EXPERIENCING WAGES

Social and Cultural Aspects of Wage Forms in Europe since 1500

EDITED BY
PETER SCHOLLIERS AND LEONARD SCHWARZ
CONTENTS

List of Figures and Tables vii

Introduction 3

1. The wage in Europe since the sixteenth century
   Peter Scholliers and Leonard Schwarz

Custom, Wages and the Market 27

2. Institutional and cultural change in wage formation: port labour in Antwerp (sixteenth - eighteenth centuries)
   Harald Deutsch

3. When labour hires capital: evidence from Lancashire, 1870–1914
   Michael Huberman

4. Giving notice: the legitimate way of quitting and firing (Ghent, 1877–1896)
   Patricia Van den Eeckhout

Changing Pay Systems and Wage Forms 81

5. Wage forms, wage systems and wage conflicts in German crafts during the eighteenth and earlier nineteenth centuries
   Reinhold Reith

6. Wage forms, pay systems and labour control in nineteenth-century agriculture. Evidence from the Dutch province of Groningen
   Henk Goeven and Hans Heger

   Craig Muldrew and Stephen King
According to 1999 estimates, employees in the United States controlled approximately 8.3 percent of the total corporate equity in the country. Comparable figures for Europe are only slightly higher. Wage systems such as employee ownership, the argument goes, harmonise the often discordant interests of the firm’s stakeholders: managers, shareholders and workers. Where workers have the financial incentives of stakeholders, they will act to increase shareholder value, engaging in productivity-enhancing cooperation as opposed to productivity-reducing conflict. Despite these apparent benefits, and although some measures of employee ownership are increasing in the United States as elsewhere, the number of workers participating as stakeholders remains modest in most developed countries.

Dow and Putterman have summarised the reasons why labour seldom hires capital. Workers may be limited in the quantity of credit they can obtain, or they may be risk averse and prefer to diversify their portfolios. Compared to the owners of capital, workers have heterogeneous preferences and they may not wish to hold shares over long-term horizons. Alongside these financial reasons, economists and historians have given weight to the free-rider problem in large firms (the 1/N problem) as a constraint on worker ownership. To fix ideas, consider the case of a large enterprise whose workers are organised in teams. Management decides to introduce a profit-sharing scheme. An additional dollar of output, when divided among the many workers in the organisation contributes only a trivial amount to any individual worker’s compensation. Moreover, the output of any single work team contributes only a trivial amount to the compensation of members of that unit. Thus, there is no clear reason why one team should not simply free ride on all other teams in the organisation. Given the size of the organisation, it is simply too costly, relative to
the size of potential gains, for a single worker or team to monitor the performance of others. This line of argument is found in the classic statement of Alchian and Demsetz who asserted that, while workers cannot be relied on to monitor each other, the owners of capital have no incentive to shirk because they keep the difference between revenues and costs. It follows, as Alchian and Demsetz observed, that labour seldom hires capital.

In this chapter, drawing on evidence of profit sharing in the Lancashire textile industry, I give an example of a successful experiment of labour hiring capital. I contrast the experience of organisations in two cotton-spinning towns, Oldham and Bolton. In Oldham after 1870 workers participated in profit-sharing schemes and acted as stakeholders in the direction of their enterprises, limited liability companies popularly referred to as ‘limiteds’. As elsewhere, these types of incentive schemes promoted high levels of worker cooperation and capital investment, and fast growth in various measures of productivity. Organisations in Bolton did not take to profit sharing and the town grew relatively slowly – ‘like a tree rather than a mushroom’. The problem is why these two towns, only fifteen miles apart, developed different wage systems and why if worker ownership was so good – and the idea widely known – was it not adopted in Bolton.

My answer is that profit sharing was successful in Oldham because it was compatible with the emotions workers and residents in the town felt and expressed with regard to one another, compared to their distant and bitter relations with their bosses. This predisposition affected how free-rider and moral-hazard problems were resolved. Workers in the town had developed a long history of trustworthiness – they would not let each other down – and this empathy overrode the free-rider problem. But if Oldham embodied the altruism of The Theory of Moral Sentiments, then Bolton personified the unabashed individualism of The Wealth of Nations. Spinners in the town were indifferent to the well being of their peers and their bosses. Trustful behaviour in Bolton was contingent. Ever vigilant, workers in the town monitored each other, firms workers and workers firms, and all parties used the threat of sanctions to uphold contracts. I argue that there were no gains to introduce profit sharing in Bolton because its imposition would come up against the free-rider problem.

By trustworthiness, I do not refer exclusively to the type of cooperation organisations can instil by paying an efficiency wage or by threatening retaliation to eliminate shirking. These are short-term arrangements that are susceptible to breakdown when there are even small changes in the information environment. Trust in Lancashire extended beyond the factory gate; indeed the transfer may well have been in the other direction. I refer therefore to a ‘culture of trust’, using culture to signify in the broadest sense the social norms or the ‘distinctive attitudes and actions that differentiate groups of people’. More formally, we can define a culture of trust as a systematic bias in favour of cooperative resolutions to multiple prisoners’ dilemmas. Embedded in history, trustworthiness creates and is shaped by institutions and practices at the firm and community levels.

Lancashire wage systems are a case in point. Bolton firms that implemented profit-sharing schemes quickly scrapped them because they did not have the support of community organisations or institutions. But a Bolton worker or firm moving to Oldham would have adapted to the latter community’s practices. I associate the culture of trust in Oldham with its unique industrial relations history. In this regard, I follow the lead of Foster. While labour unrest was almost unknown in Bolton around the mid-nineteenth century, Oldham was celebrated for its militancy. During strikes Oldham workers learned to trust one another and not to free ride, a predisposition that was exploited in limited liability companies. But it is also evident that Oldham’s unique wage system had deep cultural roots. Foster himself observed that Oldham workers before 1850 were more likely to marry within their class. Oldham empathy was thus supported by community networks that had a long history. It is not my intention to identify the origins of Oldham culture. Rather, my objective is to shed light on the feedback mechanism between Oldham’s industrial relations and community institutions that gave rise to and advanced the town’s peculiar wage system.

The argument in this chapter is based on elimination. First, I compare the expansion of Oldham and Bolton and evaluate the conventional explanations of the towns’ divergent development paths. Human and social capital factors, technological considerations and risk preferences cannot explain the gap between Oldham and Bolton. I propose that Oldham’s success was associated with its adoption of a new wage system, profit sharing. I then show that profit sharing was a form of labour ownership. Workers were well suited to profit sharing in Oldham because of their empathy for one another. This empathy existed inside the mill in the form of negligible investments in monitoring and outside the mill in generous relief expenditure. In the final section of the chapter I speculate on the reasons why Oldham’s experiment with labour ownership did not last.

Economic expansion in Bolton and Oldham: the received view

Tables 3.1 and 3.2 summarise several key aspects of Oldham’s and Bolton’s growth before the First World War. Up until 1850 or so, Bolton’s population was larger and it had more spindles (the most common measure of capacity) and spinners than Oldham. Although Oldham had many more mills than Bolton before 1850, they were generally much smaller (Table 3.1). A different picture emerges by the turn of the century. Oldham’s population surpassed that of Bolton’s around 1870 (Table 3.2). The number of spindles and spinners in Oldham doubled between 1870 and 1890; there were twice as many new companies started in the town and many of these new enterprises were large. All told, by 1914 Oldham housed twenty-nine percent of spindles in the United Kingdom and represented the largest concentration of spinning mills in the world.
Table 3.1. The cotton-textile industry in Bolton and Oldham, 1850–1914

