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Worker Cooperatives: Good, Sustainable Jobs in the Community*

ABSTRACT

Worker cooperatives are the least well-known part of the cooperative movement. Part of the reason is that the idea of a business run by its employees sounds unrealistic to many people. Yet there are thousands of worker cooperatives and related businesses around the world, including some very large firms. In the last two decades, the availability of extensive new data on worker cooperatives and other firms in several countries has made it possible to gain a more comprehensive understanding of the incidence and patterns of behaviour of worker cooperatives. The picture of worker cooperatives that is emerging from the research findings based on these data suggest that worker cooperatives are more "normal" firms than is often believed. For example, they can be found in a wide range of industries and seem to be larger, on average, than other firms. Importantly, this body of international research also sheds new light on issues that have been at the heart of the research debate on labour-managed firms, such as the objectives pursued by the firms and their capacity for growth.

The paper examines the implications of the key international research findings of the last two decades for our understanding of why worker cooperatives are created, the objectives pursued by founding and subsequent members and the spill-over effects of their performance for the communities in which the firms are found. The paper argues that worker cooperatives, by providing institutions in which employees control most aspects of their job and firm strategy (including pay and employment trade-offs) internalise a number of externalities to the conventional operation of firms. They provide good, stable jobs in which employees' potential and creativity can flourish. In addition to promoting economic democracy, worker cooperatives offer sustainable and local employment and are likely to have a number of positive effects on their communities' economies, public finances and health.

KEY-WORDS

WORKER COOPERATIVES; MUTUALS; EMPLOYEE OWNERSHIP; JOB PRESERVATION; COMMUNITY HEALTH.

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1. Introduction

Worker cooperatives are the least well-known part of the cooperative movement, perhaps because the idea of a business run by its employees sounds unrealistic to many people. It is commonly thought that worker cooperatives must be small, special firms in special industries, under-capitalised and probably short-lived. Until recently, this vision was comforted to a certain extent by the partial empirical evidence available. However, a different picture is emerging from the more extensive data that has become available in the last decade. This evidence suggests that worker cooperatives are, in many ways, not as "special" as we have long thought. Worker cooperatives are present in most industries, are not always less capital-intensive and tend to be larger on average than their conventional counterparts, and survive at least as well. This evidence suggests worker cooperatives are not simply niche organisations and have a broader role in a market economy than is often thought. In this paper, I investigate the implications of these findings and other recent research evidence on worker cooperatives' finance arrangements and behaviour for our understanding of the role they play, both as it may be viewed by their founders and supporters and more broadly in the communities in which they operate.

The expectation that labour-managed firms are small and short-lived accords with the hypothesis put forward by theorists that labour-managed firms under-invest, to the point that they may altogether disappear (Furubotn and Pejovitch, 1970; Vanek, 1977). Although this hypothesis has been quite controversial, it has also been very influential. In practice, worker cooperatives are set up in ways that preclude under-investment (Alzola *et al.*, 2010; Pérotin, 2012). I will argue that the two main features ruling out under-investment that are found among employee-owned firms in market economies correspond to some extent to two different visions of the role of labour-managed firms, both of which co-exist in some countries.

Another controversial hypothesis from economic theory is the "perverse supply response", according to which the labour-managed firm will cut output and jobs in response to an increase in the price of its product or service. Major studies looking at worker cooperatives from different traditions in three different countries (Craig and Pencavel, 1992; 1993; Pencavel *et al.*, 2006; Burdín and Dean, 2009) in comparison with conventional firms have recently found that the cooperatives do not respond perversely to demand shocks. More importantly, these studies also show that while conventional firms respond by adjusting employment, worker cooperatives of all traditions adjust pay more than employment. I'll argue that members' control over major firm decisions is crucial to this behaviour and to the way they view the firm. Because worker control leads the firm to internalise some of the effects of its strategic decisions on stakeholders and create more sustainable jobs, it is also at the heart of the role worker cooperatives can play in their local communities.

