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Institutional Design and Cooperative Success: The Case of Producer Cooperatives

ABSTRACT

I develop typologies to investigate hypotheses on the effects of producer cooperative (PC) support structures and the internal organizational design of individual PCs on success. Evidence, including for a new case, shows that individual PCs typically benefit from strong and well-resourced federations. However, the preferred set-up may vary across industries and countries. Particularly important design features for individual PC success include strong participation in control and in returns by worker-members; no single set of arrangements is universally appropriate, especially for both traditional PCs and multi stakeholder cooperatives. Implications for issues, including policy and an appropriate research agenda, are discussed.

KEY-WORDS

COOPERATIVES, NETWORKS, PRODUCER COOPERATIVES, INSTITUTIONAL DESIGN, EMPLOYEE OWNERSHIP, PARTICIPATION IN CONTROL, PARTICIPATION IN RETURNS

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1. Introduction[1]

Several features characterize Johnston Birchall's body of work; perhaps unsurprisingly for those who know his work, most of these traits are at odds with the approaches typically used in mainstream theoretical and empirical economic analysis. A prominent theme in his work is the importance of institutions for many questions of interest to cooperative researchers, such as the ability of member-owned organizations to survive and thrive. Thus, Birchall (2013) and Birchall and Hammond Ketilson (2009) stress the need to use the appropriate cooperative model (especially for key institutions in the *primary* cooperative), as well as the nature and design of cooperative *federations* or eco-systems. This contrasts with much of the economics literature on cooperatives, which typically has neglected issues concerning the institutional design of actual primary (first-level) cooperatives and often completely ignores the potential role of federations or shelter organizations (SOs), institutions that support primary cooperatives. In turn, this emphasis on institutions led Birchall to favor more qualitative analytical empirical methods, rather than the econometric approach used by most applied economists. Also, while his encyclopedic knowledge (e.g., Birchall, 1997) resulted in investigations of diverse member-owned organizations, he seldom closely examined producer (or worker) cooperatives (PCs)[2]. He also wanted his research to be practical—to have useful implications for policy makers and cooperators (see, for example, Birchall, 2014, and his aiming to uncover practical lessons for governance reform in large cooperatives). In this paper, I try to take many of these aspects of Birchall's work into consideration and also respond, in a modest way, to his call for contributions to a research agenda on multi-stake cooperatives (Sacchetti and Birchall, 2018) and deeper understanding of motivations for cooperative membership (Birchall and Simmons, 2004).

I argue that the neglect of institutional design is an important shortcoming in the economics literature on PCs. Better understanding of the scope and nature of institutional design for individual PCs and their SOs is vital in providing a deeper and more nuanced analysis of the overall record for real world heterogeneous PCs. The need for this sort of comparative institutional analysis has become more urgent in view of recent crises and the plethora of public policy initiatives aimed at nurturing diverse forms of member-owned organizations, including PCs.

[1] A personal note. While Johnston Birchall's professional work has provided me with much stimulus, he was also a delightful person to spend social time with. I have particularly fond memories of two long evenings in Venice with our respective partners after the Euricse conference celebrating the launch of JEOD.

[2] It is also noteworthy that the applied literature on cooperatives has a marked emphasis on the empirical analysis of PCs and a comparative neglect of other cooperative forms. This point is reflected in publication outlets in economics for work on cooperatives. Whereas theoretical and empirical work on PCs has appeared in top journals including the American Economic Review, Journal of Economic Literature and the Journal of Political Economy, for other cooperative forms, there do not seem to have been comparable appearances.

By building on previous work for SOs, including Birchall (2012a; 2012b), Smith (e.g., 2001) and Desrochers and Fischer (2005) and studies that emphasize the importance of the actual institutional details of individual PCs (e.g., Estrin, Jones and Svejnar, 1987; Mirabel, 2021; Jones, 2022), I discuss two related issues concerning the institutional design of SOs and PCs. First, is there a preferred SO for PCs? Actual PC federations are quite heterogeneous—e.g., contrast the Lega Nazionale delle Cooperative e Mutue (hereafter Legacoop), for groups of Italian PCs, with federations that typically have supported US PCs. Are there any general principles for the structure and design of these federations that appear to facilitate success? Second, is there a preferred institutional form for individual PCs—actual "real world" PCs are also quite heterogeneous concerning key features such as membership eligibility, regulations surrounding individual capital ownership and permissible interest payments for different types of capital. Do any characteristics such as these appear to predict PC success more than do others? Reviewing themes in conceptual approaches that bear on these issues, allows identification of competing perspectives.