<table>
<thead>
<tr>
<th></th>
<th>Bolton</th>
<th>Oldham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average count spun, 1900</td>
<td>60s</td>
<td>32s</td>
</tr>
<tr>
<td>Number of mills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>70</td>
<td>178</td>
</tr>
<tr>
<td>1870</td>
<td>111</td>
<td>279</td>
</tr>
<tr>
<td>1890</td>
<td>108</td>
<td>321</td>
</tr>
<tr>
<td>1910</td>
<td>150</td>
<td>335</td>
</tr>
<tr>
<td>Companies promoted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1858–96</td>
<td>76</td>
<td>156</td>
</tr>
<tr>
<td>Number of spinners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>1,500</td>
<td>1,000</td>
</tr>
<tr>
<td>1900</td>
<td>4,800</td>
<td>5,600</td>
</tr>
<tr>
<td>Workers per mill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1870</td>
<td>43.8</td>
<td>82.43</td>
</tr>
<tr>
<td>1910</td>
<td>194.45</td>
<td>107.54</td>
</tr>
<tr>
<td>Number of spindles: males and rings (‘000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1870</td>
<td>3,200</td>
<td>6,000</td>
</tr>
<tr>
<td>1890</td>
<td>5,000</td>
<td>12,910</td>
</tr>
<tr>
<td>1910</td>
<td>9,500</td>
<td>19,278</td>
</tr>
<tr>
<td>Spindles per mill (‘000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>58.00</td>
<td>38.81</td>
</tr>
<tr>
<td>Average mule size (spindles)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,100</td>
<td>1,224</td>
<td></td>
</tr>
<tr>
<td>Spinners' weekly earnings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1860</td>
<td>54s</td>
<td></td>
</tr>
<tr>
<td>1886</td>
<td>45s</td>
<td></td>
</tr>
<tr>
<td>1906</td>
<td>45s</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10d</td>
<td>28s</td>
</tr>
<tr>
<td></td>
<td>3s</td>
<td>33s 2d</td>
</tr>
<tr>
<td></td>
<td>45s</td>
<td>42s</td>
</tr>
<tr>
<td></td>
<td>45s</td>
<td>42s</td>
</tr>
</tbody>
</table>


Oldham specialised in coarse yarn and in this sector, according to reports from various contemporaries, productivity (measured in pounds per spindle per week) increased by about 50 percent from 1860 to 1900. Bolton was known for its medium and fine yarns and the rate of growth of output per spindle in this sector is believed to be about one-half of productivity growth in coarse yarn. Comparisons of output per worker across sectors have proven to be more difficult to make, because of changes in labour inputs over the period, but indirect performance measures can be gleaned from wage evidence. Because payment was by the piece, earnings' growth approximately mirrored productivity improvements, including that of labour. Oldham spinners saw their wages increase faster than elsewhere in Lancashire, by about 50 percent between 1860 and 1906. Despite these wage gains, unit labour costs in coarse spinning fell by about 15 percent between 1876 and 1906. For a comparable period, unit labour costs fell by only 2 percent per annum in Bolton.

Table 3.2. Demographic, labour force and religious make-up of Bolton and Oldham, 1851–1911

<table>
<thead>
<tr>
<th></th>
<th>Bolton</th>
<th>Oldham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population (municipal borough)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1861</td>
<td>70,395</td>
<td>72,333</td>
</tr>
<tr>
<td>1911</td>
<td>127,851</td>
<td>147,483</td>
</tr>
<tr>
<td>Male-female ratio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1881</td>
<td>0.90</td>
<td>0.92</td>
</tr>
<tr>
<td>Percentage of population born outside Lancashire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1861</td>
<td>11.82</td>
<td>19.38</td>
</tr>
<tr>
<td>Percentage of population born in Ireland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1861</td>
<td>4.95</td>
<td>5.22</td>
</tr>
<tr>
<td>Percentage of population &gt; 40 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1881</td>
<td>21.30</td>
<td>22.22</td>
</tr>
<tr>
<td>Children under one year (per 1000 women, 15–44 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1881</td>
<td>121.88</td>
<td>114.69</td>
</tr>
<tr>
<td>Married women, 20-24 years, as percentage of total number of married women, 1881</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1881</td>
<td>9.62</td>
<td>9.99</td>
</tr>
<tr>
<td>Age of cotton spinners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1864</td>
<td>35.6</td>
<td>36.0</td>
</tr>
<tr>
<td>1891</td>
<td>37.0</td>
<td>34.2</td>
</tr>
<tr>
<td>Labour force participation rates, 1881</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of male population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(greater than five years old) occupied</td>
<td>75.08</td>
<td>77.23</td>
</tr>
<tr>
<td>Percentage of female population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(greater than five years old) occupied</td>
<td>40.50</td>
<td>43.46</td>
</tr>
<tr>
<td>Occupational distribution, 1881</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of occupied workers in cotton mills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All workers</td>
<td>41.06</td>
<td>50.54</td>
</tr>
<tr>
<td>Male workers</td>
<td>26.50</td>
<td>35.32</td>
</tr>
<tr>
<td>Female workers</td>
<td>65.15</td>
<td>74.87</td>
</tr>
<tr>
<td>Religious affiliation, 1851</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of population attending church</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religious affiliation (in percent) of population attending church (previous line)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Established church</td>
<td>21.1</td>
<td>14.8</td>
</tr>
<tr>
<td>Dissent</td>
<td>3.7</td>
<td>7.1</td>
</tr>
<tr>
<td>Catholic</td>
<td>4.8</td>
<td>1.5</td>
</tr>
</tbody>
</table>

*Sources: British Parliamentary Papers (various years), except for ages of spinners which are from M. Huberman, *Escape from the Market: Negotiating Work in Lancashire* (Cambridge, 1996) and a sample of approximately 200 spinners in each town from the 1891 manuscripts.*

Perhaps the most widely accepted explanation of the rapid expansion of Oldham rests on the relation between technological dynamism and
market opportunities. Some authorities have claimed that, because of Britain’s control over foreign markets like India, the potential for growth in the coarse yarn market was virtually limitless, while Bolton’s domestic and foreign markets were saturated.\(^9\) This argument is suspect. Bolton manufacturers were well aware of market opportunities that had presented themselves in China and India, and with incomes rising throughout Europe after mid-century Bolton ought to have experienced fast growth as well.\(^{10}\)

Oldham’s share of the market was not certain—it was won.\(^{21}\) The international coarse-yarn market was highly competitive and the town’s success in capturing a large share of it was based on its ability to drive unit costs down. In both towns, spinners led a work unit that included two or three junior assistants or piecers responsible for removing bobbins of yarn and tying broken threads. Before 1850, Oldham had been using the self-actor (a semi-automatic mule) while Bolton had hand mules; by the 1870s, the self-actor was widely exploited in Bolton as well, although fine spinning still required a greater degree of skill. Lancashire’s engineers made constant improvements to the self-actor’s operations.\(^{22}\) Moreover, exploiting the mule, spinners increased their effort and that of junior workers who were part of the spinning team.\(^{23}\) These options were clearly available in both towns. Such was Oldham’s ability to cut unit costs that, by the end of the century, it began to spin finer yarns and to compete head-to-head with Bolton.\(^{24}\) By 1893, about sixty Oldham firms were spinning counts greater than no. 50.\(^{25}\) The upshot is that product markets were integrated and competitive, and, given the same technology and work organisation, we have no reason to suspect that Bolton, because of its specialisation, was in any way disadvantaged in protecting or expanding its market share along the lines of Oldham.

Human and social capital models provide alternative explanations of economic growth. The link between older and better-trained workers and higher levels of productivity is well established. But the average age of spinners in 1861 was about the same in Bolton and Oldham, about thirty-six years, and levels of education were also comparable.\(^{26}\) With regard to measures of social capital, economists have found that growth tends to be correlated with less ethnically diverse populations, high marriage rates and large family sizes (as measured by the number of siblings).\(^{27}\) Based on these indicators (Table 3.2), the towns were not very different. In its population makeup Bolton was more Lancastrian; still the proportion of the largest immigrant component, the Irish, was the same in the two towns. Birth rates were higher in Bolton, although women in the town married later.\(^{28}\) The percentage of older residents was about the same. The social capital approach has made much of the correlation between evangelical or dissenting religious groups and growth.\(^{29}\) This may have been the case in Lancashire. There were more Dissenters and fewer Catholics and Anglicans in Oldham. But the overall rates of participation, based on the census of religious worship for 1851 from which these numbers were gathered, were not very different between the communities.