The definition of a worker cooperative that I will use here is that of a firm in which all or most of the capital is owned by employees in the firm, whether individually or collectively; where all employees have equal access to membership regardless of their occupational group; and where each member has one vote, regardless of the allocation of any individually-owned capital in the firm. In other words, it is a worker-owned firm that applies international cooperative principles, but may be set up slightly differently in different countries. Potential differences especially regard financial arrangements, which, as we will see, can vary.

In the next section, I briefly review the new stylised facts that emerge from international data to show that worker cooperatives are, in many ways, not as "special" as we have long thought. Section 3 examines (the lack of) incentives for under-investment in existing forms of labour-managed firms and the two main possible views of worker cooperatives that are reflected in the different traditions regarding cooperative financial arrangements. Section 4 looks at the implications of recent empirical research findings regarding employment, pay determination and capital accumulation for the objectives pursued by worker cooperatives. In section 5, I reflect upon the wider implications for the role of worker cooperatives in their local communities. Section 6 concludes.

2. New stylised facts?

It is worth remembering that there exist many more worker cooperatives than is usually thought. In this, the champion country undoubtedly is Italy, where there are more than 25,000 worker cooperatives[1]. Spain is not far behind, with an estimated 18,000 worker cooperatives (Monzón Campos, 2010)[2]. France has about 2,200 (CG-SCOP, 2013). Nevertheless, worker cooperatives remain a small minority of firms, and outside Italy and Spain represent an extremely small percentage of all businesses—for example, in early 2011 only 0.17 per cent of the firms that had employees in France were worker cooperatives[3].

However, in many aspects worker cooperatives may actually not be as special as we have tended to assume. They are present in most industries, and although there is some clustering in certain industries, the industries concerned seem to vary from one country to another. For example, in France a larger proportion of worker cooperatives are found in manufacturing and construction, and a lower percentage in services, than among conventional firms (Pérotin, 2010). But in Uruguay we find a lower share of the cooperatives than of conventional firms in manufacturing and relatively more cooperatives in transport and services (Burdín and Dean, 2009). Most people think worker cooperatives are generally smaller than conventional firms. It is true that we see very few very large worker cooperatives, and it is natural to think that the Mondragón cooperative group in Spain (which has about 85,000 employees in a range of industries) or the John Lewis Partnership in the UK (an employee-owned chain of department stores and supermarkets employing 76,500 people that jointly own the business) are simply exceptions. But very large firms are the exception among conventional firms as well. Thus, for example, 92 per cent of all firms with employees have less than 20 in the UK, 89 per cent in the US and 90 per cent in France; and only about 0.3 per cent of firms with employees have 500 employees or more in the UK and the US, while for France the figure is 0.2 per cent. Only 0.03 per cent of firms have 5,000 employees or more in the US, and 0.04 per cent have 2,000 employees or more in France[4].

Size distributions of worker cooperatives and conventional firms are not always available in comparable form, but where we have the data cooperatives do not appear to be smaller. The compared size distributions that are available for France (Pérotin, 2010) and for Uruguay (Burdín and Dean, 2009) indicate that worker cooperatives are less often micro-firms than conventional firms, and more often small or medium-sized. In both countries the percentage of firms with 100 employees or more is greater for worker cooperatives than for conventional firms, and partial data suggest the percentage of firms with 1,000 employees or more is the same (about 0.1 per cent) among the two types of firms in France or perhaps higher among worker cooperatives. On average, the cooperatives are larger than conventional

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1 Private communication from Alberto Zevi, October 2010.

2 This estimate from 2008 does not include the 17,000 *sociedades laborales* (Monzón Campos, *ibid.*) which are majority employee-owned firms.

3 Author's computation from CG-SCOP (2011) and INSEE (2012).

4 The figures for the UK and France concern 2007 (except for very large firms in France, which concerns 2011), that of the US 2008. Author's computations from official data (see BERR, 2008; US Census Bureau, 2012; and INSEE, 2012).

firms in both France and Uruguay (Burdín and Dean, 2009; Pérotin, 2010), a feature that Pencavel *et al.* (2006) also observe in their extensive sample of large and medium-sized Italian firms. This difference is probably due at least in part to the fact that it takes several people to form a cooperative, a constraint that is made explicit in the law regarding cooperatives in both France and Uruguay. Data on the Basque country of Spain presented by Arando *et al.* (2009) confirm that the difference in size is already apparent at the creation of the firm, when newly-formed worker cooperatives are larger than their conventional counterparts.