Next, I turn to assessing empirical support for these propositions. By building on previous research, I focus on examples of actual PC SOs, and identify features to assess the efficacy of networks. Additionally, I construct a simple typology that describes the variety of PC networks. In so doing, we consider evidence on PC SOs, besides data for Lecacoop and Mondragon. Then we examine, and again preliminarily, whether any characteristics of these heterogeneous PC federations may have contributed to the varying ability of PCs to affect success among types of PCs.

Concerning the second issue, I note that there is enormous heterogeneity among real world PCs in key features including their internal organization and that this heterogeneity may have grown as multi-stakeholder cooperatives (MSCs) have become more commonplace. A simple typology of PCs based on internal institutional features is developed and I investigate whether there is a relationship between location on this typology and PC success.

The final section offers conclusions and considers implications of the findings including for policy and an appropriate research agenda.

2. Issues and competing conceptual frameworks

In this section, I quickly review the literature, mainly conceptual, on issues of interest to this paper: (i) the nature of networking and supporting institutional arrangements for PCs and whether there is a preferred "model" SO for PCs; and (ii) the preferred institutional form for an individual PC. Varying perspectives on these issues emerge from the review.

On the first matter of the preferred nature and scope of PC networks and 2nd degree cooperatives, at least two early streams of literature provide rationales for *strong* cooperative, including PC, networks and federations. Vanek (e.g., 1970) made one of the most influential arguments in favor of robust networking for PCs in the early years in the development of the theory of the labor managed firm. The key idea advanced is the need for a supporting structure—a strong central supporting structure was needed to help individual PCs operating within a capitalist environment

overcome what was perceived to be a hostile environment. While the precise theoretical arguments for the need for a shelter organization are not well developed, the flavor of the argument can be gleaned from the following:

> "… General Motors, for example, is so big it can do its own R&D, banking, credit, accounting, transportation, marketing etc. Democratic companies [PCs], which are smaller and more personal, need support systems to help in these areas. These would be second level co-ops" (Vanek, 2000: 2).

Vanek viewed the Mondragon cooperative system, and especially the supporting structures, as a particularly good example of the sort of arrangements that the existence of a "hostile environment" called for. Subsequent work by Smith (2001), Smith (2003), and Joshi and Smith (2008) sharpened this theoretical case with a particular focus on the shelter organization providing a means to overcome some of these contextual obstacles by generating network externalities and decreasing risk for individual PCs. Since cooperatives, including PCs, differ from other organizational forms, such SOs would also benefit by some specialization in providing services to cooperatives. Again, Mondragon was advanced as a good example of the appropriate type of PC network as was Legacoop in Italy[3].

However, there is an even earlier line of argument for the need for cooperative networks. In fact, it goes back to the early days of the cooperative movement and the identification of core cooperative principles—the sixth Rochdale principle (Birchall, 1997) called for "cooperation among cooperatives". But because how this cooperation was to take place in practice was often the subject of heated debate, enormous heterogeneity of PC networks might be expected to emerge. Of particular relevance to this paper is how in the late nineteenth century in the UK, the implementation of this principle took a particular twist with intense theoretical and practical debate among academics and cooperators on both the preferred nature of networking and associated 2nd degree cooperatives and the preferred nature of individual cooperatives. The Webbs were a leading force in the debate (e.g., Webb & Webb, 1914). Their idea of the "cooperative commonwealth" recognized that cooperatives could not obtain all required services from non-cooperative organizations and that specific cooperative federations were needed, and that networking among cooperatives was to be encouraged. But their vision also gave primacy to consumer versus worker rights and, in turn, consumer cooperatives versus PCs[4]. Strong institutions such as the Cooperative Wholesale Society (CWS) were established; however, the mission of the CWS was primarily to focus on consumer cooperatives. Links between PCs and consumer cooperatives were to be limited (with, for example, little encouragement for consumer cooperatives to buy goods from PCs or for them to be big investors in PCs). Relatedly, for the Webbs, labor unions were the sole institution needed to

[3] Desrochers and Fischer (2005) investigate the need for 2nd degree cooperatives for the case of financial cooperatives. They conclude that the preferred arrangements are when there is extensive networking.