The rise of the limiteds

My explanation of the rapid rise of Oldham is its introduction of profit-sharing schemes, a wage system that can be traced to the new forms of governance permitted by the Joint Stock Acts of 1855 and 1862.\(^{30}\) The Acts allowed companies to establish, along with ordinary share capital, a loan capital account. On these accounts, which performed a function similar to that of debenture stock or preference capital in the modern public company, firms paid out a scheduled rate of return, or dividend. Using these provisions, a group of skilled workers, who sought to gain through cooperation a greater equality of income and wealth, founded in 1857 the first limited, the Oldham Building and Manufacturing Company.\(^{31}\) Under the name of the Sun Mill Company Limited, this company evolved into the largest mill in the district, paying an annual average dividend of 12.3 percent. Subsequently, there were three waves of expansion: 1870–75, 1883–84 and 1889–90. In all, between 1858 and 1896, Oldham formed 156 limited companies (see Table 3.1); by 1900 these companies operated about fifty percent of all spindles in the town and comprised 76 percent of the members of the Oldham Master Cotton Spinners’ Association.\(^{32}\)

In what way were these limiteds examples of labour hiring capital? According to Dow and Puttermann, in worker controlled and managed enterprises employees have a bundle of rights that include the right to acquire revenues, to determine how the firm is operated, and to transfer ownership to others.\(^{33}\) The Oldham limiteds satisfied these criteria. I first examine the degree of participation.

The degree of participation in these concerns has been the subject of some debate.\(^{34}\) Throughout the period, worker participation was voluntary.\(^{35}\) At Sun Mill their investments were negligible, but they did gain experience as managers, purchasers of raw cotton and sellers of yarn. It is believed that worker involvement peaked in 1875 when about 75 percent of Oldham’s working class, or about 20 percent of the town’s population, held shares in the limiteds.\(^{36}\) The numbers of workers acting as stakeholders appear to have declined in the bear market of the early 1890s that saw a long slump in share values. But the Royal Commission on Labour reported that as of 1892 workers owned about 50 percent of share capital and sixty-three percent of the loan money of twelve representative companies.\(^{37}\) Moreover, as workers drew down their own direct investments, friendly societies, cooperative retailers and trade unions picked up much of the slack. As late as 1900, the Oldham Cotton Spinners’ Union invested in twenty-five limiteds.\(^{38}\) Individual workers as well as the union also had investments in cooperative societies that in turn held shares in the limiteds.\(^{39}\) Thus, workers, directly and indirectly, participated actively as stakeholders in the limiteds at least until the decade before the War. In all, worker participation lasted a little more that one generation.\(^{40}\) Benjamin Jones, a correspondent of the Co-operative News, captured the investing habits of this period: \(^{41}\)
Every class of trade is represented, from the little piecier, with his 10s a week, to
the banker, doctor and lawyer, including the competitive grocer, draper,
butcher, cotton spinner, merchant and the timid old women with her stock-
ing...no trade is too mean or respectable...Their morning and evening prayers
are 'premium, dividend'; and their Sunday holidays are often spent in search,
not of a creed, but of a site upon which a model mill may be erected, where
water is plentiful, good clay at hand, and a coal and a luggage station near to it.

Oldham's designation as 'Diviborough' was well earned.

Workers' right to revenue was not questioned. They held equity and
loans at their own mill and at competing concerns, a feature I will explore
later. Loans, which in fact operated like deposit accounts, were favoured
by the uninhibited. Companies generally issued shares of £5 denomination,
which amounted to roughly three weeks pay for the average cotton spinner
(30-35s per week). Returns on both equity and loans varied considerably,
from 5 to 20 percent in the 1870s, but always more than could be earned
at a local savings bank that paid 2.75 percent. The 5 percent minimum
was fixed by custom and did not vary with the condition of the money market.

With regard to decision making, workers as stakeholders accepted the
basic organisational model of the cotton textile factory, where the line of
direction ran from owners/directors to division managers, to foremen who
oversaw operations, and down to spinners who supervised a work team of
two or three junior workers. The limiteds were not kibbuzim and, in
this sense, the limiteds were not a textbook example of a labour-managed firm
- but they were not intended to be. Nonetheless, as stakeholders and
occasionally as members of boards of directors, workers participated in the
decision making of the company. Farnie wrote that many of the limiteds
were governed on the principle of 'one man one vote,' a form of company
governance unique in Britain. All shareholders, whether they be spinners,
merchants or widows, were quite severe with managers who did not
perform well.

Managers of limiteds were less inclined to work short time than privately
run mills and the new concerns were notorious for speeding up
their machines and cutting wages at the first instance. Trade union leaders
bemoaned that the limiteds had broken with the Lancashire tradition of
keeping piece rates fixed and working fewer hours during recessions and,
as a result, the number of disputes and strikes at the limiteds were higher
than elsewhere. I will return to Oldham's strike record in the next
section, but it is clear that workers had double loyalties - as union members
they would fight the speed-ups, as stockholders they would encourage
them. In fact, at the annual meetings of Oldham's spinners' trade union,
workers complained about the bad working conditions of the limiteds, only
to suggest, when the agenda turned toward the union's financial picture,
that these same companies would provide sound investments for its
members. Moreover, the union saw fit to hold onto their shares because
the threat of selling them gave them added leverage in strikes.

Workers traded their shares. The Cotton Factory Times, the weekly
regional newspaper of spinning operatives that first appeared in 1885,
reported price movements in the yarn and cloth market. On 15 March
1895, it warned workers not to take on any more risk. If available, it
published profit statements of the limiteds and dividend announcements,
such as on 29 December 1905 when it celebrated the 19 percent average
annual profit rate of Oldham mills. It identified those firms that had
bought the last vintage of self-acting mules or had switched to ring spin-
ing. Finally, the newspaper summarised shareholders' meetings and
reported the value of shares bought and sold at the local exchange, the
King's Arms Hotel.

There is both direct and indirect evidence of the overall performance of
the limiteds. Toms has analysed the balance sheets of a small sample of limit-
eds. In line with estimates by Kruse of the effects of profit sharing, Toms
found that their rates of return were only slightly above the average. There
may be a number of explanations for this. The firms whose records are extant
may not be representative, but it is also possible that private companies that
survived were 'whipsawed' by the limiteds to perform better. The available
balance sheets do not permit a direct comparison of firm performance in
Bolton and Oldham, but the wage structures of organisations in the towns
give support to the view that worker ownership had its expected results. We
know that firms with effective incentive schemes like profit sharing tend to
have a greater degree of wage compression than firms without similar person-
nel policies. This is exactly what we see in Lancashire. The ratio of spinners'
wages to that of junior workers' was smaller in Oldham than in Bolton. Contem-
poraries gave support to these findings. Writing in the 1880s, Thomas Ellison,
an historian of the industry, saw a clear connection between the rise in efficiency and worker ownership.

The daily discussions which take place amongst the shareholders as to why div-
idends are small or otherwise have led almost every intelligent operative to
become more economical with materials, more industrious, and to see what
effect his individual [my emphasis] efforts have upon the cost of the materials
produced. In fact, the bulk of the working class operatives of Oldham have
more knowledge of the buying of cotton, working it up, and selling the manu-
factured goods than most private employers had ten years ago.

Before mid-century the typical Bolton firm was large and privately and
family owned. Changes in limited liability rules left the town's landscape
untouched, even though workers and employers were aware of the reasons
for Oldham's success. According to the Bolton's spinners' union, the
'attraction of the 'divi' or bonus' invited workers to 'give the greatest
quantity of work in the time allotted, so that they may earn the highest
possible wages... The voluntary high-pressure exertion of the operatives
is unrivalled elsewhere.' But despite its record, Bolton's union was dis-
terested, if not strongly opposed to profit sharing and it exercised tight
control over its membership. When an employer in Bolton, forced new
hires to purchase shares, the union reacted swiftly to reprimand the firm.
With the support of private employers, the firm backed down on its
demand. It should come as no surprise that attempts to introduce profit sharing were modest and that they met with little success. At one firm, 160 workers were put on a profit-sharing plan but the scheme was abandoned in less than one year owing to its poor performance. In all, there were seventy-six limiteds created between 1860 and 1896; still eighty percent of these were 'private' enterprises (the corresponding figure for Oldham is fifteen percent) whose shares were neither widely distributed nor exchanged. Family concerns continued to dominate Bolton until the First World War.

