288 ring spindles were in place, while the number of looms was reduced to 700.<sup>45</sup> Both self-acting and ring spinners were women, assisted by a piecer and one or two helpers, with each team tending frames of 400 spindles on average.<sup>46</sup> In the weaving rooms, women tended 2 small looms while men tended 2 large ones. After 1887, ring spinners in *La España Industrial* were paid time rather than piece rates.

<sup>39</sup> Benet i Martí, *Barcelona a mitjan segle XIX*, vol. I, p. 366.

<sup>40</sup> On the strength requirements of self-acting mules: Lazonick, William, "Industrial relations and technical change: the case of the self-acting mule," *Cambridge Journal of Economics*, 3 (1979), p. 235.

<sup>41</sup> Izard, *Revolució industrial*, p. 43.

<sup>42</sup> Saxonhouse, Gary and Gavin Wright, "Technological evolution in cotton spinning, 1878-1933," working paper Stanford University, January 2000, p. 3.

<sup>43</sup> Smith, "Social conflict," p. 339.

<sup>44</sup> Enrech, "L'ofensiva patronal," p. 275.

<sup>45</sup> Arxiu Nacional de Catalunya (ANC), fons La España Industrial, "Reforma total de la maquinaria en las secciones de preparación de hilados é hilados" (1887); Enrech, "L'ofensiva patronal," p. 275.

<sup>46</sup> Reforma (1887) gives productivity calculations for rings of 672 and 700 spindles for warp and weft yarn respectively. However, in the visit of the officials of the US department of Commerce and Labor in 1910, frames of 400 spindles on average were reported, much in line with the observed ring sizes in Catalonia. Odell, Ralph M, *Cotton goods in Spain and Portugal* (Washington, 1911), p. 30.

*Sedó* was unusually large for a town mill of the Llobregat Valley. The firm was created in the mid 19<sup>th</sup> century when the owner, Miquel Puig, bought the right to use water power from the Llobregat river. By 1875, the firm had already installed 25 000 spinning spindles and 500 power looms and employed 1,300 workers.<sup>47</sup> A new town mill was built in 1895 with 1328 inhabitants, the main group being families of four to five members, most of them employed in the factory.<sup>48</sup> These figures suggest that about half of the labour force (of 1,700 to 2,000 workers in the early 20<sup>th</sup> century) lived in the town mill and the rest walked to the factory from the neighbouring towns of Olesa and Esparraguera.

In our period, the firm experienced five strikes. In 1882, the employers locked-out the entire labour force to layoff union workers.<sup>49</sup> In 1885, workers staged a 6 months-long strike (from September 1885 to the 10<sup>th</sup> March 1886) to prevent employers from increasing the number of looms and mules tended by workers.<sup>50</sup> In 1890, workers went on strike in solidarity with the textile workers of Manresa. In 1899, a strike lasting five weeks was staged to demand an increase of pay of 25 per cent for weavers. In November 1900, a strike took place after employers tried to reduce wages by 5 to 8 per cent. The strike ended on February 1901 when the pay cut was withdrawn.<sup>51</sup>

At *Sedó*, loom sizes ranged between 1 and 2.70 metres. Men generally tended two large looms, while women tended two small ones.<sup>52</sup> Before 1903, most spinners were men. Men tended one mule with the help of one assistant, while both men and women tended one ring with the help of a piecer and a helper.<sup>53</sup> For example, in 1901, the firm employed 201 men and 89 women in its spinning room. However, in 1903, a fire destroyed the spinning section (according to workers, it was deliberately started by employers) and the firm replaced all male spinners with women.<sup>54</sup> Warp spinners tended one ring assisted by a helper, while weft spinners with a helper operated two rings. Weft spinning additionally used a group of ancillary workers to do away with the heavy spools

<sup>47</sup> Dorel-Ferré, *Les colònies industrials*, p. 268.

<sup>48</sup> *Ibid.*, p. 358.

<sup>49</sup> *Ibid.*, p. 382.

<sup>50</sup> *Ibid.*, p. 385.

<sup>51</sup> *Ibid.*, p. 392.

<sup>52</sup> *Ibid.*, p. 404.

<sup>53</sup> Enrech, "L'ofensiva patronal," p. 255.

<sup>54</sup> Dorel-Ferré, *Les colònies industrials*, p. 393.

of yarn.<sup>55</sup> *Sedó* installed relatively small rings bought to the British manufacturers Howard & Bulloughs of 280 and 256 spindles respectively.<sup>56</sup>

*Almeda, Alamany and Cía* was a river factory located in Manlleu employing 197 workers in 1903.<sup>57</sup> As most firms in Manlleu, the firm specialised in cotton spinning and employed exclusively male spinners throughout the period. The firm started to produce in 1882 with eight mules of 312 to 404 spindles and 2,626 spindles in total. From 1885 onwards, *Almeda* only bought rings of about 350 spindles, using 3,772 ring spindles in 1900.<sup>58</sup>

In all three cases, data were taken on pay and output in the spinning and weaving rooms from payroll ledgers (*llibres de salaris*). Since wages were earned on a weekly basis, I sampled the ledgers by choosing only weeks corresponding to early March, early June, mid September, and late November. In the case of *Sedó*, because only ledgers from week 13, 26, 39, and 52 have survived and the series only covers 1900 to 1912, with two additional wage books from 1895, all available ledgers were selected to maximise the number of observations.

Little is known about how pay varied in the spinning and weaving rooms. In the case of spinning, it is possible to analyse if systematic differences in the output performance of spinners and their teams producing differences in pay. The available evidence suggests that, at least in spinning, piece rates were not used to pay a premium to abler spinners because there were not large differences in individual or team performance. In the case of mule spinning, the conclusion from an exercise with 16 randomly selected self-acting mules from *La España Industrial* seems to be that differences in performance were very small: differences in yarn quality –measured by the count– explain above 90 per cent of the variation in productivity per day (see table A6.2 in appendix).<sup>59</sup> A similar exercise was done for ring spinners selecting 10 rings in each spinning room. Results do not show the same level of homogeneity as the regression with

<sup>55</sup> Ibid., p. 255.

<sup>56</sup> ANC, fons Manufactures Sedó, “Maquinaria existente.”

<sup>57</sup> Enrech, “L’ofensiva patronal,” p. 262.

<sup>58</sup> Ibid., p. 452.

<sup>59</sup> See table 2A in the appendix to the chapter. Three weeks per year were selected for 16 randomly selected mules and output per day was regressed against yarn quality, a time trend and 16 fixed effects.



mules, but still differences among rings once yarn quality is controlled for were below 12 per cent.<sup>60</sup>

#### **6.4. Price and quantity adjustments, 1890-1910.**

##### *Evidence of piece rates stickiness.*

##### *Cotton spinning.*

In the Catalan textile sector, with the exception of short periods of collective bargaining, lists were bargained between workers and their firms in absence of formal bargaining procedures and, in most cases, in absence of a union. However, the evidence collected shows piece rates remained fixed in a period of frequent economic downturns, leading to the existence of piece rate stickiness. In fact, there is some evidence piece rates were adjusted upwards, but only exceptionally downwards. Changes in piece rates did not correspond to cyclical downturns or upturns.

This view is corroborated by evidence on piece rates for particular types of count over 1890 to 1910. Piece rate changes are found in table 6.2, figures from *Sedó* and *La España Industrial* correspond to female spinners while *Almeda* only employed male spinners (piece rates were substantially higher, about double the piece rates of women). In table 6.2A, I show piece rates were fixed for the most common yarns in the mule spinning section of *La España Industrial* between 1880 and 1886, which includes the bad business years of 1885 and 1886. In *Sedó* (table 6.2B), nominal piece rates increased by 3 to 20 per cent between 1901 and 1910 and do not show downward adjustments. At *Almeda*, between 1890 and 1910, piece rates remained stable across most count types. In the period 1886-1890, piece rates in ring spinning were cut by 10 to 20 per cent, but this could well correspond to a period of experimentation after the rings were first introduced in 1886 (in fact, in self-acting spinning, rates were not cut). This cut does not correspond with an economic downturn; rather, the firm's output was increasing very fast. Afterwards, piece rates remained fixed during the whole period. Rates corresponding to

---

<sup>60</sup> Again, this a fixed effects regression. In the case of *Sedó* and *La España Industrial*, I chose 10 rings spinning warp yarn and regressed their kilograms of yarn produced per day in a given week against count, a time trend and fixed effects. In the *Almeda* regression, all ring spinning machines of the company are included.

the common twist yarn count 24 in the self-acting mules kept constant during the whole period.

Table 6.2. Piece rate changes, ring and self-acting spinning.

6.2A. La España Industrial, self-acting spinning 1880-1886.

	1880-1884	1885-1886
Warp yarn, count 22	0.593 reales/kg	0.593 reales/kg
Warp yarn, count 32	0.985 reales/kg	0.985 reales/kg

6.2B. Sedó, 1901-1910. Pts per kilogram

	14 warp	20 warp	26 warp	55 warp
March 1901	0.029	0.046	0.0742	0.18
December 1901	0.0307	0.0487	0.0742	0.1908
March 1904	0.0350	0.0501	0.0764	0.1908

6.2C. Almeda, 1886-1910. Pts per kilogram

	1886	1890	1895	1900	1905	1910
Self-acting mules, twist yarn, number 24.	0.165	0.165	0.165	0.165	0.165	0.165
Rings, warp 14	Na	na	0.074	0.074	0.075	Na
Rings, warp 16	0.096	0.085	0.086	0.086	0.086	0.086
Ring,s warp 18	0.1103	0.098	0.098	0.098	0.097	0.098
Rings, warp 20	0.1103	0.127	0.101	0.112	0.104	0.104

Source: see text.

*Weaving.*

In spite of the existence of many different types of woven cloth, detailed examination of piece rates at *La España Industrial* of the most common types of cloth suggests piece rates were also sticky in the weaving rooms of Catalan factories. For example, between 1880 and 1886, piece rates did not change in spite of including two bad business years such as 1885 and 1886 (table 6.3A). However, in 1887, there was a piece rate cut of about 30 per cent when the firm laid off most of its male weavers and hired women (piece rates varied between men and women).<sup>61</sup> The cut took place under very exceptional circumstances when the firm re-organised its spinning section and activity was stopped or slowed during almost one year and a half. After 1888, piece rates remained fixed or with little adjustments up to 1910. During the period there was a shift

<sup>61</sup> Pay did not necessarily fall, the average number of pieces produced in a given week increased by 35 per cent while average piece rates fell only by 30 per cent (values of 1880-1885 are compared to those of 1890-1900).

towards the production of more expensive pieces of the type *liso* or *bordón*. As a result, average nominal piece rates increased from 1.94 ptas piece to 2.92 in 1905 and further to 5.38 in 1910, with a percentage increase between 1890 and 1910 of 177 per cent.

Evidence from *Sedó* suggests that the rising rates per piece of cloth depended on the pieces getting heavier. In the case of *Sedó*, calculating average rates per piece showed an increase of 119 per cent between 1895 and 1910 (table 6.3C). Increases in the rate paid per metre of cloth are in the same order of magnitude, with an increase of 61 per cent in the rate per metre paid between 1900 and 1910 (between 1900 and 1910 the average piece rate increased by 69 per cent). The average length of pieces grew from 82 metres per piece in 1901 to 86 in 1910, an increase of 4.9 per cent over the period. The explanation for the surprising rise in the piece rates is provided by the evolution of the weight of pieces. At *Sedó*, between 1895 and 1910 the average weight of pieces increased from 12.88 kilograms per piece to 22.49 kilograms, i.e. an increase of 74.6 per cent.<sup>62</sup> At the same time, the rate per kilogram of cloth grew by 30.8 per cent. These two changes together bring about an increase in the rate per piece of 129 per cent ( $1.75 \times 1.31$ ), explaining the 119 per cent rise in the price of pieces observed between 1895 and 1910.

Average piece rates at *Sedó* also show that piece rates were sticky. The average rate per kilogram proxies the rate per pick, while the average rate per metre proxies the premium for longer pieces (table 6.3D). In spite of having an increasing trend, average rates per kilogram fell in 1905 with respect to 1900. However, the increase in the average rate per metre more than compensated the fall in the rate per kilogram, the combined rate per kilogram-metre grew by 11 per cent between 1900 and 1905.

<sup>62</sup> The increase was continuous in time. In 1895, the average weight of pieces was 12.88 kilograms, in 1900, it was 14.78, in 1905 it was 19.072, and in 1910, 22.49 kilograms per piece.

Table 6.3. Piece rates changes, cotton weaving.

Table 6.3A. La España Industrial, 1880-1886. *Reales per piece.*

Type	1880-84	1885-1886
4/4 3 <sup>a</sup>	11.82	11.82
4/4 2 <sup>a</sup>	12.63	12.63
4/4 Madras	10	10
6/4 Madras	18	18
Entrefino primera	8.80	8.80
Entrefino segunda	8.80	8.80
Molesquin 4/4	39	39

Table 6.3B. La España Industrial, 1890-1910. *Reales per piece.*

Type	1890	1895	1900	1905	1910
4/4 3 <sup>a</sup>	8	na	na	Na	na
4/4 18	7	7	7	Na	na
4/4 Madras ½	8.50	8.50	8.50	na	na
4/4 Molesquin 3 <sup>a</sup>	18	18	18	19	19
4/4 Molesquin 4 <sup>a</sup>	na	24	24	25.50	na
4/4 Franela	na	6.20	6.50	7	na
4/4 setina 1 <sup>a</sup>	na	13	na	15	na
4/4 Bordon	na	na	34	37	37
4/4 Liso D	na	na	na	42	42
5/4 Franela 1 <sup>a</sup>	na	na	6.50	6.90	6.80
5/4 chagrin	8	8	8	na	na
6/4 Encuad	na	na	13	13	13
6/4 Madras 2 <sup>a</sup>	10	10	10	na	na

Table 6.3C. La España Industrial, 1890-1910.

Year	Average piece rate. Ptas piece.	Average labour productivity (pieces per week)
1880	2.905	5.65
1885	3.139	3.83
1890	1.937	6.73
1895	1.970	6.57
1900	2.423	5.91
1905	2.916	6.06
1910	5.377	3.67

Table 6.3D. Sedó, 1895-1910

Year	Average rate per piece of cloth	Average rate per kg	Average rate per metre
1895	2.76	0.214	n. a.
1901	3.59	0.252	0.044
1905	4.59	0.241	0.051
1910	6.07	0.280	0.071

Source: see text.

### Adjustment to economic downturns.

In this section, I will analyse employers' responses to economic downturns addressing explicitly the pattern of adjustment in the sector to gain insights on how the cotton textile labour market operated. By doing this, I follow other historical studies that compare the output, nominal wage and labour input changes over the business cycle to characterise historical labour markets that did not have institutional impediments to nominal adjustment like minimum wages or state-enforced collective bargaining.<sup>63</sup> As I will show, since piece rates were rigid, price rigidity produced quantity adjustments. Firms responded to declines in economic activity by adjusting output, hours of work (short-time), and employment.

In our period, there were three identifiable economic downturns producing a decline in sales and excess capacity: 1898, 1900 and 1904. The first two crises are related to the Cuba war of 1898 because Cuba was the main export market of the Catalan textile industry.<sup>64</sup> The crisis of 1904 according to the employers' press was an overproduction crisis caused in part by a rise in raw material prices.<sup>65</sup> In order to identify declines in sales, I regressed the logarithm of weekly output against a constant and a time trend. Economic crises were identified when there were more than three observations below trend (9 months below trend). Then I compare the values of the relevant variables with values corresponding to good years (above trend). In table 6.4, I present results for this

<sup>63</sup> Huberman, Michael, "Invisible handshakes in Lancashire: cotton spinning in the first half of the 19<sup>th</sup> century," *Journal of Economic History*, 46, 4 (1986); Sundstrom, "Was there a golden age,," Sundstrom, William A., "Rigid wages or small equilibrium adjustments? Evidence from the contraction of 1893," *Explorations in Economic History*, 29 (1992); Carter and Sutch, "The labor market."

<sup>64</sup> Nadal, Jordi, "La indústria cotonera," p. 64, in Nadal, Jordi, Jordi Maluquer de Motes and Francesc Cabana (eds.), *Història Econòmica de la Catalunya contemporànea*, vol. 3 (Barcelona, 1991).

<sup>65</sup> *El Trabajo Nacional*, numbers 312 and 313, first page, July and August 1904.

exercise carried out with data from the spinning and weaving rooms at *Sedó* and *La España Industrial*.

**Table 6.4. Labour input and wage adjustments to output fluctuations.**

<b>Sedó, spinning</b>	<i>Sep 1903- Dec 1904</i>	<i>June 1909- March 1910</i>	
Output (kgs)	-54.54	-14.38	
Employment	-41.13	-11.85	
Labour productivity- week	-23.19	-2.01	
Average rate per kilogram	13.89	10.53	
Nominal weekly wage	-12.36	8.78	
<b>La España Industrial, spinning</b>	<i>Sep 1900- June 1901</i>	<i>Nov 1902- March 1904</i>	<i>March 1910 – Nov 1911</i>
Output (kgs)	-23.67	-29.81	-25.54
Employment	-24.32	-25.5	-10.08
Labour productivity – week (Y/L)	1.56	-3.17	-17.44
Average rate per kg	2.82	10	7.95
Nominal weekly wage	4.24	12.03	-11.29
<b>Sedó, weaving</b>	<i>Dec 1903- June 1904</i>	<i>March 1910- Sep 1911</i>	
Output (kgs)	-38.73	-18.01	
Employment	-37.58	-14.17	
Labour productivity – week (Y/L)	7.11	-14.72	
Average rate per kg	-7.06	13.99	
Nominal weekly wage	-0.77	-1.62	
<b>La España Industrial, weaving</b>	<i>Nov 1898- June 1899</i>	<i>March 1903- March 1904</i>	<i>March 1910- March 1911</i>
Output (pieces)	-26.02	-38.52	-44.05
Employment	4.1	-21.48	-15.49
Labour productivity – week (Y/L)	-28.74	-15.76	-34.98
Average rate per kg	17.07	33.36	62.14
Nominal weekly wage	-15.09	2.19	1.68

Source: see text and appendix.

The magnitude of the fall in output in the cases being analysed was indeed large. For example, output in the spinning rooms of *Sedó* fell by 54 per cent in late 1903 and early 1904 with respect to average output in the previous two years. The company reacted by cutting employment by 41 per cent and working short-time. The magnitude of the negative adjustment in the number of hours worked is proxied by the average weekly labour productivity (weekly output divided by the number of workers on payroll) because data on hours or days of work in a given week are not available. The difference between

the two periods was 23 per cent, which would mean that, if the levels of daily productivity were kept constant, the firm worked on average 4.62 days instead of 6. On the other hand, the average rate per kilogram of spun yarn showed considerable counter-cyclical, with an increase of 14 per cent caused by upward changes in the average quality of spun yarn. As a result, nominal weekly wages only fell by 12 per cent.

The recession of the late 1909 and early 1910 was milder, with output falling only by 14.38 per cent. Layoffs were limited to a 5.17 per cent of the workforce while short-time –measured by the fall in weekly labour productivity– was only 2.01 per cent in this case. Because the firm adjusted mainly through layoffs and quality was countercyclical, the nominal weekly wage increased by 8.78 per cent.

Compared to *Sedó*, the elasticity of employment with respect to output was larger in the spinning rooms of *La España Industrial*. In two of the three recessions that I have identified, the fall in employment was of the same magnitude than the fall in output, reducing the need to work short-time. Accordingly, weekly labour productivity increased or fell only slightly in both recessions. Average weekly wages and the average rate per kilogram increased during both downturns. Only in the latest economic downturn, March 1910-June 1911, did the firm resort to both lay-offs and short-hour working (minus 10 per cent and minus 17.4 per cent respectively).

Still in table 6.4, the same exercise was repeated in the case of the weaving rooms of *Sedó* and *La España Industrial*. Again, the response to large economic downturns was adjusting labour input rather than prices. In the case of *Sedó*, the firm adjusted the fall in output (measured by the number of kilograms of woven cloth) through a combination of lay-offs and short-time. In the downturn of early 1904, the firm adjusted only by reducing employment: with output falling by 39 per cent, employment fell by 38 per cent, while weekly labour productivity grew by 7 per cent. During the second economic downturn in 1910-1911, with output falling by 18 per cent, short-time was 14.7 per cent.

Evidence on the weaving rooms of *La España Industrial* is more difficult to interpret given the fact that the output variable is measured in terms of pieces of cloth, which varied in characteristics over the cycle. From December 1898 to June 1899, output fell by 26 per cent but the firm did not reduce employment. Instead, it reduced weekly

labour productivity by 28.74 per cent to accommodate the reduction in sales. Average weekly wages only fell by 15.09 per cent because at the same time the average piece rate was increasing by 17.07 per cent because pieces of cloth of higher quality were being produced. In the other two economic downturns in early 1904 and 1910, the company resorted to a combination of lay-offs and short-hour working. As a consequence of the employment adjustment and the increase in average piece rates, nominal weekly wages increased in both recessions.

#### *Labour input adjustments.*

The results in the previous section can be improved in three directions. First of all, I will like to depict the aggregate picture of movements in output, short-time and employment rather than one that is only focused on particular downturns. In this regard, it is useful to aggregate all output, short-time and employment changes. Second, due to our sampling method which takes three or four weekly observations per year, some fluctuations can simply be seasonal. Thus a method to correct for purely seasonal variation is needed. Finally, upward movements in average piece rates during economic downturns suggest it is worthwhile to control for quality movements over the cycle. Since downturns are associated with higher piece rates, there is a concern that declines in total product might be confused with simple increases in average quality reducing the physical quantity of output being produced. This is simple to control for in the case of spinning where I could collect at a reasonable cost the average count for the different types of yarn (warp and weft).

In order to incorporate these improvements, I have regressed the logarithm of the weekly amount of spun yarn against a constant, a time trend, and dummies for each of the weeks selected in the study.<sup>66</sup> In two firms, I also included a yarn quality control. In the case of *Almeda*, I used the average count of warp yarn and I calculated for *La España Industrial* a composite index of average warp and weft yarn multiplied by the shares of warp and weft yarn in the total weight of yarn produced in a given week. I did the same exercise with the logarithm of weekly labour productivity, also including a quality control. In *Almeda*, because employment figures were not reported, I used output per

<sup>66</sup> I tried different trends: linear, quadratic and experimented with trends including lagged values of the dependent variable as independent variables. Including lagged values obviously diminished the size of fluctuations about trend, but results did not vary substantially. Results presented here use linear trends only.



spindle to proxy labour productivity given that capital-labour ratios did not vary in the period. The rest of variables were regressed against a constant, a trend and dummies for each week (all variables expressed in natural logarithms). Then, negative deviations of output with respect to trend were added up and compared to adjustments about trend in the rest of variables.<sup>67</sup> All differences with respect to trend are expressed in percentages.

Some caveats however are necessary preventing a straightforward interpretation of the pattern of employment and hours adjustment. Given my sampling procedure, I capture more precisely short-run adjustments than adjustments that are lagged in time. Since employment cuts meant the loss of trained workers and firm-specific human capital, employers might have delayed cuts until the trough of the recession was reached. If this was the case, then my procedure would underestimate the magnitude of the adjustment. In order to avoid the problem of lagged adjustment, I have calculated the sum of the absolute values of positive and negative deviations with respect to trend. Employment and labour productivity adjustments to negative output deviations capture the (short-run) "sensitivity" of these variables to changes in output, whereas adding up all deviations about trend captures the size of cyclical adjustment in each of the variables.

---

<sup>67</sup> This follows Huberman, Michael, "How did labor markets work in Lancashire? More evidence on prices and quantities in cotton spinning, 1822-185," *Explorations in Economic History*, 28 (1991). As well, Huberman, "The economic origins of paternalism: Lancashire cotton spinning in the first half of the 19<sup>th</sup> century," *Social History*, XII, 2 (1987).

Table 6.5. Adjustment to output declines, cotton spinning, 1880-1910. Cumulative percentage deviations about trend compared to negative output deviations with respect to trend.

Table 6.5A. La España Industrial, 1880-1886 (mule spinning).

	Output kgs	Employment	Labour Productivity Week
Negative deviations with respect to trend	-31.7	-11.5	-59.2
Quality adjusted	-30.0	-10.0	-54
All deviations with respect to trend (quality adjusted)	60.0	36.7	116.2

Table 6.5B. La España Industrial, 1891-1910. Ring spinning.

	Output kgs	Employment	Labour Productivity Week
Negative deviations with respect to trend	-74.7	-39.5	-108.9
Quality adjusted	-65.5	-39.7	-91.7
All deviations with respect to trend (quality adjusted)	132.9	127.5	212.5

Table 6.5C. Almeda, Alamany, y Cía., 1886-1910. Ring spinning.

	Output kgs	Output per spindle – week
Negative deviations With respect to trend	-48.6	-343.7
Quality adjusted	-45	-330.7

Table 6.5D. Sedó, ring spinning 1900-1910.

	Output Kilograms	Employment	Labour productivity – week
Negative deviations with respect to trend	-41.6	-33.6	-48.2
All deviations	81.14	106.2	112.9

Source: see text.

The results in table 6.5 show how correcting for yarn quality removes some of the variance of both the output and labour productivity variables but still the conclusions drawn from table 6.4 are still valid. The main adjustment mechanism for firms in the face of negative demand shocks was working short-time, measured by the decline in average weekly labour productivity. In all the four cases, changes in average weekly labour productivity are bigger than changes in output. This is especially the case in *Almeda* and mule and ring spinners in *La España Industrial*, where short-time was more important than lay-offs. In *Sedó*, the size of the adjustment through employment and labour productivity is of similar magnitude (perceptible using both only negative and all deviations).

Table 6.6 Adjustment to output declines, cotton weaving, 1889-1910. Cumulative deviations about trend compared to output deviations with respect to trend.

Table 6.6A. Sedó, weaving, 1900-1910.

	Output (kilograms)	Employment	Labour productivity (kilograms week)
Negative deviations	-24.19	-3.68	-56.2
All deviations	48.38	54.69	139.27
	Output (metres)	Employment	Labour productivity (metres week)
Negative deviations	-25.31	-5.48	-65.35
All deviations	50.61	54.69	203.51

Table 6.6B. La Espanya Industrial, weaving 1889-1910.

	Output (pieces)	Employment	Labour productivity (pieces week)
Negative deviations	-110.9	-20.7	-382.9
All deviations	221.8	100.1	881.6

Table 6.6 presents the results of the same exercise in cotton weaving. The results for *Sedó*, calculated for both kilograms and metres, show again the same pattern of adjustment through short-time and employment, with short-time being the main form of adjustment. Compared to spinning, employment fluctuations are remarkably smaller if

only at negative deviations are considered. When all deviations are included, differences with respect to trend are similar in output and employment, while deviations of weekly labour productivity are much higher. In part, this was caused by the fact that weavers were more skilled personnel than ring spinners, so that managers might have been reluctant to lose trained workers. Furthermore, weavers probably enjoyed some additional bargaining power because half of weavers were adult men, a group that traditionally formed the backbone of unionism in the sector. In this sense, employment levels fluctuated less around their trend line.

The conclusions from section 6.4 are clear enough. On the one hand, piece rates were remarkably rigid, not varying or even increasing over time since 1890. In section 6.4, I have shown the main pattern of adjustment to economic downturns based on labour input adjustments. Among these, short-time was especially important in cotton weaving, while employment seems to be more elastic in the short-run in cotton spinning.

The pattern of short-weeks or short-time needs some elaboration since working short-time to accommodate reductions in demand is rare in modern times. It could be argued that short time benefited employers because it reduced the total wage bill and the weekly wage paid to an individual worker. But for employers, the relevant unit was not the weekly wage but the labour cost per unit of output -and unitary labour costs were fixed. Furthermore, it is difficult to imagine that all firms would collude to reduce output, so short time firms might be losing market shares in favour of full time working firms. Second, employers could lose good workers to full-time working firms. However, there are several reasons why employers might be willing to abide to these practices. For example, managers might want to hoard labour to avoid losing skilled personnel to competitors and reducing the migration of valuable workers.<sup>68</sup> On the part of workers, short time could be seen as a way to preserve lengthy attachments with the same firm and as a fair way to spread the costs of unemployment and obtain some earnings in the absence of unemployment insurance.<sup>69</sup> Moreover, short time working protected rates in economic downturns. For example, a rule could exist in which firms can cut piece rates in downturns and work full time (for example, under a sliding scale system), with the

<sup>68</sup> Kiesling, Lynne L., "Institutional choice matters: the Poor Law and implicit labor contracts in Victorian Lancashire," *Explorations in Economic History*, 33 (1996), p. 70.

<sup>69</sup> Huberman, "Economic origins," p. 14; Huberman, Michael, *Escape from the market: negotiating work in Lancashire* (Cambridge, UK, 1996), chapter 5.

commitment to raise them again in upturns. However, this was rarely the case because, as some experiences in the 1880s show (discussed below), workers feared firms would renege on their commitments.

### **6.5. Causes of piece rate rigidity.**

Adjustment to economic downturns by working short-time and cutting employments with sticky piece rates raises questions about the origins of nominal rigidity in the Catalan cotton textile sector. Below I discuss models of piece rate bargaining in which firms need to elicit the co-operation of workers to introduce innovations and increase labour productivity. The theoretical base of these models is the existence of informational asymmetries between workers and managers leading to the payment of an efficiency wage. On the other hand, insider-outsider models of wage and employment setting show that insiders with some degree of job security can resist wage cuts even in the event of an excess supply of labour.<sup>70</sup> The main reason for this is that ‘insiders’ –the workers with some degree of job security- are not perfectly interchangeable with unemployed or other available workers, either because insiders are more productive or can resist the hiring of outsiders.<sup>71</sup>

#### *Informational asymmetries.*

The design of an incentive system that extracts the maximum effort from workers at the lower cost for employers has been a traditional concern among industrial relations specialists, managers and economists. Because piece rates pay workers for the output they really produce, this method of payment solves problems associated with hidden information (for example, the adverse selection of workers with low levels of ability and dexterity) and hidden action (related to shirking on the job). Edward Lazear shows that piece rates are found where output is individual and easily observable, employers face an heterogeneous pool of workers with different skill levels, and supervisory costs are high.<sup>72</sup>

<sup>70</sup> Lindbeck, Assar and Dennis Snower, “Cooperation, harrassment, and involuntary unemployment: an insider-outsider approach,” *American Economic Review*, 78, 2 (1988).