[4] The Webbs' view of the "Cooperative Commonwealth" stemmed primarily from political arguments and appeared mainly after the establishment of the ICA. However, economic arguments also played a big role in the development of their views, notably the alleged inexorable tendency of (British) PCs to degenerate or die (see Jones, 1975).

protect workers' rights[5]. Unsurprisingly in such a context, while PC networking might appear, any supporting federation for PCs that might emerge would be expected to have limited functions and to be far weaker than comparable bodies occurring in other contexts, such as the better-known Mondragon and Legacoop cooperatives.

Ostensibly the implication of these sets of literature that stress the benefits flowing from PC networking and a supportive 2nd degree structure is that, other things equal, the PC sector and individual PCs will perform better over the long run, the more expansive is networking by PCs, and the richer and denser is the range of activities that the apex body is engaged in. That is, the "hostile environment" requires a strong central coordinating body which will help individual PCs to control uncertainty and to gain various economies of scale and scope and to provide services tailored to PCs[6]. This view also implies that the governance costs that emerge in operating such cooperative networks are not expected to be major and certainly to be cost-effective (e.g., Jones and Kalmi, 2012).

However, a competing and less optimistic perspective argues for a more cautious assessment of the benefits that are attached to a strong federation; this competing view calls for a SO that has more limited purpose. Moreover, the implications of the different role of management within worker-managed firms for institutional design is stressed. This alternative position is derived from literature that often adopts a transaction cost approach and/or that focuses on principal-agent issues for worker-managed firms. In a fast-changing world with heterogeneous PCs constituting the SO, the relationship between individual PCs and the SO is apt to be more nuanced than envisaged in the more optimistic view. Since there is no free lunch, even in a world with lots of good information, the potential benefits that flow from membership by a PC in an SO must exceed the sum of the financial costs of membership in the SO and the costs incurred by individual PCs in surrendering some degree of sovereignty to the SO. But this tradeoff will be evaluated differently in different circumstances and at different times. Different agents will see varying appropriation hazards in joining/remaining in a federation (Oxley, 1997) and managers will vary in their expense preference behaviors (Awh and Primeaux, 1985). The determination of precisely which agents will pay and how much for membership in the SO is apt to be problematical. Agents will have dissimilar views on these tradeoffs and different managers may display contrasting degrees of opportunistic behavior that, in part, reflects how managers feel they have de facto decision-making power. Also, managers will have varying views on the efficient nature and extent of networking and other benefits provided by the SO[7].

[5] See Jones (1975) for a critical assessment of the views of the Webbs. Their interpretation of the evidence for UK PCs on survival and degeneration is found to be highly questionable.

[6] For example, managers in PCs require training in participatory management styles and workers, who may even move among PCs as economic circumstances change, may require cross training to facilitate such job shifts.

[7] Hendrikse and Feng (2013) discuss some of these issues for cooperatives in general.

Thus, firms, perhaps in particular industries, that face less competitive markets and which have proprietary technologies, may be less apt to be willing to share a large financial burden than PCs operating in more difficult markets who perceive potentially larger expected gains for them from the activities of SOs. Times of accelerating globalization may require PCs to prefer more flexibility and less control by SOs.

In addition, there will be many reasons to expect potentially powerful country effects and that, in turn, no generally applicable model for SO design can be assumed. In both capitalist and non-capitalist economies, while a SO is envisaged to reduce the risk faced by individual PCs, the level of development in an economy can be expected to bear on the degree of complexity in a SO and the cost of attaining a particular level of reduction in risk. Other things equal, more developed capitalist economies will be anticipated to benefit more than other economies from SOs with extensive functions. Also other institutional set ups outside of the cooperative orbits may influence the preferred SO. Thus, when the style of capitalism within which the SO exists is not viewed overly unfavorably (as in coordinated market economies such as in Denmark with strong labor unions, compared to liberal market economies), then the need for such a strong and expansive SO may not be seen to be as acute. Variation in levels of trust across countries may produce differences in opportunistic behavior by managers[8]. Consequently, in a low trust country such as the US with potentially high levels of appropriation hazard, the optimal SO may be less likely to have expansive functions. Note also that historically there was often a significant PC presence in non-capitalist countries with apparent sharp differences in the roles of SOs for PCs. The case of Poland is investigated by Jones (1985) where PCs and SOs apparently were quite strong (and unlike the case in several other countries in the Soviet orbit then, such as Bulgaria).