Industrial relations and cooperative behaviour

My objective in this section is to explain why Oldham's workers were receptive to profit sharing while Bolton's workers rejected it. I proceed by elimination. To begin, employee ownership had little to do with work organisation. A work team composed of one spinner and two to three piecers was dominant in both towns, as it was throughout Lancashire. Nor did it have to do with the fact that the town spun coarse yarn. In other towns spinning coarse yarn, like Stockport, there were few limiteds, while Ashton, which spun medium and fine yarns, had the greatest proportion of limiteds next to Oldham. With regard to worker characteristics, the evidence I have produced so far is aggregate. It seems that, on the whole, the demographic profiles and religious and social backgrounds of the average worker in the two towns were similar, but it may well be that there are unobserved differences among individuals between and within towns that have not been captured or controlled for in Table 3.2 that explain the predisposition of certain workers to profit share. This type of argument is always difficult to dismiss even in the presence of micro data.

Having said that, we can eliminate the possibility that profit sharing in the two towns was associated with different attitudes toward risk. In principle, risk averse workers are not attracted to profit-sharing arrangements. The evidence suggests that in this regard the average Bolton and Oldham worker were equally likely to profit share. Bolton workers, like those in Oldham, already assumed a high degree of risk since both were paid by the piece, and their earnings moved with firm output which fluctuated regularly in both fine and coarse sectors. Risk aversion is often correlated (negatively) with income levels because poorer workers cannot insulate themselves completely against shocks. But, in 1870, Bolton spinners earned the highest wages in Lancashire and they should have been more, and not less, likely to accept profit-sharing contracts. Risk aversion is often linked (positively) to workers' investments in firm-specific skills. Workers may want to diversify their savings and invest elsewhere. On this score, Bolton's skilled workforce would have had less of an interest in profit sharing, but it is difficult to imagine an investment opportunity in Lancashire that was not correlated with the cotton trade. Moreover, organisations in which workers are involved in decision making tend to have comparatively small employment fluctuations and in the absence of a fully-developed unemployment insurance scheme it would be expected that workers with significant investments in firm-specific skills, like those in Bolton, would stand to gain more in cooperating with management in order to lower the risks of layoff. All told, risk aversion cannot explain the pattern of profit sharing found in Lancashire.

My explanation of why workers in the two towns differed with regard to profit sharing is based on psychologists' treatment of emotions that are revealed in different person-environment relationships. Individuals often develop pro-social and empathic feelings over the distress of others, particularly those who share similar backgrounds or concerns, like family members, neighbours or fellow workers. In these situations individuals will have a predisposition to help out a co-worker more than a boss because of the narrower 'social distance' between them. They have a bias toward cooperative solutions in that they will not seek a greater share of the pie because they expect that other players will do so as well. In its extreme form, individuals are motivated to do well not so much by the direct pressure of their peers, but by feelings internalised toward their comrades. Empathy of this nature is built on and strengthens horizontal attachments. In other situations, individuals may lack empathy toward their peers, or at best be indifferent to them. They will only cooperate if there is a penalty for not doing so. In the language of game theory, they will not in the majority of cases choose freely the cooperative solution. In these cases, since cooperation is not certain, individuals will need to be monitored.

I follow Lazear in evaluating workers' responses to identical economic incentives assuming different patterns of social behaviour. Consider an employer who pays a straight time-wage to his workers. A worker who does not perform well, who shirks, will hurt the owners of capital. To motivate workers, the employer decides to introduce a profit-sharing scheme. What prevents workers from continuing to under perform? In the absence of empathy a worker may in fact continue to under produce; however, she takes the risk of being caught by the employer, a gamble that might be worth taking. Hence, there is little gain to profit share. In the presence of empathy there are potential gains, because workers care more about their colleagues than their bosses. They work hard not to let down their fellow workers. The upshot is that empathy overrides the free-rider problem, but in organisations lacking this predisposition cooperation will need to be monitored. It is precisely these monitoring costs that make cooperative behaviour more efficient - but less common - than non-cooperative behaviour.

For psychologists the origins of this type of behaviour are obscure. Some have sought their origins in shame and guilt. While shame denotes some type of external enforcement, where workers are guilt-driven they will act by some internalised moral imperative to help each other. My data do not permit me to observe these traits, but I would suspect that Bolton and Oldham, only fifteen miles apart, did not differ much in this respect. Moreover, since my data are aggregate, I can only suppose that it was nurture and not nature that separated the two towns. Other psychologists
observe that there are often formative or critical events that tilt individu-
als toward one form of emotional response or another. Recognising the
hazards of inferring individual behaviour from large social changes, I follow
this approach here.

My explanation of the divergence in social behaviour is based on the
observation that, owing to divergent historical trajectories, workers in the
two towns experienced differently the key years of industrial change before
mid-century. Bolton was one of the first centres of cotton spinning in
Lancashire. As early as 1811, the town housed thirty-three mills, the
average mill employed about 150 workers. By 1841 the average mill
employed approximately 200 workers and was nearly twice as large as the
average coarse-spinning establishment. Disputes and strikes into the 1820s
over the introduction of longer spinning mules and piece rate cuts were
not unknown, but after the spinners’ strike in 1836, the bitterness that
marked the early period of industrial relations dissipated. The political arena
saw limited mobilisation against the introduction of the New Poor Law of
1834, and by 1837 Bolton radicals were complaining about working-class
apathy.65 From mid-century, if not earlier, paternalism became the hallmark
of worker-firm relations.66 Employers’ concern for the welfare of their
workers was manifested in their active participation in factory schools,
libraries, housing, picnics and other day trips, and Christmas parties.
Employers hoped to strengthen workers’ attachments to them, or, as one
employer put it, ‘to cement a feeling of...mutual interest’. The low rate of
turnover of firms and their large size gave mid-nineteenth-century Bolton
the appearance of a hierarchical, if not manorial community in which
workers and firms held reciprocal obligations.

Craft unionism flourished in this environment. The Bolton spinners’
union maintained its independence from employers. Because it was mill-
based, Bolton unions could boast of having organised practically every
spinner in the district, and provided for their members benefits not
covered by their paternalist employers.67 For the 1890s when records are
available, expenditure per member was as much as £3 per annum in
Bolton; whereas in Oldham it was about £2. 3s. The presence of unions
would seem to be inconsistent with the view that paternalism is an alterna-
tive to unionisation. In weaving centres, such as Blackburn, paternalism
went hand in hand with weak unions, and in the 1920s large firms in the
United States, like Sears and Kodak, used welfare initiatives to deter
unionisation. But in Bolton the union assured that promotion was based
on seniority; it also safeguarded spinners’ responsibility for the mainte-
nance and repair of their machines and adjusting operating speeds.68
Arrangements between employers and the union were codified in the
establishment of a piece-rate list that fixed the rules for bargaining.
Employers and the union were equally proud that strikes and lockouts
were practically unknown before 1914.

The spread of factory industry in Oldham was less portentous. Before
1850 Oldham firms tended to rent or share space and power in a larger mill.
According to Parnie, small firms, many of which were run by former
spinners, ‘accentuated the degree of competition, and increased the
mortality rate among factory masters,’ and, in contrast with Bolton, their
presence prevented ‘the family firm from establishing an hereditary
monopoly of local industry under a separate caste of employers’.69 As late
as 1841, the average coarse mill employed only hundred workers. Break-
ning with the ownership practices of Lancashire, Oldham became known as
‘the pariah of the cotton trade’, and a ‘frontier town’.70 ‘Whether or not
Oldham was rough’, Joyce wrote, ‘it was certainly vulgar’.71 The
town’s manufacture of coarse yarns confirmed its dubious reputation. ‘The
refuse from all the other Lancashire towns is brought to [Oldham], and
worked up into the coarsest and trashiest fabrics’.72 Faced by competitive
pressures, employers introduced new technologies, like the self-acting
mule in the 1820s, and slashed piece rates.