Worker cooperatives are also often thought to operate at a lower scale and to be less capital intensive than conventional firms, if only because the people who start labour-managed firms may be less wealthy than those who start conventional firms. However, Fakhfakh *et al.* (2012) observe that there is no statistically significant difference either in average capital (fixed assets) or in average capital intensity between the two types of firms in four out of the seven industries they study using a large representative sample of conventional firms with 20 or more employees and all the worker cooperatives in the same size band in manufacturing, construction and services (in the other three industries, the cooperatives do have lower average capital and capital intensity). Pencavel *et al.* (2006) find that in Italy the average capital level is higher among conventional firms, but the median capital is higher among worker cooperatives. They also find that capital intensity is more dispersed among worker cooperatives, a greater proportion of which have very high or very low capital to labour ratios.

In Italy, France and the UK (and probably also other countries) it is not uncommon for worker cooperatives to survive for well over a century. International evidence on compared failure rates of conventional and labour-managed firms is patchy but suggests worker cooperatives survive at least as well as conventional firms (Ben-Ner, 1988; Staber, 1989; Dow, 2003; Pérotin, 2004). Burdín (2014) estimates Cox proportional hazard functions controlling for start-up conditions on Uruguayan data and provides robust evidence that, all else being equal, worker cooperatives survive better than other firms.

Although it concerns a small number of countries, this evidence has been obtained with data covering, for the first time, large representative or even exhaustive samples of firms. The picture of worker cooperatives that emerges, in relation to other firms, is not that of a niche type of business form appropriate only in a few very special cases.

3. Features that prevent under-investment: Two conceptions of worker cooperatives

The idea that labour-managed firms must be short-lived was for a long time invoked as a possible explanation for their small numbers in market economies. One of the most famous and most controversial hypotheses put forward to explain the assumed tendency of labour-managed firms to disappear was that firms owned collectively by their employees would under-invest. This hypothesis was also consistent with the idea that labour-managed firms were inefficiently small. Proposed in different ways by Furubotn and Pejovitch (e.g., 1970) and Vanek (1977) the under-investment hypothesis hinges on the fact that with collective capital ownership property rights are truncated, in the sense that a worker-member that leaves the cooperative does not get a share of the present value of future profits as the owner of a tradable share would (provided capital markets are efficient). As a result, cooperative members have an incentive to invest only in projects with inefficiently high and short-term returns, and may even consume the existing capital instead of investing. In the long-run, the labour-managed firm will therefore operate at an inefficiently small scale (with increasing returns to scale) and may eventually shrink to the point of "self-extinction" (Vanek, 1977).

Although the hypothesis requires certain stringent assumptions to obtain and has been much criticised[5], it is of interest because the remedies that have been proposed by economists against incentives to under-invest happen to have been present for a long time in existing employee-owned firms. Two main solutions to under-investment have been suggested. The one that is most often recommended by economists is having individually-owned tradable membership shares, so that members that leave the cooperative can get a share of all the future returns to investment that they helped finance. This arrangement can be observed among employee-owned firms that are set up as traditional joint-stock corporations whose shares are owned individually by the employees[6]. Many employee-owned firms that resulted from privatisation around the world were set up in this way, as are other employee-owned firms in the US, the UK and elsewhere (though they may have adopted some clauses in their bylaws imposing equal shareholdings for all employees or equal voting rights regardless of capital holdings).

The other remedy is to have a compulsory profit plough-back rule, so that the collectively-owned cooperative automatically accumulates capital. This rule can be found for example in the Mondragón cooperative group and in the laws governing worker cooperatives in Italy and in France (Alzola *et al.*, 2010). Mondragón adopted its constitution voluntarily, and the provisions of cooperative law have been largely designed by the cooperative movement itself in Italy and France. Both this arrangement and employee-owned firms with tradable shares co-exist, for example, in the UK.