The upshot of this line of argument is a competing perspective that reflects variation in the evaluation of such trade-offs and the importance of country effects so that there is unlikely to be a single preferred SO (cooperative model). The preferred SO will likely vary considerably across countries, industries and over time.

The point of departure for the second issue is the precise configuration of internal organizational features matters in accounting for variation in success among different groups. This idea has long attracted the interest of cooperative researchers (e.g., Webb and Webb, 1914) with subsequent contributions including Bernstein (1976) and Jones (1980). These authors identified enormous heterogeneity among actual PCs on a host of features including: arrangements for membership (e.g., whether or not there was free admission for all probationary workers; whether membership was required of and restricted to all workers; whether there were ceilings for capital contributions from workers and other non-worker owners; and whether—at least partial—collective ownership was part of the set-up).

[8] Jones and Kalmi (2009) examine the importance of trust for cooperatives.

Table 1. Typology of employee ownership including worker cooperatives according to control and return rights held by employees

	Control rights held by employees			
Return rights held by employees	None	Participation in control	Sharing of control	Dominant control
None	OA_1 Conventional firms	OA_2 (1) Quality circles (2) Online teams (3) Offline teams (4) Works councils	OA_3 Employee representation on boards of directors	OA_4 British Industrial Common Ownership: e.g., Scott Bader
Small	OA_5 Modest profit sharing or employee ownership: e.g., US auto 1980's, Huawei	OA_6 Profit sharing with participation programs	OA_7 Co-determination with another financial participation program: e.g., Sweden	OA_8 British Retail Cooperatives[a]
Moderate	OA_9 US ESOPS: e.g., Publix, King Arthur Flour, Chobani, Corning	OA_{10} (1) Golden Artist, John Lewis, Lincoln Electronics (2) Japanese listed firms (3) UK co-partnership	OA_{11} Worker Cooperatives[b]: e.g., UK clothing, Denmark, Polish PCs before collapse USSR	OA_{12} Worker Cooperatives[c]: e.g., UK footwear
Majority	OA_{13} (1) US ESOPS: e.g., W.W. Norton, Lifetouch, DPR construction (2) Broad-based options	OA_{14} US ESOPS: e.g., New Belgium Brewing, Hyatt Clark, Ruddick	OA_{15} (1) US ESOPS: e.g., Once again nut butter (2) French building PCs	OA_{16} Worker cooperatives: e.g., Mondragon, Italy, Namaste Solar, Uruguay PCs

Notes:

[a] In some cases, workers constitute a majority of the decision-making board and employees have tiny amounts of profit sharing and ownership.

[b] Workers share control with other organizations, such as labor unions and consumer cooperatives.

[c] Workers have majority control of decision-making bodies, but modest amounts of profit sharing and/or individual ownership.

Source: adapted from Ben-Ner and Jones (1995) where references to cases are provided.