<sup>71</sup> Solow, *The labor market*, p. 34.

<sup>72</sup> Lazear, “Salaries and piece rates,” p. 427.

The cotton textile industry conformed to this pattern. The output of individuals or work groups was easily observable (kilograms of spun yarn or pieces of cloth). Additionally, fast urban growth in the textile towns and internal migratory movements generated a labour force that varied in skill levels and in commitment to industrial work.<sup>73</sup> Evidence about increasing supervisory costs is more mixed and difficult to interpret. In the mid 19<sup>th</sup> century Catalan establishment sizes were small compared, for example, to Lancashire. In 1850 Catalan cotton factories employed on average 86 workers while in Lancashire the figure was 171.<sup>74</sup>

In the historical literature, firms over 150 employees are considered to be large.<sup>75</sup> By the early 1860s, the proportion of workers in establishments over 200 employees was 14 per cent in cotton spinning and 17 per cent in weaving and mixed fabrics, corresponding to five and establishments in cotton spinning and 16 in weaving.<sup>76</sup> Therefore, the 'monitoring costs' hypothesis cannot account for 68 per cent of cotton spinning workers and 67 per cent of weaving workers paid by the piece employed in establishments with less than 100 workers in 1861. The most plausible explanation is that cotton firms paid by the piece because it was the traditional form of payment in the putting-out stage of the textile industry and, as Enriqueta Camps has shown, customary practices from traditional manufacturing were adopted to organise work in the early factories.<sup>77</sup>

The literature on incentive schemes stresses that piece rates are difficult to implement when employers and workers gain experience on a new technology because it is difficult to set the optimal rate. The main problem is the fact that employers cannot abstain from cutting piece rates when workers' earnings increase with rising labour productivity. This in turn leads to strategic behaviour by workers, restricting effort levels, not revealing their full productivity potential or resisting technical change.<sup>78</sup> Repeated interaction in long-run organisations can avoid this sort of problem if both employers and workers create reputations signalling the co-operative equilibrium in which workers give

<sup>73</sup> On migratory movements, Camps, Enriqueta, *La formación del mercado de trabajo*, chapter 2.

<sup>74</sup> Rosés, Joan Ramon, "The early phase of Catalan industrialisation, 1830-1861," p. 166, unpublished PhD dissertation, European University Institute, 1998.

<sup>75</sup> Huberman, "How did labor markets work?," p. 88.

<sup>76</sup> Rosés, "The early phase," tables 7.5 and 7.8, pp. 20-213.

<sup>77</sup> Camps, "La teoría del capital humano," pp. 332-333.

<sup>78</sup> Miller, *Managerial dilemmas*, chapter 5.

the full effort and co-operate in the introduction of new techniques and firms never cut rates of pay (piece rates can decrease but less than the increase in labour productivity).<sup>79</sup>

Informational asymmetries might have been important when new machinery was introduced in Catalonia and adapted to local conditions. Self-acting mules appeared in 1844 and expanded from 83,268 spindles recorded in 1850 to 763,051 in 1861.<sup>80</sup> The number of power looms increased from 210 in 1841, to 4,109 in 1850, 9652 in 1861 and approximately 29,000 in 1870.<sup>81</sup> However, there are grounds to think that both the self-acting mule and power-loom technologies were quite 'mature' when introduced in Spain. This meant the process of experimentation on the technology was finished and the sources of potential information asymmetries were quite limited. In the self-acting mules, physical productivity per spindle changed little between 1860 to 1885, with available estimates clustering around 20 kgs per year and spindle. Some estimates are given in table 6.7 (results are for a 64 hours working week, assuming full capacity and the same number of working days in the 1860s than in the 1880s). Estimates for the 1860s are calculated for the average count, which fluctuated between 20 and 30 (Catalan count), medium range quality of yarn. For the 1880s, figures are given for counts 22, 24 and 32. Calculations of physical productivity in the sector were generally done with counts between 20 and 24.<sup>82</sup>

<sup>79</sup> This is discussed in *ibid.*, chapter 9.

<sup>80</sup> On the arrival of self-actors, Benet i Martí, *Barcelona a mitjan segle XIX*, vol. I, p. 543.

<sup>81</sup> Izard, *Revolució industrial*, p. 21.

<sup>82</sup> Ramoneda, Alfredo, *Introducción al estudio del precio de coste en la hilatura de algodón* (Barcelona, 1915), p.189.

Table 6.7. Physical productivity of mule spindles, 1860-1885.

Source	Year	Average number of spindles in mules	Count	Kgs per spindle (one year)
Instituto Industrial	1860			20.9
España Industrial	1860			20.9
Giménez Guité	1861			22.6
España Industrial	1880	320	22 (warp)	24.29
			32 (warp)	16.73
Almeda (Manlleu)	1885	333	24 (warp)	20.55

Sources: data for the 1860s, Rosés (1998), p. 77. *España Industrial* from Arxiu Nacional de Catalunya (ANC), Fons La España Industrial, "Salaris", 1880. Data on spindles from ANC, Fons La España Industrial, "Reforma total de la maquinaria en las secciones de preparación de hilados é Hilados. Su costo y economía anual" (1887). *Almeda*, ANC, Fons Almeda, Alemany y Cía., "Salaris".

Qualitative evidence also points to the fact that new technologies were easily diffused. In 1872, a cotton manufacturer commenting on the use of self-acting mules remarked "in Spain and France, Germany, Belgium, England, Switzerland, Russia and other nations use the same more or less improved self-acting mules with different number of spindles. This means that a factory to spin cotton uses nowadays the same machinery no matter where in the world it is located. Frequently, machinery producers like Platt, Parr Curtis, Higghins (sic) and other English producers, and the Koechlin and Schlumberger from Alsace, sell machinery to different countries in the world."<sup>83</sup> Generally, most of these firms not only supplied spinning machinery, but also an entire package of ancillary services including technological information and expert advice.<sup>84</sup> Therefore, productivity differences in mule spinning were caused by different mule sizes and mule speeds and staffing levels –the number of workers per machine– which depended on local conditions.

In this context, a possibility for co-operative technical change existed in the form of increases in mule speeds and mule and power loom sizes (the number of spindles per mule or the length of looms) and increases in the number of machines tended by each worker. This situation generated potential margins of adjustment bringing about what in

<sup>83</sup> Ferrer Vidal, *Conferencias*, pp. 71-72.

<sup>84</sup> Saxonhouse and Wright, "Technological evolution," p. 4; Bruland, Kristine, "Skills, learning and the international diffusion of technology," in Berg, M. and K. Bruland (eds.), *Technological revolutions in Europe* (Cheltenham, UK, 1998).



the literature is called “worker-sponsored technical change” -increases in firm-specific skills or in mule or loom-specific skills, i.e. continuous improvements of an existing technology.<sup>85</sup> The literature opposes this concept to “manager-sponsored technical change” when firms invest in new equipment not requiring or requiring little of previously existing skills. A result in the literature of piece rate management is that cuts in piece rates are not justified when technical change is “worker-sponsored” but are unavoidable when technical change is “manager-sponsored”.<sup>86</sup>

Evidence on technical change in the Catalan textile industry is mixed. There are periods in which technological change is manager-sponsored: the transition from hand-loom weaving to power-looms (intense in the 1860s), from mull-jennies to self-acting mules (in the 1850s and 1860s) in spinning, and later on from mules to rings (in the 1880s). Automatic looms and high-drafting spinning were not introduced until the 1920s.

In the case of rings, the potential for productivity improvement was exploited from very early on with a spinner and a helper minding rings of 400 to 500 spindles. Here, the information gap on new practices seems to have been small and managers decided in some cases to switch to time rates –as in *La Rambla* or *La España Industrial*. Productivity advances in ring spinning were necessary small. According to the evidence collected from the records of British producers Howard & Bulloughs, output per spindle did not increase between 1885 and 1910.<sup>87</sup> Evidence from Spanish ring purchases from British producers shows how, between 1884 and 1914, the average size of new rings increased by only 1.9 per cent (from 417 spindles in the period 1884-1890 to 425.2 in 1907-1914), while machine speeds of new purchases fell from an average 8,500 revolutions per minute in 1884-1890 to 8,400 in 1907-1914.<sup>88</sup> Furthermore, capital to labour ratios did not increase in the period. Therefore, this suggests managers had a clear idea of how much could be produced with the new rings and this did not require the co-operation of their workforces. This led to a one-off increase in labour productivity for coarse and medium yarns in the late 1880s and early 1890s but no further or minimal improvements up to 1914-1918.

<sup>85</sup> Carmichael and MacLeod, “Worker cooperation,” pp. 3-4.

<sup>86</sup> Ibid., p. 4.

<sup>87</sup> Saxonhouse, Gary M., “Productivity change and labor absorption in Japanese cotton spinning,” *Quarterly Journal of Economics*, 91, 2 (1977), p. 216, footnote 38.

<sup>88</sup> Saxonhouse and Wright, “Technological evolution.” In Odell’s *Cotton goods* purchases of rings of 400 to 420 spindles are reported in the late 1900s.

It is more difficult to examine the trend of potential sources of worker sponsored productivity growth on the 'mature' self-acting mule and power loom technologies. Information on characteristics of power loom purchases over time is very scarce. There is some more evidence on self-acting spinning. Evidence on self-acting mules bought in the 1850s and early 1860s, show the number of spindles fluctuated between 320 to 500.<sup>89</sup> Mules ordered by Spanish factories to the machinery producers Platt Brothers collected by Gary Saxonhouse and Gavin Wright show increasing mule sizes towards an average of 711.6 spindles in the period 1878-1883 and 882.5 for 1884-1890. Mule speeds also increased from 6,800 r.p.m. in 1878-1883 to 9,700 rpm in 1891-1898. Mule size of new purchases increased by 24 per cent and average speed by 43 per cent, if staffing levels (capital to labour ratios) remained the same this means a crude potential productivity increase of 77 per cent in 20 years

However, the rate of technical change seems to have been more modest. This is due to the fact that increasing mule sizes was only possible in firms spinning finer counts, which were already experimenting with mules of well over 500 spindles in the 1880s.<sup>90</sup> Coarse yarn producers like *La España Industrial* spun warp yarn in 1887 with 49 mules of 320 spindles and weft yarn with 39 self-acting mules of 343 spindles.<sup>91</sup> Another coarse spinner, *La Rambla*, bought 5 self-acting mules of 410 spindles in 1853, 6 mules of 452 spindles between 1859 and 1869, and 3 mules of 500 spindles in 1867.<sup>92</sup> This means the average number of spindles in mules increased from 410 in 1853 to 447 in 1867, a 9 per cent increase over 14 years or 0.62 per year. *Almeda, Alaman y Cía* used mules of 312 spindles purchased in the early 1880s, later on buying mules of 360 and 404 spindles.<sup>93</sup> By 1913, the most quoted figure for the average number of mule spindles was 500 to 600 spindles.<sup>94</sup> This figure, however, overestimates the pace of technical change: at the time, self-acting mules were only used to spin the finest yarns which allowed for longer mules already in the 1880s.

<sup>89</sup> ANC, fons La España Industrial, Reforma; Soler, Raimon, "Estratègies empresarials en la indústria cotonera catalana. El cas de la fàbrica de la Rambla de Vilanova, 1833-1865," p. 89, unpublished PhD dissertation, Universitat de Barcelona, 2000.

<sup>90</sup> One example is La Bauma, Enrech, "L'ofensiva," p. 332.

<sup>91</sup> ANC, fons la España Industrial, Reforma.

<sup>92</sup> Ibid., p. 89.

<sup>93</sup> ANC, fons Almeda, "Salaris", year 1886.

<sup>94</sup> IRS, *La jornada*, pp. 442-443.

Finally, another source of potential worker-sponsored productivity change was the increase in capital to labour ratios, i.e. the reduction of staffing levels per machine. During the 1880s, a series of publications written by cotton employers resulting from visits to Lancashire noted the differences in productivity between workers in Catalonia and Lancashire.<sup>95</sup> One of the main conclusions of these studies referred to the low productivity of the Catalan workforce, especially when comparing the number of spindles tended by Lancashire and Catalan workers. Andrés de Sard, for instance, claimed Catalan spinners ran self-acting mules of less than 600 spindles, assisted by a helper and a piecer, while in three of the four Lancashire he surveyed, the same team tended more than 2,000 spindles. Further, the speed at which these machines were run was on average a 20 per cent lower in Spain than in Lancashire.<sup>96</sup> Similarly, the *Comisión Obrera Catalana*, an expedition of cotton workers sent to England to gather information on how conflicts between capital and labour were solved in Lancashire, remarked as well the low capital/labour ratios in the Catalan cotton mills with respect to best practices in Lancashire. According to the *Comisión*, this did not offer *prima facie* evidence that Catalan operatives were less efficient than their Lancashire counterparts, remarking the air was drier in Spain, which increased the breakage rate, and noting that managerial skills were deficient in the Catalan industry.

The noticing of large productivity differences and the poor state of the sector brought about a debate between unions and employers on the need to increase capital/labour ratios in cotton spinning and weaving. When the 1885-7 crisis abated, there was a series of attempts by employers at increasing the efficiency of their establishments known as *reforma de treball a l'anglesa* (working the English way). Succinctly, the reform meant a doubling of capital to labour ratios: each spinner, with his two minders and two apprentices, to tend 2 self-acting mules instead of one and each weaver to tend a maximum of 4 power looms instead of 2 depending on their ability to do so.

Reforms in the organisation of work were especially intense in the large steam powered factories of the Lowlands. A case in point was the reforms attempted by Ferran

<sup>95</sup> Sard, Andrés de, *Comparación entre el actual estado de desarrollo de la industria algodonera en Inglaterra y el de la propia industria en España* (Barcelona, 1884); Comisión Obrera Catalana, *Memoria descriptiva elaborada por la Comisión Obrera Catalana nombrada para estudiar el estado de las fábricas de hilados y tejidos de algodón en Inglaterra y su relación con el obrero inglés ...* (Barcelona, 1889).

<sup>96</sup> Sard, *Comparación*, pp. 20-21.

Alsina in the *Vapor Vell* of Sants.<sup>97</sup> Alsina had a good knowledge of best practices in Lancashire and wanted the factory to specialise in finer yarns, increase mule size from an average of 476 spindles to 1,000, and double capital to labour ratios in spinning and weaving. The firm committed itself among other things, not to fire workers, increase wages by 20 per cent, apart from setting aside funds to provide for workers during the re-organisation with a mutual benefit fund.<sup>98</sup>

Workers, however, strongly resisted the re-organisation of working conditions along these lines. In 1885, the managers of *Sedó* faced a six months long strike in opposition to the failed employers' attempts of doubling the number of machines tended by workers. In the *Vapor Vell*, a long strike ensued when the reform was proposed and a worker shot Alsina in the street. Unable or unwilling to come to terms with the workers, factory managers finally re-located the establishment outside Barcelona. Another large lowlands steam-powered factory, *Can Batlló*, was forced to close down.<sup>99</sup> Until the First World War years, when there was an export boom in the industry and the rationalisation of work did not make workers redundant, spinners and their team tended only one machine, while weavers tended two looms as rule.<sup>100</sup> According to the unions' press, the main reason for resisting organisational changes of this type was related to the fact that the increase in capital to labour ratios generated redundancies and unemployment.<sup>101</sup>

#### *Insiders' bargaining power..*

Informational asymmetries therefore do not take us very far in explaining the factors causing wage rigidity in such a 'mature' industry as the Catalan cotton textile industry. A simpler explanation for the stability of price lists is that workers resisted wage cuts. Evidence on strikes in the period show considerable resistance to pay cuts even in the event of employment cuts and excess labour supply.

For example, in the crisis of the mid 1880s, there is ample evidence of strikes against piece rate cuts even if in the period numerous firms laid off workers or worked

<sup>97</sup> Alsina, Fernando, *Fonaments de la reforma de treball en la indústria cotonera tal com s'és comensada en lo Vapor Vell de Sans* (Barcelona, 1889).

<sup>98</sup> Ibid., p. 5.

<sup>99</sup> Enrech, "L'ofensiva patronal," pp. 445-450.

<sup>100</sup> IRS, *La jornada*, p. 421.

<sup>101</sup> For several examples, Enrech, "L'ofensiva patronal," pp. 443-453.

short-time. During the 1880s, the periodical of the *Tres Classes de Vapor* reported the existence of various conflicts over piece rate cuts. For example, in 1888, workers in the *Mas* factory of Vilanova i la Geltrú staged a 600 strong strike against a piece rate cut.<sup>102</sup> In Sant Martí de Provençals (Barcelona) there was a conflict lasting 11 weeks after employers had attempted to introduce a piece rate cut. In Sant Andreu del Palomar (next to Barcelona) and in Manresa (Llobregat valley) in 1890, a strike occurred after a piece rate cut had not been reversed.

More comprehensive evidence on strikes is available after 1905 using the data provided by the *Instituto de Reformas Sociales*.<sup>103</sup> Between 1905 and 1910, a period of low strike activity, there were 29 strikes by cotton textile workers in the province of Barcelona. Of these, 9 were against lay-offs, 9 retaliated against a wage cut, 10 demanded wage increases and one asked for a shortening of the working day. The first group of strikes were organised exclusively against the dismissal of union or strike leaders, or sometimes of popular foremen. Only in one strike, workers demanded a more continuous activity throughout the year "to guarantee a standard weekly wage." However, it appears to be the case of a river factory in which employers promised their workers to buy new machinery to avoid the decline of activity caused by summer droughts.<sup>104</sup> In one third of the recorded strikes of the period, workers protested a wage cut.

Moreover, insiders' bargaining power was enhanced by the regionalisation of the textile industry. For example, during the 1880s, *El Obrero* publicised all conflicts over pieces and organised solidarity strikes. The most famous one was the conflict after a piece rate cut in the factory *Els Dolors* in Manresa in 1890. In response, the textile union organised solidarity strikes in Barcelona, Vilanova i la Geltrú and the Llobregat valley.<sup>105</sup>

Finally, conflicts with blacklegs were legendary, putting limits to the substitution of outsiders for insiders. In strikes in Barcelona or Manresa, it was common that women on strike harassed strike-breakers by throwing stones at them or cutting the plaits of female strike-breakers.<sup>106</sup> In strikes, shootings and fights were not uncommon among

<sup>102</sup> Enrech, "L'ofensiva patronal," p. 448.

<sup>103</sup> The source is IRS, *Estadística de huelgas*, years 1905-1910.

<sup>104</sup> Ibid., year 1909.

<sup>105</sup> Ferrer, Joaquim, *El primer "Primer de Maig" a Catalunya* (Barcelona, 1972), p. 65.

<sup>106</sup> Enrech, "L'ofensiva patronal," p. 252.

strikers and blacklegs. This reduced the ability of workers who were available in the labour market to affect working conditions. For example, Angel Smith described conflict lasting 6 months over a new piece rate list in Manlleu in 1909 in which strike-breakers could not be recruited:

Conditions in the Rusiñol company town were, it has been noted, among the best on the Ter. Profit margins in the factory had, therefore, no doubt been particularly badly squeezed. This explains why on 15 May 1909 the owner, Albert Rusiñol, closed his factory and dismissed the 365 workers employed therein. The workers would, Rusiñol stated, have to reapply for admission, and accept a new wage list which had been drawn up. Not surprisingly, wages were in the future to be considerably lower. In particular male spinners who worked on the ring-frames would have to accept a cut in wages of 20 per cent. The workforce replied that it would only accept wage cuts in those cases in which wages had actually been higher than in the other factories in the town. Rusiñol refused to compromise, so no solution to the dispute could be found. Thus, when the factory reopened on June 30, the only people to go in were the managers and foremen. Another long strike ensued. The strikers were strongly supported by the Ter's textile unions. Rusiñol tried to break the strike by sending agents out into the country to look for blacklegs, but he had little success: by November only 40 had been recruited. The result was deadlock, which was only broken in February 1910 when Rusiñol announced that he was to close the factory.<sup>107</sup>

## **6.6. Conclusions.**

This chapter addresses some of the questions of the historical and theoretical debate on piece rates using evidence from the Catalan cotton textile sector between 1880 and 1910:

1. in our case study, the relationship between rising labour productivity and piece rates could not be studied, because labour productivity in cotton spinning and weaving remained stagnant or with minimal increases between 1885 and 1910. One of the reasons for this is that the sources of "worker-sponsored" technical change appear to have been quite limited in the sector. In this setting, average piece rates tended to increase, not decrease.
2. During the whole period, piece rate lists remained fixed, creating nominal rigidity. As a result, firms adjusted negative demand shocks via output, hours of work, and employment. A further line of research is the study of the behaviour of output prices over the cycle, since firms seems to be adjusting to economic downturns

<sup>107</sup> Smith, "Social conflict," p. 361.

---

via output rather than prices. Quantity adjustments seem to follow an implicit contract between workers and employers in which rates are stable and firms work short-time in recessions to protect lengthy attachments with their workers.

3. This happened in absence of formal collective bargaining mechanisms and in absence of a formally recognised union. The strike threat and decentralised and informal collective bargaining was enough to guarantee the stability of piece rates. Given large employment fluctuations in the firms of the study, insiders' bargaining power to protect piece rate lists and working conditions was remarkable.
4. The recurrence of periods of idleness and unemployment has implications for the understanding of living standards and the patterns of collective action of Catalan industrial workers in the late 19<sup>th</sup> century.

## Appendix to chapter 6.

Table 6.A1. Cost of living indices.

Spain, 1880-1910 (base year 1913=100)

Year	Cost of Living	Year	Cost of Living
1880	121.92	1896	102.84
1881	121.10	1897	106.87
1882	118.36	1898	110.14
1883	129.12	1899	112.30
1884	126.50	1900	106.62
1885	118.23	1901	105.51
1886	117.14	1902	105.34
1887	118.13	1903	109.00
1888	117.48	1904	109.60
1889	115.19	1905	113.64
1890	113.24	1906	110.87
1891	106.82	1907	105.71
1892	104.90	1908	104.01
1893	106.84	1909	115.50
1894	107.31	1910	102.64
1895	106.08		

**Source:** Ballesteros Doncel (1997), pp. 394-395. Index of food, clothing, fuel. Rent included after 1900.

Cost of living indices, province of Barcelona. Benchmark years. Base Barcelona 1910=100.

	1861	1874	1910	1914	1920
COL	104.7	111.6	100	100.1	181.14
Barcelona					

**Source:** Rosés and Sánchez Alonso (2000), p. 20. Index includes food, clothing, fuel and rent. Cost of living index calculated for 48 Spanish provinces.



Table 6.A2. Fixed effects regressions (unbalanced panel), output (kilograms) per day,  
1880-1910.

	Mule spinning La España Industrial, 1880-1886.	Sedó, ring spinning 1900- 1910.	Almeda, ring spinning, 1900- 1910.	La España Industrial, ring spinning, 1890- 1910.
Warp Count	-9.216*** (34.94)	-7.67*** (9.84)	-10.53*** (7.34)	-10.578*** (6.66)
Warp count squared	0.153*** (28.62)	0.082*** (7.0)	0.16*** (4.77)	0.144 (3.64)
Weft count (shifting coefficient)	0.706** (2.61)		0.793** (2.531)	
Weft count squared (shifting coefficient)	-0.025** (-3.27)		-0.03** (2.29)	
Time trend	No	1.118*** (4.48)	-0.097 (1.41)	-0.334*** (5.79)
Year dummies	Yes	No	No	No
<u>Fixed effects</u>				
Mach 1	153.8569	183.3305	205.3011	263.4360
Mach 2	153.9561	190.9146	206.3822	261.0453
Mach 3	153.7879	186.8196	209.5882	269.0365
Mach 4	153.9158	184.8893	204.2563	247.4476
Mach 5	153.0438	196.2305	204.9600	232.1956
Mach 6	152.9095	175.3971	205.2438	240.5974
Mach 7	154.4060	176.0423	207.9020	241.1222
Mach 8	154.9216	184.9180	205.2457	245.0269
Mach 9	153.1974	183.7910	226.4784	246.0063
Mach 10	150.7116	190.0158	226.1152	240.3436
Mach 11	155.1202	176.3538	216.2319	
Mach 12	152.8122		224.5283	
Mach 13	152.5856			
Mach 14	153.0824			
Mach 15	152.8404			
Mach 16	155.2435			
Adj-R-squared	0.902	0.628	0.711	0.654
Durbin-Watson	1.846	2.089	2.14	1.733
F	279.98	201.74	187.06	519.3
N	332	232	374	543

\*\*\* = significant at less than 1 per cent level; \*\* = significant at 5 per cent level

Table 6.A3.A. Price and quantity adjustments, Sedó, ring spinning 1900-1910.

Good year	December 1901- March 1903	Good year	September 1907- March 1909
Output (kgs)	31012.17	Output (kgs)	33251.92
Total earnings	3340.22	Total earnings	3156.63
Employment	322.33	Employment	341.83
Labour productivity (Y/L) –week	96.063	Labour productivity (Y/L) –week	97.39
Average rate per Kg.	0.108	Average rate per Kg.	0.095
Nominal wage	10.348	Nominal wage	9.233
Bad year	September 1903- June 1904	Bad year	June 1909- March 1910
Output (kgs)	14095.75	Output (kgs)	28470.03
Total earnings	1736.39	Total earnings	2993.32
Employment	189.75	Employment	301.33
Labour productivity (Y/L) –week	73.79	Labour productivity (Y/L) –week	95.43
Average rate per Kg.	0.123	Average rate per Kg.	0.105
Nominal wage	9.069	Nominal wage	10.04
Percentage change		Percentage change	
Output (kgs)	-54.54 %	Output (kgs)	-14.38 %
Total earnings	-48.02 %	Total earnings	-5.17 %
Employment	-41.13 %	Employment	-11.85 %
Labour productivity (Y/L) –week	-23.19 %	Labour productivity (Y/L) –week	-2.01 %
Average rate per Kg.	13.89 %	Average rate per Kg.	10.53 %
Nominal wage	-12.36 %	Nominal wage	8.78 %

Table 6.A3.B. Quantity and price adjustments to output fluctuations, La España Industrial, ring spinning 1889-1910 (weekly averages).

Good year	June 1899-June 1900	Good year	September 1901- September 1902	Good year	March 1909- December 1909
Output (kilograms)	16911.92	Output (kilograms)	15940.32	Output (kilograms)	15591.5
Employment	124.2	Employment	119.15	Employment	119
Average wage (week)	9.603	Average wage (week)	10.018	Average wage (week)	10.872
Average piece	0.071	Average piece	0.08	Average piece	0.083
Labour productivity (kgs/week)	136.17	Labour productivity (kgs/week)	134.11	Labour productivity (kgs/week)	131.35
Bad year	September 1900- June 1901	Bad year	December 1902- March 1904	Bad year	March 1910 - June 1911
Output (kilograms)	12909.13	Output (kilograms)	11187.83	Output (kilograms)	11609.92
Employment	94.0	Employment	88.83	Employment	107
Average wage (week)	10.01	Average wage (week)	11.224	Average wage (week)	9.645
Average piece	0.073	Average piece	0.088	Average piece	0.0896
Labour productivity (kgs/week)	138.29	Labour productivity (kgs/week)	129.86	Labour productivity (kgs/week)	108.44
Percentage change		Percentage change		Percentage change	
Output (pieces)	-23.67 %	Output (pieces)	-29.81 %	Output (pieces)	-25.54 %
Employment	-24.32 %	Employment	-25.45 %	Employment	-10.08 %
Average wage (week)	4.24 %	Average wage (week)	12.03 %	Average wage (week)	-11.29 %
Average piece	2.82 %	Average piece	10 %	Average piece	7.95 %
Labour productivity (pieces/week)	1.56 %	Labour productivity (pieces/week)	-3.17 %	Labour productivity (pieces/week)	-17.44 %

Table 6.A3.C. Quantity and price adjustments to output fluctuations, Sedó 1900-1910  
(weekly averages), weaving.

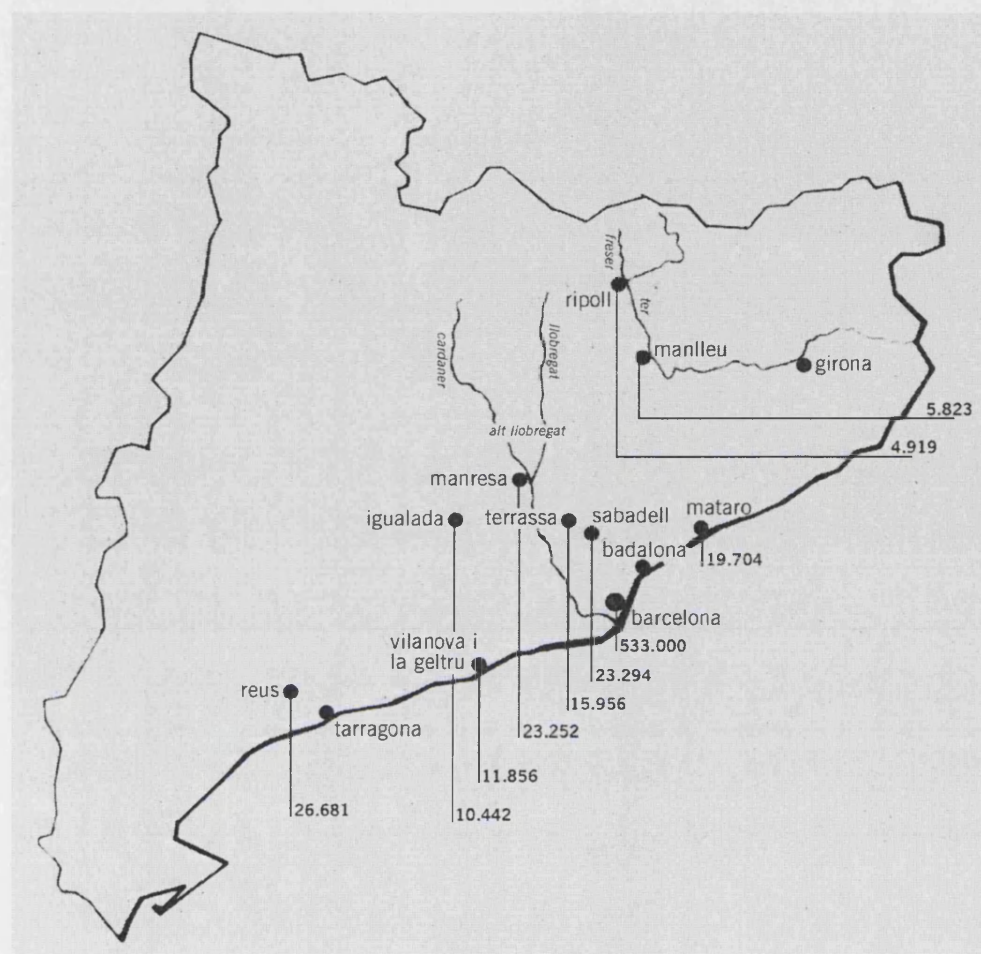
<u>Good year:</u>	<u>June 1901- March 1903</u>	<u>Good year:</u>	<u>March 1908- September 1909</u>
Kgs, metres, pieces	25318.69 136910.9 1665.25	Kgs, metres, pieces	27469.55 116187 1487.167
Employment	650.9	Employment	536.17
Productivity kgs, metres, pieces per loom-week	22.79 123.41 1.504	Productivity kgs, metres, pieces per loom-week	22.43 94.83 1.214
Rates (kgs, metres, piece)	0.255 0.047 3.87	Rates	0.243 0.057 4.51
Weekly wage	11.65	Weekly wage	10.88
<u>Bad year</u>	<u>December 1903- June 1904*</u>	<u>Bad year</u>	<u>March 1910- September 1911.</u>
Kgs, metres, pieces	15512.2 70895.6 906.6	Kgs, metres, pieces	22521.47 88707.67 1021.17
Employment	406.3	Employment	460.17
Productivity kgs, metres, pieces per week	24.41 107.26 1.395	Productivity kgs, metres, pieces per week	19.13 76.06 0.88
Rates (kgs, metres, piece)	0.237 0.054 4.16	Rates (kgs, metres, piece)	0.277 0.07 6.12
Weekly wage	11.56	Weekly wage	10.7
<u>Percentage change</u>		<u>Percentage change</u>	
Kgs, metres, pieces	-38.73 % -48.22 % -45.56 %	Kgs, metres, pieces	-18.01 % -23.65 % -31.33 %
Employment	-37.58 %	Employment	-14.17 %
Productivity kgs, metres, pieces per loom-week	7.11 % -13.09 % -7.25 %	Productivity kgs, metres, pieces per loom-week	-14.72 % -19.79 % -27.76 %
Rates (kgs, metres, piece)	-7.06 % 14.89 % 7.49 %	Rates (kgs, metres, piece)	13.99 % 22.81 % 35.7 %
Weekly wage	-0.77 %	Weekly wage	-1.62%

Note: \* I have excluded June and September 1903 because data on employment is not available for these observations.