It is not surprising, therefore, that no rigorous empirical evidence can be found in support of the under-investment hypothesis. Estrin and Jones (1998) find no evidence of under-investment in French worker cooperatives (though they argue the firms may be financially constrained by limited access to external capital). In another study, these authors even remark that French worker cooperatives may accumulate too much capital at least some of the time (Estrin and Jones, 1992). Fakhfakh *et al.* (2012) present descriptive evidence that compared with other firms French worker cooperatives invest as much or more, on average, in all the industries they study. Using two large comparative data sets covering 10 industries, they find no evidence that the cooperatives produce at systematically lower scales, and no industry in which cooperatives produce at increasing returns to scale and conventional firms at constant or decreasing returns as predicted by the under-investment hypothesis. Finally, Pencavel *et al.* (2006) show that Italian worker cooperatives' demand for capital responds in the same way as conventional firms' to product demand shocks.

While it resolves the under-investment issue, a tradable membership shares arrangement may result in instability, especially among successful cooperatives. As the share price increases, employee-owners may be tempted to sell their shares to conventional owners, especially if they are close to retirement[7]. As a result, the firm may stop being employee-owned. Variants of this scenario have been repeatedly observed, in particular, but not exclusively, among the employee-owned firms generated by privatisation. Collectively-owned cooperatives that have mandatory profit plough-back rules do not suffer from this problem. However, the compulsory plough-back into collective capital may imply that the founding generation of members make a sacrifice by leaving in the firm some of the capital accumulated with their effort (subsequent generations inherit the accumulated capital, which compensates for leaving some with the

[5] For reviews of this debate, see in particular Uvalić (1992) and Dow (2003). Another reason why the under-investment hypothesis is of interest is the insight that members that inherit collectively-owned capital accumulated by previous generations may be tempted to appropriate that capital and demutualise. Demutualisation has happened in the absence of an "asset lock" prohibiting members from splitting the net assets even if the cooperative closes down, a provision present in most collectively-owned worker cooperatives today. See Pérotin (2012) for a discussion on these issues.

[6] The cases where all the shares are held in trust and managed by elected representatives of the employees, as in some British and American employee-owned firms, are effectively closer to collective ownership.

[7] If enough members stay with the firm, the market for membership may be restricted by arrangements for the existing membership to choose new members, as in the plywood cooperatives of the US Pacific Northwest (see Pencavel, 2001).

firm). Mondragón, and perhaps some Italian cooperatives (Zevi, 1982) remedy this problem by levying a non-refundable fee on new members, which goes towards the collectively-owned portion of capital (Alzola *et al.*, 2010).

Though instability may be a problem for advocates of employee ownership, there is nothing wrong in principle with worker entrepreneurs being able to do well out of their own business by selling it on. In this view of the labour-managed firm, the cooperative is created primarily for the benefit of the individual worker entrepreneurs. If it does well and benefits those entrepreneurs, it has achieved what it was there to do, even if it is not stable as an institution.

The mandatory plough-back rules in collectively-owned worker cooperatives correspond to a different conception of the role of the cooperative. In this tradition, members do not necessarily leave the firm with only their initial investment—certainly in Mondragón, France and Italy members can accumulate some capital in individually-owned shares and/or capital accounts. However, the cooperative is created to last, and the plough-back rule (together with an asset lock) ensures the firm is available for future generations of employee-owners. Our findings (Alzola *et al.*, 2010) also suggest that this tradition may also have stronger provisions in place to avoid degeneration to the capitalist form. This process may take place over time as members that leave are replaced by equally productive non-members that do not share in profit until members form a minority of employees (Ben-Ner, 1984)[8]. The non-availability of tradable shares may further remove incentives for degeneration. In this tradition, the worker cooperative is a collective good created to continue as a labour-managed institution and to be available for future members.

As we have seen, the plough-back rules have typically been devised by the cooperatives themselves or the cooperative movement in the countries where the rules have entered the law. In addition, anecdotal evidence indicates that individual cooperatives actually plough-back a considerably greater share of profit in practice than mandated by law or by their own constitution—some 2-3 times more in Italy, France and Mondragón (Alzola *et al.*, 2010). This raises the issue of the objectives pursued by the worker cooperative.