To better appreciate the importance of this point, we draw on a conceptual framework developed earlier (Ben-Ner and Jones, 1995; Jones, 2018) and which distinguishes key dimensions of these internal organizational features, participation in economic returns and participation in control (see Table 1). This framework highlights the variation among PCs from the perspective of the individual member-patron (the worker) within a PC, where participation in returns and in control are each represented as ranging over a continuum from 0 to 100 %. In the "pure" PC model where all and only members are workers, worker members are 100% in charge (and on the basis of one member one vote) and receive all residual returns (the appropriate cell is OA_{16}). In principle, an example of such an arrangement is the traditional Mondragon industrial cooperative. By contrast, in the textbook investor-owned firm, there are no worker members and workers have no control and receive no returns—now we are at OA_1. Moving along the top row (degree of control), to varying degrees some workers are not members, and governance is not purely worker-member centered. For example, PCs in footwear in the UK, operating mainly during the first half of the twentieth century, would be largely classified as OA_{12}. But many printing firms were better viewed as co-partnerships and classified as OA_8 with some located in the OA_4 cell. And for participation in returns, not all the residual income goes to worker members. To make the argument clearer, the typology also differentiates PCs from other kinds of cooperatives (e.g., bank cooperatives in Finland, see Jones, Kalmi and Kauhanen, 2012; US credit unions, see Jones, Poterba and Pliskin, 2017; and UK retail cooperatives, see Jones, 1987) and other organizational forms including firms with some employee ownership (though employees never attain majority ownership) and firms with no formal employee ownership arrangements but mandatory works councils or codetermination (e.g., Askildsen, Jirjahn and Smith, 2006).

Ben-Ner and Jones (1995) also investigated the implications for firm performance of variation in institutional characteristics among individual PCs. This work points to the following proposition: PCs with most participation in returns and full participation in control would be expected to perform best, other things equal. The authors hypothesize that there will be synergies between participation in control and in returns for incentives at the individual, group and organizational levels and argue that these synergies are strongest when the institutional arrangements provide for substantial participation in both returns and control[9].

However, there is a competing narrative: the most efficient (best performing) cooperative will have multiple (rather than a single) stakeholders[10]. Reflecting developments such as the emergence

[9] As discussed in various places it is also recognized that there are many other additional features of internal organization whose roles and implications for PC performance need to be considered. However, to attempt to do so in this paper is not possible, in part because of space limitations.

[10] However, this competing narrative is often unclear as to what will be the precise nature of the relationship between multiple stakeholders and performance.

of multi-stakeholder cooperatives (MSCs) (e.g., Gijselinckx, Zhao and Novkovic, 2014), and the appearance of theoretical and empirical work stressing how cooperatives have governance systems that differ from those in investor-owned firms, the appeal of this perspective may have sharpened in recent years. One example of an MSC is a PC in which growing needs for capital have led to the admission of non-worker members into what was initially a purely worker-centric organization. Such changes in capital requirements are likely to be uneven in their impact on firms in different sectors with differing human capital needs. In some instances, the range and scope of stakeholders existing alongside what was the primary membership group can become quite extensive, with even three or more stakeholders involved in ownership and governance. Thus, a deepening of concerns for representation of different groups (e.g., based on ethnicity, race and gender) or to respond to growing concerns over climate change, may lead to a stronger case for introducing governance requirements based on such forces and characteristics within individual PCs. In turn it is argued that operating efficiency may be enhanced by diversity in membership and governance, as in an MSC. For example, different members bring different knowledge and perspectives to the table, and offer distinct advantages over decision-making flowing from PCs with only a single type of member.

In addition, there may be country effects that impinge on appropriate institutional design. For example, the preferred institutional design of individual PCs with respect to both control and return rights may be expected to differ according to the environment within which PCs operate. Concerning control rights several examples come to mind. Circumstances such as national legislation providing for employee representation at either plant (e.g., works councils) and/or board level (co-determination) and/or strong trade unions may lessen the need for strong rules and regulations in PCs requiring employee participation in corporate governance. When such arrangements are present, then the design case for the pure PC model may be weakened. Relatedly, over time circumstances change at different rates within different countries[11].

3. Evidence on the nature and effects of shelter organizations

It is important to recognize that real world data about actual PC networks and support institutions is quite uneven and often very limited. For some well-known examples such as Mondragon and Legacoop, information is reasonably good. But in many cases, if not the majority of examples, published accounts leave much to be desired. This "limited information" point applies even to some examples for which there have been several econometric studies on other issues (e.g., the comparative efficiency of PCs and investor-owned firms (IOFs) with studies for PCs in countries including Uruguay and France reviewed by Pencavel, 2013, and Pérotin, 2020). It

[11] And in a world transformed by COVID-19, including an accelerated shift towards more working from home, new and creative ways of weighing the potentially different intensities of participation by those who work more at the workplace compared to those working mainly from home, may need to be developed.