Table A3.D. Quantity and price adjustments to output fluctuations, La España Industrial, 1889-1910 (weekly averages) , weaving.

<u>Good year</u>	<u>Sept 1898</u>	<u>1897-Sept</u>	<u>Good year</u>	<u>March 1902</u>	<u>1901-Dec</u>	<u>Good year</u>	<u>June 1907-September 1909</u>
Output (pieces)	2370.8		Output (pieces)	1949.5		Output (pieces)	1420.8
Employment	336.5		Employment	330.38		Employment	304.8
Average wage (week)	14.38		Average wage (week)	14.59		Average wage (week)	17.81
Average piece	2.05		Average piece	2.5		Average piece	3.83
Labour productivity (pieces/week)	7.045		Labour productivity (pieces/week)	5.9		Labour productivity (pieces/week)	4.66
<u>Bad year</u>	<u>Dec 1899</u>	<u>1898-June</u>	<u>Bad year</u>	<u>March 1903-March 1904</u>		<u>Bad year</u>	<u>March 1910-Dec</u>
Output (pieces)	1754		Output (pieces)	1198.6		Output (pieces)	795
Employment	350.3		Employment	259.4		Employment	257.6
Average wage (week)	12.21		Average wage (week)	14.91		Average wage (week)	18.11
Average piece	2.4		Average piece	3.34		Average piece	6.21
Labour productivity (pieces/week)	5.02		Labour productivity (pieces/week)	4.97		Labour productivity (pieces/week)	3.03
<u>Percentage change</u>			<u>Percentage change</u>			<u>Percentage change</u>	
Output (pieces)	-26.02		Output (pieces)	-38.52		Output (pieces)	-44.05
Employment	4.1		Employment	-21.48		Employment	-15.49
Average wage (week)	-15.09		Average wage (week)	2.19		Average wage (week)	1.68
Average piece	17.07		Average piece	33.36		Average piece	62.14
Labour productivity (pieces/week)	-28.74		Labour productivity (pieces/week)	-15.76		Labour productivity (pieces/week)	-34.98

Map 6.A1. Geographical distribution of the Catalan cotton textile sector. Textile towns and their population in 1900.



Note: population of cities from 1900 population census.

## Chapter 7.

### Workplace health and safety in Spain, 1890-1920.

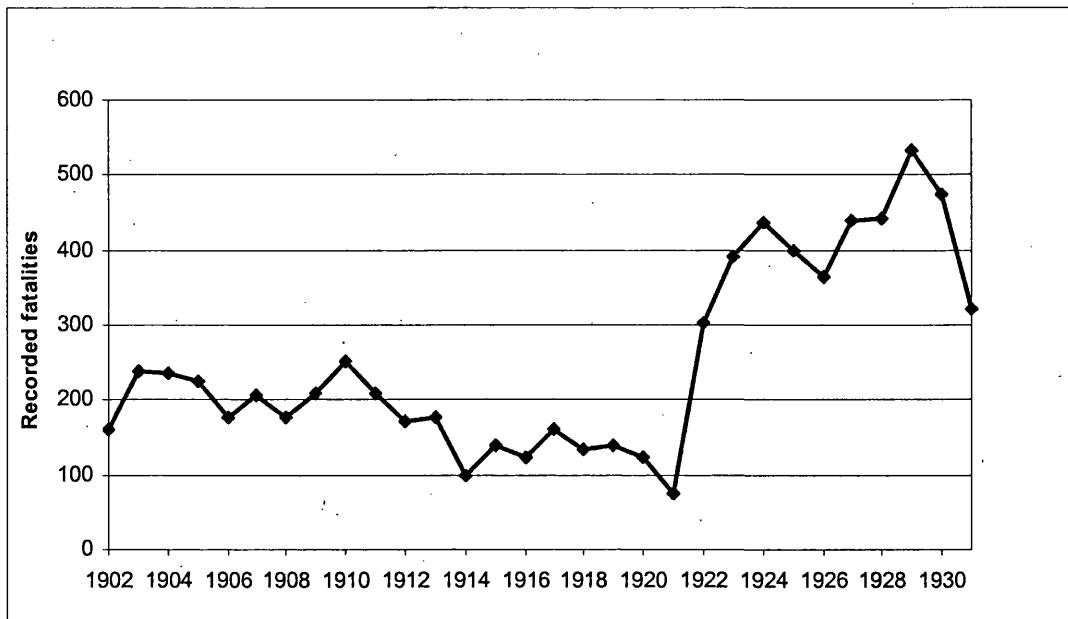
#### 7.0. Introduction.

This chapter examines the debate about workplace safety in early twentieth century Spain and collective bargaining over workplace health and safety issues between workers, employers and labour inspectors. In the latter case, participation was brought about by state regulation of workplace safety since 1900 and the creation of a body of labour inspectors in 1906. As in the cases of hours of work and piece rate lists, workplace safety and health can be treated as a public good negotiated by the different actors of the labour market.

In this chapter, most of the discussion is necessarily going to be qualitative since available accident data covering 1902 to 1935 are hard to interpret. To some extent, the aggregate series of workplace accidents was 'socially constructed,' because the responsibility to report depended on private agents and the propensity to report accidents increased with the levels of accident compensation and the probability of obtaining post-accident rents.<sup>1</sup> Moreover, some sectors might have been relatively more prone to report accidents depending on a series of factors such as their unionisation rate, average establishment size or their geographical concentration. Hence it is difficult to draw conclusions by simply looking at the aggregate data broken down by sectors. Graph 7.1 shows the aggregate evolution of the reported workplace fatalities over time. The most salient change in the series is the sharp increase in the number of reported fatalities in 1922 caused by the re-organisation of the accident reporting process, which in turn depended on the passing of more generous workers' accident compensation in 1922.

---

<sup>1</sup> Another potential source for accident data are insurance companies. However, a rapidly expanding insurance industry prevents the use of insurance companies' corporate records and publications to picture aggregate trends and makes the distribution of accidents across sectors hard to interpret. Total premiums paid by employers to insurance companies increased by 700 per cent between 1909 and 1930 in *real* terms. In this period, the ratio of premiums paid to cover accident compensation with respect to life insurance premiums grew from 0.26 to about 1.



**Graph 7.1. Reported workplace fatalities, 1902-1931.**

Source: Instituto de Reformas Sociales, *Estadística de accidentes*, 1904-1930.

### **7.1. The debate over workplace risks.**

As I have shown in the introductory chapter, the demand for a healthier and safer work environment had been one of the most persistent grievances of the labour movement since the mid 19<sup>th</sup> century. This went hand in hand with the recognition that there was a significant correlation between an individual's occupation and his life expectancy.<sup>2</sup> In the debate that surrounded the issue it was stressed that workers toiled an excessive number of hours in poorly-lit and poorly-ventilated workshops and factories under intolerable working conditions that damaged their health and reduced their life expectancy. Furthermore, it was also put forward that workplace accidents condemned whole families to destitution. Finally, it was argued that diseases transmitted in the workplace and the contact with harmful chemicals also put the health of the children of working mothers at risk.

Some of the risks inherent to industrial work had been identified by mid nineteenth century hygienists.<sup>3</sup> In the first debates on industrial working conditions put

<sup>2</sup> Lewchuck, Wayne, "Industrialization and occupational mortality in France prior to 1914." *Explorations in Economic History*, 28 (1991), pp. 344-366.

<sup>3</sup> On 19<sup>th</sup> century Spanish hygienists: Rodríguez Ocaña, Esteban, *La constitución de la medicina social como disciplina social en España (1882-1923)* (Madrid, 1987), pp. 17-26.

forward by social reformers, it was stressed that the environment in which people worked was harmful to their health and furthermore posed a danger to public health. In line with the contemporary belief that “bad air” was responsible for the spread of infectious diseases, Joaquim Salarich, who in 1857 won the gold medal of the Barcelona Academy of Medicine and Surgery with a work entitled *The hygiene of the weaver*, argued that “science, after the works Edwards, Lavoisier, Muller and other distinguished physiologists, shows the need for a healthy man of twelve to fourteen cubic meters of pure air.”<sup>4</sup> According to this view, overcrowded workshops facilitated the transmission of infectious diseases. Pere Felip Monlau, writing in 1855, put forward that “it (did) not come as a surprise that the statistics (...) show how the number of tubercular cases among workers in confined spaces is double the number among those working in the open.”<sup>5</sup> Hence, Salarich recommended that because “all men (...) have the right to breathe pure air,” patrons “should ensure renewed air flows into their factory buildings, taking away miasma and other causes (sic) that can infect the atmosphere.”<sup>6</sup> This view was still prevalent in the early 20<sup>th</sup> century. In a book published in the early 20<sup>th</sup> century, Ignasi Valentí i Vivó, professor at the Faculty of Medicine of the University of Barcelona and President of the Catalan Academy of Hygiene, also warned about the consequences of “mephitism” in the workplace, referring to it as a “pathogenic rarefied atmosphere.”<sup>7</sup> This was especially the case of hot and humid environments –like in breweries or textile spinning rooms- which became ideal grounds for the transmission of infectious diseases.<sup>8</sup>

But “bad air” was not only brought about by overcrowding. Some processes like metal grinding or polishing or cotton or wool carding generated dusts that were suspected of increasing fatigue -because they made breathing more difficult-<sup>9</sup> and easing

<sup>4</sup> Salarich, Joaquim, *Higiene del tejedor. Ó sean medios físicos y morales para evitar las enfermedades y procurar el bienestar de los obreros ocupados en hilar y tejer algodón* (Barcelona, 1984, originally published in 1858), p.231.

<sup>5</sup> Monlau, Pere Felip, *Higiene industrial. ¿Qué medidas higiénicas puede dictar el gobierno en favor de las clases obreras?* (Barcelona, 1984 originally published in 1856), p. 73.

<sup>6</sup> Salarich, *Higiene*, p.159.

<sup>7</sup> Valentí Vivó, Ignasi, *La sanidad social y los obreros* (Barcelona, 1905), volume 2, p. 46. This autor, of the Academy of Hygiene of Catalonia, also published, Valentí Vivó, Ignasi, *La intoxicación en la industrial moderna* (Barcelona, 1900).

<sup>8</sup> Salarich, *Higiene*, p. 160. The spread of infectious diseases considered as a more general public health problem: Font y Mosella, Joaquín, *Consideraciones que irrogan a la salud de los jornaleros y a la pública de Barcelona las fábricas en especial las de vapor y sobre las ventajas de trasladarlas a la llanura de Casa Túnex* (Barcelona, 1852).

<sup>9</sup> Salarich, *Higiene*, p. 239; Monlau, *Higiene industrial*, p. 73.



the transmission of infectious diseases. Metal and mineral dusts were among the most harmful because they led to poisoning if absorbed in large enough quantities. Furthermore, because they scarred lung tissue, they were associated with the spread of tuberculosis.<sup>10</sup> Animal dusts from wool, silk, leather, horsehair, feathers, bone or mother of pearl and vegetal dusts from cotton, wood, coal or linen, were less dangerous but prolonged exposure increased the risks of respiratory diseases and tuberculosis.<sup>11</sup>

In many trades workers came in contact with toxic dusts and fumes. Workers employed in match factories and every industry that used phosphorus were exposed to phosy jaw (i.e., maxilar necrosis), which brought about the loss of all teeth and in some cases the death of the worker, and also to burns, asthma and other respiratory diseases, colics, as well as a higher propensity of natural abortions among women.<sup>12</sup> The effects of mercury intoxication (*hidragirismo profesional*) were also well known: abundant salivation, loss of teeth, digestive problems and the so-called “mercurial trembling.”<sup>13</sup> Among hatters and other workers affected by mercury poisoning “an anaemic and sad appearance” was common and it was noted that “early on one observes a premature decline of their strength, which often leads to paralysis and convulsions.”<sup>14</sup> In the mercury mines of Almadén (Ciudad Real), “miners (lost) their teeth completely after two or three years, and shortly thereafter (became) unable to work.”<sup>15</sup> The effects of lead poisoning (*saturnismo*), which were common among typographers for example, included violent colics, trembling episodes, paralysis and chronic diseases such as anaemia and arteriosclerosis.<sup>16</sup> It was remarked: “gas workers, painters, dyers, typographers, (...) suffer the consequences of this (lead) poisoning, some of them dying of it, while the rest undergo serious and disastrous (sic) illnesses; many are unable to regain their strength and some give birth to sick, epileptic or stupid children. Those employed in some factories producing ceruse, white lead or lead carbonate pay three or four visits to the hospital every year.”<sup>17</sup>

<sup>10</sup> Bravo Moreno, Fernando, *Tuberculosis y accidentes de trabajo* (Barcelona, n.d.), p. 13.

<sup>11</sup> Batailler, A. and E. Tresfont, *Cours d'hygiène générale et industrielle* (Paris, 1913), p. 255 ; Coreil, François and Léon Nicolas, *Les industries insalubres, établissements classés* (Paris, 1910), chapter 1.

<sup>12</sup> Rius y Matas, *Higiene industrial* (Barcelona, 1887), p. 9.

<sup>13</sup> Batailler and Tresfont, *Cours d'hygiène*, p. 263. Guerra y Estapé, Jaime, *Accidentes del trabajo y enfermedades profesionales* (Barcelona, 1907), p. 53.

<sup>14</sup> Ibid., p. 10.

<sup>15</sup> Rius y Matas, *Higiene industrial*, p. 10.

<sup>16</sup> Batailler and Tresfont, *Tours d'hygiène*, p.262.

<sup>17</sup> Rius y Matas, *Higiene industrial*, p. 15.

Arguably, technological and organisational developments which took place during industrialisation led to improvements in shop floor conditions. It was accepted that the new factories were generally better ventilated and better lighted. For instance, Joaquim Salarich in the mid 19<sup>th</sup> century remarked that:

If the capacity of plants and workshops completely warranted adequate levels of hygiene and health for the workers employed in them, I would have little or even nothing to say of the mechanised spinning and weaving factories. Because they have to make room for machinery, which because of its width and ample movements requires a considerable space, they guarantee the much needed pure air for all the workers (...).<sup>18</sup>

In the mid 1880s, the Provincial Commission of Valencia report stated:

If we consider large industry, we must distinguish between new and old establishments. In the ones having been constructed recently, we often appreciate real improvement; lighting, ventilation and temperature being the most favourable to the health of the worker. However, old establishments, generally old buildings ill-suited to industry, do not have the required conditions for a healthy work environment (...).<sup>19</sup>

However, the substitution of new for old processes and the use and production of new products brought new hazards and strains into the workplace. Powerful machinery was singled out among the main causes of greater workplace risks. The metaphor of the modern industrial machine as representing the ills of capitalism fascinated the minds of union leaders and social reformers. The argument went that injury and mortality rates in the workplace increased because of the introduction of powerful machinery unforgiving of minor lapses in attention. Unfenced gears and unguarded belts threatened the life and limb of the worker. In the study by Joaquim Salarich, on mid-19<sup>th</sup> century Catalan weavers wrote a critical note on that debate commenting on some early British experiences:

Some have characterised modern engines as the *cannons of peace*, and machines have attracted the antagonism of those who they feed. (...) Because an imprudent child lost his hand after having put it by sheer distraction in the tooth of a gear, should we yell against mechanic advances?

<sup>18</sup> Salarich, *Higiene del tejedor*, p. 231.

<sup>19</sup> Castillo, Santiago (ed.), *Reformas sociales. Información oral y escrita de la Comisión de Reformas Sociales* (Madrid, 1985), tome 3, Memoria de la Comisión Provincial de Valencia, p. 55.

(...)

Thanks to modifications and advances, the dangers are receding; the victims of the fulling machine (*batán*) are less frequent (...); gear buckles have disappeared, they do not drag women by their hair (...); young workers make sure their shirt sleeves are not taken by some gear's tooth (...); carding machines have become simpler, their cylinders are less exposed and screens protect workers from spinning machines (...).<sup>20</sup>

The same study also noted how “distractions, imprudence and lack of training among workers are the most common causes of accidents.”<sup>21</sup> He also pointed to the practice of experienced workers consisting on repairing dangerous machinery without actually stopping it, which led to numerous accidents.

Soon however the pessimistic view on “machinism” came to dominate the debate on workplace hazards. An example was provided in the surveys undertaken by the *Comisión de Reformas Sociales* (Social Reforms Commission) in the 1880s. The Provincial Commission of Valencia stated that the risks brought about by powerful machinery were caused by:

The lack of space and the overcrowding of machinery which does not allow workers to circulate safely; the fact that machines are used at their maximum power to keep up with the pace of work; in other cases, the lack of scaffolds and devices to run the machinery without unnecessary risks (...).<sup>22</sup>

In the case of typographers in Madrid, information is given with great detail regarding their concerns with safety which had to do with the poor conditions of workshops, the need to fence powerful machinery, insufficient lighting and space, and the employment of inexperienced workers in dangerous occupations. For instance, the testimony of Mr. Alarcón, delegate of Madrid typographers' mutual benefit society, who insisted on the issue of alertness and dangerous machinery:

I move on now to rotary machines, those making the print run of a newspaper. Rotary or cylindrical machines consist of four cylinders, one on top of the other, working at an

<sup>20</sup> Salarich, *Higiene del tejedor*, pp.243-244.

<sup>21</sup> Ibid., p.244.

<sup>22</sup> *Reformas Sociales*, tome 3, Memoria de la Comisión Provincial de Valencia, p. 55.

extreme speed. If a worker knocks one of them with his arm, with his shirt or any other thing he is wearing, we can be sure he will lose his limb at once.”<sup>23</sup>

A more general argument emerges in the following paragraph from lawyer Pedro Estasén writing in the early 20<sup>th</sup> century in favour of workplace accident compensation:

The needs of modern industry and its fast development in the last few years expose industrial workers to more risks than before, when all the work was done in the absence of machinery or using very rudimentary tools.

The extraordinary advances taking place in modern machinery being used in all sectors of industry have become a constant danger for workers, as they become used to handling them without the necessary precautions. Thus, workers are often victims of the contingencies associated with their constant being in contact with complicated machines, which are difficult to use and require, not only technical knowledge, but continuous alertness in order to avoid all possible accidents. Therefore, today, after having made wonderful discoveries which are the pride of industry, like steam engines, electricity, compressed air, and so on, we are in a position to say that machines are no longer subordinated to workers, but the latter bent to the former.<sup>24</sup>

A second source of risk associated with the industrial revolution was workers' fatigue. The concept of fatigue is difficult to define but for contemporaries the concept included both physical fatigue –associated with the accumulation of toxins in the muscles- and what was called “subjective fatigue”, which referred to the feeling of weariness identified to mental fatigue.<sup>25</sup> It was recognised that modern machinery lightened physical exertion at work, but at the same time it also required the constant attention of workers and the performance of monotonous and repetitive tasks during long periods of time. As a result of that process, workers' subjective fatigue was the prominent cause of workplace accidents. Newer, faster machinery demanded constant and greater attention from workers, thereby exhausting them both mentally and physically. For instance, Valentí Vivó argued that:

With the use of heavy machinery, there has been an intensification of the causes of mental fatigue and a greater weariness of the senses, in spite of the fact that muscular effort is no

<sup>23</sup> Comisión de Reformas Sociales, *Información oral y escrita publicada de 1889 a 1893* (Madrid, 1985), volume I, p.32. The latter corresponds to “Información oral de Madrid,” 26<sup>th</sup> October 1884.

<sup>24</sup> Estasén, Pedro, *Los accidentes de trabajo y el seguro de accidentes* (Madrid, 1903), p.436.

<sup>25</sup> For definitions see for example, Vernon, H. M., *Industrial fatigue and efficiency* (London, 1921) or Max Weber, *Zur Psychophysik der Industriellen Arbeit* (Tübingen, 1924) [I have used the Spanish translation of this text: Weber, Max, *Sociología del trabajo industrial* (1994), pp.81-87].

longer necessary. However one needs to bear in mind what the automatism of the body represents, in its necessary complement of the machine (...) such that the organic rhythm is unavoidably adapted to the mechanical rhythm (...) <sup>26</sup>

Later on, similar arguments are found in the reports sent by unions in Biscay to the *Comisión de Reformas Sociales* which listed a series of factors increasing workplace risk:

the local conditions, such as humidity and lack of natural light, the narrowness of workshops (...), as well as excessive hours of work, all add up in undermining workers' health. <sup>27</sup>

Likewise during the general strike in the textile sector in Catalonia in the summer of 1913, the textile union "*La Constancia*" presented a set of common rules (*bases de trabajo*) to employers in which it was said:

1. Because of the prodigious advance of modern machinery in the last thirty years, output has increased by eighty per cent, and the consequence has been that today there is a big number of unemployed textile workers.

Such advances in machinery require more attention from the worker, consequently physically debilitating him (...). The absence of rest periods makes it impossible for him to get his strength back. <sup>28</sup>

Later on, textile unions supporting the 8-hour day in 1919 still maintained this line of reasoning by stating about the reduction of the working day:

This reduction (in hours) will improve the physical and mental condition of workers. Long hours exhaust their energy making it impossible to maintain concentration and thought for such long periods of time. <sup>29</sup>

<sup>26</sup> Valentí Vivó, *Sanidad social*, volume 2, p. 55.

<sup>27</sup> *Reformas sociales*, volume 5, Memoria de la Comisión Provincial de Vizcaya, p.590.

<sup>28</sup> Quoted in Sastre Sanna, Miguel, *Las huelgas en Barcelona y sus resultados durante los años 1910 al 1914 ambos inclusive. Acompañado de numerosos e importantes datos estadísticos sobre otros asuntos relacionados sobre la cuestión social obrera* (Barcelona, 1915), p.210.

<sup>29</sup> Federación Nacional del Arte Textil y Fabril, *Informe para la justificación de la jornada de ocho horas en el Arte Textil y Fabril de España* (Barcelona, 1919), p.14.

In their opinion, the natural effect of a reduction in hours would be an increase in productivity and final output quality and a reduction in injury rates, both a result of greater employee attentiveness and care.

The existing evidence on the hours at which accidents occurred partially confirms the “fatigue” argument: the greatest fraction of accidents in Spanish factories happened in the last part of the workday. Table 7.1 presents evidence collected by the published yearbooks on accidents:

Table 7.1. Accidents during the workday, averages 1905-1909.

<i>Hours</i>	<i>Percentage of accidents</i>	<i>Accidents per hour of work, assuming a 10 hour day</i>
6 AM-9AM	21.3	8.52
9AM-12AM	26.8	8.93
12AM-6PM	36.6	9.2
6 PM-	10.49	20.98
UNKNOWN	4.81	
<i>Source: Instituto de Reformas Sociales, Estadística de accidentes correspondiente al año 1909 (Madrid, 1911).</i>		

Considering a normal workday of 10 hours, work started at 6 am, a half-hour breakfast was scheduled around 8 am and lunch from noon to 2 pm, a ten hour workday ended by half past 6 pm. Table 7.1 suggests that most accidents happened in the last hours of the working day, when workers were most tired. This evidence is completed by the fact that, looking at accidents by the day of the week in which they occurred, Monday and Saturday are the days on which they were more frequent. Table 7.2 shows the percentages for the period 1906 to 1909, which suggests the existence of a strong and positive “back-to-work” effect on accident rates in Monday. But the percentage for Saturday, if calculated per hour, is also higher than average since most trades worked shorter hours on Saturdays to clean machinery and collect pay.<sup>30</sup> This took generally between one and two hours. The English week –stopping work at noon on Saturday- was very rare.

<sup>30</sup> A 10- instead of a 9-hour Saturday will have concentrated 17.2 per cent of accidents.

Table 7.2. Accidents by day of the week, percentages 1905-1909:

<i>Day</i>	<i>Percentages</i>
MONDAY	16.53
TUESDAY	15.85
WEDNESDAY	15.52
THURSDAY	15.21
FRIDAY	15.17
SATURDAY	15.46
SUNDAY	6.033

*Source:* same as table 7.1. Statistical analysis with data from the period 1905 to 1909 with 35 observations confirms the existence of a strong "Monday effect".<sup>31</sup>

Finally, reformers identified a third cause of greater workplace risk in changes of social relations and the shifting balance of power between labour and capital. According to this view, the rights of labour and capital were re-defined during the Industrial Revolution. As a consequence, workers lost their right to choose technologies, their fellow workers and the pace of work. In the hands of managers, these decisions might have given a reduced priority to issues of healthfulness and safety. This view is predominant among legal historians and lawyers. For instance in 1903 Pedro Estasén wrote:

Moreover, working conditions have changed a lot recently. In the past, workers worked isolated or in small groups, in workshops with safe tools. Today they are put into groups with hundreds of other workers, using special machinery, and sometimes surrounded by dangerous materials.<sup>32</sup>

Similar views are held by Alejandro Gallart Folch who in 1936 wrote a classic text on labour law in which it was held that the modern legislation on labour issues was a by-product of the gradual concentration of the industry. This was mainly brought about

<sup>31</sup> The results from the regression of the percentage of accidents occurred in a given day of the week against dummy variables  $ACCRA\%(\text{day, year}) = 15.211 + 1.314 * \text{MONDAY} + 0.643 * \text{TUESDAY} + 0.31 * \text{WEDNESDAY} - 0.04 * \text{FRIDAY} - 0.248 * \text{SATURDAY} - 9.178 * \text{SUNDAY}$ . Coefficients on MONDAY, TUESDAY, SUNDAY significant at 1 % levels. The rest failed to be significant at 10 % levels. This regression shows that differences in the percentage of accidents concentrated in one particular day were statistically significant.

<sup>32</sup> Estasen, *Los accidentes de trabajo*, p.436. A contrary view can be found in the views of a Catalan employer: Alsina, F., "Observacions sobre la reglamentació del treball dels noys en tallers y fàbricas" (Barcelona, 1892), especially pp.12-13.

by mechanisation and scale economies. As a result of that process, workers became the weak contractual party in the employee-employer relationship, an imbalance state action sought to correct.<sup>33</sup>

Legal historians have also pointed to the progressive weakening of the position of industrial workers during industrialising processes. For instance in his classic work, Manuel Carlos Palomeque also found solid footing for intervention by the state in labour matters on the rising conflict between labour and capital,

a conflict that is widespread in "big industry" in the 19<sup>th</sup> century, characterised both by the concentration of capital and workers.<sup>34</sup>

But not only lawyers and legal historians put forward this argument. Similarly, Ignasi Valentí Vivó, remarked (also criticising piece rate work):

Capitalism only surrenders under exceptional circumstances, more often than not disregards the "sanitary" postulates, while abiding completely by economic rules and paying work by the metre, the dozen, the hundred, the thousand ...<sup>35</sup>

In some cases, a reference to a harmonious past when labour-management relations were allegedly less tense was made. Thus, in a book on workplace accidents published in 1913, doctor Antonio Morales Pérez noted:

In the past, the life of the worker within his guild had unquestionable advantages. The individual belonged to the industrial family. There was more fluid communication between the patron and the worker and periods of illness strengthened the bond that existed between them. But industry and large firms need more room for manoeuvre and require wider social organisations. In these, management accepts all that brings further advancement to the firm. Large public limited companies are set up, where the dividend is the only gauge of their prosperity or decline. Profits have neither heart nor feelings (sic) (...)<sup>36</sup>

<sup>33</sup> Gallart Folch, Alejandro, *Derecho español del trabajo* (Barcelona, 1936), pp.18-20.

<sup>34</sup> Palomeque, Manuel Carlos, *Derecho del trabajo e ideología. Medio siglo de formación ideológica del derecho español del trabajo (1873-1923)*, p. 16 (Madrid, third edition, 1987).

<sup>35</sup> Valentí Vivó, *Sanidad social*, volume 1, p. 88.

<sup>36</sup> Morales Pérez, Antonio, *Tratado mecánicotérápico de los accidentes de trabajo* (Barcelona, 1913), pp. 6-7.