Up until 1825 or so, the industrial relations histories of the two towns
were roughly similar. Beginning in the early 1830s, a different dynamic
emerged in Oldham. A core group of Oldham workers, including cotton
spinners, machine builders and miners, had organised to defend their
social and economic position. Although Foster’s account of the develop-
ment of ‘revolutionary class consciousness’ in the town remains
controversial – more recently historians have tended to emphasise the
gradual transition from radicalism to liberalism – there is little dispute that
relative to other Lancashire communities, Oldham saw a greater degree of
mobilisation.73 The small scale of its establishments may have facilitated
worker combinations, and the fact that many of these units were owned
by former spinners who had broken rank may have exacerbated further
tensions between workers and bosses. On the factory floor, periodic
disputes over piece-rate cuts reinforced worker cohesion.

The strike record of Oldham workers shaped social behaviour in the
town. At a strike vote, workers did not know how many of their colleagues
would show up on the picket line the following day. Strikes tested indi-
viduals’ predisposition to free ride.74 The pivotal years in Oldham began
with the spinners’ strike in 1837 and terminated with the engineers’
dispute of 1852. It was during these recurrent battles that Oldham
workers, supported and promoted by community networks and institu-
tions, formed strong bonds among each other and learned not to let each
other down. The narrowing of social distance between workers had social
and economic consequences. In addition to finding evidence of a high
degree of intermarriage within the working class, Foster presented data on
the greater probability of labouring families living next to craft families in
Oldham compared to other industrial towns.75 Oldham’s residents were
receptive to socialist-utopian ideals, as expressed in Owenism, and they
were among the first in Lancashire to set up cooperative stores.76

Despite the high degree of militancy, Oldham’s union was much weaker
than Bolton’s. It was organised on a district rather than a mill basis and
it was less successful in defending craft privileges. The union permitted
employers to introduce joiner-minding, an employment arrangement in
which the traditional spinner-piece work unit was replaced by two
minders, each with joint responsibility for spinning operations. Oldham unions did not provide many benefits, and whereas leisure activities were often sponsored by mills in Bolton, it was individuals in Oldham who organised themselves in going-off clubs. We should not read from this evidence that Oldham militancy was more rhetoric. In Bolton, because of divided worker loyalties, the perception was that unions posed less of a threat and, as a result, they were fully integrated into the operations of paternalist mills. In Oldham, employers had good reason to be tough because of the town's radical bent.

Among the founders of the Oldham Building and Manufacturing Co. Ltd., the first of the Oldham limiteds I have previously referred to, was William Marcroft, a grinder at a local engineering shop. Marcroft, a non-conformist, was a participant in the key political struggles of the 1840s and a supporter of Oldham's radical political parties. After the defeat of the engineers in the strike of 1852, Marcroft turned his energies to cooperative production and retailing, a system in which workers as clients held equity and received a share of the profits. Exploiting changes in governance permitted by the new company legislation, Marcroft and others tapped into the basic empathy Oldham workers had for each other. The radical workers of Oldham had remade themselves into the most ardent capitalists. At first pass, this transformation seems inexplicable but the emotional responses of Oldham workers in both guises were similar. Behaviour was based on the moral imperative not to let a co-worker down, an essential ingredient in striking, cooperative retailing and profit sharing. Workers had changed their clothing, but not their intentions.

My research strategy in the next two sections of this chapter is to examine the outcome of this type of social behaviour. I focus on the resources devoted to monitoring and enforcement in factories as well as in other institutions in the towns, like the provision of poor relief, where the potential to free ride existed. Recall that I have found that technologies, work organisations, market opportunities, risk preferences, demographic variables and levels of human and social capital were comparable across the two towns. Thus, if I find large variations in resources devoted to enforcement in the towns, I cannot reject the hypothesis that these differences were the result of divergent patterns of social behaviour.

Enforcement inside the factory

By 1870 or so, attitudes of workers to each other and to their bosses had taken shape. Paternalist or vertical arrangements characterised Bolton, whereas in Oldham, because of strong horizontal attachments, workers saw that their interests were distinct from those of their employers. In both towns, firms and community institutions protected and perpetuated norms of social behaviour, but the nature of enforcement varied. There were in fact three levels of enforcement: by firms, workers and factory inspectors. On all counts, Bolton was the more censorious community.

Firms in Bolton hired about one and a half more supervisors and foremen to monitor activities than in Oldham. When called upon, Bolton firms also used fines, exactly what we would expect to see where there was no bias toward cooperation. Organisations needed to resort to punishment, often randomly applied, if only to demonstrate that breaking norms was a serious offence. Emplomers in the town blacklisted militant spinners who broke industrial peace and they demanded discharge notes when hiring. Bolton employers also monitored their competition. Owners of large mills gave financial support to workers who were out on strike against wage cutting at small, often rural mills in the Bolton region.

In Oldham, managers' supervision was more lax and they used fines less often. This was true regardless of mill size. The new limiteds after 1870 were about twice as large as mills built before mid-century, but there was no alteration in the number of overlookers per spinner. The 1/N problem was no constraint on profit sharing because of workers' inherent trustworthiness. Moreover, Oldham managers were less inclined to monitor their neighbours and, unlike Bolton firms, they did not engage in sanctioning their competition.

Bolton workers were as vigilant as their bosses and they too engaged in monitoring and blacklisting. The nature of supervision of the work team was highly developed in Bolton. The ratio of piecers to spinners was greater in the town, until the First World War, if not later, Bolton spinners continued to exercise their control of hiring, negotiating and paying their own junior members of the spinning team, and they nominated them for advancement. Workers' associations in Bolton devoted considerable resources to monitoring. The Bolton trade union blacklisted workers who did not pay their dues which was considered 'a very serious matter...a disgraceful thing.' The union spelled out the penalty of free riding:

Here are men taking every advantage obtained by the self denial and exertions of their fellow workmen and too mean to pay their quota...The day is not too far distant, we hope, when it will be possible for us either to refuse to work with them or leave them so much in the cold that they will see the error of their way.

The union's words and actions left their mark. In 1883, there were 115 spinners on the Bolton blacklist, but only 41 ten years later. In Oldham, workers monitoring workers was less common. Spinners had given up, through negotiation in the 1870s, their right to set the pay of junior team members, and there is no evidence of blacklists in the town.

Third-party enforcement was also greater in Bolton. A detailed study of factory inspection found that the number of infractions for breaking health and safety codes and hours legislation was greater in Bolton, even though Oldham factories were notorious for their poor working conditions. Oldham firms were less disposed to follow administrative rules such as completing age certificates and the town's magistrates were more lenient in applying the rules and handing out fines.

We are now in a position to consider the effects on output if Bolton firms had imposed profit-sharing wage system on their workers. Since both
their union and employers provided them with benefits, Bolton operatives were indifferent between the lot of their co-workers and their bosses. In this regard, workers had a strong sense of independence or autonomy that was embedded in the town’s piece rate list which they defended vigilantly.\(^9\) If this autonomy was at all threatened, say by moving to a new system of team-based incentives, workers may well have reduced effort, provoking firms to increase levels of enforcement further and threatening any degree of trust that had been established. Kreps speculated that the use of efficiency wages would have similar results where workers exhibit a great degree of autonomy.\(^9\) He concluded: ‘Explicit extrinsic incentives that are imposed may fight rather than complement preexisting incentives.’

The point is that the introduction of profit sharing along with a stiffer penalty for shirking or other types of multiple incentive schemes might not have had the expected effects on effort.\(^9\) Bolton organisations needed to match incentive structures and the type of social behaviour found in the town, and – without invoking optimality – this meant relying on piece rates, the tried and true method of eliciting effort in Lancashire. How then did Bolton survive confronted by Oldham’s advantage? I suspect that Bolton firms concentrated increasingly on their niche markets in fine yarn in the UK and elsewhere, leaving upstart Oldham to those count ranges in which there was overlap.