also applies for other cases for which knowledge is based mainly on qualitative studies including historical cases such as US PCs and many "new wave" cooperatives that have appeared during the last fifty years or so, including Finland (Kalmi, 2013). Also, information is often limited for PCs known to have existed for many years (e.g., Japan, and India, both discussed by Mirabel, 2021), and PC groups in Italy and Spain besides the groups in those countries that have received closer attention by researchers, (namely Legacoop and Mondragon). It may also pertain to contemporary US PCs where it appears that *informal* networking at the city level often is extensive (Sutton, 2019). Consequently, even a qualitative examination as in this paper is confronted with what is potentially a large selectivity problem. Furthermore, in assessing the available evidence one must be conscious of sharp differences that often exist between de jure and de facto situations[12].

To begin to assess the nature of PC networking and support structures and their contribution to the success of individual PCs, it is necessary to identify evaluative criteria. Perhaps one of the earliest qualitative empirical attempts of this kind is Jones (1980). Building on the work of Bernstein (1976), Jones develops some simple criteria to judge the richness mainly of PC support structures, and applies these to several groups of PCs including Mondragon. These assessments of the nature and extent of the supporting structures are then compared with "success outcome" variables (such as survival rates), using data derived from earlier studies. All-in-all that study finds support for the perspective that argues for strong expansive SOs, although the range and scope of information on PC networks was limited (and the evidence adduced to investigate relationships was mostly qualitative).

Since then, the matter has been rarely addressed with the best empirical efforts being undertaken by Smith (2001)[13] and, most recently, by Spicer (2021). Smith (2001) identifies ten areas that are used to assess effectiveness in order to develop a profile of PC networks and associated 2nd degree cooperatives[14]. He then applies this conceptual framework to the two cases of Legacoop and Mondragon PCs to essentially show that these networks embrace these ten dimensions well. Thus, this study provides reasonably strong qualitative evidence that 2nd degree cooperatives that emphasize and encourage PC networking, and which are well resourced and pursuing a large list of tasks, will be well-positioned to help PC sectors survive and thrive[15].

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[12] For example, the actual situation of employees in Finnish cooperative banks appears to be much stronger than is provided for in the formal set-up (see, e.g., Jones, Kalmi and Kauhanen, 2012), whereas in other cases the power of workers appears to be significantly less than in the formal set up (for German co-determination, see Jäger, Shakked and Schoefer, 2021).

[13] Joshi and Smith (2008) also have a provocative theoretical paper.

[14] The 10 elements are as follows: (1) the entry problem of individual cooperatives; (2) the problem of cooperative exits including the cooperative "degeneration" problem; (3) relations with government and its possible role in individual cooperative and network success; (4) decision making procedures, with an emphasis on the role of worker voice; (5) the types of consortia and second level cooperatives, and their roles in solving management and organizational problems; (6) the role of, and policies toward, joint ventures and inter-firm alliances; (7) innovation and technology transfer strategy; (8) finance and investment instruments and institutions; (9) institutions and instruments for risk mitigation; (10) employment policy.

[15] There is also a limited application by Smith of his approach to the Kerala case in India.

Spicer (2021) aims to better understand the apparatuses that affect the ability of cooperatives to achieve scale comparable to IOFs, with the role of cooperative federations being a main mechanism[16]. He applies what he calls the "cooperative ecosystem" model, which is focused on the actual key institutions of cooperative support structures (rather than tasks)[17]. Spicer notes that such cooperative ecosystems can vary enormously and be "[…] simultaneously horizontal, vertical and conglomerate in nature" (Spicer, 2021: 6). For example cooperatives might create "[…] cooperatives-of-cooperatives (i.e., horizontal), or they may form up and down-stream inter-cooperative supply chain relations within an industry (vertical), and across different industries, as well (conglomerate), creating an interlocking group of consumer and producer cooperatives [and such] strategies may involve formal cross-ownership of horizontal, vertical, or conglomerate/'union' cooperatives" (Spicer, 2021: 7). Consider the UK where, as discussed earlier, the CWS emerged in the nineteenth century as a "secondary" cooperative. It "[…] was owned by the 'primary' consumer cooperative societies it supplied as its original business, and eventually added shipping lines, manufacturing/productive societies, banking, insurance, housing and other services. They additionally established a second institution, a national cooperative 'union', also known as an 'apex organization' or 'federation', to undertake education/governance training, advocacy and political lobbying, achieving official cooperative enabling legislation by the 1860s" (Spicer, 2021: 6, who draws on Wilson, Webster and Vorberg-Rugh, 2014). Spicer (2021: 7) also considers Mondragon, another example of what is labelled a "movement-driven, holistically coordinated cooperative network".