Similarly, the union of iron and other metal workers of Madrid, *El Porvenir*, claimed:

When considering the current social antagonism, it intensified as modern production grew, (...) The apparently harmonious social relationship between employers and workers existing in the past, has disappeared completely and there is nothing we can do about it.”<sup>37</sup>

This led to the disregard of safety and health issues:

The hygiene and health of workshops depends entirely on patrons and their economic circumstances determine if conditions at their establishments are acceptable or bad. There are no rules guaranteeing workers a not too wet or not too cold atmosphere.

Additionally, there are no rules regulating the installation and upkeep of mechanised equipment, no care is given to protect workers from shuttles, belts and other moving devices (...).<sup>38</sup>

Information gathered in Ávila vents similar concerns:

Establishments that use water-driven or steam engines do not implement the advances of modern prevision and as a result workers are exposed to serious risks caused by the explosion of steam boilers or the action of wheels, gears, shafts and belts. Generally, the equipment has the necessary guarantees of safety but both the installation and upkeep is careless. For example, the initial test made for steam boilers should be repeated every now and then, but here, once the boiler has been installed, no one cares to test it anymore (...).

Gears and wheels should be covered up where they can harm workers passing by, as it is done in Germany and England. (...) Workers wear baggy clothes which are easily caught by revolving wheels. In short, no one warns the worker about the risk he is facing. Thus, he ends up being familiar with risk to the point of being imprudent and bold. In the province, we lack a series of rules governing work, the potential risks, the appropriate work outfits and every measure conducive to accident prevention.<sup>39</sup>

It is impossible to weigh the importance of these three factors –mechanisation, fatigue and changing social relations- on occupational risks. Most Spanish hygienists and reformers were mainly policy- and reform-minded. They did not search for

<sup>37</sup> *Reformas Sociales*, volume 2, Particulares: El Porvenir. Sociedad de trabajadores en hierro y demás metales,” p.554.

<sup>38</sup> *Reformas Sociales*, volume 5, Información oral de Oviedo, p. 410.

<sup>39</sup> *Ibid.*, volume 4, información oral de Ávila, p. 203.

domestic evidence on the patterns of occupational mortality and simply used the evidence gathered in other countries –mainly German and French local studies- to support their arguments about the need to sanitize factories and improve working conditions.<sup>40</sup> The available accident data suffer from several flaws related to the reporting process, which depended on the payment of accident compensation. Moreover, it is also argued that injury and fatality rates do not adequately capture workplace hazards. Some authors have suggested the use of mortality rates broken down by occupation because they catch a broader range of occupational risks than accident data. Other historical studies have relied on the subjective evaluation of individual health or the number of days lost due to illness.<sup>41</sup> But these indicators are subject to much debate, especially because it is impossible to isolate the effects on individual health of non-professional dimensions such as life-style. Finally, some modern studies have included a job risk variable taken from accident insurance premiums for different occupations and sectors.<sup>42</sup> However, there are grounds to think an underdeveloped insurance industry in early 20<sup>th</sup> century Spain and the lack of contemporary studies on occupational risk prevented the adequate estimation of risk.

As I have said, injuries and accidents being reported since 1905 have substantial flaws caused by the reporting process. These data have the additional problem that the tabulations broken down by sector do not distinguish how serious an accident was. In spite of these shortcomings, I have tried to isolate some of the effects that might have driven up industrial risk, namely the effects of fatigue and changing social relations. Using the population census of 1910 for the four Catalan provinces, which gives the active population broken down by sector of economic activity, I calculated yearly injury rates per 1000 workers for 15 sectors.<sup>43</sup> Using the Labour Inspectors' yearbook for

<sup>40</sup> Rodríguez Ocaña, *Constitución de la medicina social*, pp. 17-20. For instance, Francisco Murillo Palacios used American and German studies: Murillo Palacios, Francisco, "La defensa social de la salud pública," speech delivered at the Royal Academy of Medicine in 1918, in Rodríguez Ocaña, *Constitución de la medicina social*, pp. 113-160.

<sup>41</sup> Lewchuck, "Occupational mortality," p. 351. For a historical study based on the subjective evaluation of individual health: Atack, Jeremy and Fred Bateman, "Louis Brandeis, work and fatigue at the start of the twentieth century: prelude to Oregon's hours limitation law." NBER working paper number 25 (May 1991), especially page 23.

<sup>42</sup> Viscusi, Kip W., "The value of risks to life and health," *Journal of Economic Literature*, XXXI, 3, (1993), pp. 1917-1918.

<sup>43</sup> Some adjustments were necessary as the divisions by economic activity differed in the two sources. The main was dropping the sector "agricultural services" from the accident data which did not have a corresponding value in the population census. The absolute values of injuries broken down by sector:

1910, I have been able to construct sectoral averages of hours of work and establishment size.<sup>44</sup> The first variable catches the effects of fatigue on the probability of an injury while the average number of workers employed in each establishment proxies the level of managerial control over decision making, assuming that it was in large establishments where workers had lost more control over shop floor decisions. Because accident reporting propensities differed among the eight inspecting regions, I have decided to choose a region with higher than average propensity to report. Region 2 (covering Barcelona, Gerona, Lérida, Tarragona) was finally chosen because it had more sectoral observations than the other regions with a high propensity to report.

The information is presented in table 7.3. The results on the level of sectoral risk are not surprising, with “metals”, “transport” and “mines and quarries” having the largest fraction of injured workers per 1,000 workers. The alleged relationship between hours of work and injuries does not appear in the data, with a negative, insignificant spearman rank-order-correlation value.<sup>45</sup> Furthermore, there was a positive correlation coefficient between average establishment size and the injury rate, but the null hypothesis of no correlation could not be rejected.

---

Instituto de Reformas Sociales, *Estadística de los accidentes de trabajo ocurridos en el año 1910* (Madrid, 1911). Working population by sectors: *Censo de población de 1910*, tome 4.

<sup>44</sup> Instituto de Reformas Sociales, *Memoria general de la inspección del trabajo en el año 1910* (Madrid, 1911).

<sup>45</sup> The formula being used is:  $\rho = 1 - (6 \cdot \sum_{i=1}^n d_i^2 / n^3 - n)$  with  $n=15$  and  $d$  being the difference between the ranks of the two variables.

Table 7.3. Sources of occupational risk, Catalonia 1910.

Sectors	Injuries per 1000 workers	Rank	Average hours of work	Rank	Average number of workers per establ.	Rank
Mines and quarries	59.49	13	9.83	10	49.00	13
Metals	82.25	15	9.4	5.5	27.50	8
Chemicals	32.52	12	9.63	9	29.70	10
Textile	8.20	4	10.85	15	91.30	14
Building construction	28.95	11	8.89	1	32.75	11
Electricity	27.86	10	9.88	11	22.35	4
Food	7.71	3	10	12	8.01	1
Printing trades	13.39	8	9	2.5	23.81	6
Paper	15.05	9	10.46	14	26.65	7
Garment industry	0.30	1	10.43	13	36.16	12
Leather	12.22	6	9.4	5.5	23.59	5
Wood	9.75	5	9.53	8	12.16	3
Transport	74.88	14	9.5	7	144.91	15
Furniture	13.19	7	9.33	4	27.67	9
Crafts	7.06	2	9	2.5	8.18	2
			<i>Spearman</i>	-0.21	<i>Spearman</i>	0.41
			Critical	0.447	Critical	0.447
			value $p < .1$		value $p < .1$	

Sources: IRS, *Estadística de accidentes, 1910*; IRS, *Memoria del servicio de inspección, 1910*. As it is traditionally done, average rank value is given when two observations are equal.

## 7.2. Accident prevention and sanitary conditions.

The previous analysis does not allow me to analyse the effect of powerful machinery. As I have shown, in the historical debate, mechanisation was seen as one of the main driving forces behind the perceived rising trend in workplace risk. Because of its importance in the contemporary debate, the protection of workers from dangerous machinery was one of the main concerns of the 1900 law on accidents and workers' compensation and the catalogue of protective devices passed immediately afterwards (*Catálogo de mecanismos preventivos*) and articles 54 to 59 of the *Reglamento* devised to enforce the law. This was enforced by labour inspections by the Institute of Social Reforms, which started these activities in 1906.

Dangerous machinery was considered to be the main problem and much of inspectors' work were devoted to installing protective devices like fences, covers and so on, to avoid the contact with dangerous parts of machinery. For instance, inspectors from region 3 (covering the Basque country and the provinces of Santander and la Rioja) give us more detail about the type of violations found by inspectors and what they did to improve safety conditions:

The main offences to the accidents law consist of the lack of protection from gears and transmissions, which have constituted most of the violations (sic); the lack of handrails in dangerous flyovers and over tanks; lack of protection over the level pipes (*tubos de nivel*) in steam boilers; the same for flywheels in engines and emery wheels, in printing presses and in circular saws.<sup>46</sup>

The first published inspectors' yearbook in 1907 reported activities in Catalonia:

Sometimes we have ordered the covering of gears, the installation of handrails or the fencing of machinery.<sup>47</sup>

Also noting the low levels of employers' awareness of protective devices:

The issue is neglected in the industry and there is little care shown by employers about workplace safety issues (in spite of most of times it being only a matter of ignorance). Evidence of that is the fact that the regional inspector found 747 workplace safety violations, or in average terms, about 3 violations per workshop he visited, revealing the greatest negligence on the part of employers.<sup>48</sup>

The report of the 4<sup>th</sup> region (covering the north-west of Spain) gives some more detail:

In general terms, we have suggested (...) the cleaning and the periodical examination of gears, their isolation and that of their wiring (especially the main ones); the need to totally stop engines to install or change the main belts; (...) the unavoidable installation of automatic stoppages for machines lacking such devices, in order to turn them on safely; the

<sup>46</sup> IRS, *Memoria inspección año 1910* (Madrid, 1911), p. 105.

<sup>47</sup> IRS, *Memoria inspección año 1907* (Madrid, 1908), p. 74.

<sup>48</sup> Ibid., p. 74.

installation of protective devices on machine-tools, especially the cutting and sharpening ones (...).<sup>49</sup>

Qualitative evidence on the degree of compliance suggests inspectors witnessed an improvement in the levels of safety and accident prevention, which they constantly contrasted with their inability to improve the sanitary conditions of factories and workshops. This did not necessarily translate into lower violations being reported by since the propensity of inspectors to report violations, warn and fine employers increased during the period (see table 7.4. below). The inspectors of region 4<sup>th</sup> remarked in 1910 that “the law of accidents is the law in which the results of inspection have been more immediately felt.”<sup>50</sup> In this sense, they mentioned the regular inspections of steam boilers, which by 1910 had reached three quarters of the existing ones, the fencing of gears, belts and wires in the metal industry, the installation of devices to prevent accidents caused by crushing cylinders in flour factories or by unfenced pulleys in mechanised sawmills.<sup>51</sup> According to the labour inspectors in the 4<sup>th</sup> region, by 1910 it could be said that “most of the actions stipulated by the 1900 accidents law referring to accident prevention have been enforced.”<sup>52</sup>

Similarly, by 1910, inspectors in the 6<sup>th</sup> region (South-East) maintained that “a lot of progress is being made with regard to the enforcement of the 1900 accidents law.” Going on to note that “in most of the factories visited, machinery is already fenced.”<sup>53</sup> This process, according to the inspectors in the 7<sup>th</sup> region (old Castile) in 1910, even allowed “many employers to cancel accident insurance policies” -which had been contracted after the passing of the 1900 law-,<sup>54</sup> because “most machines and engines are fenced,” causing a decline in the number of accidents.<sup>55</sup> In the cases of new plants using modern equipment, the activities of labour inspectors were made redundant because most equipment was already fenced.<sup>56</sup> Contrary to the children’s law of the same year or the Sunday rest law of 1904 -famous for determined employers’ opposition-, the inspectors in the second region (Catalonia) noted that the law on accidents generated

<sup>49</sup> Ibid., p. 116.

<sup>50</sup> IRS, *Memoria inspección año 1910*, p. 135.

<sup>51</sup> Ibid., pp. 135-136.

<sup>52</sup> Ibid., p. 137.

<sup>53</sup> Ibid., p. 165.

<sup>54</sup> The law introduced strict employers’ liability in work related accidents for the first time.

<sup>55</sup> Ibid., p. 218.

<sup>56</sup> IRS, *Memoria inspección año 1911* (Madrid, 1912), p. 47.

less opposition among employers, especially thanks to the support for the law from insurance companies, which had expanded substantially after the passing of the accidents law.<sup>57</sup> Similarly, the inspectors in the third region, remarked in 1912 and then in 1913 that the accidents law was “easy to enforce,” and that most managers were “interested in the recommendations of the inspectors, especially in the case of the fencing of machinery.”<sup>58</sup>

Based on the reports of labour inspectors, accident prevention apparently was easily enforced and employers did not oppose the installation of protective devices such as fences or handrails. The main reason for that was related to the fact that employers' liability in accidents was well established in courts, which meant that employers or the insurance companies contracted by employers paid compensation in the cases of accidents. Employers' liability was more diffuse in professional diseases, where the effects were generally felt after years of exposure to bad working conditions, making it more difficult to impute liability to a particular employer. Factory inspection and expected fines on the other hand were too small to affect employers' decisions. According to calculations presented in table 7.4., the expected penalties and fines to offences to articles on accident prevention were close to zero. Assuming the maximum value of the fine, 250 *pesetas*, the yearly expected penalty for non-compliance in the ‘toughest’ region conditional on an inspection having taken place was 0.13 *ptas* year, about 3 per cent of the average daily male wage in the 1910s. Moreover, this quantity has still to be multiplied by a much smaller number; the probability of being inspected. By the early 1920s, the average probability for an employer to be fined conditional on an inspection increased to 1 for every 1,000 inspections, with the expected fine still a negligible sum. Other inspection costs, which however could not have been very high, were also at play, mainly the so-called “nuisance value of inspectors”, the small costs associated with having inspectors around the factory, paperwork and so on.<sup>59</sup>

<sup>57</sup> IRS, *Memoria inspección año 1913*, p. 78.

<sup>58</sup> *Ibid.*, p. 113.

<sup>59</sup> On the importance of inspectors' nuisance, Viscusi, Kip W., *Fatal trade-offs. Public and private responsibilities for risk* (New York, 1992), p. 191.

Table 7.4. Warning and fining probabilities, labour inspection 1909-1922.

<u>Inspectors' regions.</u>	<u>Warnings per 1,000 inspectors visits.,</u> <u>Average 1909-14.*</u>	<u>Fines per 1,000 inspectors' visits.</u> <u>Average 1909-14.*</u>	<u>Warnings per 1,000 inspectors' visits.</u> <u>Average 1920-22.*</u>	<u>Fines per 1,000 inspectors' visits.</u> <u>Average 1920-22.*</u>
Region 1	0.662	0.529	2.778	2.678
Region 2	1.02	0.51	2.031	1.911
Region 3	0.735	0.49	0.606	0.606
Region 4	0.242	0	0.147	0
Region 5	0.11	0	0.227	0.227
Region 6	0	0	2.508	2.622
Region 7	0.681	0.681	1.177	0.916
Region 8	0.532	0	0	0
Region 9	---	---	2.972	0.646
Region 10	---	---	1.154	1.058
Spain	0.498	0.276	1.36	1.0664

Source: *Memoria general del servicio de inspección*, various years.

\*only warnings and fines related to non-compliance with workplace safety provisions (art 54 to 59).

Region 1: Madrid, Badajoz, Cáceres, Ciudad Real, Guadalajara, Toledo.

Region 2: Barcelona, Gerona, Lérida, Tarragona.

Region 3: Vizcaya, Álava, Guipúzcoa, Santander, Logroño,.

Region 4: Asturias, Coruña, Lugo, Pontevedra, Orense.

Region 5: Almería, Cádiz, Córdoba, Granada, Huelva, Jaén, Málaga, Sevilla.

Region 6: Albacete, Alicante, Castellón, Cuenca, Murcia, Valencia.

Region 7: Salamanca, Valladolid, Burgos, Palencia, Zamora, Ávila, Segovia.

Region 8: Zaragoza, Teruel, Soria, Navarra, Huesca.

Region 9 and 10 appeared as some previous regions became smaller. Region 9 covered eastern Andalusia and region 10 western Andalusia and Badajoz.

In comparison to advances in accident prevention, improvements in sanitary conditions of workshops and factories seem to have been introduced more slowly. In this sense, the satisfaction inspectors felt with the installation of protective devices contrasted with their recognised inability to improve sanitary conditions.<sup>60</sup> In 1910, inspectors in the 4<sup>th</sup> Region acknowledged some of the main problems:

With regard to sanitary conditions we have acted according to each case, for instance recommending better ventilation or lighting in many workplaces when this could be done without excessive costs for the employers; similarly, and more generally, we have also recommended building toilets (...).

In spite of the efforts of inspectors to reach the complete sanitation of factories and workshops, we have not reached our goal because most buildings are defective. Most of the small industries (...) use spaces that do not have the required conditions. In this situation, the inspector can only recommend the most radical changes, which many employers could not afford. For this reason, we have to drop most of our recommendations.<sup>61</sup>

<sup>60</sup> This also adds credibility to the labour inspectors' reports since they did not only underlined their relative successes but also went about their failure to improve health standards in industry.

<sup>61</sup> IRS, *Memoria inspección año 1910*, p. 135.



For labour inspectors in Catalonia, the inability to enforce sanitary conditions was related to the age of buildings:

In new buildings, (...) there are not serious shortcomings, dangerous machinery is fenced and covered to avoid accidents and sanitary conditions meet the required standards. However, most factories and workshops are located in rented spaces or in old buildings, most of which do not have the adequate sanitary conditions and machinery is rarely fenced. The active campaign of inspectors to correct these faults has brought about the fencing and covering of unsafe machinery, however results in sanitation are meagre, because in most cases the necessary means cannot be installed given the bad conditions of the buildings.<sup>62</sup>

It is not difficult to understand why many workplaces became a serious limitation to the ability of inspectors to improve sanitary conditions. For example, where workers were in contact with toxic dusts, inspectors recommended building new rooms to install showers and build canteens, as for instance was the case in a lead foundry in Linares, Jaén.<sup>63</sup> In many cases, workshops occupied basements which made it difficult to ventilate and light satisfactorily.<sup>64</sup>

By the early 1920s, inspectors still considered sanitary conditions to be unsatisfactory. For instance, the inspectors in the Levant region noted in 1920:

Sanitary regulations are often violated. How difficult it is to persuade workers and patrons to respect the most elementary sanitary regulations!<sup>65</sup>

Similarly, inspectors in region 8 (Zaragoza, Teruel, Huesca, Soria, Navarra) remarked in 1920:

Little attention is given to the principles of sanitation, even the most elementary.<sup>66</sup>

---

<sup>62</sup> Ibid., p. 68.

<sup>63</sup> Ibid., p. 165.

<sup>64</sup> Ibid., p. 68, p. 191, p. 242.

<sup>65</sup> IRS, *Memoria inspección año 1920*, p. 161.

<sup>66</sup> Ibid., p. 199.

Still, the unsuitability of some buildings for industrial work limited the ability to enforce sanitary regulations and generated the opposition of employers to some recommendations:

Especially in Barcelona, there are many small factories and workshops on ground floors or basements of residential buildings that are not suitable for industrial purposes. In those, if we were to be rigorous, we would create serious conflicts.<sup>67</sup>

Using the same line of reasoning applied to the case of the fencing the machinery, sanitary standards were apparently not met because of the costs involved in this process. Where buildings were new, inspectors were generally satisfied with the conditions of ventilation, lighting, the location of toilets, showers, and canteens. In old establishments, however, the qualitative evidence shows sanitation was poor and the costs involved in improving hygienic conditions were high with respect to the expected benefits of avoiding compensation payments stemming from diffuse liability.

### **7.3. Unions and professional risks.**

Naturally, unions had a central participation in the debate about workplace safety and health. The aim of this section to analyse the way unions coped with the apparently increasing levels of occupational risk in the most hazardous occupations, which also gives some more detail about the evolution of workplace hazards in particularly dangerous occupations. Unions could enhance their members' welfare with respect to occupational hazards in two ways. A first one was to raise the wage rate, holding the accident rate constant. Second, my main concern here, unions could directly lower the accident rate in the plant, workshop or mine by offering an effective voice to negotiate safety public goods with employers.<sup>68</sup>

### **Mining.**

Work in mines was well known to have above average occupational risks. In underground work, roof falls and the use of explosives triggered frequent accidents. Sometimes, it was the breaking of lifts transporting the miners or accidents caused by mining cars or the fall of objects. Commonly the most publicised, mine fires and gas

<sup>67</sup> IRS, *Memoria inspección año 1921*, p. 74.

<sup>68</sup> Freeman, Richard B. and James L. Medoff, *What do unions do?*, pp. 8-9.

and dust explosions could kill workers by the hundreds. Furthermore, metal and mineral dusts caused serious respiratory diseases. The constant inhalation of coal dust caused pneumoconiosis (black lung), a disease in which excessive fibrous disease developed in the lungs.<sup>69</sup> In addition, reformers and doctors identified coal dusts as causing asthma and tuberculosis.<sup>70</sup> The constant inhalation and absorption of lead and copper triggered the serious health problems that I described in the first section, which included phosy jaw, colics, and trembling episodes. Better mine ventilation and the watering of mines diminished the effects of dust inhalation but increased the negative effects of humidity and sudden changes in temperature upon miners' health.<sup>71</sup> Among the consequences of a wet work environment were rheumatism, the spread of infectious diseases, and ankylostomiasis, the so-called miners' anaemia, a disease caused by a parasite developing in the digestive system.<sup>72</sup>

But the issues of workplace safety and health were not an important goal of the two most successful mining unions in the period. The demand for a reduction in hours, the abrogation of piece rates, barrack-housing and canteens were the most pressing demands of miners in Biscay.<sup>73</sup> However, this is not surprising since the iron mines of the area of Bilbao were exploited in the open and thus safety issues were a marginal concern. On the other hand, the issues most bitterly fought by the Asturian Coal Miners' Union (SMA) were the 7-hour day for underground miners and the minimum wage, summarised under the motto "*ni un céntimo menos, ni un minuto más*" (not a cent less, not a minute more).<sup>74</sup> Moreover, the period between 1910 and 1914 was characterised by bitter strike activity trying to force the *union shop* in non-union settings –the classical example being the failed union drive to settle in *Hullera Española* in 1912.<sup>75</sup> In 1913, employers created their own union and accepted the SMA as their counterpart in the

<sup>69</sup> Batailler and Tresfont, *Hygiène industrielle*, p. 259.

<sup>70</sup> Instituto de Reformas Sociales, "Informe del trabajo en las minas a propósito de las peticiones que las sociedades obreras elevaron al gobierno en 1909," *Revista de Trabajo*, 21 (1968), p. 195.

<sup>71</sup> *Ibid.*, p. 195.

<sup>72</sup> Batailler and Tresfont, *Hygiène industrielle*, p. 259.

<sup>73</sup> A survey of all miners' demands since 1890 is provided in: Instituto de Reformas Sociales, *Informe de las minas de Vizcaya* (Madrid, 1904).

<sup>74</sup> The book of articles and speeches written and performed by the leader of the SMA, Manuel Llana, does not contain a single article devoted to the issues of mine safety: Llana, Manuel, *Escritos y discursos* (Fundación Barreiros).

<sup>75</sup> Shubert, Adrian, *Hacia la revolución. Orígenes sociales del movimiento obrero en Asturias, 1860-1934* (Barcelona, 1984), pp.144-145. The company constituted a "yellow" catholic company union. Workers from *Hullera Española* affiliated to the Asturian Coal Miners' Union in 1917. See as well, Moradiellos, Enrique, *El Sindicato de obreros mineros de Asturias, 1910-1930* (Oviedo, 1986), pp.46-47.

bargaining process. A formal bargaining process was instituted and a joint commission of workers and employers was created.<sup>76</sup>

The fact that safety was a secondary concern for the SMA can be explained by two factors. First, the coal mines of Oviedo were not among the most dangerous in the country. For instance, the oral information collected by the Social Reforms Commission in Oviedo it was argued that: “the way in which the mines of Oviedo are exploited make the precautions taken in mines with pits unnecessary” in spite of the fact that nothing was being done with respect to “the timbering of roofs, the ventilation mechanisms, or the width of tunnels” to improve the working conditions of underground miners.<sup>77</sup> Second, a great fraction of workplace risks were in fact to be found among those in which the individual miner was the main accident preventer, thereby not being properly a public good to be negotiated by the union. In underground mining, the responsibilities for health and safety were divided between management and miners. Many safety decisions fell in the hands of individual miners, who were given autonomy in their own room in exchange of a piece rate.<sup>78</sup> Thus, they decided how often to timber the roof or how much explosive was necessary to use.<sup>79</sup> To them, the trade-off between safety and higher earnings was especially clear and most of these decisions did not affect the safety of other workers. On the other hand, management was responsible for those tasks having larger externalities such as ventilation and the watering of the mine to prevent mine fires and explosions. Finally, some responsibilities were divided between managers and workers, as in the case of scaffolds, the care of machinery, and the use of different mechanisms to access the bottom of the mine.<sup>80</sup> A case in point was the use of lifts designed to transport soil removed by miners which caused frequent accidents. As the chief engineer of the Linares mines remarked to the *Comisión de Reformas Sociales* in the mid 1880s, there was however an experienced worker “with a good salary” -the so-called *pocero* or *capitán de pozo*- in charge of this lift.<sup>81</sup>

<sup>76</sup> Moradiellos, *El sindicato*, p.50.

<sup>77</sup> *Reformas Sociales*, volume 5, “Información oral de Oviedo,” pp. 410-411.

<sup>78</sup> Instituto de Reformas Sociales, “Informe,” p. 149, p. 155.

<sup>79</sup> *Reformas Sociales*, vol. 5, “Informe del Sr. Ingeniero Jefe de las minas de Linares,” p. 154, and “Informe del Sr. Ingeniero de Minas del Distrito de Navarra,” pp. 227-228.

<sup>80</sup> A detailed description (*trancadas, arrastres, ademas, escalas, malacates, poleas, jaulas*): *Reformas Sociales*, vol. 5, “Informe del ingeniero jefe de las minas de Linares,” pp. 148-149.

<sup>81</sup> *Ibid.*, p. 149.

Table 7.5 shows the fraction of fatalities in coal mining caused by different factors of risk. Except in the years 1903, 1904, 1909, 1915 and 1920, the fraction of accidents due to risks monitored by the worker (roof falls and explosives) or by both management and workers (breaks and workers' falls) was higher than that of gas or dust explosions, large-scale accidents in which the responsibility fell largely in the hands of management.

Between 1900 and 1930, fatalities in coal mining showed a decreasing trend, but however there was no visible impact of the institution of formal collective bargaining in 1913 on this decline. Gas and dust explosions did not undergo any statistically significant decline over time, nor were affected by collective bargaining.<sup>82</sup> Formal collective bargaining only had a statistically significant negative impact on deaths caused by explosives and by roof falls, which depended mainly on individual decisions of underground miners.<sup>83</sup>

Table 7.5. Fatality rates per 1,000 workers. Coal mining, 1900-1920.

Year	Fatalities	Gas or dust explosions	Explosives	Worker's fall	Breaks	Roof falls
1900	2.94	0.052	0.000	0.314	0.524	1.57
1901	2.84	0.361	0.052	0.309	0.516	1.03
1902	1.86	0.186	0.046	0.325	0.325	0.79
1903	2.22	0.724	0.048	0.097	0.193	0.68
1904	5.70	4.060	0.048	0.145	0.097	0.34
1905	1.70	0.094	0.094	0.236	0.141	0.57
1906	2.40	0.136	0.045	0.272	0.590	0.82
1907	4.60	0.000	0.263	0.175	0.701	1.18
1908	2.67	0.083	0.208	0.042	0.250	1.17
1909	2.64	0.911	0.091	0.091	0.182	0.64
1910	2.32	0.045	0.268	0.045	0.223	0.76
1911	1.74	0.127	0.085	0.085	0.552	0.55
1912	2.21	0.443	0.121	0.443	0.080	0.64
1913	2.21	0.037	0.000	0.258	0.589	0.55
1914	1.51	0.431	0.036	0.036	0.359	0.11
1915	3.08	0.904	0.067	0.268	0.670	0.33
1916	1.92	0.158	0.158	0.079	0.105	0.58
1917	1.69	0.086	0.086	0.151	0.108	0.15
1918	2.26	0.255	0.218	0.218	0.437	0.27
1919	2.09	0.055	0.073	0.128	0.623	0.18
1920	1.69	0.287	0.051	0.169	0.270	0.17

Source: *Estadística Minera*, 1900-1920.

<sup>82</sup> See table 7 A1 in the appendix.

<sup>83</sup> Roof falls were affected by collective bargaining in a regression in which the time trend was not interacted with the dummy collective bargaining.

However, the demands of Biscayan and Asturian miners contrast sharply with the cases in which the negative externality problem was more serious, especially in those cases in which workers entered in contact with toxic fumes and dusts. Two historical cases stand out in the history of labour relations in Spanish mining: the copper mines of Rio Tinto (Huelva) and the mercury mines of Almadén (Ciudad Real).