4. The objectives of the labour-managed firm: A reappraisal

Another controversial hypothesis concerning labour-managed firms has been the "perverse supply response". This hypothesis derives from the traditional model of the labour-managed firm in which the worker cooperative maximises income per member (Ward, 1958; Domar, 1966; Vanek, 1970). In this model, members share both losses and profit, and as a result under the right assumptions an increase in the price of output leads the firm to cut output—and therefore employment—in order to maximise the income of the remaining members. This hypothesis has long been criticised for several reasons. A number of authors showed it does not stand up to small changes in the specification of the problem, like introducing more than one output or additional inputs[9]. More importantly, it has been pointed out that the predicted behaviour of the firm seems unrealistic—how do members choose who has to leave in order to increase the others' profit?—and misses the collective nature of the labour-managed firm. Yet the assumption that the firm maximises income per member seems reasonable. It also explains the degeneration to the capitalist

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[8] Provisions against degeneration include rules imposing a minimum proportion of members among employees (Mondragón); sharing profit with non-members as well as members (France); and tax incentives for ploughing back all or most of the profit (Italy). See Alzola *et al.* (2010). For a more detailed discussion of these issues, see Pérotin (2012).

[9] For a discussion see Stephen (1982).

form (Ben-Ner, 1984) that has been repeatedly observed among employee-owned firms.

A series of recent empirical studies comparing the response of pay and employment to product demand shocks among worker cooperatives and other firms suggest that there is no perverse supply response. Craig and Pencavel (1992; 1993; 1995) looking at the plywood sector of the Pacific Northwest in the US, Pencavel *et al.* (2006) on Italy and Burdín and Dean (2009; 2012) on Uruguay all find the cooperatives do not exhibit any perverse supply response to change in product prices or demand shocks, though their employment levels are more stable (less elastic) than conventional firms'. Moreover, all find that when conventional firms primarily adjust employment, worker cooperatives primarily adjust pay[10]. The worker cooperatives behave as though employment is relevant to their objectives—whether as a simple labour supply constraint on the maximisation of income per member or as an argument of the objectives function itself. It is remarkable that three groups of cooperatives that are arguably coming from at least two different traditions and in three different countries exhibit the same behaviour in relation to employment and pay adjustment. It is worth noting that a cut in pay in a recession in order to preserve jobs is completely incentive compatible in a worker cooperative, since the worker members will decide on the allocation of any future profit and will be able to increase their income again. By contrast, a conventional employer may find it more difficult to provide a credible commitment to employees that pay concessions will be made up at a later date.

The evidence on pay and employment responses to changes in demand conditions is consistent with the idea that worker cooperative members are concerned with job security. Such a concern may explain why Italian, French and Mondragón cooperatives all plough-back substantially more profit than is required (Zevi, 2005). Navarra (2013) argues that such a policy is a form of insurance against the risk of job loss. By adjusting pay rather than employment (and in the case of Uruguayan cooperatives adjusting only members' pay while preserving members' and non-members' jobs—Burdín and Dean, 2009), members show they are prepared to take financial risks (Zevi, 2005)[11]. Rather than being extremely risk averse, as is sometimes suggested, cooperative members may simply prefer financial risks to job risks. I have argued elsewhere that the counter-cyclicality of cooperative creations, which is more pronounced than that of conventional firm creations, is due to cooperatives being formed when the risk of job loss increases in conventional firms (Pérotin, 2006).

If income was the only thing that mattered to employee-owners, then a job in a conventional firm and a job in a worker cooperative would be equivalent. However, employment in a worker cooperative has a fundamental characteristic that makes it different from employment in a conventional firm—employees control the firm. This characteristic is valuable for several reasons that have to do with the particular nature of the employment relationship and the market failures that affect it. The first is that many non-pay characteristics of jobs, like working conditions, are local public goods (Freeman, 1976) which may not be provided in the absence of a collective employee voice[12] so that their absence in other firms is not necessarily compensated for with higher pay. As Pencavel (2001) notes, workers more generally care about many non-wage aspects of their jobs, such as what they can refuse to do, whom they'll work with, etc. Worker-members' control of the firm allows these aspects not only to be known but also to be taken into

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[10] This comparison does not imply anything about the relative pay levels of the two types of firm, even in a recession and for identical workers, because pay includes a share of profit in labour-managed firms, whether formally (as profit-sharing bonuses) or if pay is adjusted once the level of profit is known, before computing accounting profit. For a comparison of pay levels in cooperatives and conventional firms, see Clemente *et al.* (2012).