**Enforcement outside the factory**

The fewer resources devoted to monitoring in Oldham may have been the result of a better designed piece-rate system and not the outcome of workers’ innate trustworthiness. But social behaviour in the two towns was reflected outside as well inside the factory. It would have been difficult for Oldham workers to trust each other in the factory setting, if they did not find the same level of support in community-based institutions. Many of Bolton’s governing bodies were closed or oligarchic, the hierarchic nature of the town’s factories being reproduced in its civic institutions which were controlled by a small group of influential mill owners. Democratic expectations were relatively low, if non-existent in the town.\(^9\) In Oldham, civic life was more open. The number of mill owners on the municipal council actually declined in the last part of the century, their positions being taken up by a broad range of professions.\(^9\) Decision making, in the words of Winston Churchill, the town’s MP before the War, was in the hands of ‘happy-go-lucky amateurs’.\(^9\) The empathy between Oldham workers on the factory floor was mirrored in their active participation in the cooperative retailing movement and the large number of friendly societies in the town.\(^9\)

An illustration of the type of empathy present in the two towns was their delivery of social assistance. The administration of the Poor Law, an institution noted for its potential free-rider problems, left some room to manoeuvre at the parish level. There were important differences in the philosophies of the Bolton and Oldham unions. Henry Ashworth, mill owner and leading figure in the Bolton union at mid-century, advocated the strict application of the work-house test, while Oldham magistrates, during the cotton famine, asked to dispense with the labour test and, although its request was denied, granted relief anyway.\(^9\) Table 3.3 gives a portrait of the application of the Poor Law in Bolton and Oldham from 1870 to 1907. The total number of paupers on relief was always greater in Bolton. This is consistent with the stronger growth of Oldham’s economy or the possibility that its workers had other avenues of relief to draw on, such as personal or family savings or provident societies, for example. But the trend in the number of paupers is downward in Bolton, while it was relatively stable, if not increasing, in Oldham. This period in the history of the Poor Law was marked by the movement against outrelief. The idea here was that by reducing the proportion on outrelief, the total number relieved and the total cost of assistance would fall. This may explain the declining numbers in Bolton, although relief expenditure in the town did increase. The dynamic in Oldham seems to have been different. With the exception of 1900, relief expenditure in Oldham was greater than Bolton’s and those on relief were generally the most deserving, women, widows and children. Altogether the proportion of non-able bodied receiving relief was always greater than in Bolton. My reading of these statistics is that in Oldham there was greater propensity to take care of the most deserving and the town’s administrators were willing to make constant improvements to its workhouse. The Bolton union seems to have been less inclined to make improvements to its workhouse and its expenditure remained generally lower.\(^9\)

**Table 3.3. Poor Law statistics, 1870–1907**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bolton</th>
<th>Oldham</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Paupers (per 1000)</td>
<td>Indoor/outdoor paupers</td>
</tr>
<tr>
<td>1870</td>
<td>23.04</td>
<td>0.26</td>
</tr>
<tr>
<td>1880</td>
<td>33.06</td>
<td>0.27</td>
</tr>
<tr>
<td>1890</td>
<td>18.36</td>
<td>0.26</td>
</tr>
<tr>
<td>1900</td>
<td>20.48</td>
<td>0.29</td>
</tr>
<tr>
<td>1907</td>
<td>17.57</td>
<td>0.53</td>
</tr>
</tbody>
</table>

*Sources: Poor Law reports for the 1st of July of each year. PP 1872 (387) i; PP 1881 (60) LXXVIII; PP 1890 (303) LXIII; PP 1900 (136) LXIII; PP 1908 (256) XCI.*

The Poor Law authorities conducted a detailed survey of 1907 that allows us to evaluate whether the generous features of the Oldham union led to abuse of the system (Table 3.4). This was not the case. About 30 percent of those on relief in Oldham received payments for less than one
month; the corresponding figure in Bolton was 25 percent. Not only were durations shorter, but so was the frequency of use. The number of repeat users was much lower in Oldham. This is exactly what one would expect to see in a society where there was a strong sentiment not to let one's co-workers down. Workers in Oldham would not abuse or free ride because this would mean less would be available for someone truly deserving.

Table 3.4. Poor Law statistics, 1907

<table>
<thead>
<tr>
<th>Bolton</th>
<th>Oldham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of persons relieved</td>
<td>8,315</td>
</tr>
<tr>
<td>Duration</td>
<td></td>
</tr>
<tr>
<td>&lt; 1 week</td>
<td>543</td>
</tr>
<tr>
<td>(percentage of total relieved)</td>
<td>(6.53)</td>
</tr>
<tr>
<td>1 – 4 weeks</td>
<td>1,518</td>
</tr>
<tr>
<td>(18.26)</td>
<td>(17.97)</td>
</tr>
<tr>
<td>26 – 52 weeks</td>
<td>1,278</td>
</tr>
<tr>
<td>(15.37)</td>
<td>(13.89)</td>
</tr>
<tr>
<td>Repeat users</td>
<td></td>
</tr>
<tr>
<td>Once</td>
<td>6,835</td>
</tr>
<tr>
<td>(82.20)</td>
<td>(89.39)</td>
</tr>
<tr>
<td>Twice</td>
<td>961</td>
</tr>
<tr>
<td>(11.56)</td>
<td>(8.60)</td>
</tr>
<tr>
<td>Five or more</td>
<td>77</td>
</tr>
<tr>
<td>(0.93)</td>
<td>(0.23)</td>
</tr>
</tbody>
</table>

Source: PP 1908 (250) XCI.

Rings and mules and the decline of profit sharing

Two events marked the history of Oldham in the period from 1900 to 1914. First, was the decline in workers' participation in the limiteds; second, was the decision of many Oldham firms to stick with mule spinning despite the availability of ring spinning. My objective in this section is to show that these two events were related.

If labour ownership was so good, why did it come to an end? Dow and Putterman give some reasons for the instability of cooperation where both workers and nonworkers own shares in the same organisation and where shares are traded freely. There are fundamental asymmetries between capital and labour inputs. Workers generally hold only one job at a time, while the owners of capital can spread their resources more evenly. Workers, like those in Oldham, can and do buy shares in other companies to redress this imbalance, but it is certainly much easier for the owners of capital to diversify their portfolios. Moreover, where workers bring both their labour and capital into the organisation, their preferences are more heterogeneous than those of capital. Consider the case of a firm with some worker ownership wanting to introduce a new technology. Older workers on the eve of their retirement will be concerned about the value of their shares and may be more responsive to restructuring; they will have different preferences than middle-aged workers who may lose their jobs in restructuring, and younger workers who may agree to change if they can obtain shares in the first place. As a result of these imbalances and asymmetries, capitalist investors often buy out workers, but workers rarely buy out capitalists. Worker ownership would probably last no longer that one generation. Dow and Putterman conclude that worker participation is unstable.

The turn of events in Oldham is consistent with this story. Beginning in the 1880s, ring spinning was being slowly introduced in Lancashire, a technique that in textile industries elsewhere, like the US and Japan, had displaced the male mule spinner from his privileged and highly remunerative position in favour of cheaper labour, mainly women. Acting as stakeholders, younger and middle-aged male spinners would have probably fought against this restructuring to preserve their firm-specific investments. There were few employment options that offered comparable wages for redundant middle-aged spinners and their unemployment benefits were meagre. Older spinners were faced with the dilemma of choosing between protecting the value of their shares (and supporting restructuring) and defending the interests of their co-workers. Their pension benefits were minimal and at some point they had to sell their shares. The average age of Oldham spinners declined over the period (see Table 3.2) because of the town's expansion, and many of the newer generation of spinners probably did not have the savings required or could not borrow to buy these shares, although unions and cooperatives held onto theirs. Recall that in the 1870s investors could buy individual units at about £5; by 1900 initial offerings were by blocks of shares. Taking advantage of workers' heterogeneous preferences and their control of the capital market, managers and other speculators began buying out individual spinners in the boom years after 1900. By 1914, Oldham's experiment with worker cooperation had come to an end.