In Rio Tinto, the Rio Tinto Company Limited used a practice that produced pure copper through a process that first required burning the raw mineral in the open air in order to get rid of the sulphur contained in it. Tons of the material were put together forming pyramids (*teleras*) and then burnt continuously from six to twelve months. During this period, about 2,000,000 tons of raw copper were converted yearly into pure copper through this procedure, freeing about 600 tones of sulphuric toxic gas every day. The latter not only did damage workers' health but also affected agriculture in the neighbouring towns. In her meticulous study on the social conflicts in Rio Tinto before 1900, María Dolores Ferrero shows how, compared to other towns, mortality rates, appropriately controlled by sex and age, were distinctively higher in Rio Tinto. This difference also existed between Rio Tinto and other mining towns (she draws a comparison with the mining town of Alquife in Granada).<sup>84</sup>

Workers organised a strike in 1888 demanding the interruption of all *teleras* in the mine and moving them somewhere else, along with more classic demands such as a shortening in the hours of work to eight hours and higher wages. An interesting demand was related to the so-called *días de manta* (blanket days), days in which the clouds of sulphuric gas were so pervasive that they did not allow miners to work, with the consequent loss of the day's wages. Interestingly enough, the numbers of those opposing the practices of the mine were enlarged by the Anti-Fumes League (*Liga Anti-humista*), an interest group of agricultural proprietors of the neighbouring towns. On the day of the joint demonstration in Rio Tinto's main square, 4<sup>th</sup> February 1888, leaders from both groups tried to force an agreement with the mayor and obtain the prohibition of *teleras* in the town. The mayor waited for the Civil Governor, Agustín Bravo y Joven, to arrive and settle the dispute. When the latter arrived, he did not even accept to see the

---

<sup>84</sup> Ferrero Blanco, María Dolores, *Capitalismo minero y resistencia rural en el suroeste andaluz. Rio Tinto, 1873-1900* (Huelva, 1994), chapter 5, "Mortalidad y morbilidad en las minas de Río-Tinto, 1873-1900."

worker leaders and the *Liga Antihumista*. He then went to the balcony of the main building and exhorted demonstrators to go back to work. The story becomes confusing at this point. However, it is clear that riots ensued and that the military intervened killing 48 demonstrators on the spot and wounding 150. From all the demands presented by workers during the strike, which also included the creation of a workers' compensation fund, the company only agreed to eliminate the compulsory workers' contribution to the medical fund and finance it completely.<sup>85</sup>

The liberal government reacted to the events of Río Tinto by sanctioning a royal decree which gave a period of three years to end sulphuric calcinations, known as the Albareda decree of 1888. According to the secondary literature, it was plausible that in fact the government was abiding by the pressures of the International Copper Consortium, created in 1887 in France, which was actually lobbying to reduce the world extraction of copper to sustain prices, a decision the Río Tinto company, the world leading producer of copper, opposed.<sup>86</sup> Additionally, general Pavía, who ordered the shooting of demonstrators, was removed from the area and the Prefect, Agustín Bravo y Joven, was replaced by the more conciliatory Manuel de Lapaliza.<sup>87</sup>

In 1890, the first *teleras* started to disappear but at the same time the company laid off about a fifth of the workforce on the grounds that the change in the system of precipitating pure copper had squeezed profits. Moreover, the company lobbied the government to repeal the decree and also obtained from the Spanish Academy of Medicine a statement confirming that copper calcinations were not harmful to health. As a consequence of this process, the decree was invalidated by the Conservative government of Cánovas del Castillo in December 1890.<sup>88</sup>

However, a series of technological changes reduced the harmful effects of obtaining copper. Since the late 1880s, the main competitor of Río Tinto, the Tharsis Sulphur and Copper Company Ltd., had successfully introduced a process known as

<sup>85</sup> Ibid., chapter 2, "El Año de los tiros: 1888. Distintas versiones de los hechos del 4 de febrero." Ferrero Blanco, María Dolores, "Los sucesos de Río Tinto según los directores de la Río Tinto Company limited," *Revista de Historia Industrial*, 4 (1998), pp. 43-81.

<sup>86</sup> Nadal, Jordi, "Andalucía, paraíso de los metales no ferrosos," pp. 43-50, in *Moler, tejer, fundir. Estudios de historia industrial* (Barcelona, 1992). Ferrero Blanco, *Capitalismo minero*, p. 134.

<sup>87</sup> Ibid., p. 118.

<sup>88</sup> Ibid., p. 128.

cementation, a method in which piles of mineral up to 90,000 tons were watered, bringing about the oxidation of the mineral. This system avoided the freeing of toxic fumes on a large scale and at the same time retrieved the sulphuric residual for industrial use. The Rio Tinto company had been unsuccessfully experimenting during the late 1880s and early 1890s with the Doetsch method, which retarded the adoption of the cementation method by the company until 1895. From this year onwards, mineral calcinations declined steadily and the last *telera* finally disappeared in 1907.<sup>89</sup> In the twentieth century, the demands of Rio Tinto miners were directed at the more traditional demands of union recognition, a shorter work day and higher wages.<sup>90</sup>

The most important workplace risk in the mines of Almadén (Ciudad Real) was mercury poisoning. An old mine, run by the Spanish crown, there were other related risks like the absence of ventilation or the existence of profound pits, which also increased the levels of workplace risk.<sup>91</sup> Furthermore, the process of distilling pure mercury forced workers to enter heated furnaces to take out the mercury and clean.<sup>92</sup> Prolonged exposure to mercury led to *hidragirismo*, a fit characterised by trembling, abundant sweating and weariness.

Until the early 20<sup>th</sup> century, the only cure known for mercury poisoning was the temporary suspension of underground mining work. It was only in the early 20<sup>th</sup> century that electromagnetic techniques started to be used to speed up the cure from mercurial trembling. In this regard, from the 1820s, the rules governing the mines established the right of underground miners to work temporarily in open air in the processing tasks when the effects of mercury poisoning were evident.<sup>93</sup> Furthermore, also from the late 18<sup>th</sup> century, hours of underground work were reduced to 6 to minimize the exposure to mercury dusts, leading to two underground shifts of about 4 and a half effective hours of

---

<sup>89</sup> Ibid., pp. 134-135.

<sup>90</sup> Instituto de Reformas Sociales, *Memoria redactada por la Comisión nombrada por el Instituto para estudiar las condiciones de trabajo en las minas de Rio Tinto* (Madrid, 1913).

<sup>91</sup> Menéndez Navarro, Alfredo, *Un mundo sin sol: la salud de los trabajadores en las minas de Almadén, 1750-1900* (Granada, 1994), chapter 1.

<sup>92</sup> Ibid., pp. 80-81.

<sup>93</sup> Ibid., pp. 162-163.



work.<sup>94</sup> Finally, because high temperatures increased the level of mercury absorption, underground activity was slowed in summer and mercury was only distilled in winter.<sup>95</sup>

Among underground risks, explosions were one of the most common hazards. During the 19<sup>th</sup> century, this risk was reduced progressively following the introduction of Bickford fuses (invented in 1831), which replaced the traditional system iron or copper needles (*agujas*).<sup>96</sup> Additionally, the report issued by the *Instituto de Reformas Sociales* in 1910 remarked that miners in Almadén did not use dynamite but the less intense “black” powder, and generally used smaller than average explosives to avoid an excessive generation of mercury dust.<sup>97</sup> On the other hand, the risk of roof falls, which was great in the Almadén mines due to larger than average mining rooms and tunnels, was substantially reduced with the definitive use of masonry instead of wood in roofing from the mid 19<sup>th</sup> century.<sup>98</sup> Another common source of risk was related to the fact that miners accessed the bottom of the mine through pits used to haul down the equipment. A first decision in the line of reducing this risk was the installation of security devices blocking winches. A second separated the access of miners and equipment towards the bottom of the mine and finally allowed for the construction of warehouses for equipment inside the mine.<sup>99</sup> Finally, the introduction of mechanical lifts for miners in the 1870s reduced the risk of miners’ falls by almost two thirds.<sup>100</sup> As a consequence of this, the number of yearly accidents per *saca* of mercury (the traditional unit of output in the mines) declined during the 1870s and thereafter.<sup>101</sup>

The distillation of pure mercury was considered to be one of the most hazardous occupations leading to acute episodes of mercurial trembling. In this task, high temperatures and mercurial gases facilitated the absorption of mercury through the skin and the consequent episode of trembling. In this sense, there were attempts to increase the period passing between the mercury foundry up to the unloading of the metal and the cleaning of the furnace (“*cochura*”). In the early 19<sup>th</sup> century, a period of slack demand

<sup>94</sup> Instituto de Reformas Sociales, *Informe de las minas de Almadén. Conclusiones presentadas a la aprobación del Instituto* (Madrid, 1910), p. 67.

<sup>95</sup> Menéndez Navarro, *Un mundo sin sol*, p. 125

<sup>96</sup> *Ibid.*, p. 109.

<sup>97</sup> IRS, *Informe minas Almadén*, p. 69.

<sup>98</sup> *Ibid.*, p. 116. Menéndez Navarro quotes a report published in 1861.

<sup>99</sup> *Ibid.*, pp. 119-120.

<sup>100</sup> *Ibid.*, p. 121, pp. 190-191.

<sup>101</sup> *Ibid.*, pp. 186-187.

triggered an increase in the period of “*cochura*” to 4 days allowing for an extra day to cool off the furnace, but it was subsequently reduced thereafter when demand recovered.<sup>102</sup> However, technical improvements in the furnaces brought about a reduction of the hazards associated with this operation. For instance, the labour inspectors that visited the establishment in 1910 remarked:

The *Bustamante* furnaces (...) are very harmful to workers when loading and unloading the furnaces, which happens every four days.

The *Limermoor-Oyárzabal* furnaces are also highly pernicious to workers (...).

The latest furnaces –*Cermak-Spireck* (...) are more hygienic (...) because they ease the unloading and generate a lower quantity of mercurial dusts.<sup>103</sup>

When the situation of the miners of Almadén reached public opinion in 1910, the demands for a healthier work environment did not come up in the debate. Most of the problem focused on the excessive number of workers, which prevented miners to work enough days of underground work (which was paid substantially more, 9.25 ptas day as opposed to 3 ptas in furnaces and 1.50 for other tasks). There was a established maximum of 84 days of underground work for each miner throughout the year and 98 days of foundry work in the furnaces.<sup>104</sup> During the rest of the working year, the miner was forced to do less profitable tasks. In this regard, the first demand of the Almadén miners was to abolish the auction system adjudicating underground work, a system that increased the competition between the miners of Almadén and those from other towns.<sup>105</sup> Furthermore, they also called for the regulation of the access to outside jobs for underground miners in periods of mercurial intoxication or once their underground days had been used. In this regard, they wanted access to jobs to be based on seniority and on the town of origin, with Almadén miners given preference over miners from other towns.<sup>106</sup>

<sup>102</sup> Ibid., pp. 131-132.

<sup>103</sup> IRS, *Informe minas de Almadén*, p. 70.

<sup>104</sup> Ibid., p. 15.

<sup>105</sup> Ibid., p. 77.

<sup>106</sup> Ibid., pp.83-84, pp. 86-87.

**Building construction workers.**

The safety of scaffolds and the risk of falling heavy objects were the two main sources of risk in building construction. In the information collected by the *Comisión de Reformas Sociales* in the mid 1880s, the local commission of Alcira for instance reported that “generally, the safety of scaffolds is overlooked.”<sup>107</sup> The written information of Ávila remarked that “as in the rest of Spain, scaffolds have not the required levels of safety.”<sup>108</sup> The report of the Provincial Commission of Cáceres lamented “the blind routine predominating in the construction of scaffolds.”<sup>109</sup>

Between 1907 and 1922 labour inspectors routinely criticised the existence of unsafe scaffolds. For instance, inspectors in the Basque country noted in 1920:

The offences detected by the inspection refer mostly to unsafe scaffolds in building construction sites.<sup>110</sup>

In 1921, according to inspectors in Lugo (Galicia), the problem was caused by the way work was contracted out:

In the province we are making progress on the safety of scaffolds, which have been neglected for a long time at the expense of the safety of workers. That being said, we are not close to reaching the adequate levels of safety, mainly because contractors in the province are groups of building construction workers (*quadrillas*) trying to cut as much as they can from the overall costs, especially expenditures guaranteeing their safety (...).<sup>111</sup>

A final example, inspectors in Western Andalusia remarked in 1921:

The building construction trade is the one requiring most attention from inspectors because of its special nature. By pernicious custom, its workers are used to work threatened by considerable risks.

Contractors and owners of building construction works try to spend as little as possible on the prevention of accidents.<sup>112</sup>

<sup>107</sup> *Reformas Sociales*, tome 3, “Memoria de la Comisión local de Alcira,” p. 284.

<sup>108</sup> *Ibid.*, volume 4, “Información escrita de Ávila,” p. 204.

<sup>109</sup> *Ibid.*, volume 4, “Informe de la Comisión Provincial de Cáceres,” p. 466.

<sup>110</sup> IRS, *Memoria inspección año 1920*, p. 101. As well in *ibid.*, p. 74 for the case of Catalan provinces.

<sup>111</sup> IRS, *Memoria inspección año 1921*, p. 141.

<sup>112</sup> *Ibid.*, p. 247.

As in mining, it is useful to consider who was the main accident preventer. In this case, this would be related to finding who was responsible for the construction and supervision of scaffolds. Evidence in this regard is mixed. For instance, the oral information collected from the local commission of Plasencia (Cáceres) stressed that “with respect to the safety of scaffolds, we were informed that in spite of the fact that there are rules governing their construction, they are not enforced because the earnings of owners and foremen are more important than safety and the fact that authorities do not get involved in these matters.”<sup>113</sup> In fact, many cities and towns had their own rules over scaffolding and even some monitoring power, but most contemporary observers considered these regulations were seldom enforced.<sup>114</sup>

The picture drawn from these scattered bits of information is that the responsibilities were shared between the main contractor, the sub-contractor – a building worker who contracted a team of workers to do a particular work- and the head of working teams. The oral information from Oviedo remarked that “(...) the rules governing scaffolding are in a state of anarchy, with each contractor (*contratista*), sub-contractor (*destajista*) or foreman (*maestro*) installing the equipment at their own convenience.”<sup>115</sup> In Valencia, painters, who were considered to belong to the same trade as building construction workers, had established a rule which guaranteed that workers did not work on scaffolds that they did not consider safe: “among painters, the rules of the mixed commission establish the principle that built scaffolds must satisfy the safety requirements of the workers who have to work on them, a rule that is generally accepted by all the trade.”<sup>116</sup> Similarly, as well in Valencia, the commission reported that “among building construction workers (who were paid by the hour, n.a.), there exists the practice of not discounting the time spent in building scaffolding,” in spite of the fact that “neither safety nets nor better equipment are being used.”<sup>117</sup> This contrasts with the blame that was routinely levelled at contractors and builders by socialist activists and the building construction workers’ unions. The latter criticised the “criminal behaviour of contractors, whose greed is the cause of many accidents.” Socialist activists sought to drive workers toward the union by stating “you who work in badly constructed scaffolds

<sup>113</sup> Ibid., volume 4, “Memoria de la Comisión Provincial de Plasencia,” p. 525.

<sup>114</sup> For a contrary view: Ibid., volume 5, “Información escrita de Navarra,” p. 227.

<sup>115</sup> Ibid., volume 5, “Información oral de Oviedo,” p. 410.

<sup>116</sup> Ibid., volume 3, “Memoria de la Comisión Provincial de Valencia,” p. 56.

<sup>117</sup> Ibid., p. 56.

and are exposed to deadly falls, you will not believe a change is possible until the union, first among the workers in your trade and then among all workers, is achieved.”<sup>118</sup> In the early 20<sup>th</sup> century, the building construction union of Madrid *El Trabajo* denounced the use of unskilled workers in scaffolding work (as carpenters), a practice that was forbidden by the mayor of Madrid in 1915.<sup>119</sup>

This sharing or confusion of responsibilities on scaffolding probably explains why the issue of safety was not on top of the agenda of building construction unions. One exception is the demand put forward by the Madrid union of building construction workers to the mayor of the city in 1892 to enforce safety regulations regarding scaffolds in building construction works.<sup>120</sup> But in the two massive strikes of building construction workers in Barcelona 1901 and 1903, workers went on strike to reduce their summer workday to eight hours and obtain an increase in wages, while the collective contract drawn up in 1901 did not mention safety issues.<sup>121</sup> The Spanish conference of painters (*pintores decoradores*), held in Barcelona in 1903, considered the eight-hour day to be their main demand, in line with the grievances of their fellow building construction workers.<sup>122</sup> Similarly, the Catalan Regional Confederation of Building Construction Workers prioritised unionisation drives and more generous workers' accident compensation rather than safety issues.<sup>123</sup> Similarly, building construction unions in Madrid also concentrated on shorter hours, higher wages, and the regulation of the apprenticeship system.<sup>124</sup> Between 1900 and 1916, the building construction workers of Madrid carried out more than 80 strikes, but only one minor strike in one construction site was motivated by bad safety conditions.<sup>125</sup> The apparent lack of concern for safety among building workers led socialists in Madrid to criticise these workers for “showing

<sup>118</sup> Quoted in *ibid.*, p. 34.

<sup>119</sup> Byrne, Justin, “‘Nuestro pan de cada día’: accidentes del trabajo y respuesta de los albañiles de Madrid en el cambio de siglo,” p. 30, in Huertas, Rafael and Ricardo Campos (eds.), *Medicina social y clase obrera en España (siglos XIX y XX)*. Volume 1. Madrid: Fundación de Investigaciones Marxistas, 1992.

<sup>120</sup> Unión Obrera del Gremio de Albañiles de Madrid, *Meeting celebrado por la Unión Obrera de Albañiles de Madrid el miércoles 20 de abril de 1892 presidido por el compañero José Adrados Migallón* (Madrid, 1892), p. 9.

<sup>121</sup> Sastre Sanna, Miguel, *Las huelgas de Barcelona en el año 1903*, ‘Albañiles’.

<sup>122</sup> Sastre, *Las huelgas de Barcelona 1903*, “Congreso de los pintores decoradores.”

<sup>123</sup> Confederación Regional de oficiales y peones de albañil de Cataluña, *Memoria y actas del primer congreso celebrado en Villanueva y la Geltrú, en el local Ateneo Villanovés, los días 28 y 29 de Julio de 1914* (Barcelona, 1914), p. 4, pp. 19-21. No session was devoted to the discussing safety issues. As well, Confederación de oficiales y peones de albañil de Cataluña, *Reglamento* (Barcelona, 1913), pp. 3 –6 stating the objectives of the union.

<sup>124</sup> Byrne, Justin, “Trabajo y conflictividad en el sector de la construcción en Madrid, 1900-1914.” *Sociología del Trabajo*, 15 (Spring 1992), pp. 115-142.

<sup>125</sup> This strike is discussed in *Boletín del Instituto de Reformas Sociales*, number 35 (1907), pp. 910-911.

off their bravery and sneering at those who take precautions.”<sup>126</sup> This has led some labour historians of the period to take into account the existence of some sort of interiorisation of workplace risk that led to a disregard for safety issues.<sup>127</sup>

### **Metal workers.**

Foundry workers were known to be exposed to very high temperatures from partially open furnace doors. In the mid 1880s, the report of the chief engineer in the mines of Navarra to the *Comisión de Reformas Sociales* noted that “in the metallurgical establishments, there are occupations with intolerable working conditions, namely those which are done close to furnaces with extremely high temperatures.” The report went on to say “it is useless to deny that workers who work half naked, carrying heavy puddles, with eyes fixed upon a shining mass inside a furnace at more than 1000 degrees Celsius, are bound to catch chest and eye diseases.”<sup>128</sup> At two meters from the furnace, the distance at which workers stood, temperatures reached 60 degrees Celsius, which caused the famous “foundry workers’ fever”, an episode characterised by trembling, headache, difficult breathing, and abundant sweating at night caused by high temperatures, physical fatigue, and the breathing of toxic fumes. The fever was especially common among copper foundry workers, but it was also observed among those in contact with iron, lead, tin or zinc.<sup>129</sup> Furthermore, the constant exposure to incandescent materials damaged vision and increased the risk of cataract.<sup>130</sup>

In this case, toxic materials and intolerable working conditions were clearly a public good that needed to be negotiated by the union. However, the evidence at hand does not show attempts by the metal workers’ unions at altering working conditions and introducing changes that may have reduced the hazards associated with the trade. Instead, trade union action concentrated on shortening the workday, which at least minimised the daily amount of work in insufferable conditions and the contact with toxic materials, while allowing for sufficient rest periods for the worker. In this regard -and along with typographers who also shared similar problems like the contact with lead

<sup>126</sup> Quoted in Byrne, “‘Nuestro pan de cada día,’” p. 32. Original source is *El Socialista*, 12th May, 1914.

<sup>127</sup> Ibid., p. 33; Jover, José María, “Conciencia burguesa y conciencia obrera en la España contemporánea,” p. 72, *Política, diplomacia y humanismo popular: estudios sobre la vida española del siglo XIX* (Madrid, 1976); Castillo, Juan José and C. Prieto, *Condiciones de trabajo: hacia un enfoque renovador de la sociología del trabajo* (Madrid, 1983), pp. 149-150.

<sup>128</sup> *Reformas Sociales*, volume 5, “Informe del Sr. Ingeniero de minas del distrito de Navarra,” p. 229.

<sup>129</sup> Batailler and Tresfont, *Hygiène industrielle*, p. 244.

<sup>130</sup> Ibid., pp. 244-45.

dust,<sup>131</sup> the Spanish metal workers' unions became the vanguard of the short hours movement. The metal unions of Barcelona staged a massive and ultimately failed strike to obtain the eight-hour day in 1902. In June 1903, the conference of the Spanish Federation of Metallurgical Unions held in Barcelona also agreed as the first priority of the Federation the eight hour day and the prohibition of piece rate work.<sup>132</sup> In the failed general strike of the trade of September 1910, the metal workers union of Barcelona draw up a collective contract which included union recognition, a nine-hour day, the abolition of holy days, overtime to be paid a 50 per cent more over normal rates and a 100 per cent for those working on Sunday, but nothing explicit about sanitary conditions.<sup>133</sup> Another congress celebrated in Barcelona in 1914 insisted on the same objectives.<sup>134</sup>

### **Railway workers.**

Transport workers were also among the most hazardous occupations (table 7.5). The concern for safety was especially heightened among railway workers. For example, in 1894, Luis Zurdo, leader of the Spanish Confederation of Railway drivers and Stokers "*La Esperanza*" (Hope) argued in the pages of the periodical of the union "*La Tracción Ferroviaria*": "we would not need to unionise -an impossible thing since without union there is no life-, if our lives were protected from the excess of work, which wears our robust nature, from the bad state of the equipment and rails, which is a constant threat to our lives, the long itineraries, the violent commands, the depressive orders (...)." <sup>135</sup> He then went on insisting that "isolated, we are defenceless, our lives constantly threatened. Because the same amount of work is ordered to workmen than to machinery (sic), our lives are in danger. Neither mobile nor fixed equipment meets the required conditions and it is not revised properly. The newest advances in accident prevention are not being implemented." <sup>136</sup>

Evidence provided by the doctors of the railways companies minimised the extent of injuries and accidents. In the mid 1880s, the Company of Railways from

<sup>131</sup> *Reformas Sociales*, volume 3, "Memoria de la Comisión Provincial de Valencia," p. 59; volume 4, "Informe de la Comisión Provincial de Cáceres," p. 33.

<sup>132</sup> Sastre, *Las huelgas de Barcelona en 1903*, 'Congreso de los obreros metalúrgicos,' p. 93.

<sup>133</sup> Sastre, *Las huelgas de Barcelona en 1910-1914*, "Huelga general de los obreros metalúrgicos."

<sup>134</sup> Congreso Obrero Metalúrgico, *Memoria del Congreso Obrero Metalúrgico celebrado en el palacio de Bellas Artes los días 12 y 13 de Abril de 1914* (Barcelona, 1914), pp. 7-10.

<sup>135</sup> *La Tracción Ferroviaria*, year 2, number 17 (April 1894), p. 155.

<sup>136</sup> *Ibid.*, p. 155.

Almansa to Valencia and Tarragona reported to the provincial commission of Valencia that “experience shows that the most common illnesses affecting train drivers and stokers are those related to the digestive system and those caused by sudden changes in temperature and the action of cold, as rheumatism and nervous pains (sic), throat and chest irritation, which are endemic to railway life. External injuries causing death, limb loss and disability are fortunately scarce.” According to this source, in five years, only one death was registered, along with two injured workers losing at least one limb and another with permanent disability, of a workforce of 317. Contusions and small injuries reached 84. Similarly, the company controlling the route from Cuenca to Valencia downplayed the importance of deaths or serious injuries caused by railway equipment.<sup>137</sup> In two reports published in 1878 and 1892, the doctor of the Tarragona-Barcelona-France company noted that among stokers and train drivers there were “falls so terrible that (...) in most cases the worker gets to the hospital more dead than alive.” He then argued that “in most cases, the instructed investigations show that the blame for accidents falls exclusively on the part of victims.”<sup>138</sup>

It is difficult with the available data to determine if railways workers had above average accident and fatality rates. Because railway companies were larger than average and had agreed to pay accident compensation even before the passing of the accidents’ law of 1900, there was a higher than average propensity to report accidents. In fact, when the causes of death are considered in the reported accident data from 1910 to 1920, “railway accidents” caused about 12 per cent of the overall registered casualties, just after “fall of worker” which represented 19 per cent of the cases.<sup>139</sup>

Railway workers’ unions considered accident prevention as one of the main issues in their agenda. In 1893, the rules of the Spanish Confederation of Train drivers and Stokers stated as the principal means of obtaining the improvement of working conditions in the sector: “First, the collection of scientific and statistical data to study

<sup>137</sup> *Reformas Sociales*, volume 3, “Memoria de la Comisión Provincial de Valencia,” p. 56; volume 3, “Informe de la Sociedad de los Ferrocarriles de Almansa á Valencia y Tarragona,” p. 301; volume 3, “Informe de la Sociedad de los ferrocarriles de Cuenca a Valencia y Teruel,” p. 303.

<sup>138</sup> Arró y Triay, Francisco de P., *Ensayo de estadística médica de las líneas de Gerona, de la Compañía de Ferrocarriles de Tarragona a Barcelona y Francia, correspondiente al año 1878* (Barcelona, 1879), p. 17. A similar argument in Arró y Triay, Francisco de P., *Estadística médica de la Compañía de Ferrocarriles de Tarragona a Barcelona y Francia, correspondiente al septenio de 1879 a 1885, respecto a las líneas de Gerona y al año 1896 respecto de éstas y de las de Tarragona y la frontera* (Barcelona, 1892), p. 73.

<sup>139</sup> Instituto de Reformas Sociales, *Estadística de accidentes de trabajo*, years 1910 to 1920.



working conditions, the economic state of the trade, the causes of its expansion or decadence (...). Second, obtaining an idea of the moral and economic state of railway employees. Third, promoting the implementation of all scientific and administrative reforms which may reduce the accidents among train drivers and stokers (...).<sup>140</sup> In December 1903, an international conference of railways workers' unions was held in Barcelona.<sup>141</sup> The main conclusions of the conference, voted by the majority of representatives, included the creation of retirement funds, the prohibition of fines and penalties, the drawing up of common rules governing the trade (*reglamentos*), the unification of the signalling system for all normal and narrow railways and the adoption, in line with the latest scientific advances, of any mechanism of accident prevention. In addition, agreements also took into account the creation of joint commission of management and workers, a parliamentary representation and a seat in the direction of companies through the ownership of shares. Finally, union leaders agreed on the prohibition of piece rate work.<sup>142</sup> After a series of setbacks, in 1909 the rail workers' union affiliated to the General Workers' Union (UGT) and relied more on parliamentary action, while at the same time putting a stronger emphasis on salaries and a shorter workday.<sup>143</sup>

### **7.5. Conclusions.**

In this chapter, I have analysed the debate on workplace safety and health in late 19<sup>th</sup> and early 20<sup>th</sup> century Spain. Several hypotheses about the perceived rise in industrial risks are examined, without reaching any conclusion about the weight of each of the factors in explaining the rise in workplace hazards. The main conclusion to be drawn from the analysis is that the reduction of workplace hazards depended critically on technological changes and market forces reducing the costs of improving health and safety standards. Where changes were cheap on the margin, as in the fencing and covering of machinery, or the inspection and upkeep of boilers, qualitative evidence suggests there was a substantial reduction in these risks. Sanitation, on the other hand, faced insurmountable obstacles given the costs involved in reforming old and unsuitable buildings, while

<sup>140</sup> Juez Gonzalo, Emerenciana, *El mundo social de los ferrocarriles españoles de 1857 a 1917*. Unpublished PhD dissertation, Universidad Complutense de Madrid, 1997, Appendix 124, "Estatutos de la Confederación de Maquinistas y Fogoneros de los ferrocarriles de España," p. 834.

<sup>141</sup> With 128 Spanish unions, 62 from France, and one from England, Germany, Bohemia, the Netherlands, Norway, Italy, Portugal, Sweden, Chile, Argentina and the United States

<sup>142</sup> Sastre, *Las huelgas de Barcelona en 1903*, 'Congreso internacional de los empleados de ferrocarriles,' pp. 99-102.

<sup>143</sup> Juez Gonzalo, *El mundo social*, appendix 129, "Reglamento de la Unión Ferroviaria," p. 843.

---

employers' liability in the case of long-term exposure to bad working conditions was diffuse. In this case, it took longer to sanitise factories.

When looking at the evolution of risks by sectors of activity, it is also important to distinguish between types of accident and analyse who is the main accident preventer. The historical literature has generally put the blame on employers. However, in many types of accident in mining work or in building construction, some responsibilities fell on the side of workers or were shared between workers and managers. In these sectors, unions prioritised hours, wages, or accident compensation while there is little evidence of a public discussion on workplace health and safety standards. In cases in which workers were exposed to toxic materials, rules were informally developed to reduce the hours of exposure to dangerous materials as in the metal industries or some cases in mining –notably in Almadén.

## APPENDIX.

**Table 7.A1. The impact of collective bargaining in coal mining accident rates, 1900-1930. (N=31)**

Dependent variable: number of accidents in coal mining in a given year/ working population in that year.

	<u>Fatalities</u>	<u>Gas or dust explosions</u>	<u>Explosives</u>	<u>Falls</u>	<u>Breaks</u>	<u>Roof falls</u>
Constant	2.93** (7.75)	0.69 (2.05)	0.02 (0.63)	0.26** (6.21)	0.41** (4.11)	0.84* (6.43)
Time trend	-0.04 (-0.64)	-0.027 (-0.54)	0.014** (3.14)	-0.01 (-1.69)	-0.01 (-0.81)	-0.01 (-0.59)
Time trend*dummy 1913	-0.01 (-0.28)	0.006 (0.16)	-0.011** (-3.01)	0.004 (0.71)	0.009 (0.82)	-0.01 (-0.65)
Adj-R Squared	0.26	0.06	0.21	0.31	0.02	0.33
D-W	2.42	2.06	1.78	1.92	2.16	1.7

**Source:** *Estadística Minera*, years 1900 to 1930.

**Notes:** \* significant at 5 per cent levels. T-statistics in parentheses.

## Conclusions.

This thesis studies the mechanics of collective action and provides case studies of collective bargaining in labour markets during the period of Spanish contemporary history known as the Restoration (1875-1923). This historical episode allows to study the operation and evolution of largely unregulated labour markets. In this sense, one can evaluate forces other than binding contracts, state-sponsored collective bargaining, unemployment insurance or social security in determining the historical evolution of labour market institutions and outcomes. The Spanish case also offers a case study which takes into account institutional peculiarities related to the existence of a weak, but politically radical labour movement in the context of a not fully developed parliamentary democracy.