[11] Pencavel (2001) also remarks that it is likely that worker cooperative members are less risk averse than employees of conventional firms.

[12] Even though providing the right working conditions might reduce turnover costs for the firm (Freeman, *ibid*.).

account. By allowing employees more autonomy and recognition, worker cooperatives are also likely to foster intrinsic motivation (Frey and Jegen, 2005) and more generally an environment in which their creativity can flourish.

Perhaps most importantly, control over the firm's strategic decisions protects employee-owners against moral hazard on the part of managers. For example, investment decisions, whether they maximise profit or the managers' utility or are simply ill-judged, may result in job losses. In looking at the performance effects of employee ownership, we have focused on the asymmetry of information in favour of the employee, which explains some of the incentive effects of ownership. From the point of view of the employee, the informational asymmetry that favours the firm is at least as important, given the job risks involved. Employee control means a job in a worker cooperative is a job whose risk the employee has some control over. This means that a job in a worker cooperative is likely to be much more valuable, all else being equal, than a job in a conventional firm, and the difference in value increases when the risk of job losses increases in conventional firms. It also implies that worker members may not just be concerned with job security generally, but specifically with the security of their job with the cooperative. By itself, this concern would be sufficient to explain the choice of income risk over job risk and profit plough-backs beyond the required minimum that have been observed among existing worker cooperatives.

Employment security may thus be more crucially involved in the objectives of labour-managed firms than has been assumed in the traditional theoretical model. Rather than pursuing a high income above all, the cooperative may seek to ensure its continued existence in order to provide and preserve good jobs for its members. In this, control of the firm by its employees is an essential feature. Because it allows worker cooperatives to internalise some of the possible effects of management decisions, employee control also has implications for the communities in which the firms operate.

5. Economic democracy and the role of worker cooperatives in their local communities

The fact that worker cooperatives seem to choose jobs over income stability means that they are likely to have more sustainable jobs. Worker cooperatives may create relatively less jobs than conventional firms in response to product price increases (since their employment level is less elastic)[13]. However, the evidence we have seen clearly implies that worker cooperatives preserve jobs better in deteriorating market conditions, when other firms are more likely to cut jobs. Cooperatives' probable higher overall productivity (Fakhfakh *et al.*, 2012) and their ploughing-back profit and investing at rates at least as high as conventional firms do both provide further support for the presumption that cooperative jobs will be more sustainable. In addition, recessions increase the number of firm closures among conventional and labour-managed firms alike and decrease the number of creations among conventional firms, but increase creations of worker cooperatives, all else being equal (Pérotin, 2006).

The descriptive evidence presented by Fakhfakh *et al.* (2012) shows annual changes in the firms' employment levels were the same or better in worker cooperatives than in other firms, in all the 10 industries studied. On average, worker cooperatives increased employment faster than conventional firms in four out of the seven industries that were studied over a period of modest growth (the increases being the same in

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[13] This does not imply that a worker cooperative's employment level will necessarily be lower than that of a conventional "twin": for example, if the two firms started out with identical employment levels and went through a downward shock first, the cooperative would enter the recovery with a higher level of employment than its twin.

the two types of firms in the remaining three industries). Among the four industries observed during the 1990s recession[14], Fakhfakh *et al.* (2012) report that the two types of firms cut jobs at the same rate in two industries; in one industry the cooperatives cut jobs at a significantly lower rate than conventional firms; and in the remaining industry the cooperatives even increased employment on average while other firms decreased it.