The irony is that the purchase of spinners' individual shares by mill managers and the like did not usher in a wave of new ring-spinning technology. The union and cooperative movement retained their role as stakeholders and opposed the new technology to preserve the jobs of their median members. Recall that many limiteds were run on a 'one man one vote' basis, which meant that the increasing concentration of shares would not have deterred organised workers from having their opinion heard and acted upon. But mill managers were also opposed to changing technology. Mule spinning was still profitable. Moreover, many of the new limiteds were speculative ventures and they had to be built quickly. The blueprints for mule mills were easily available and indeed many of the town's architects and builders who specialised in constructing mills with mules held significant investments in the limiteds built after 1900 and sat on boards of directors. The rate of installation of rings gives credence to this story. In the period, 1896–1905, the number of rings almost tripled, but in the next ten years they merely doubled.
Evidence on the geographical distribution of spinning technologies in Lancashire is consistent with the view that there was a strong preference for limiteds to retain mules. Everything else constant, Oldham should have been as likely, if not more so, to have made significant investments in rings which were best suited to lower grades of yarn. But various indicators reported in Table 3.5 suggest that fine-spinning Bolton was as prone to invest in rings. Leunig argued recently that owing to the transport costs of shipping warp yarn, the adoption of rings in individual towns was correlated with available, or co-located, weaving capacity. Bolton had double the weaving potential of Oldham and this is reflected in the proportion of ring output in the two towns (line 6 of Table 3.5), despite the fact that the former was known for its fine yarn. But this explanation is at best partial. Ashton spun on average counts between the upper and lower ranges found in Oldham and Bolton, and its weaving capacity, according to Leunig, was about seven times that of Oldham’s. It should have been more receptive to the new technology, but the actual take up of rings was about the same as in Oldham, about eight percent of output. Transportation costs cannot be the sole explanation of the choice of technique. Like Oldham, Ashton had a militant history, and the town saw a great expansion in the number of limiteds. In both towns, stakeholders, whether they were unions, managers or archtects, preferred mules. In contrast, there was a clear positive relation between privately run firms and ring spinning. Stockport spun coarse yarn and it had a greater share of rings, because it had a smaller number of limiteds; in Rochdale, a town dominated by paternalist employers and spinning coarse yarn, the percentage of ring spindles was also high, amounting to a third of the number in Lancashire in 1905. Finally, in Bolton, where families retained control of organisations and limiteds were practically unknown, the move to rings met with less resistance.

### Table 3.5. Rings versus mules: Bolton and Oldham

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of ring factories</th>
<th>Bolton</th>
<th>Oldham</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>6.14</td>
<td>5.64</td>
<td></td>
</tr>
<tr>
<td>1905</td>
<td>24.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1915</td>
<td>0.25</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1927</td>
<td>3.7</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>1906</td>
<td>7.9</td>
<td>8.5</td>
<td></td>
</tr>
</tbody>
</table>


### Conclusion

In this chapter I have attempted to address two interrelated puzzles, one theoretical, the other historical: if labour ownership is so good, why do we not see more of it, and why was the growth of Oldham’s cotton spinning industry so much faster than Bolton’s. As for the first problem, I have argued that profit sharing, as a wage system, is not widely observed because of its potential for free-rider problems. These problems are done away with where there exists some degree of empathy between workers. Contrary to Alchian and Demsetz, workers can monitor each other because under certain conditions the costs of doing so may be very small. In other situations, workers may not be as concerned with the welfare of their peers and, as a result, the free rider problem will persist under profit-sharing schemes, forcing firms and workers to expend a greater proportion of resources to monitor each other. It is the presence of these costs that make cooperation so good, but rare because cooperative behaviour is dependent on some degree of trust.

I have drawn on these propositions to answer my second question about growth rates in the two towns. In Oldham, workers cared a great deal about each other to the extent that these feelings overrode free-rider problems. The timing of Oldham’s growth went hand-in-hand with its adoption of profit-sharing arrangements. In Bolton, similar incentive structures were impractical because workers were indifferent to the welfare of their peers and their bosses. These motivations were revealed in greater monitoring on the factory floor in Bolton and outside the factory in the distribution of poor relief. Because attitudes in Bolton were not compatible with profit sharing, its growth was slower than Oldham’s.

My reading of the historical evidence suggests that the options available to organisations to elicit cooperation are limited. The two towns I have studied shared common technologies, work organisations and market opportunities, and capital and factor markets were integrated. Risk preferences were also comparable across towns, as were levels of education and work experience. Moreover, workers in the towns shared a common sociocultural background. Yet, despite these likenesses, the two towns exhibited a divergence in their patterns of social behaviour: Oldham workers had a more militant past and, supported by community institutions, the empathy built up in the period of conflict that lasted until 1850 resurfaced in the limiteds after 1860. Oldham’s culture of trust could not have been reproduced easily. This result is consistent with recent experiments conducted by Schotter who found that in profit-sharing games participants achieved the cooperative solution if and only if they had made some prior commitments with each other. Lacking a heritage of cooperation, it would have been impractical for an individual Bolton firm to divert resources to promote trust and raise effort levels of its workers, because there was little institutional support both within and outside the factory for this type of human-resource initiative. For Bolton, policy was no substitute for history. This result is consistent with the view advanced by Bowles and Gintis that...
communities support the norms and values of individual and group behaviour in organisations.\textsuperscript{11}\textsuperscript{11}

Oldham's experience with labour ownership lasted for one generation. The fact that so few workers actually participate in wage systems like profit-sharing schemes today, as has been in the past and for long periods of time, is evidence that cooperation is difficult to obtain. Although there are examples of labour ownership scattered across time and space, researchers have found no empirical regularity that would permit generalisations about the conditions in which cooperation will actually manifest itself.\textsuperscript{14}\textsuperscript{14} The peculiar history of the Oldham limited speaks directly to this point.

Notes


8. I define trust as the commitment of resources to an activity where the outcome depends upon the cooperative behaviour of others. Trustworthiness is defined as behaviour that increases returns to people who trust you.


15. These figures are from W. Lazear, Competitive Advantage on the Shop Floor (Cambridge, Mass., 1990). Productivity figures are for 32s twist yarn, the average count


17. The Oldham piece rate or wage list had a built-in time component and any relation between earnings and effort is approximate. Moreover, the Oldham list divided the benefits of future investment in workers and firms into two parts, so that all benefits went to workers. On the wage lists in the two towns, see Huberman, Escape.


20. For Bolton manufacturers' assessment of market opportunities see the annual reports for 1885 to 1890 of the Bolton Master Cotton Spinners' Association (Z/14/6/1), Bolton Local Studies Service.


24. Oldham's encroachment into fine spinning led to a dispute, beginning in the early 1890s, between manufacturers and spinners in the two towns. The Oldham spinners' union estimated that 25 percent of its membership in 1901 spun Bolton counts, nos. 40–80. Oldham spinners, supported by Bolton manufacturers, demanded to be paid by the Bolton list of prices (which had higher rates than the Oldham list at selected counts). The 'fine counts question' was resolved by the intervention of Lloyd George in 1907.

25. See, Minute Books and Annual Reports of the Oldham and District Operative Cotton Spinners' Provincial Association (T/1/1/8–23) and the Reports of the Master Cotton Spinners' Association (OL/6/8–2–15), John Rylands Library.

26. The increase in counts spun in Oldham does not mesh with the calculations of L. Sandberg, 'Measurments in the Quality of the British Cotton Textiles, 1815–1913', Journal of Economic History, 99:9 (1998), pp. 25–43 who, using aggregate data on exports, found that after a rise in quality in the early to mid 1890s, from 1898 to 1914 the general trend was slightly downward.

27. In both towns spinners' wages were about twice that of common laborers, and about 20 percent less than highly skilled workers like engineers. That said, the demographic profile of spinners favoured human capital accumulation in Bolton. The average age of spinners in Oldham declined over the period, while that in Bolton increased.