The first part of the thesis I analyse workers' collective action in the economic and political context of the Restoration. In the literature on workers' collective action, reforms in labour law and changes in the legal constraints on workers' organisations and collective bargaining have been generally used to explain the expansion of unions and strike activity in the twentieth century. In our period, however, unions did not operate in a context in which the state enforced union recognition and formal collective bargaining institutions with representatives of employers and independent unions. These institutions did not appear in Spain before 1926 with the passing of Labour Code during the dictatorship of Primo de Rivera and were not fully developed until the 2<sup>nd</sup> Republic (1931-1936).

In *chapter 2*, I argue that, before 1918, union densities remained low because unions were unable to enforce union recognition and the closed shop on to employers in some of the largest industrial sectors. As predicted by collective action theory, absence of compulsory membership brought about a low unionisation equilibrium in the

industrial sectors but not in the small, local trade unions of craftsmen. In large sectors, only the continuous activity of a small group of activists or the recourse to “professional” activists like those of the General Workers’ Union (UGT) or the anarcho-syndicalists guaranteed the survival of the union after strikes had been lost and employers retaliated.

Absence of formal bargaining channels amplified the role of the state in shaping bargaining institutions, notably through the arbitration of strikes and by forcing employers to negotiate with and recognise the union. Government intervention was especially intense in strategic sectors like railways and to some extent in mining. Conflicts in big cities or in large sectors like the Catalan textile industry also prompted intervention because of the sheer number of workers involved.

With severely contested union rights, I stress that processes of union growth depended on periods of high strike activity. Unions in the period did not focus on the supply of insurance to members or other non-collective goals. Contrary to what was argued by progressive reformists and conservative union leaders, unions did not grow through ordered dues-collection and the supply of mutual benefits, popular savings banks and recreational centres. Rather, unions gave priority to strikes as the main form of collective mobilisation. Large strikes operated as mass-propaganda mechanisms in which unions demonstrated their ability to mobilise workers and obtain concessions from employers. Successful large strikes brought about further strikes in which workers presented collective contracts to their employers. In most of these efforts, the strikers’ fundamental aim was union recognition.

Cycles of strikes as in 1899-1903, 1910-1913 and 1918-1920 were neither “messianic and heroic” nor “naïve to the point of self-destruction;”<sup>1</sup> they depended on exogenously determined circumstances that helped to spread optimistic expectations. Strike waves were related to political crises, more progressive governments and social and political upheaval. Only under these circumstances in which workers had some bargaining leverage over the state or the state opened itself to class-collaboration could

---

<sup>1</sup> Balcels, Albert, *Cataluña contemporánea, vol. II (1909-1939)* (Madrid, 1981), p. 6; Carr, Raymond, “All or nothing,” *New York Review of Books*, October 13, 1977; Carr, Raymond, *Spain, 1808-1939* (Oxford, 1966), pp. 446.

the workers expect to defeat the more powerful employers and obtain the recognition of the union. In this sense, my account departs from explanations of rising union activity based on deteriorating working conditions or, in contrast, on tight labour markets (described in chapter 2).

Additionally, chapter 2 argues that an inclusive tactic of union membership based on strike participation also brought about the alienation of union's occasional allies. In this regard, nothing antagonised more employers and the state than the experience of mass strikes. Periods of intense strike activity eventually ended with the government crushing the strike wave, leading to a period of union demoralisation and low strike activity.

In *chapter 3*, I examine state policy by focusing the contentious issue of strike arbitration and union recognition. Conciliation boards and industrial tribunals can be thought as an efficiency-enhancing institutional change if arbitration reduces the social costs of frequent strike action. In the chapter, I trace the employers' discourse against arbitration and their generally failed attempts at solving the problem of workers' militancy. Additionally, the chapter also describes the arguments of reformers, who claimed employers had to recognise unions to stop the revolutionary threat. Finally, I show how a coalition for reform involving members of the Conservative and Liberal parties and Republicans was created in the late 1900s allowing for the passing of reforms on labour matters. The latter postulated unions had to be recognised to stop the strike threat, while they also contemplated the extension of state authority to regulate the relationship between masters and workers.

*Chapter 4* takes a careful look at the implementation of state policy on strikes. First, the chapter traces the failure of conciliation boards and other arbitration mechanisms. Second, by looking at strike data between 1905 and 1915, I show how an important fraction of strikes ended up with intervention of authorities, leading to compromise settlements. In this sense, I suggest arbitration did not fail because of the weak bargaining power of unions. Rather, different bargaining alternatives existed because civil governors and mayors developed a "prudent" strategy of conflict solving and used to step in strikes to quickly settle disputes and avoid larger social explosions. Furthermore, contrary to the legislation on local joint committees of workers and

employers, civil governors could force recalcitrant employers to negotiate with unions because employers needed police protection from striking workers and the enforcement of the freedom to work. Analysis of the intervention of civil governors suggests that the state was more likely to intervene in large cities, with powerful anti-system movements and in larger than average strikes. This partially compensated the relative disadvantage of workers in large urban centres when organising movements of protest (the failure rates of strikes increased with the size of cities), while it protected the links of urban unions with radical politics.

To conclude, patterns of union and strike growth in Restoration Spain studied in part I of the thesis offer a case-study of working class collective mobilisation in absence of fully developed and enforced state regulation of industrial conflict. Explanations of workers' collective mobilisation based on changing legal constraints on collective action also have to take into account other forms of state intervention having an important effect on the patterns of workers' mobilisation. In this regard, I emphasise the existence of processes of union formation and growth associated with strike waves related to political opportunities. The implication of state officials in conflict resolution underlines fundamental continuities with post-war labour market regulation in which state-enforced formal boards of employers' and workers' delegates are devised to avoid too frequent strike action. This does not rule out there were fewer constraints on the actions of strikers and employers than in post-war labour markets. Solidarity strikes and picket lines, as well as lock outs and the use of strike-breakers were more common in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries than they are today in advanced economies. Furthermore, strike settlements were more bimodal than they are in post-war labour markets: union victories or complete defeats were more usual than compromises up to 1915. However, the share of compromise settlements increased substantially in the first decades of the 20<sup>th</sup> century.

The absence of formal bargaining institutions leads directly to the question whether bargaining was efficient. When I started this dissertation, my main working hypothesis considered that underdeveloped bargaining institutions led to the inadequate supply of workplace public goods in response to the rapidly changing preferences of workers as industrialisation evolved. Inefficient bargaining, in turn, raised the demand for public intervention to solve the failure of the private solution in delivering

workplace public goods. But the picture that has arisen from my case studies is substantially different and more complex. My depiction of working conditions stresses continuities rather than structural breaks between historical, unregulated industrial labour markets with post-war regulated labour markets. In some crucial aspects of labour market performance, my account emphasises the role of community-enforced norms and customs, repeated interaction and the strike threat as imperfect but close substitutes for modern labour market regulation.

In *Chapter 5* I discuss the shortening of the workday in Spain from the mid 1880s to 1920. Given the high proportion of strikes motivated by demands to shorten the workday, it could be argued that workers were not able to adjust leisure time to desired levels (i.e. their preferences were not fulfilled). However, the study of cross-sectional and over time variation in hours of work carried out in chapter 5 shows that the workday declined progressively in the period before the introduction of the 8-hour day and that workers traded off earnings and leisure through an income effect. The chapter discusses exceptions in which hours declined slowly or not at all between the mid 1880s and 1910. I argue long hours did not depend exclusively on inefficient institutions, but, rather, on the difficulties experienced in making compatible the preferences of transient and permanent workers, like in the Biscay iron mining sector or in the urban retail and service workers. In manufacturing, the employment of women, working continuously before marriage and discontinuously thereafter and the existence of weak unions guaranteed the shortening of the workday did not become a contested issue until the 1910s. In all these cases, conflicts over hours of work translated in large strikes in the 1910s prompting mandatory hours ceilings enforced by the government. These case-studies contrast sharply with sectors in which preference for short hours was dominant leading to a progressive decline of the workday.

Furthermore, the chapter also argues that the 8-hours decree passed in April 1919 was not a fundamental break with hours determination previous to the passing of law. Qualitative evidence shows that there were no important conflicts over the introduction of the eight-hour day and most of the evidence points to the fact that the 8-hour day was effectively enforced. My conclusion is that the law was accommodated because hours of work had been declining towards 8 hours since the mid 1880s.



The hours case-study emphasises the importance of market forces with backward bending labour supply curves. A remarkable feature of the period is that the shortening of the workday occurred in absence of binding contracts and of formal union recognition. This did not mean written, collective contracts establishing hours of work and wages did not exist. They were the norm in many trades. However, employers could repudiate contracts which were not enforced by state legislation. The strike threat and other forms of 'informal' collective action were enough to guarantee the shortening of hours.

The study of piece rate lists in the Catalan textile sector shows how stable were agreements over wages in a sector characterised by erratic unionisation and firm- level rather than local or regional collective bargaining. My analysis in this chapter contradicts the historical literature, which points to a deterioration of working conditions between 1885 and 1910 caused by technological change and by periodic overproduction crises. My evidence on the evolution of piece rate lists using examples of urban and rural firms shows private, "firm-specific" lists were completely fixed over the economic cycle and very rarely adjusted downwards. Wage rigidity brought about quantity adjustments in output and labour input. In the latter case, firms hoarded labour by working short time, until selective lay-offs were inevitable. Agreements to adjust piece rates downwards (as in sliding scale wage schemes) until the cycle picked up did not exist. This way of handling recessions did not originate in the period, it was a part of a system of norms and customs which took the form of an implicit contract in which rates were fixed and firms worked short-time during economic downturns to protect lengthy attachments. The experience of the firms selected in the study also suggests that cyclical unemployment was a typical characteristic of the sector's labour market.

The conclusions drawn from the study of piece rates in the Catalan textile sector should naturally be complemented with the study of wage and employment adjustment in other sectors and other regions of Spain. However, the existence of piece rate rigidity in the textile industry suggests many analogies with macro- and micro-economic studies pointing to the existence of nominal wage rigidity in post-war labour markets.<sup>2</sup> The case

---

<sup>2</sup> Among others: Mitchell, Daniel J.B., "Wage flexibility: then and now," *Industrial Relations*, 24 (Spring 1985), pp. 266-279; Kaufman, Roger T., "On wage stickiness in Britain's competitive sector," *British Journal of Industrial Relations*, XII (1984), pp. 101-112; Bernanke Ben S. and James S. Powell, "The

study of the textile sector shows that wage rigidity did not depend on binding union contracts or minimum wage legislation. Rather, other forces must have been at work. In a mature sector like the Catalan textile industry in the late 19<sup>th</sup> century, it is difficult to support an efficiency wage argument based on informational asymmetries between workers and employers on the productivity potential of the technologies being used. Evidence on collective action from the period shows that resistance to piece rate cuts guaranteed stable piece rate lists. Implications of this result for modern labour markets, in which services are the main economic activity, are limited. However, it also points to fundamental continuities embedded in the system of norms and customs of workers, in this case related to resistance to wage cuts and workers' insider power. There are nonetheless several particular characteristics of the period which differ with contemporary wage and labour input adjustments. Short-time provided some source of earnings when unemployment benefits did not exist (unions also did not provide unemployment insurance), but in contemporary labour markets resorting to short weeks is much less common.

Moving to workplace safety and sanitation, it is more difficult to establish continuities with present labour markets, mainly because it is impossible to have a clear idea on the aggregate and sector-specific long run trend in workplace risks. In the historical and modern studies of safety regulation, it is generally shown that safety regulations often have had a limited impact.<sup>3</sup> In the period of study, evidence collected suggests that regulations related to the fencing and covering of machinery and the upkeep of boilers were generally well enforced, in spite of the fact that we do not know the final impact of well enforced regulations on the levels of injuries. Sanitation standards, on the other hand, were notably more difficult to enforce. In the chapter, I argue the relative success of safety regulations had to do with the fact that accidents, as opposed to job-related illnesses, had well-defined compensation to be paid by the employer since 1900. Probably as well, the costs involved in fencing machinery or

---

cyclical behavior of industrial labor markets: a comparison of prewar and postwar eras," in Robert J. Gordon, *The American business cycle: continuity and change* (Chicago, 1986); Freeman, Richard and James Medoff, *What do unions do?*, "Adjustment to business cycles."

<sup>3</sup> Modern studies in Viscusi, Kip V., *Fatal tradeoffs: private and public responsibilities toward risk* (New York, 1992); Bartrip, P.W.J. and P.T. Fenn, "Factory fatalities and regulation in Britain, 1878-1913." *Explorations in Economic History*, 25 (1988), pp.60-74; Fishback, Price V., "Liability rules and accident prevention in the workplace: empirical evidence from the early 20th century," *Journal of Legal Studies*, 16 (June 1987), pp. 305-328.

installing handrails were lower than the costs of sanitising factories and workshops located in unsuitable buildings.

Evidence from existing historical studies on the effects of unions on safety is so far mixed.<sup>4</sup> The reasons being given by skeptics of the role of unions in the reduction of workplace risks refer to the priority of other demands like union recognition, shorter hours and higher wages and the fact that many workplace risks were not public goods.<sup>5</sup> In my analysis of fatality trends in coal mining, I show how collective bargaining did not have an impact on the trends of many types of accidents except in the case of “roof falls” and “explosions,” which depended on the individual decisions of miners. Other cases in mining reveal that rules and norms might arise to reduce the exposure of workers to several risks. These ranged from the reduction of hours of work in unhealthy jobs to the use of masonry instead of wood in the roofing of mining tunnels. On the other hand, evidence of collective bargaining of safety standards in dangerous trades like the metallurgical industry or building construction is weak. Unions enhance workplace safety by being aware of the risks inherent in a sector and making these risks public and part of a public discussion. But the available evidence on this type of activity on the part of unions in the period is extremely limited.

Finally, I have stressed that it was useful to distinguish who was the main accident preventer. In most cases, workers and employers shared the responsibilities for accident prevention and social reformers and inspectors blamed workers for becoming too familiar with and overconfident with respect to professional risks. In the 1930s, the Labour ministry of the 2<sup>nd</sup> Republic staged a far-reaching educational campaign to increase the awareness of workers with respect to their professional risks. Similar campaigns are used today to complement the regulation of safety standards in many industries. This suggests that perceptions of risk among workers in dangerous jobs are biased. Experimental psychologists have shown that we make systematic mistakes in

---

<sup>4</sup> For example, in the case of Britain Sidney and Beatrice Webb made a strong case in favour of the positive impact of unions on workplace safety and health: Webb, Sidney and Beatrice Webb, *Industrial democracy* (New York, [1897] 1965), pp. 348-360; a more contemporary study supporting the positive role of unions in reducing workplace risks: Nichols, T., “Industrial safety in Britain and the 1974 Health and Safety Act: the case of Manufacturing,” *International Journal of Sociology of Law*, 18 (1990), pp. 317-342; a skeptical view on the role of unions: Fishback, Price V., “Workplace safety during the Progressive Era: fatal accidents in bituminous coal mining, 1912-1923,” *Explorations in Economic History*, 23 (July 1986), pp. 269-298.

<sup>5</sup> *Ibid.*, p. 296.

our estimation of risks in given situations. Instead of ordering the levels of risk according to the probability of a given damage, we order risky actions according to other variables according to how dreadful or unknown or large-scale are certain risks.<sup>6</sup> For example, the individual perceptions of the risk associated with smoking among smokers or to travelling by car compared to travelling by plane reveal this “failure” to assess risks correctly. This is not entirely irrational because people rely on simple heuristic principles to skip the complex tasks involved in assessing probabilities and predicting the utility (or disutility) of the various possible outcomes.<sup>7</sup>

Summing up, the evidence presented so far suggests that in spite of the fact that it is plausible to assume collective bargaining was inefficient there were several factors correcting the inefficiencies associated with weak unions. In part 1 of the thesis I suggest that, taking the period as a whole and avoiding to dwell excessively in particular historical events, generally granted union and strike rights since the early 20<sup>th</sup> century contributed to the advance of workers’ interests. In this context, strategic interaction between workers, employers and state officials shaped a system of strike resolution that in some important aspects resembled today’s regulation of industrial conflict, in which compulsory or quasi-compulsory arbitration of strikes is the norm. I also show how the internal dynamics of this system of labour relations were not conducive to peaceful collective bargaining and the generalization of trust among employers and workers, but rather increased the divide between both groups.

Conflict-based rather than trust-based industrial relations and the low institutionalisation of collective bargaining did not, however, have a strong impact on the efficiency of the collective negotiation of working conditions. The persistence of long hours in some sectors was caused by the particular labour market of these sectors, not by inefficient collective bargaining. The strong negative correlation between wages and the standard workday shows workers with higher wages also enjoyed a shorter workday, implying the existence of a dominating income effect. To be sure, evidence of the negotiation of workplace safety and health levels is notably more elusive. The

<sup>6</sup> Slovic, Paul and Baruch Fischhoff, “Behavioral decision theory perspectives on risk and safety,” in Borchering, Katrin, Berndt Brehmer, Charles Vlek, Willen A. Wagenaar (eds.), *Research perspectives on decision making under uncertainty* (Amsterdam, 1989), p. 185.

<sup>7</sup> Kahneman, Daniel and Amos Tversky, “Judging under uncertainty: heuristics and biases,” p. 3, in Kahneman, Tversky and Paul Slovic (eds.), *Judgement under uncertainty: heuristics and biases* (Cambridge, 1989).

---

evidence at hand, however, suggests informal norms developed to reduce the exposure of individual workers to risks with large externalities, while some level of co-operation between workers, employers and labour inspectors guaranteed the risks related to dangerous machinery were diminished in the period.

Therefore, the case-studies of of working conditions suggest it is difficult to make a case for the inefficiency of collective bargaining over the period. I have stressed that other forces were at work other than well enforced government regulation, binding contracts and formal collective bargaining. In this sense, with an Industrial Revolution taking off in the mid 19<sup>th</sup> century, accumulated experience, repeated interaction between workers and employers and generally stabilised labour markets by the late 19<sup>th</sup> and early 20<sup>th</sup> centuries become the main candidates explaining this result.

## References.

### Archives and libraries.

Arxiu Històric Nacional (Barcelona).

Biblioteca de Catalunya (Barcelona).

Biblioteca Arús (Barcelona).

Arxiu Històric Municipal de Barcelona.

Cambra Oficial de Comerç i Navegació de Barcelona.

Foment del Treball Nacional (Barcelona).

Acadèmia de Medicina de Barcelona.

Biblioteca del Ministerio de Trabajo y de la Seguridad Social (Madrid).

Biblioteca Nacional (Madrid).

Biblioteca Universitària de València.

### Periodical publications.

Boletín del Instituto de Reformas Sociales.

La Publicidad.

El Obrero.

El Productor.

El Trabajo Nacional.

### Primary sources and contemporary references:

Alsina, Fernando (1889), “Fonaments de la reforma de treball en la indústria cotonera tal com s’és comensada en lo Vapor Vell de Sans.” (Public lecture delivered on the 25 May 1889). Barcelona: Imprenta la Renaixensa.

Alsina, Fernando (1892), *Observaciones sobre la reglamentación del trabajo de los niños en talleres y fábricas*. Barcelona: La Renaixensa.

Arró y Triay, Francisco de P., *Ensayo de estadística médica de las líneas de Gerona, de la Compañía de Ferrocarriles de Tarragona a Barcelona y Francia, correspondiente al año 1878*. Barcelona: Sucesores de Ramírez y Cía., 1879.

Arró y Triay, Francisco de P., *Estadística médica de la Compañía de Ferrocarriles de Tarragona a Barcelona y Francia, correspondiente al septenio de 1879 a 1885, respecto a las líneas de Gerona y al año 1896 respecto de éstas y de las de Tarragona y la frontera*. Barcelona: Imprenta de Henrich y Cía, 1892.

Asociación de Fabricantes de las cuencas del Ter y del Fresser, *Los jurados mixtos en España. Datos y consideraciones acerca de la conciliación y el arbitraje entre patronos y obreros*. Barcelona: Henrich y Cía., 1902.

Asociación de la Dependencia Mercantil, *El descanso dominical y la reglamentación del trabajo (Por la Unión de la Dependencia Mercantil al Instituto de Reformas Sociales)*. Barcelona: Tip. Valls y Bonés, (n.a.).

Asociación General para el Estudio y Defensa de los Intereses de la Clase Obrera, *Proyectos de reformas sociales*. Madrid: Hijos de M. G. Hernández, 1899.

Azcárate, Gumersindo de, *El régimen parlamentario en la práctica*. Madrid: Tecnos, 3<sup>rd</sup> edition, 1978 (originally published in 1885).

Aunós Pérez, E., *La organización corporativa del trabajo*. Madrid: Publicaciones del Consejo Superior de Trabajo, Comercio e Industria, 1928.

Batailler, A. and E. Tresfont, *Cours d'hygiène générale et industrielle*. Paris: H. Dunod et E. Pinat, 1913.

Botella, Cristóbal, *El socialismo y los anarquistas*. Madrid: Imprenta de Enrique Teodoro, 1895.

Bueso, A., *Recuerdos de un cenetista. De la Semana Trágica (1909) a la Segunda República*. 2 vols. Barcelona: Ariel, 1976.

Burgos y Mazo, M., *Vida política española. Páginas históricas de 1917*. Madrid: Imprenta de M. Nuñez Samper, 1918.

Burgos y Mazo, M., *Para otras páginas históricas. El verano de 1919 en gobernación*. Madrid: Tip. E. Pinos, 1921.

Buylla, Adolfo, *Economía*. Barcelona: Juan Gili, 1901.

Buylla, Adolfo, Adolfo Posada and Luis Morote, *El Instituto de Trabajo. Datos para la historia del reformismo social en España*. Madrid: Ministerio del Trabajo y Seguridad Social, 1986 (originally published in 1902).

Buylla, A. and González Alegre, A., *La protección del obrero*. Madrid: Librería General de Victoriano Suárez, 1910.

Cámara Oficial de la Industria de Barcelona, *Informe sobre la jornada de ocho horas de trabajo, impuesta por Real Decreto de 3 de Abril de 1919*. Barcelona: Publicaciones de la Cámara Oficial de la Industria de Barcelona, Imprenta J. Huguet Sucesores de Inglada y Cía, 1919.

Camps Fabrés, Antonio, *Apuntes sobre la cuestión industrial*. Manresa: Establecimiento tipográfico de San José, 1894.

Castillo, Santiago (ed.), *Reformas Sociales. Información oral y escrita de la Comisión de Reformas Sociales*. 5 vols. Madrid: Ministerio de Trabajo y Seguridad Social, 1985 (originally published between 1889 and 1893).

Centro Obrero de Barcelona y Contornos, *Contestación al cuestionario formulado por la Comisión de Reformas Sociales*. Barcelona: Imprenta de J. Delclós, 1886.

Comaposada, Josep, *La organización obrera en Cataluña*. Reus: Imprenta Carrera y Vila, 1910.

Comisión Obrera Catalana, *Memoria descriptiva redactada por la Comisión Obrera Catalana nombrada para estudiar el estado de las fábricas de hilados y de tejidos de algodón en Inglaterra. Obra de estudio comparativo dedicado a la Federación Tres Clases de Vapor de Cataluña y el Fomento del Trabajo Nacional*. Barcelona: Establecimiento Tipográfico de Redondo y Xumeta, 1889.

Comisión de Reformas Sociales, *Contestación al interrogatorio formulado por la Comisión de Reformas Sociales sobre la limitación de las horas de trabajo y extractos de datos y observaciones referentes al grupo XIII del cuestionario de 1884 "Horas de trabajo" que se encuentran en la información practicada en ese año*. Madrid: Minuesa de los Ríos, 1891.

Comisión de Reformas Sociales, *Proyectos y dictámenes*. Madrid: Minuesa de los Ríos, 1903.

Confederación General del Trabajo, *Memoria del congreso de 1919*. Barcelona: Tipográfica Cosmos, 1932.

Confederación regional de oficiales y peones de albañil de Cataluña, *Reglamento*. Barcelona: n. a., 1913.

Confederación regional de oficiales y peones de albañil de Cataluña, *Memoria y actas del primer congreso celebrado en Villanueva y la Geltrú, en el local Ateneo Villanovés, los días 28 y 29 de Julio de 1914*. Barcelona: imprenta "Germinal", 1914.

Confederación Regional de Sociedades de Resistencia "Solidaridad Obrera", *Estatutos*. Barcelona: J. Ortega, 1909.



Congreso Obrero Metalúrgico, *Memoria del Congreso Obrero Metalúrgico celebrado en el palacio de Bellas Artes los días 12 y 13 de Abril de 1914*. Barcelona: imprenta Germinal, 1914.

Coreil, François and Léon Nicolas, *Les industries insalubres, établissements classés*. Paris: H. Dunod and E. Pinat, 1910.

Crespo, Salvador and Adolfo Buylla, *Notas sobre la jornada máxima de trabajo en España*. Asociación Internacional para la Protección legal de los trabajadores, Sección Española, 9. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1908.

Dalmases Gil, F., *El socialismo en Barcelona*. Barcelona: Libería Ribera y Estany, 2<sup>nd</sup> edition, 1890.

Dallerés, Pere, *La Iglesia a favor de la clase obrera*. Vic: Imprenta y Librería R. Anglada, 1896.

De la Cierva y Peñafiel, Juan, *Notas de mi vida*. Madrid: Instituto Editorial Reus, 1955.

Dodero Vázquez, J. F., *Las últimas cortes de la Regencia*. Madrid: J. Corrales, 1902.

Dorado, F., *El problema obrero*. Salamanca, 1901.

Duran y Bas, Manuel, *Estudios morales, sociales y económicos*. Barcelona: Imprenta Barcelonesa, 1895.

Elías de Molins, José, *La mujer obrera en las ciudades y en el campo. Orientaciones sociales*. Barcelona: Imprenta Barcelonesa, 1913.

Federación del Arte Textil y anexos de España, *Congreso nacional del Arte fabril*. Barcelona, 1914.

Federación Nacional del Arte Textil y Fabril, *Informe para la justificación de la jornada de ocho horas en el Arte Textil y Fabril de España – Al Excmo. Sr. Ministro de la Gobernación*. Barcelona: La Moderna, 1919.

Federación nacional de sociedades obreras del ramo de elaborar madera, *Actas del VII Congreso*. Tarragona: tipografía Tarraconense, 1905.

Fernández de Castro, Rafael, *Legislación de España. Accidentes de trabajo. Ley de 30 de enero de 1900, comentada y anotada*. Barcelona: Hijos de Jaime Jeprús, 1910.

Fernández de Castro, Rafael, *Legislación de España. Accidentes del trabajo (Jurisprudencia del Tribunal Supremo 1909, 1910, 1911, 1912)*. Barcelona: Eduardo Albacar, 1915.

Fernández Jiménez, Miguel, *El problema obrero y los partidos españoles (Estudio de política contemporánea)*. Granada: Paulino Ventura, 1904.

Ferrer Vidal, José, *Conferencias sobre el arte de hilar y tejer en general y especialmente sobre el de hilar y tejer algodón hechas en el Ateneo Barcelonés*. Barcelona: establecimiento tipográfico de Jaime Jepús, 1874.

Figuerola Torres, Álvaro de (Conde de Romanones), *Notas de una vida*. Madrid: Marcial Pons, 1999 (originally published in 1934).

Financiero Hispano-Americano, *El problema ferroviario. Proceso social y jurídico de nuestro derecho a huelgas. Recopilación de documentos de actualidad y comentarios*. Madrid, 1916.

Foix, Pere, *Apòstols i mercaders. Seixanta anys de lluita social a Catalunya*. Barcelona: Nova Terra, 1976 (originally published in Mexico, 1957).

Font y Mosella, Joaquín, *Consideraciones sobre los inconvenientes que irrojan a la salud de los jornaleros y a la pública de Barcelona la fábricas en especial las de vapor y sobre las ventajas de trasladarlas a la llanura de Casa Túnez*. Barcelona: T. Gorchs, 1852.

Galán Eguizabal, F. and Nuñez Tomás, F., *Anuario Obrero*. Madrid: Establecimiento Tipográfico de Felipe Peña Cruz, 1916.

Gascón y Marín, José, *Los sindicatos y la libertad de contratación*. 2 vols. Barcelona: Imprenta de Henrich en comandita, 2<sup>nd</sup> edition, 1907.

Gascón y Marín, José, *Notas legislativas sobre la reglamentación de la jornada de trabajo de las mujeres y adolescentes de España*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1907

Gay de Montellà, Rafael, *Reformas en el código civil español en orden al proletariado*. Barcelona: Jaime Jesús, 1910.

González Castro, J., *El trabajo de la infancia en España*. Madrid: Imprenta de los sucesores de M. Minuesa de los Ríos, 1917.

González Rothvoss, Mariano, *Anuario español de política social*. Madrid: Sucesores de Rivadeneyra, 1935.

Graell, Guillem, 'L'acció econòmica' (speech delivered on the 26<sup>th</sup> October 1907). Barcelona: Societat d'Estudis Econòmics, Viuda D. Casanovas, 1907.

Graell, Guillem, *Historia del Fomento del Trabajo Nacional*. Barcelona: Imprenta de la Viuda de Luis Tassó, 1910.

Guerra y Estapé, Jaime, *Accidentes de trabajo y enfermedades profesionales. Estudio médico-legal*. Barcelona: Artes Gráficas, 1907.

Hurtado, Amadeu, *Quaranta anys d'advocat. Història del meu temps, 1894-1940*. 2 vols. Barcelona: Ariel, 1969.

Ibárruri, Dolores "La Pasionaria", *El único camino*. Moscow: Ediciones en lenguas extranjeras, 1963.

Instituto de Reformas Sociales, *Bases para un proyecto de ley acerca del contrato de trabajo*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1904.

Instituto de Reformas Sociales, *Informe de las minas de Vizcaya*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1904.

Instituto de Reformas Sociales, *Preparación de la reforma de la ley de accidentes de trabajo de 30 de enero de 1900*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1905.

Instituto de Reformas Sociales, *Estadística de huelgas*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1905-1922.

Instituto de Reformas Sociales, *Estadística de asociación obrera. En 1 de noviembre de 1904*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1907.

Instituto de Reformas Sociales, *Memoria general de la Inspección de Trabajo correspondiente al año ....* Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1908-1923.

Instituto de Reformas Sociales, *Información sobre el trabajo en las minas. A propósito de las peticiones que las sociedades obreras elevaron al gobierno en 1909*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1910. Re-printed in *Revista de Trabajo*, 1 (1968), pp. 110-197.