If worker cooperatives preserve jobs better than other firms, this has potentially important implications for the wider community, because of the externalities associated with job preservation. Preserving jobs saves unemployment benefit, and may have a positive effect on tax revenue through the spill-over economic effects of preserved jobs on the local communities. In addition to saving unemployment benefit, job preservation saves on other community resources such as social services. It is increasingly recognised that unemployment has both broader and more profound effects than its strictly economic consequences, in particular on health (e.g., Classen and Dunn, 2011; Bambra and Eikemo, 2009). If worker cooperatives preserve jobs better both for their employees and help improve economic conditions in their local economies, they may thus also have a positive effect on public health in their communities. As we have seen, the key to the greater sustainability of jobs in worker cooperatives is the control that employee-owners have over the firm, which enables them to internalise the externalities of major firm decisions on their job risk and working conditions. Indeed, Burdín (2014) finds that employment stability explains a large part of the survival advantage of worker cooperatives relative to other firms in Uruguay. The simple fact of being in control may also affect worker owners' health in and of itself. Erdal (2000) attributes to factors of this kind his observation that mortality from cardiovascular causes was lower in a town with high cooperative employment than in comparable towns with conventional employment in Italy. There is increasing evidence that control, in particular in demanding jobs, significantly affects health and life expectancy by cutting the risk of coronary heart disease, psychiatric disorders and other conditions (Kuper and Marmot, 2003; Stansfeld *et al.* 1999). Higher accident rates have been reported among the plywood cooperatives of the US Pacific Northwest (Grunberg *et al.*, 1996) which may be due to greater reporting and/or to employee-owners taking greater risks, as entrepreneurs sometimes do (Pencavel, 2001). However, entrepreneurs have also been found to experience better health and greater well-being than employees (Stephan and Roesler, 2010). Early results from a Scottish study suggest employees of employee-owned businesses may also have higher levels of well-being and job satisfaction than other employees in the UK (McQuaid *et al.*, 2012).

6. Conclusion

Recent international evidence shows that worker cooperatives may not be as unusual as is often thought. Present in most industries, worker cooperatives are larger than other firms on average, are not necessarily under-capitalised and survive as well as or better than conventional firms. Clearly the worker cooperative is not a niche business form appropriate only in very special circumstances.

Our examination of the financial arrangements that preclude under-investment has highlighted two different visions of the role of a worker cooperative—one in which the firm is set up for the benefits of its worker entrepreneurs, and the other in which the cooperative has a broader role as an institution designed to keep profit in the firm, and to last and provide future generations with an opportunity to control the firm in which they work.

[14] One of the industries appeared in both of the datasets used by Fakhfakh *et al.* (2012).

Worker cooperatives of both traditions have been shown to choose employment stability over income stability in recent studies using extensive comparative data. Having control over the firm, its employee-members are able to choose to preserve jobs in which they have a say in determining working conditions and employment risk, and in which they are likely to be better motivated, more creative and happier.

Worker cooperatives' ability to create more sustainable jobs, and their members' control over the affairs of the firm, which allows them to internalise some of the externalities of the firm's operation, are likely to have positive consequences for the communities in which they operate. The cooperatives may affect public finances and health positively by decreasing unemployment risk both in the cooperatives themselves and in the community. The exercise of control may also, in and of itself, have positive effects on members' health.

The greater sustainability of worker cooperatives' jobs, and the likely effects on communities, suggest public support for worker cooperatives would be warranted. Existing cooperative movements have evolved several possible cooperative structures that ensure the continued existence of organisations that might receive public support (in the second tradition I have identified above). The small number of worker cooperatives in industrialised economies is not due to their incapacity to survive, but to the fact that very few are created in comparison with conventional firms. Public support at the stage of creation may make a significant difference to information and other barriers to entry, together with legislation that enables the worker cooperative to prosper as a stable business form (in particular by preventing degeneration and demutualisation). We also know that the density of worker cooperatives in an area, year and/or industry is an important determinant of further cooperative creation (Russell and Hanneman, 1995; Pérotin, 2006; Arando *et al.*, 2009; Arando *et al.*, 2012). Here, we should look more closely at the Italian and Spanish experiences to understand the critical ways in which the cooperative movement itself can foster the creation of more worker cooperatives to benefit local communities.

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