32. After Oldham, Ashton and Rochdale were the other important centres of limited companies (Farmie, English Cotton Industry).

33. Dow and Putterman, 'Why Capital (Usually) Hires Labour'.


35. The balance sheets found in the annual report of the Oldham and District Operative Cotton Spinners' Provincial Association (Turner/1/1/8-26). In the mid-1890s, when Tomes reports that there was little interest in holding shares, the Oldham union still held investments in fifteen mills totalling £2500, which amounted to about 25 percent of its total expenditures. On friendly societies' investments, see PP 1874 (955) XXIII, p. 294.

36. In 1900 there were seventy cooperatives and friendly societies in Oldham. They had on average about 150 members (PP 1901 (608) XXXV). The records of two societies survive: the Greenfield Co-operative Society Ltd. (Balance Sheets, CR 93/4/3) and the Royston Industrial Co-operative Society (General Committee Minutes, CR 1/11). The former had investments in ten limiteds in 1908 for a total value of £600. This represented about 70 percent of its investments. The company invested in varied over time. At its 1899 meeting, the Greenfield Co-operative heard from a member who had attended the shareholder meeting of the Money Cotton Co. Ltd. The company's performance was deemed 'unprofitable' and along with the other shareholders the co-op demanded the resignation of the mill manager. These records are available at the Oldham Local Studies Library. Below, I give further evidence on the cooperative movement.

40. I discuss the end of worker cooperation in the penultimate section of this chapter.

41. Jones, Cooperative Production, p. 294

42. Farmie wrote: 'The limiteds therefore remained true to their nature as associations of capitalists dedicated to the making of private profit and compelled to compete with private firms and with other limiteds.' (English Cotton Industry, p. 261).


44. See the testimony of union representatives in PP 1892 (6705) XXXV, pp. 724-26. The union's criticism is often taken as evidence that the limiteds were not true worker democracies. See Porter. My point is that a worker owned and run limited did not look very different from its capital-run enterprise.

When labour hires capital


65. Garrett, Leadership.

66. Taylor (Popular Politics, p.126) wrote: ‘The vulnerability of labour to the activities of innovating employers...played an important role in the greater subordination of labour to capital after the Chartist period.’ See, also A. Howe, The Cotton Masters, 1830–1860 (Oxford, 1984), p. 142. Historians of paternalism have disputed its continuity. Joyce (Work, Society and Politics) asserted that paternalism after 1850 was a new initiative; Taylor (Popular Politics) and Brian Lewis (The Middlemen and the Millowners: Bourgeois Culture and Politics in Early Industrial England (Palo Alto, 2001) have stressed its origins before mid-century.

67. The evidence on union membership and expenditures is from the Web Trade Union Collection (Library of the London School of Economics and Political Science), Vol. XXXV, pp. 10, 22; Vol. XXXVI, p. 35.


70. Farine, ‘Emergence’, p. 44.


75. For a critique of Foster’s statistics, see R. Penn, Skilled Workers in the Class Structure (Cambridge, 1985).


77. Around 1870 in Bolton and Oldham, a spinner earned more than double his junior worker. With joint-minding in Oldham, the pay of big piecey and minders was about equal, each minder earning less than a spinner. It would have been expected that joint-minding would be more common in regions such as Bolton, where there were fewer alternative employment openings for older piecey (Bolin-Hort, Work, pp. 159–60; Lazonick, Competitive Advantage, p. 107).

78. L. Law, Oldham, p.93.

79. Tyman, ‘William Mackraft’.

80. Recall that the liabilities also took hold in Ashton. Like Oldham, Ashton saw a great wave of industrial disputes before 1850: M. W. Steinberg, Eighty Wars: Working Class Formation, Collective Action, and Disease in Early Nineteenth Century England (Ithaca, 1999).

81. PP 1889 (5807) LXX, pp. 894–904.

82. For examples, see the minutes of the Bolton and District Operative Cotton Spinners’ Provincial Association, 1884–1905, ISCI 1/1/1–22.


84. Bolton Chronicle 29 October 1836.

85. PP 1892 (6705) XXXV, p. 734.

86. PP 1889 (5807) LXX, pp. 894–904.

87. For examples, see Bolton and District Operative Cotton Spinners’ Provincial Association, 1888–1905, ISCI 1/1/1–9. The quote is from 1895, ISCI 1/1/4, p. 8.


91. MacLeod, ‘Equity’, Milgrom and Roberts, ‘Complementarities’.


95. While Bolton had forty three cooperatives and friendly societies with about 5,000 members in 1874, Oldham had more than 200 such organisations with about 12,000 members (PP 1874 (995) XXII, pp. 278, 301). Over the period the number of cooperatives actually declined in Oldham as they became larger. See note 39.


98. For recent surveys of the debate between rings and mules, see Marison, ‘Indian Summer’, and Rose, Firms.

99. The purchase of shares in limiteds other than their own gave Oldham workers only a small degree of portfolio diversification, because in a competitive industry, like cotton textiles, the fortunes of all firms tended to rise and fall together. My research suggests alternative reasons why workers bought shares in competing concerns: first, at the time of the initial offer of shares at their own firm, workers who faced some form of credit constraint might not have been able to purchase equity; second, Oldham workers held shares in competing concerns because of the social bonds between workers across mills.

100. For a model of this type, see E. P. Lazear and R. Freeman, ‘Relational Investing: The Workers’ Perspective,’ NBER working paper, no. W5436, 1996.

101. Proctor and Tom’s (‘Industrial Relations’) argue that rings did not have a wage advantage at a given output spin.

102. In fact, unemployment and retirement packages were more generous in Bolton. See Bolton and District Operative Cotton Spinners’ Provincial Association, 1900, ISCI 1/1/7, p. 6. Pensions in Bolton amounted to 5–10s. per week (that is, about 10–20 percent of a normal week’s earnings).

103. The spinners’ union in Oldham lent £2000 to a limited whose majority owner was John Huntington, the town’s leading speculator – and richest man – in 1896. Oldham and District Operative Spinners’ Provincial Association (U1/1/26).

104. CFI, 12 February 1904.

105. Tom’s, ‘Financial Constraints’; Tom’s, ‘Growth, Profits’.


109. Leunig (Myth, pp. 92–93) gave these figures for the share of total output (weaving capacity) spun by sub-40 rings: Ashton: 7.9 percent (53 percent); Bolton: 7.9 (100); Oldham: 8.5 (7); Rochdale: 42.9 (100); Stockport: 22.7 (66).

110. Steinberg, Fighting Words.

111. Rochdale was known for its consumer cooperatives, but had few worker-run or controlled factories. In comparison with Oldham, the town faced fewer obstacles to make the switch to rings. There were more female workers in Rochdale’s textile factories and the trade union movement was weaker.


### Chapter 4

**Giving Notice: The Legitimate Way of Quitting and Firing (Ghent, 1877–1896)**

Patricia Van den Eeckhout

Belgian historians studying labour and wage relations in the nineteenth and twentieth centuries are not consumed by an overwhelming curiosity for what happened on the shop floor. The decision making process regarding social legislation and the political and institutional history of collective labour relations appear to figure much higher on the research agenda. Labour relations are thus predominantly perceived from the point of view of the political historian, more interested in shifting balances of political power than in the daily practices that shaped relations between employer and worker. Only a few studies descend to the level of industrial sector or shop floor and manage to treat labour relations as power relations with concrete and varying forms, instead of an abstract category with an unspecified content.

The mentioned studies tend to focus on the most visible and explicit manifestations of labour relations, such as technological and organisational changes, strikes and wage tariffs. However, the fabric of wage relations is not merely shaped by more or less clear-cut formal arrangements. The importance of self-evident, informal and implicit understandings between workers and employers can hardly be underestimated, although they are more difficult to capture. Custom figures prominently among the more implicit components of nineteenth-century daily labour relations. This Chapter investigates the custom of giving notice, a practice related to termination of employment that has been hardly explored in historical research. It discusses how Ghent workers and employers activated and defined the custom and circumscribed the conditions allowing a legitimate refusal to apply it. Despite the steady permanence suggested by the word