Instituto de Reformas Sociales, *Informe sobre las minas de Almadén. Conclusiones presentadas a la aprobación del Instituto*. Madrid: Imprenta de la Sucesora de M. Minuesa de los Ríos, 1910.

Instituto de Reformas Sociales, *Noticias de la inspección de trabajo relativas a la industria textil de España y a la huelga del arte fabril de Cataluña, en agosto de 1913*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1913.

Instituto de Reformas Sociales, *Conflictos de obreros y empleados en las compañías de ferrocarriles en septiembre-octubre de 1912. Antecedentes y desarrollo del conflicto*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1913.

Instituto de Reformas Sociales, *Memoria redactada por la Comisión nombrada por el Instituto para estudiar las condiciones de trabajo en las minas de Riotinto*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1913.

Instituto de Reformas Sociales, *La jornada de trabajo en la industria textil*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1914.

Instituto de Reformas Sociales, *Preparación de un proyecto de ley regulando la jornada de trabajo en los establecimientos mercantiles*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1914.

Instituto de Reformas Sociales, *Suplemento a la información sobre la jornada de trabajo*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1915.

Instituto de Reformas Sociales, *Ley de 4 de julio de 1918 reguladora de la jornada de la dependencia mercantil y reglamento provisional para su aplicación*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1918.

Instituto de Reformas Sociales, *Duración de jornada en distintos oficios y términos geográficos de España*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1919.

Instituto de Reformas Sociales, *Información relativa al proyecto sobre sindicación obligatoria. Real Orden de 16 de enero de 1919*. Madrid: Imprenta de los sucesores de M. Minuesa de los Ríos, 1921.

Instituto de Reformas Sociales, *Contestación sobre la redacción del anteproyecto de ley acerca del Contrato de Trabajo, la responsabilidad contratante, los organismos llamados a intervenir en la reglamentación y en los conflictos de trabajo y sobre la vindicación profesional*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1921.

Instituto de Reformas Sociales, *Información relativa al proyecto sobre sindicación obligatoria. Real Orden de 16 enero de 1919*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1921.

Instituto de Reformas Sociales, *Adaptación del régimen de la jornada de ocho horas a los servicios ferroviarios*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1922.

Instituto de Reformas Sociales, *La huelga de los ferroviarios españoles. Septiembre 1921- agosto 1922*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1922.

Instituto de Reformas Sociales, *La reglamentación colectiva del contrato de trabajo*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1922.

Instituto de Reformas Sociales, *Legislación sobre asociaciones. Leyes y proyectos de ley sobre el derecho de asociación y sobre asociación obrera*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1922.

Instituto de Reformas Sociales, *El contrato de trabajo. La discusión en el Instituto de Reformas Sociales. Actuación de la representación patronal*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1924.

Instituto Geográfico Estadístico, *Estadística de la emigración y inmigración de España en el quinquenio 1896-1900*. Madrid, 1903.

Junta de Reformas Sociales de Barcelona, *Jornada Mercantil. Ley, reglamentos y acuerdos de la Junta de Reformas Sociales de Barcelona*. Barcelona: T. Bosch, 1918.

Llaneza, Manuel, *Escritos y discursos*. Fundación Barreiros.

Liga del Trabajo (asociación para el mejoramiento y emancipación de la clase obrera), *Alocución á los obreros y estatutos de la sociedad*. Barcelona: imprenta cooperativa Las Artes, 1903.

Macías Picavea, R., *El problema nacional. Hechos, causas, remedios*. Madrid: Seminarios y Ediciones, 1972.

Mallada, Lucas, *Los males de la patria*. Madrid: Alianza editorial, 1969.

Manent, Joan, *Records d'un sindicalista llibertari català (1916-1943)*. Paris: Edicions catalanes de París, 1976.

Marichalar y Monreal, Vizconde de Eza, *El sindicatorio obligatorio y la organización profesional*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1919.

Marvaud, Angel, *La cuestión social en España*. Madrid: Revista de Trabajo, 1975 (original edition: Paris: Félix Alcan Éditeur, 1910).

Masdival i Puig, Narciso, *Cuestiones sociales*. Barcelona: Imprenta de Francisco S. Altés, 1901.

Maura Gamazo, Gabriel, *Jurados mixtos para dirimir las diferencias entre patronos y obreros y para prevenir o remediar las huelgas*. Madrid: Imprenta del Asilo de Huérfanos del S. C. de Jesús, 1901.

Ministerio de Trabajo y Previsión, *Salarios y jornadas de trabajo referida al período 1914-1930*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1931.

Monlau, Pere Felip, *Higiene industrial. ¿Qué medidas higiénicas puede dictar el gobierno a favor de las clases obreras?* In Jutglar, Antoni (ed.), *Condiciones de vida y de trabajo obrero en España a mediados del siglo XIX*. Barcelona: Anthropos, 1984 (originally published in 1856).

Morales Pérez, Antonio, *Tratado mecanoterápico de los accidentes de trabajo*. Barcelona: Imprenta y papelería "La Industria", 1913.

Museo Social, *Anuari d'Estadística Social de Catalunya*, 1912-1915.

Negre, Leopold, "Enquesta sobre les condicions econòmic-socials de les conques del Ter i del Fresser," *Anuari d'Estadística Social de Catalunya (1915)*.

Odell, Ralph, *Cotton goods in Spain and Portugal*. Washington: Government Printing Office, 1911.

Ors, Eugeni d', *Glosari*. Barcelona: Edicions 62, 1990.

Ossorio, Ángel, *Accidentes de trabajo*. Madrid, 1902.

- Ossorio, Ángel, *Mis memorias*. Buenos Aires: Losada, 1946.
- Patronal Obrera de Panaderos de Barcelona 'La Concordia', *Reglamento*. Barcelona: Tip. la Artista de P. Palau, 1903.
- Prat, José, "Ser ó no ser," (public speech delivered in 1904). Barcelona: Tip. E. Hidalgo, 1905.
- Prat, José, "Orientaciones," Barcelona: Imprenta Germinal, 1916.
- Pestaña, Ángel, *Trayectoria sindicalista*. Madrid: Tebas, 1974.
- Posada, Adolfo, *Teoría del derecho político*. Madrid: Victoriano Suárez, 1893.
- Posada, Adolfo, *Tratado de derecho*. Madrid, 1895.
- Posada, Adolfo, *Socialismo y reforma social*. Madrid: establecimiento tipográfico de Ricardo Fe, 1904.
- Prat de la Riba, Enric, *Ley jurídica de la industria. Estudio de filosofía jurídica seguido de bases para la formación de un código industrial*. Barcelona: Librería Penella y Bosch, 1898.
- Prat de la Riba, Enric, *Los jurados mixtos para dirimir las diferencias entre patronos y obreros y para prevenir o remediar las huelgas*. Madrid: Imprenta del Asilo de Huérfanos del S. C. de Jesús, 1901.
- Prats, Antonio, "La participación en los beneficios. La voz de un patrono." *Revista Social*, IX, 123 (December 1910), pp. 1035-1042.
- Rabasa, Francisco, *Tratado teórico-práctico del sistema de numeración y peso de algodones, lana y estambre*. Barcelona: Gráficas Bayot, 1923.
- Rahola, Federico, *El trust del capital y el sindicato obrero*. Barcelona: Hijos de J. Jesús, 1910.
- Ramonedá, Alfredo, *Introducción al estudio del precio de coste en la hilatura de algodón*. Barcelona: Sociedad General de Publicaciones, 1915.
- Renté y Cassola, Miguel, *La abolición del salario por la participación en los beneficios*. Barcelona: Tip. Fidel Giró, 1899.
- Revenga, Ricardo, *La jornada de ocho horas*. Madrid: Librería Editorial de Bailly, Bayllère e Hijos, 1903.
- Río Joan, Francisco del, *La prevención de accidentes del trabajo y la higiene industrial. Ier congreso técnico industrial celebrado en Milán desde el 27 al 31 de mayo de 1912*. Madrid: Imprenta de los Sucesores de M. Minuesa de los Ríos, 1912.

Rius y Matas, Pedro, *Higiene industrial*. Barcelona: F. U. Altes Alabart, 1897.

Rodríguez Rodríguez, Ambrosio, *Contribución al estudio de la higiene de los trabajadores y enfermedades de los jornaleros*. Gijón: Tip. La Industrial, 1902.

Rusiñol, Alberto, *Bases para la creación y funcionamiento de los jurados mixtos en Manlleu – proyecto de montepío redactado por D. Federico Rahola*. Barcelona: Tip. Domingo Casanovas, 1902.

Salarich, Joaquín, *Higiene del tejedor, ó sean medios físicos y morales para evitar las enfermedades y procurar el bienestar de los obreros ocupados en hilar y tejer algodón*. In Jutglar, Antoni (ed.), *Condiciones de vida y de trabajo obrero en España a mediados del siglo XIX*. Barcelona: Anthropos, 1984 (originally published in 1858).

Sallarés y Pla, Juan, *Las ocho horas. Algo sobre la cuestión obrera*. Barcelona: Luis Niubó, 1890.

Sallarés y Pla, Juan, *El trabajo de las mujeres y los niños. Estudio sobre las condiciones actuales*. Sabadell: establecimiento tipográfico de A. Vives, 1892.

Salut, Emili, *Vivers de revolucionaris. Apunts històrics del districte cinquè*. Barcelona, Llibreria Catalònia, 1938.

Sánchez de los Santos, Modesto, *Las cortes españolas. Las de 1907*. Madrid: Antonio Marzo, 1908.

Sánchez de los Santos, Modesto, *Las cortes españolas. Las de 1910*. Madrid: Antonio Marzo, 1910.

Sanz Escartín, Eduardo, *El individuo y la reforma social*. Madrid: Imp., Fund. y fábrica de tintas de los hijos de J. A. García, 1896.

Sard, Andrés de, *Comparación entre el actual estado de desarrollo de la industria algodonera en Inglaterra y el de la propia industria en España*. Barcelona, 1884.

Sastre, Miguel, "Las sociedades obreras de resistencia de Barcelona," *La Paz Social* (1909), pp.238-240.

Sastre, Miguel, *Las huelgas en Barcelona y sus resultados durante el año 1903. Acompañados de numerosos datos estadísticos sobre asuntos relacionados con la cuestión social obrera en Barcelona*. Barcelona: Tipografía Ramón Pujol, 1904.

Sastre, Miguel, *Las huelgas en Barcelona y sus resultados durante el año 1904*. Barcelona: Tip. La Industria de Manuel Tasis, 1905.

Sastre, Miguel, *Las huelgas en Barcelona y sus resultados durante el año 1905*. Barcelona: Tip. La Hormiga de Oro, 1906.

Sastre, Miguel, *Las huelgas en Barcelona y sus resultados durante el año 1906*. Barcelona: Tip. La Hormiga de Oro, 1907.

Sastre, Miguel, *Las huelgas en Barcelona y sus resultados durante el año 1907*. Barcelona: Tip. Valls y Borrás, 1908.

Sastre, Miguel, *Las huelgas en Barcelona y sus resultados durante el año 1908*. Barcelona: Tip. Valls y Borrás, 1909.

Sastre, Miguel, *Las huelgas en Barcelona y sus resultados durante el año 1909*. Barcelona: Acción Social Popular, 1911.

Sastre, Miguel, *Las huelgas en Barcelona durante los años 1910 al 1914, ambos inclusive*. Barcelona: Editorial Barcelonesa, 1915.

Seguí, Salvador, *Escrips*. Barcelona: Edicions 62, 1974.

Solano, E.G., *El Sindicalismo en la teoría y en la práctica*. Barcelona: B. Bauza, 1922.

Solano, E.G., *El ocaso del sindicalismo, segunda parte*. Barcelona: B. Bauza, 1933.

Soldevila y Boixader, Carlos M., *Consideraciones histórico-filosóficas sobre el contrato de trabajo*. Barcelona: Imprenta de Jaime Jepús, 1898.

Trabajo, El, *La Jornada de Ocho Horas. Folleto editado por el periódico "El Trabajo" de Sabadell*. Translated by Lorenzo Pahissa. Barcelona: Sociedad Anónima La Neotípia, 1905.

Unión Obrera del Gremio de Albañiles de Madrid, *Meeting celebrado por la Unión Obrera de Albañiles de Madrid el miércoles 20 de abril de 1892 presidido por el compañero José Adrados Migallón*. Madrid : n.d., 1892.

US Bureau of Foreign Commerce, *Labor in Europe. Reports from the Consuls of the United States in the several countries of Europe on the rates of wages, cost of living to the laboring classes, past and present wages, &c., in their several districts, in response to a circular from the Department of State requesting information on the subjects. Spain*. Washington: US Government Printing Office, 1885.

Valentí Vivó, Ignasi, *La intoxicación en la industria moderna*. Barcelona: Imprenta Henrich y Cía., 1900.

Valentí Vivó, Ignasi, *La sanidad social y los obreros: ensayo antropológico*. 2 vols. Barcelona: Imprenta Henrich y Cía., 1905.

Vernon, H. M., *Fatigue and efficiency*. London: Routledge, 1921.

Vicent, Antonio, *Socialismo y anarquismo. La Encíclica de nuestro santísimo Padre León XIII 'De conditione opificum' y los círculos obreros católicos*. Valencia: Imprenta de José Ortega, 1893.

Villota, J. y A. Revenga, *El trabajo industrial de los menores de 18 años en España*. Madrid: Imprenta de los sucesores de M.Minuesa de los Ríos, 1909.



Zancada, Práxedes, *El obrero español. Notas para una historia política*. Barcelona: Editorial Maucci, 1902.

### Secondary references.

Abad de Santillán, Diego, *Contribución a la historia del movimiento obrero español*. 2 vols. Puebla, México: Ed. Cajica (1962-65).

Acosta Ramírez, F., "La Cámara Alta en el Reinado de Alfonso XIII." In Pérez Ledesma, M. (ed.), *El Senado en la historia*. Madrid: Secretaría General del Senado.

Akerlof, George A. and Janet Yellen (1988), "Fairness and unemployment," *American Economic Review*, vol. 78, number 1 (1988).

Akerlof, George A. and Janet Yellen, "The fair wage-effort hypothesis and unemployment," *Quarterly Journal of Economics*, vol. 105, number 2 (1990).

Alarcón Caracuel, Manuel R., *El derecho de asociación obrera en España (1839-1900)*. Madrid: Revista de Trabajo, 1975.

Álvarez Junco, José, *La ideología política del anarquismo español (1868-1910)*. Madrid: Siglo XXI, 1976.

Álvarez Junco, José, *El emperador del Paralelo. Lerroux y la demagogia populista*. Madrid: Alianza editorial, 1990.

Aragón, Manuel, "La iniciativa legislativa." *Revista de la Facultad de Derecho de la Universidad Complutense*, 1986-1987, pp. 75-98.

Arbaiza, Mercedes, "La construcción social del empleo femenino en la sociedad vasca (1850-1936)," paper presented at the 7th congress of the *Asociación de Historia Económica*. Zaragoza, 2001.

Arbolea, Víctor Manuel, "La prensa obrera en España (1869-99)." *Revista de Trabajo*, number 30 (1970), pp. 117-197.

Arranz, Luis and Mercedes Cabrera, "El parlamento en la Restauración." *Hispania*, LV, 1 (1995), pp. 67-98.

Atack, Jeremy and Fred Bateman, "Louis Brandeis, work and fatigue at the start of the twentieth century: prelude to Oregon's hours limitation law." NBER historical paper number 25 (May 1991).

Atack, Jeremy and Fred Bateman, "Whom did protective legislation protect? Evidence from 1880." NBER historical paper number 33 (December 1991).

Atack, Jeremy and Fred Bateman, "How long was the workday in 1880?," *Journal of Economic History*, 52, number 1 (March 1992), pp. 129-160.

Atack, Jeremy and Fred Bateman, "Irregular production and time-out-of-work in American manufacturing industry in 1870 and 1880: some preliminary estimates." NBER historical paper number 69 (June 1995).

Aya, Rod, "Theories of revolution considered: contrasting models of collective violence." *Theory and Society*, 8, 1 (1979), pp. 39-99.

Azcárate, Pablo de, *Gumersindo de Azcárate: estudio biográfico. Semblanza personal, epistolario, escritos*. Madrid: Tecnos, 1969.

Bain, G. S. and Robert Price, *Profiles of union growth: a comparative statistical portrait of eight countries*. Oxford: Blackwell, 1980.

Balcells, Albert, *El sindicalisme a Barcelona (1916-1923)*. Barcelona: Nova Terra, 1965.

Balcells, Albert, *Trabajo industrial y organización obrera en la Cataluña contemporánea (1900-1936)*. Barcelona: Laia, 1974.

Balcells, Albert, *Cataluña contemporánea. Vol. 2 (1909-1939)*. Madrid: Siglo XXI, 1981.

Ballbé, Manuel, *Orden público y militarismo en la España constitucional (1812-1983)*. Madrid: Alianza Editorial, 1985.

Ballesteros-Doncel, Esmeralda, "Una estimación del coste de la vida en España, 1861-1937." *Revista de Historia Económica*, XV, 2 (1997), pp. 363-395.

Barnosell, Genís, *Orígens del sindicalisme català*. Vic: Eumo editorial, 1999.

Bartrip, P.W.J. and P.T. Fenn, "Factory fatalities and regulation in Britain, 1878-1913." *Explorations in Economic History*, 25 (1988), pp.60-74.

Ben-Ami, Shlomo, *Fascism from above. The dictatorship of Primo de Rivera in Spain, 1923-1930*. Oxford: Clarendon, 1983.

Benet, Josep and Casimir Martí, *Barcelona a mitjan segle XIX. El moviment obrer durant el bienni progressista (1854-1856)*. Barcelona: Curial, 1976.

Bengoechea, Soledad, *Organització patronal i conflictivitat social a Catalunya*. Barcelona: Publicacions de l' Abadia de Montserrat, 1994.

Bengoechea, Soledad, *El Locaut de Barcelona (1919-1920)*, Barcelona: Curial, 1998.

Bengoechea, Soledad, "Los sindicatos patronales en Cataluña: dispersión y unidad (1887-1919)." *Historia Social*, 32 (1998).

Bengoechea, Soledad, "Conflictividad social en Barcelona durante 1903 (un estudio realizado en base a la correspondencia cruzada entre el ministro de la Gobernación, Antonio Maura, con los gobernadores civiles de Barcelona y ciertos sectores de la

patronal),” in Arenas Posadas, Carlos, Antonio Florencio Puntas and Jerònia Pons Pons, *Trabajo y relaciones laborales en la España contemporánea*, pp. 341-355. Sevilla: Mergablum, 2001.

Bernanke, Ben E., “Employment, hours, and earnings in the Depression,” *American Economic Review*, 76 (March 1986).

Bernanke Ben S. and James S. Powell, “The cyclical behavior of industrial labor markets: a comparison of prewar and postwar eras,” in Robert J. Gordon, *The American business cycle: continuity and change*. Chicago: Chicago University Press, 1986.

Biggs, Michael, “Positive feedback in collective mobilization: the American strike wave of 1886.” University of Oxford discussion papers in Economic and Social History, number 40 (April 2001).

Bonamusa, Francesc, *Congreso de constitución de la Confederación Nacional del Trabajo (C.N.T.)*. Barcelona: Anagrama, 1976.

Borderías, Cristina, “La evolución de la actividad femenina en la formación del mercado de trabajo barcelonés 1856-1930,” paper presented at the 7th congress of the *Asociación de Historia Económica*. Zaragoza, 2001.

Borràs Llop, J. M., “Actitudes patronales ante la regulación del trabajo infantil.” *Hispania*, volume LV/2, 190 (1995), pp. 629-644.

Boyer, George R., “What did unions do in nineteenth-century Britain?” *Journal of Economic History*, XLVIII, 2 (June 1988), pp. 319-332.

Boyer, George R. and Timothy J. Hatton, “Did Joseph Arch raise agricultural wages?: rural trade unions and the labour market in late nineteenth century England,” *Economic History Review*, 47, 2 (May 1994), pp. 310-334.

Brenan, Gerald, *The Spanish labyrinth. An account of the social and political background of the Civil War*. Cambridge: Cambridge University Press, 1943.

Bruland, Kristine, “Skills, learning and the international diffusion of technology,” in M. Berg and K. Bruland (eds.), *Technological revolutions in Europe*. Cheltenham, UK: Elgar.

Buenacasa, Manuel, *El movimiento obrero español 1886-1926. Historia y crítica*. Madrid: Ediciones Júcar, 1977 (originally published in 1928).

Buireu Guarro, Jorge, *Antonio García Álix: un ministro del Regeneracionismo*. Madrid: Instituto de Estudios Fiscales, 1990.

Byrne, Justin, “Trabajo y conflictividad en el sector de la construcción en Madrid, 1900-1914.” *Sociología del Trabajo*, 15 (Spring 1992), pp. 115-142.

Byrne, Justin, “ ‘Nuestro pan de cada día’: accidentes de trabajo y respuesta de los albañiles de Madrid en el cambio de siglo,” in Huertas, Rafael and Ricardo Campos

(eds.), *Medicina social y clase obrera en España (siglos XIX y XX)*. Volume 1, pp. 21-45. Madrid: Fundación de Investigaciones Marxistas, 1992.

Cabrera, Mercedes, "El conservadurismo maurista en la Restauración. Los límites de la 'Revolución desde arriba'." In García Delgado, J. L. (ed.), *La España de la Restauración. Política, economía, legislación y cultura*. Madrid: Siglo XXI, 1985.

Cabrera, Mercedes and Miguel Martorell Linares, "El parlamento en el orden constitucional de la Restauración." In Cabrera (ed.), *Con luz y taquígrafos. El Parlamento en la Restauración*. Madrid: Taurus, 1998.

Cabrera, Mercedes and Fernando del Rey, *El poder de los empresarios. Política e intereses económicos en la España contemporánea (1875-2000)*. Madrid: Taurus, 2002.

Calhoun, Craig, "The problem of identity in collective action." In Huber, Joan (ed.), *Micro-Macro linkages in sociology*. Newbury Park, CA: Sage, 1991.

Camps, Enriqueta, "La teoría del capital humano: una contrastación empírica. La España Industrial en el siglo XIX," *Revista de Historia Económica*, VIII, 2 (1990).

Camps, Enriqueta, *La formación del mercado de trabajo industrial en la Cataluña del siglo XIX*. Madrid: Ministerio de Trabajo y Seguridad Social, 1995.

Camps, Enriqueta, "Las transformaciones del mercado de trabajo en Cataluña (1850-1925): migraciones, ciclos de vida y economías familiares." *Revista de Historia Industrial*, 11 (1997), pp.45-70.

Camps, Enriqueta, "Transitions in women's and children's work patterns: implications for the study of the family income and household structure." *The History of the Family. An international Quarterly*, 3, 2 (1998), pp.137-157.

Card, David and Craig Olson, "Bargaining power, strike duration, and wage outcomes: an analysis of strikes in the 1880s." NBER working paper number 4075 (May 1992).

Card, David and Craig Olson, "Bargaining power, strike durations and wage outcomes: an analysis of strikes in the 1880s," *Journal of Labor Economics*, 13, 1 (January 1995), pp. 32-61.

Carmichael, H. Lorne and W. Bentley MacLeod, "Worker Cooperation and the Ratchet Effect." *Journal of Labor Economics*, 18, 1 (2000), pp.1-19.

Carmona, Juan and James Simpson, "The 'Rabassa Morta' in Catalan viticulture: the rise and decline of a long-term sharecropping contract, 1670s-1920s." *Journal of Economic History*, 59, 2 (1999), pp.289- 315.

Carr, Raymond, *Spain, 1808-1939*. Oxford: Oxford University Press, 1981 (first edition 1966).

Carr, Raymond, "All or Nothing," *New York Review of Books*, 13 Oct 1977.

Carreras, Albert, "El aprovechamiento de la energía hidráulica en Cataluña: un ensayo de interpretación." *Revista de Historia Económica*, 1, 2 (1983), pp. 31-63.

Carter, Susan and Richard Sutch, "The labor market a hundred years ago: new micro-level evidence on long-term change from the depression of 1893-4," in Dick, Trevor O. (ed.), *Business cycles since 1820. New international perspectives from historical evidence*. Cheltenham, UK: Edward Elgar.

Castillo, Juan José, *El sindicalismo amarillo en España*. Madrid: Edicusa, 1976.

Castillo, Santiago, "El asociacionismo ferroviario y su génesis." *Estudios de Historia Social*, 26-27 (July-December 1983).

Castillo, Santiago, "El reformismo en la Restauración: del Congreso Sociológico de Valencia a la Comisión de Reformas Sociales." *Estudios de Historia Social*, 30 (July-September 1984), pp. 21-78.

Castillo, Santiago, "Introducción." In *Reformas Sociales. Información oral y escrita*. Madrid: Ministerio de Trabajo y Seguridad Social, 1985.

Castillo, Santiago, "Todos iguales ante la ley ... del más fuerte. La legislación laboral y los socialistas españoles en el cambio de siglo (XIX-XX), *Sociología del Trabajo*, nueva época, 14 (Winter 1991-1992), pp. 149-176.

Caudill, S.B. and J.D. Jackson, "Measuring marginal effects in limited dependent variable models." *The Statistician*, 38 (1989), pp. 203-206.

Colomer, Josep Maria, *Instituciones políticas*. Barcelona: Ariel, 2001.

Costa, Dora L., "The unequal work day: a long-term view." *American Economic Review*, 88, 2 (May 1998), pp. 330-334.

Costa, Dora L., "The wage and the length of the work day: from the 1890s to 1991." *Journal of Labor Economics*, 18, 1 (2000), pp. 156-181.

Costa, Joaquín, *Oligarquía y caciquismo como forma actual del gobierno de España: urgencia y modo de cambiarla*. Madrid: Alianza editorial, 1975.

Cuadrat, Xavier, *Socialismo y anarquismo en Cataluña. Los orígenes de la C.N.T.* Madrid: Revista de Trabajo, 1976.

Cuesta Bustelo, Josefina, *Una esperanza para los trabajadores. Las relaciones entre España y la Organización Internacional del Trabajo. Vol. I (1919-1939)*. Madrid: CES, 1994.

Culla, Joan B., *El Republicanisme lerrouxista a Catalunya, 1901-1923*. Barcelona: Curial, 1986.

Dardé, Carlos, "Los partidos republicanos de la primera etapa de la Restauración (1875-1890)." In Jover, J. M. (ed.), *El siglo XIX en España. Doce estudios*. Barcelona: Planeta, 1974.

Dardé, Carlos, "La larga noche de la Restauración, 1875-1900." In Towson, N., *El republicanismo en España*. Madrid: Alianza editorial, 1994.

De la Calle Velasco, M. Dolores, "Comisión de Reformas Sociales, de la represión al análisis de la conflictividad social." *Studia Historica*, vol. 2, 4 (1984).

De la Calle, M. Dolores, *La Comisión de Reformas Sociales 1883-1903. Política social y conflicto de intereses en la España de la Restauración*. Madrid: Ministerio de Trabajo y Seguridad Social, 1989.

De la Calle Velasco, M. Dolores, "Sobre los orígenes del Estado Social en España." *Ayer*, 25 (1997), pp. 127-150.

Díaz, Elías, *La filosofía social del krausismo español*. Valencia: Fernando Torres, 1983.

Díaz del Moral, J., *Historia de las agitaciones campesinas andaluzas -Córdoba (antecedentes de una reforma agraria)* (Madrid, Alianza Editorial, 1973 (originally published in 1928).

Díaz Morlán, Pablo, *Horacio Echevarrieta, 1870-1963. El capitalista republicano*. Madrid: LID, 1999.

Dorel-Ferré, Gràcia, *Les colònies industrials a Catalunya. El cas de la colònia Sedó*. Barcelona: Ajuntament d' Esparraguera/ Publicacions de l' Abadia de Montserrat, 1992.

Duarte, Àngel, *El republicanisme català a la fi del segle XIX*. Vic: Eumo, 1987.

Duncan, Greg J. and Frank P. Stafford, "Do union members receive compensating differentials?," *The American Economic Review*, 70, 3 (June 1980).

Edwards, Richard, *Contested terrain: the transformation of the workplace in the twentieth century*. New York: Basic Books, 1979.

Eichengreen, B.J., "The impact of late nineteenth century unions on labor earnings and hours: Iowa in 1894," *Industrial and Labor Relations Review*, 49, pp. 501-515.

Eisdale, J. Charles, *Spain in the Liberal age. From Constitution to Civil War, 1808-1936*. Oxford: Blackwell, 2000.

Elorza, Antonio, " 'El Obrero' y 'La Emancipación'. Selección y nota preliminar." *Revista de Trabajo*, number 30 (1970), pp. 117-197.

Elorza, Antonio and M. C. Iglesias, *Burgueses y proletarios. Clase obrera y reforma social en la Restauración (1884-1889)*. Barcelona: Laia, 1973.

Elorza, Antonio and Michel Ralle, *La formación del PSOE*. Barcelona: Crítica, 1981.

Engels, Friedrich, "The Bakuninists at work. An account of the Spanish revolt in the Summer of 1873." In Karl Marx and Friedrich Engels, *Revolution in Spain*. London: Lawrence Wishart, 1939.

Enrech, Carles, L'ofensiva patronal contra l'ofici. Estructures laborals i jerarquies obreres a la indústria tèxtil catalana (1881-1923). Unpublished PhD dissertation, Universitat Autònoma de Barcelona, 2000.

Fairris, David, *Shopfloor matters: Labor-Management relations in 20<sup>th</sup> century manufacturing*. New York: Routledge, 1997.

Ferrer, Joaquim, *El primer "1er de Maig" a Catalunya*. Barcelona: La Llar del Llibre, 1972.

Ferrer, Llorenç, "Notas sobre la familia y el trabajo de la mujer en Cataluña, siglos XVIII-XX," *Boletín de la Asociación de Demografía Histórica*, XII, 2-3 (1994).

Ferrero Blanco, María Dolores, "Los sucesos de Riotinto de 1888 según los directores de la Río Tinto Company limited," *Revista de Historia Industrial*, 4 (1998), pp. 43-81.

Ferrero Blanco, María Dolores, *Capitalismo minero y resistencia rural en el suroeste andaluz. Río Tinto, 1873-1900*. Huelva: Diputación de Huelva, 1994.

Fischback, Price V., "Workplace safety during the Progressive Era: fatal accidents in bituminous coal mining, 1912-1923." *Explorations in Economic History*, 23 (1986), pp. 269-298.

Fishback, Price V., "Liability rules and accident prevention in the workplace: empirical evidence from the early 20th century," *Journal of Legal Studies*, 16 (June 1987), pp. 305-328.

Fishback, Price V. and Shawn Everett Kantor, "Square deal or raw deal? Market compensation for workplace disamenities, 1884-1903." *Journal of Economic History*, 52, 4 (December 1992), pp. 826-848.

Fishback, Price V., *Soft coal, hard choices: the economic welfare of bituminous coal miners, 1890 to 1930*. Oxford: Oxford University Press, 1992.

Fishback, Price V. and Shawn Everett Kantor, "The durable experiment: state insurance of workers' compensation risk in the early twentieth century." *Journal of Economic History*, 56, 4 (1996), pp. 809-836.

Fishback, Price V., "Operations of "unfettered" labor markets: exit and voice in American labor markets at the turn of the century." NBER Historical paper 105 (1997).

Forcadell, Carlos, *Parlamentarismo y bolchevización. El movimiento obrero español (1914-1923)*. Barcelona: Crítica-Grijalbo, 1978.



- Forner Muñoz, Salvador, *Canalejas y el partido liberal democrático (1900-1910)*. Madrid: Cátedra, 1993.
- Fradera, Josep Maria, *Jaume Balmes. Els fonaments racionals d'una política catòlica*. Vic: Eumo editorial, 1996.
- Freeman, Richard B. and James L. Medoff, *What do unions do?* New York: Basic Books, 1984.
- Freeman, Richard, " 'Spurts' in union growth: defining moments and social processes." NBER working paper number 6012 (April 1997).
- Friedman, Gerald, "Strike success and union ideology: the United States and France, 1880-1914." *Journal of Economic History*, XLVIII, 1 (March 1988), pp.6-7.
- Friedman, Gerald C., "Revolutionary unions and French labor: the rebels behind the cause or why did revolutionary syndicalism fail?," *French Historical Studies*, 20, 2 (Spring 1997), pp. 155-181.
- Friedman, Gerald, *State-making and labor movements. France and the United States, 1876-1914*. Ithaca, NY: Cornell University Press, 1998.
- Fusi, Juan Pablo, *Política obrera en el País Vasco, 1880-1923*. Madrid: Turner, 1975.
- Gabriel, Pere, *Classe obrera i sindicats a Catalunya, 1903-1920*. Unpublished PhD Dissertation University of Barcelona, 1981.
- Gallart Folch, Alejandro, *Derecho español de trabajo*. Barcelona: Editorial Labor, 1936.
- Gálvez Muñoz, Lina, *La Compañía Arrendataria de Tabacos (1887-1945): cambio tecnológico y empleo femenino*. Madrid: LID, 2000.
- García Venero, Maximiliano, *Melquíades Álvarez. Historia de un liberal*. Madrid: Tebas, 1974.
- Gibbons, Robert, "Piece rate incentive schemes." *Journal of Labor Economics*, 5 (1987), pp.413-429.
- Gil Cremades, Juan José, *El reformismo español. Krausismo, escuela histórica, tomismo*. Barcelona: Ariel, 1969.
- Gillespie, Richard, *The Spanish Socialist Party*. Oxford: Clarendon Press, 1989.
- Goldin, Claudia, "Maximum hours legislation and female employment: a reassessment," *Journal of Political Economy*, 96, 1 (1988), pp. 189-205.
- Goldin, Claudia, *Understanding the gender gap. An economic history of American women*. New York: Oxford University Press, 1990.
- Gómez Navarro, J.L., *El régimen de Primo de Rivera*. Madrid: Cátedra, 1991.

Guillén, Ana María, "The emergence of the Spanish welfare state (1876-1923): the role of ideas in the policy process." *International Journal of Political Economy* (Summer 1990), pp. 82-96.

Guillén, Mauro F., *Models of management. Work, authority, and organization in a comparative perspective*. Chicago: Chicago University Press, 1994.

Haimson, Leopold H. and Charles Tilly (eds.), *Strikes, wars, and revolutions in an international perspective. Strike waves in the late 19<sup>th</sup> and 20<sup>th</sup> centuries*. Cambridge and Paris: Cambridge University Press and Éditions de la Maison de l'Homme, 1989.

Hanes, Cristopher, "The development of nominal wage rigidity in the late 19<sup>th</sup> century," *American Economic Review*, 83, 4 (1990).

Harrison, George, "Una Espanya catalana. Projectes modernistes per modernitzar l'economia espanyola (1898-1923). *L'Avenç*, 268 (April 2002).

Hatton, Timothy J. and Jeffrey G. Williamson, "Unemployment, employment contracts, and compensating wage differentials: Michigan in the 1890s." *Journal of Economic History*, 51, 3 (September 1991), pp. 605-632.

Hatton, T.J., G.R. Boyer and R.E. Bailey, "The union wage effect in late 19<sup>th</sup> century Britain," *Economica*, new series, 61, 244 (November 1994), pp. 435-456.

Hennessy, C.A.M., *The Federal Republic in Spain. Pi y Margall and the Federal Republican movement, 1868-1874*. Oxford: Clarendon Press, 1962.

Hirschman, Albert, *Exit, voice, loyalty*. Cambridge, MA: Harvard University Press, 1970.

Hobsbawm, Eric J., *Primitive rebels: studies in archaic forms of social movements in the 19<sup>th</sup> and 20<sup>th</sup> centuries*. New York: Norton, 2<sup>nd</sup> edition, 1965.

Hobsbawm, Eric J., *Worlds of labour: further studies in the history of labour*. London: Weidenfeld and Nicholson, 1984.

Huberman, Michael, "Invisible handshakes in Lancashire: cotton spinning in the first half of the nineteenth century," *Journal of Economic History*, 46, 4 (1986).

Huberman, Michael, "The economic origins of paternalism: Lancashire cotton spinning in the first half of the nineteenth century." *Social History*, XII, 2 (1987), pp. 177-192.

Huberman, Michael, "How did labor markets work in Lancashire? More evidence on prices and quantities in cotton spinning, 1822-1852," *Explorations in Economic History*, 28 (1991).

Huberman, Michael (1996), "Piece rates reconsidered: the case of cotton." *Journal of Interdisciplinary History*, XXVI, 3 (1996), pp.393-417.

Huberman, Michael, *Escape from the market: negotiating work in Lancashire*. Cambridge: Cambridge University Press, 1996.

Huberman, Michael and Denise Young, "Cross-border unions: Internationals in Canada, 1901-1914," *Explorations in Economic History*, 36 (1999), pp. 204-231.

Izard, Miquel, *Industrialización y obrerismo, las tres clases de Vapor, 1869-1913*. Barcelona: Ariel, 1973.

Izard, Miquel, "Entre la impotencia y la esperanza: la Unión manufacturera (7-V-1872, 4-VIII-1873)." *Estudios de Historia Social*, 4 (1978).

Jacoby, Sanford M., *Modern manors: welfare capitalism and the New Deal*. Princeton, NJ: Princeton University Press, 1997.

Juez Gonzalo, Emerenciana, *El mundo social de los ferrocarriles españoles de 1857 a 1917*. Unpublished PhD dissertation, Universidad Complutense de Madrid, 1997.

Jutglar, Antoni, *Ideología y clases en la España contemporánea. Aproximación a la historia social de las ideas*. 2 vols. Madrid: Cuadernos para el diálogo, 2<sup>nd</sup> edition, 1971.

Kaplan, Temma, *Red city, blue period. Social movements in Picasso's Barcelona*. Berkeley, CA: University of California Press, 1992.

Kaufman, Roger T., "On wage stickiness in Britain's competitive sector," *British Journal of Industrial Relations*, XII (1984), pp. 101-112.

Kennan, John, "The economics of strikes," in Ashenfelter, Orley and Richard Layard (ed.), *Handbook of labor economics* (New York, 1986).

Khaneman, Daniel and Amos Tversky, "Judging under uncertainty: heuristics and biases," p. 3, in Kahneman, Daniel, Paul Slovic and Amos Tversky (eds.), *Judgement under uncertainty: heuristics and biases*. Cambridge, UK: Cambridge University Press, 1989.

Kiesling, L. Lynne, "Institutional choice matters: the Poor Law and implicit labor contracts in Victorian Lancashire." *Explorations in Economic History*, 33, 1 (1996), pp.65-85.

Kim, Seung Wook and Price V. Fishback, "Institutional change, compensating differentials, and accident risk in American railroading, 1892-1945." *Journal of Economic History*, 53, 4 (December 1993), pp. 796-823.

Knight, Jack, *Institutions and social conflict*. Cambridge: Cambridge University Press, 1992.

Kreps, David M., "Corporate culture and economic theory." In Alt, James and Kenneth Shepsle (eds.), *Perspectives on positive political economy*. Cambridge: Cambridge University Press, 1990.

Lacomba, Juan Antonio, *La crisis española de 1917*. Madrid: Editorial Ciencia Nueva, 1970.

Lamberet, Renée, *Mouvements ouvriers et socialistes (chronologie et bibliographie) – L'Espagne (1750-1936)*. Paris: Les Éditions Ouvrières, 1953.

Landes, Elisabeth M., "The effect of state maximum-laws on the employment of women in 1920," *Journal of Political Economy*, 88, 3 (June 1980), pp. 476-494.

Landes, William M., "The economics of fair employment laws." *The Journal of Political Economy*, 76, 4 (July-August 1968), pp. 507-552.

Lazear, Edward, "Salaries and Piece Rates." *Journal of Business*, 59, 3 (1986), pp.405-431.

Lazonick, William H., "Industrial relations and technical change: the case of the self-acting mule," *Cambridge Journal of Economics*, 3 (1979).

Lewchuck, Wayne, "Industrialization and occupational mortality in France prior to 1914." *Explorations in Economic History*, 28 (1991), pp.344-366.

Libecap, Gary, *Contracting for property rights*. Cambridge: Cambridge University Press, 1989.

Linz, Juan J., "Early State Building and Late Peripheral Nationalisms Against the State: the Case of Spain." In S. N. Eisenstadt and Stein Rokkan (eds.), *Building States and Nations*. Vol. 2. *Analysis by Region*, pp.32-116. Beverly Hills, California: Sage, 1973.

Linz, Juan J. (1981), "A century of politics and interests in Spain." In Suzanne Berger (ed.), *Organizing interests in Western Europe: pluralism, corporatism, and the transformation of politics*, pp.365-415. Cambridge: Cambridge University Press, 1981.

Lundberg, Shelly, "The tied wage-hours offers and the endogeneity of wages." *Review of Economics and Statistics*, 67, 3 (August 1985), pp. 405-410.

Lladonosa, Manuel, *El Congrés de Sants*. Barcelona: Nova Terra, 1975.

Llonch, Montserrat, "Inserción laboral de la inmigración y sistema de reclutamiento de la fábrica téxtil: Vilassar de Dalt, 1910-1945," *Boletín de la Asociación de Demografía Histórica*, 2-3 (1995), pp. 149-161.

Lorenzo, César M., *Les anarchistes espagnols et le pouvoir, 1868-1939*. Paris: Éditions du Seuil, 1969.

Maier, Charles S., *Recasting bourgeois Europe. Stabilization in France, Germany, and Italy in the Decade after World War I*. Princeton, NJ: Princeton University Press, 1975.

Majone, Giandomenico, *Evidence, argument, and persuasion in the policy process*. New Haven: Yale University Press, 1985.

- Malefakis, Edward, "A comparative analysis of workers' movements in Spain and Italy," in Richard Gunther, ed., *Politics, society, and democracy: the case of Spain*. Westview, 1993.
- Maluquer de Motes, Jordi, *La crisis del modelo liberal en España: el nacimiento del movimiento obrero y las primeras formulaciones socialistas: 1835-1868*. Unpublished PhD dissertation, Universitat Autònoma de Barcelona, 1975.
- Maluquer de Motes, Jordi, "La despatrimonialización del agua: la movilización de un recurso fundamental." *Revista de Historia Económica*, 1, 2 (1983).
- Maluquer de Motes, Jordi, "Los salarios," in Carreras, Albert (ed.), *Estadísticas históricas de España. Siglos XIX y XX*. Madrid: Fundación Banco Exterior, 1985.
- Martin, Benjamin, *The agony of modernization. Labor and industrialization in Spain*. Ithaca, NY: ILR Press, 1990.
- Martín Ramos, Josep Lluís, "Anàlisi del moviment vaguístic a Barcelona (1914-1923)," *Recerques*, 20 (1988), pp. 93-114.
- Martin Valverde, Antonio, "La formación del derecho del trabajo en España." In *La legislación laboral histórica*, pp. XV-CXIV. Madrid: Cortes Generales, 1987.
- Martínez Cuadrado, Miguel, *Elecciones y partidos políticos, 1868-1931*. 2 vols. Madrid: Taurus, 1969.
- Martínez Cuadrado, Miguel, *La burguesía conservadora (1874-1931)*. Madrid: Alianza, 1973.
- Martorell Linares, Miguel, "Gobiernos y mayorías parlamentarias en los años previos a la Crisis de 1917. Historia de una paradoja." *Revista de Estudios Políticos*, 93 (July-September 1996), pp. 331-345.
- Martorell Linares, Miguel, "Gobierno y parlamento: las reglas del juego." In Cabrera, Mercedes (ed.), *Con luz y taquígrafos. El Parlamento en la Restauración (1913-23)*. Madrid: Taurus, 1998.
- Marx, Karl, *Capital*, volume 1, chapter 21, "Piece wages." 1886 edition translated by Dr. Aveling available at [www.marxists.org/archives/marx/works/1867-c1/ch21.htm](http://www.marxists.org/archives/marx/works/1867-c1/ch21.htm).
- Marx, Karl, *Wage labour and capital & Wages, price and profit*. London: Bookmarks, 1996.
- Matthews, Derek, "1889 and all that: new views on New Unionism." *International Review of Social History*, XXXVI, 1 (1991), pp.24-58.
- Maurice, Jacques and Carlos Serrano, *Joaquín Costa: la crisis de la Restauración y populismo (1875-1911)*. Madrid: Siglo XXI, 1977.

- McIvor, Anthony David, Spanish labor policy during the Dictablanda of Primo de Rivera. Unpublished PhD dissertation, University of California, San Diego, 1982.
- Meaker, Gerald H., *The revolutionary Left in Spain, 1914-1923*. Palo Alto: Stanford University Press, 1974.
- Menéndez Navarro, Alfredo, *Un mundo sin sol: la salud de los trabajadores de las minas de Almadén, 1750-1900*. Granada: Servicio de Publicaciones de la Universidad de Granada-Universidad de Castilla-La Mancha, 1996.
- Miller, Gary J., *Managerial dilemmas. The political economy of hierarchy*. Cambridge: Cambridge University Press, 1992.
- Mitchell, Daniel J.B., "Wage flexibility: then and now," *Industrial Relations*, 24 (Spring 1985), pp. 266-279.
- Molas, Isidre (ed.), *Ideario de Pi y Margall*. Madrid: Península, 1965.
- Montero Aroca, Juan, *Los tribunales de trabajo (1908-1938)*, Valencia: Universidad de Valencia, 1976.
- Montero García, Feliciano, "La polémica sobre el intervencionismo y la primera legislación obrera en España, 1890-1900. Primera parte: el debate académico." *Revista de Trabajo*, 59-60 (1980).
- Montero García, Feliciano, "La polémica sobre el intervencionismo y la primera legislación obrera en España, 1890-1900. Segunda parte: el debate político-parlamentario." *Revista de Trabajo*, 61-62 (1981).
- Montero García, Feliciano, *El primer catolicismo social y la Rerum Novarum en España (1889-1902)*. Madrid: CSIC, 1983.
- Montoya Melgar, Alfredo, *Ideología y lenguaje en las primeras leyes laborales en España: la dictadura de Primo de Rivera*. Madrid: Civitas, 1975.
- Morato, Juan José, *Pablo Iglesias Posse. Educador de muchedumbres*. Barcelona: Ariel, 1968 (originally published in 1931).
- Nadal, Jordi, *El fracaso de la Revolución Industrial en España, 1814-1913*. Barcelona: Ariel, 15<sup>th</sup> edition, 1990.
- Nadal, Jordi and Carles Sudrià, *Historia de la Caja de Pensiones*. Barcelona: Edicions 62, 1983.
- Nadal, Jordi, "La indústria cotonera." In Nadal, Jordi, Jordi Maluquer de Motes and Francesc Cabana (eds.), *Historia econòmica de Catalunya*. Volume 3. Barcelona: Enciclopèdia Catalana, 1991.
- Nichols, T., "Industrial safety in Britain and the 1974 Health and Safety Act: the case of Manufacturing," *International Journal of Sociology of Law*, 18 (1990), pp. 317-342.

Nielfa, Gloria, "Mercado y organización del trabajo en el comercio 1883-1931." *Estudios de Historia Social*, 30 (1984), pp.137-148.

Nielfa, Gloria, *Los sectores mercantiles en Madrid en el primer tercio del siglo XX: tiendas, comerciantes y dependientes de comercio*. Madrid: Ministerio de Trabajo y Seguridad Social, 1985.

Nielfa, Gloria, "Trabajo, legislación y género en la España contemporánea: los orígenes de la legislación laboral," paper presented at 7th congress of the *Asociación de Historia Económica*, Zaragoza, 2001.

Olábarri, Ignacio, *Relaciones laborales en Vizcaya (1890-1936)*. Durango, 1978.

Ollé, Josep Maria, *El moviment obrer a Catalunya, 1840-1843*. Barcelona: Editorial Nova Terra, 1973.

Olson, Mancur, *The logic of collective action. Public goods and the theory of groups*. Cambridge, MA: Harvard University Press, 16<sup>th</sup> edition, 1995.

Ordeshook, Peter C., "The spatial analysis of elections and committees: four decades of research." In Mueller, Dennis C. (ed.), *Perspectives on public choice. A handbook*. Cambridge: Cambridge University Press, 1997.

Palacio, José Ignacio (1986), "Crisis política y crisis institucional: la experiencia del Instituto de Reformas Sociales en el período 1914-1924." In García Delgado (1986), *La Crisis de la Restauración*.

Palacio Morena, Juan Ignacio, *La institucionalización de la reforma social en España (1883-1924). La Comisión y el Instituto de Reformas Sociales*. Madrid: Ministerio de Trabajo y de la Seguridad Social, 1988.

Palomeque, Carlos M., *Derecho del trabajo e ideología: medio siglo de derecho del trabajo español, 1873-1923*. Madrid: Akal, 1980.

Palomeque, Carlos M., "La intervención normativa del Estado en la 'cuestión social' en la España del siglo XIX." *Ayer*, 25 (1997), pp. 103-126.

Pan-Montojo, Juan, "El atraso económico y la regeneración." In Pan-Montojo, J. (ed.), *Más se perdió en Cuba. España, 1898 y la crisis de fin de siglo*. Madrid: Alianza editorial, 1998.

Pérez Garzón, J. S., *Luis Morote. La problemática de un republicano (1862-1913)*. Madrid: Castalia, 1976.

Pérez Ledesma, Manuel, "La Unión General de Trabajadores: socialismo y reformismo," *Estudios de Historia Social*, 8-9 (1979), pp. 217-225.

Piven, Frances Fox and Richard A. Cloward, *Poor people's movements. Why they succeed, how they fail*. New York: Pantheon Books, 1977.

- Pons y Umbert, Adolfo, *Organización y funcionamiento de las Cortes según las constituciones españolas*. Madrid: Publicaciones del Congreso de los Diputados, 1992 (originally published in 1908).
- Quirós, C. Bernaldo de, *El espartaquismo agrario andaluz*. Madrid: Turner, 1974 (originally published 1919).
- Ralle, Michel, "La sociabilidad obrera en la sociedad de la Restauración (1875-1910)." *Estudios de Historia Social*, 50-51 (1989), pp. 161-200.
- Reig, Ramiro, *Obrers i ciutadans. Blasquisme i moviment obrer: València, 1898-1906*. València: Alfons el Magnànim, 1982.
- Reventós, Manuel, *Els moviments socials a Barcelona en el segle XIX*. Barcelona: Crítica, 1987 (originally published in 1925).
- Rey, Fernando del, "Actitudes políticas y económicas de la patronal catalana (1917-1923)." *Estudios de Historia Social*, 24-25 (1983), pp.23-148.
- Rey Reguillo, Fernando, "Condiciones laborales de las mujeres trabajadoras: legislación y actitudes patronales. El caso catalán (1917-1923)," in García Nieto París, M. C. (ed.), *Ordenamiento jurídico y realidad social de las mujeres. Actas de las IV jornadas de investigación interdisciplinaria* (Madrid, 1986).
- Rey, Fernando del, "La polémica sobre el control obrero. Los orígenes en España," *Sociología del Trabajo* (new series), number 8 (Winter 1989-1990), pp. 135-165.
- Rey, Fernando del, *Propietarios y patronos. La política de las organizaciones económicas en España de la Restauración (1914-1923)*. Madrid: Ministerio de Trabajo, 1992.
- Ringrose, David M., *Spain, Europe, and the "Spanish miracle," 1700-1900*. Cambridge: Cambridge University Press.
- Riquer, Borja de, *La Lliga Regionalista: la burgesia catalana i el nacionalisme (1898-1904)*. Barcelona: Edicions 62, 1977.
- Riquer, Borja de, *Escolta, Espanya. La cuestión catalana en la época liberal*. Madrid: Marcial Pons, 2001.
- Rivas Lara, Lucía, "El Primero de Mayo, jornada obrera, 1890-1930." *Estudios de Historia Social*, 38-39 (1986), pp. 271-325.
- Rodrigo y Alharilla, Martín, *Los marqueses de Comillas 1817-1925: Antonio y Claudio López*. Madrid: LID, 2000.
- Romero-Maura, Joaquín, *La "Rosa de Fuego". El obrerismo barcelonés de 1899 a 1909*. Madrid: Alianza Universidad, 1989.



Rosés, Joan Ramon, "The early phase of Catalan industrialisation, 1830-1860." Unpublished PhD dissertation, European University Institute, 1998.

Rosés, Joan J. and Blanca Sánchez-Alonso, "Regional wage convergence in Spain 1850-1930," unpublished paper, Universidad Carlos III Madrid and Universidad San Pablo-CEU Madrid (2002).

Rovira Rosés, María Asunción, *El Museo Social, 1909-1919*. Unpublished dissertation University of Barcelona, 1968.

Ruiz, David, *El movimiento obrero en Asturias*. Oviedo: Amigos de Asturias, 1968.

Saxonhouse, Gary, "Productivity change and labor absorption in Japanese cotton spinning," *Quarterly Journal of Economics*, 91, 2 (May 1977).

Saxonhouse, Gary and Gavin Wright, "Technological evolution in cotton spinning, 1878-1933." Working paper Stanford University, January 2000.

Schelling, Thomas C., *Micromotives and macrobehavior*. New York: Norton, 1974.

Seco Serrano, Carlos, "Regeneracionismo y tensiones sociales (en torno al Gobierno Silvela de 1899-1900)," *Alfonso XIII y la crisis de la Restauración*. Madrid: Rialp, 1979.

Sellés i Quintana, Magda, *El Foment del Treball Nacional, 1914-1923*. Barcelona: Publicacions de l' Abadia de Montserrat, 2000.

Serra, Roser and Ramon Viladés, *La colònia Pons de Puig Reig*. Berga: L'Albí, 1987.

Shepsle, Kenneth A. and Barry R. Weingast, "The institutional foundations of committee power." *American Political Science Review*, 81 (March 1987), pp. 85-104.

Shiells, Martha Ellen, "Collective choice of working conditions: hours in British and U.S. iron and steel, 1890-1923." *Journal of Economic History*, L, 2 (1990), pp.379-392.

Shorter, Edward and Charles Tilly, *Strikes in France, 1830-1968*. Cambridge: Cambridge University Press, 1974.

Shubert, Adrian, "Mundos que chocan: los orígenes sociales de la militancia obrera en Asturias (1860-1914)." *Estudios de Historia Social*, 15 (1989), pp.229-240.

Shubert, Adrian, *Hacia la Revolución: orígenes sociales del movimiento obrero en Asturias (1860-1934)*. Barcelona: Crítica, 1984.

Sierra Álvarez, José, *El obrero soñado. Ensayo sobre el paternalismo industrial (Asturias 1860-1917)*. Madrid: Siglo XXI, 1990.

Silvestre, Javier, "Factores competitivos y no competitivos en la determinación salarial durante la industrialización: el caso de España (1900-1936)," unpublished paper, Facultad de Ciencias Económicas, Universidad de Zaragoza (2002).

Simpson, "Real wages and labour mobility in Spain, 1860-1936," in Scholliers, Peter and Vera Zamani, *Labour's reward. Real wages and economic change in 19th and 20th century Europe*. Aldershot: Edward Elgar, 1995.

Slovic, Paul and Baruch Fischhoff, "Behavioral decision theory perspectives on risk and safety," in Borchering, Katrin, Berndt Brehmer, Charles Vlek, Willen A. Wagenaar (eds.), *Research perspectives on decision making under uncertainty*. Amsterdam: Kluwer, 1984.

Smith, Angel, "Social conflict and trade-union organisation in the Catalan cotton textile industry, 1890-1914." *International Review of Social History*, XXXVI (1991), pp.331-376.

Smith, Angel, "Trabajadores 'dignos' en profesiones 'honradas': los oficios y la formación de la clase obrera barcelonesa (1899-1914)." *Hispania*, LVI/2, 193 (1996), pp.655-687.

Snyder, David and Charles Tilly, "Hardship and collective violence in France, 1830 to 1960." *American Sociological Review*, 37, 5, pp. 520-532.

Soler, Raimon, "La evolución del salario en una empresa téxtil algodonera catalana. La fábrica de la Rambla de Vilanova i la Geltrú (1891-1925)." *Revista de Historia Económica*, 15 (1997), pp. 399-411.

Soler, Raimon, *Estratègies empresarials en la indústria cotonera catalana. El cas de la fàbrica de la Rambla de Vilanova, 1833-1865*. Unpublished PhD dissertation, Universitat de Barcelona, 2000.

Solow, Robert M., *The labor market as a social institution*. Oxford: Blackwell, 1990.

Soto Carmona, Álvaro (1989), *El trabajo industrial en la España contemporánea (1874-1936)*. Barcelona: Anthropos.

Suárez González, Fernando, "La huelga de ferrocarriles de 1912." In Anes, Gonzalo, Luis Ángel Rojo and Pedro Tedde (eds.), *Historia económica y pensamiento social*. Madrid: Siglo XXI, 1983.

Sudrià, Carles, "Los beneficios de España durante la gran guerra. Una aproximación a la balanza de pagos española, 1914-1920," *Revista de Historia Económica*, 8, 2 (1990), pp. 363-396.

Sundstrom William A., "Was there a golden age of flexible wages? Evidence from Ohio manufacturing, 1892-1910," *Journal of Economic History*, 50, 3 (1990).

Sundstrom, William A., "Rigid wages or small equilibrium adjustments? Evidence from the contraction of 1893," *Explorations in Economic History*, 29 (1992).

Sundstrom, William A., and Joshua L. Rosenbloom, "Occupational differences in the dispersion of wages and working hours: labour market integration in the United States, 1890-1903." *Explorations in Economic History*, 30 (1993), pp. 379-408.

- Termes, Josep, *Anarquismo y sindicalismo en España (1864-1881)*. Barcelona: Crítica, 3<sup>rd</sup> edition, 2000.
- Terrades, Ignasi, *Les colònies industrials. Un estudi entorn del cas de l' Ametlla de la Merola*. Barcelona: Laia, 1979.
- Torres Villanueva, Eugenio, *Ramón de la Sota, 1857-1936. Un empresario vasco*. Madrid: LID, 1998.
- Tuñón de Lara, Manuel (1972), *El movimiento obrero en la historia de España*. 3 vols. Barcelona: Laia.
- Tusell, Javier, *La reforma de la administración local en España (1900-1936)*. Madrid: Instituto de Estudios Administrativos, 1973.
- Tusell, Javier, *Antonio Maura. Una biografía política*. Madrid: Alianza editorial, 1994.
- Ullman, Joan C., *The Tragic Week. A Study of Anticlericalism in Spain, 1875-1912*. Cambridge, MA: Harvard University Press, 1968.
- Valls, Pere, *De colònies tèxtils a parc fluvial. El sistema de colònies tèxtils del Baix Berguedà. Gènesi i revaloració*. Barcelona: Boixareu editores, 1999.
- Varela Ortega, José, *Los amigos políticos: Partidos, elecciones y caciquismo en la Restauración (1875-1900)*. Madrid: Alianza, 1977.
- Veblen, Thorstein, "On the nature and uses of sabotage." In *The Engineers and the Price System*. New York: Augustus M. Kelley, 1965 (originally published in 1921).
- Viscusi, W. Kip, *Fatal tradeoffs. Private and public responsibilities towards risk*. Oxford: Oxford University Press, 1992.
- Viscusi, W. K., "The value of risks to life and health," *Journal of Economic Literature*, XXXI, 3 (1993), pp. 1912-1946.
- Visser, Jelle, *European trade unions in figures*. Amsterdam: Kluwer, 1989.
- Weber, Max, *Zur Psychophysik der Industriellen Arbeit* (Tübingen, 1924). Spanish translation : *Sociología del trabajo industrial*. Madrid: Trotta, 1994.
- Webb, Sidney and Beatrice Webb, *Industrial democracy*. New York: Augustus M. Kelley, 1965.
- Whaples, Robert, "Winning the eight-hour day, 1909-1919." *Journal of Economic History*, L, 2 (1990), pp. 393-406.
- Williams, Melvin J., *Catholic social thought. Its approach to contemporary problems*. New York: the Ronald Press Company, 1950.

---

Winston, Colin M., "Apuntes para la historia de los sindicatos libres de Barcelona (1919-1923)," *Estudios de Historia Social*, 2-3 (1977), pp. 119-142.

Winston, Colin M., *Workers and the Right in Spain, 1900-1930*. Princeton: Princeton University Press, 1985.

Wolcott, Susan, "The perils of lifetime employment systems: productivity advance in the Indian and Japanese textile industries." *Journal of Economic History*, 54 (1994), 2, pp.307-324.

Wood, George Henry, *The History of Wages in the Cotton Trade during the past Hundred Years*. London: Sherratt and Hughes, 1910.

Wright, Gavin, "Labor History and Labor Economics." In A. Field, *The Future of Economic History*. Boston: Kluwer-Nijhoff Publishing, 1987.