In the rest of this section, to examine the issue of whether different SOs produce varying outcomes for constituent individual PC members, I first propose a simple typology of PC SOs. This typology comprises four kinds of SOs. Each of the four types reflects differences in the range and intensity of services provided to individual PCs in six broad areas:

i. major services, such as training of members and banking services;
ii. the extent of vertical and horizontal co-ordination;
iii. whether there is a clear political footprint such as funded activity to provide favorable support;
iv. whether there are financial links beyond basic banking such as shared ownership;
v. whether there are other risk sharing activities, such as profit pooling to provide insurance during lean times;
vi. whether the SO played a role in facilitating entry of new PCs and in looking ahead for new products or innovations[18].

[16] Spicer considers his approach applicable to all forms of cooperatives. My sense, however, is that the worker-centric nature of PCs implies that the most effective PC networks will require different kinds of networks than, for example, cooperatives that are consumer-member based—preferred networks will vary by cooperative type (and key members).

[17] One potential criticism of the "task-satisfaction" approach adopted by Smith, is that it provides insufficient details of actual institutions. For example, in Mondragon, the elaborate set-up involving diverse institutions includes a bank, an educational system, agencies devoted to encouraging new firm formation, agencies for R&D and institutions for social services (e.g., Arando et al., 2011). My sense is that giving primacy to institutions and then providing evidence on tasks performed might be the more effective way to proceed.

[18] Another dimension is the extent to which accepting some of these services from the 2nd degree cooperative has led to a surrender of sovereignty by the primary PC.

One case in this simple typology is the *maximalist* set-up—the SO provides an extensive range of services in all six areas. SOs in the next *moderate* level in this typology have more limited capacities and are active in only some (three or four) of these zones and typically provide a lesser degree of support services in any of these areas than does a SO in the maximalist case. SOs in the third *minimalist* case in the typology provide an even more limited range of services (in only one or two dimensions) and do so on a more limited basis than in the maximalist SO. A fourth case is the complete absence of a PC SO—i.e., no functions in any area are provided by a central body/SO (labelled, *none*).

To investigate a possible link between PC SOs and "success", I continue by quickly revisiting assessments of the nature of the support structures for, and networking in, Mondragon and Legacoop. Both Smith (2001) and Spicer (2021), have provided evidence of how such support mechanisms are deep and rich (i.e., in the expansive category) and how, in turn, such federations have helped nurture individual member PCs, networking amongst PCs and the growth of the overall PC sector in those countries. By applying my abbreviated list of criteria to these two cases, I reaffirm that these support structures are very effective—they continue to constitute maximalist SOs. Moreover, other work for Mondragon (e.g., Arando et al., 2011) and Italy (Pencavel, Pistaferri and Schivardi, 2006) shows that in both countries individual PCs and the overall PC sectors have performed very well over extended periods and according to diverse success indicators such as comparative productivity and employment stability[19].

However, this positive assessment of the performance of Mondragon (and Legacoop) is not a universally-held position. This case for a less rosy assessment often stresses the changes that have occurred in the nature and scope of these support structures since the Great Recession of 2008. Many researchers highlight pressures facing individual multinational PCs and their support structures. Often less optimistic conclusions are reached and there is more pessimism of the ability of PC federations (and constituent PCs) to work effectively in this more challenging global environment. They argue that globalization inevitably strengthens management's hand and weakens participation by worker members. Examining the Mondragon case highlights the necessary degenerative implications of establishing capitalist subsidiaries in which many workers in these parts of the cooperative are excluded from ownership and decision-making. Moreover, the aftermath of the Great Recession and the closure of Fagor, an important PC in the Mondragon complex, have given fresh impetus to related theoretical and empirical issues. Thus, Errasti, Bretos and Etxezarreta (2016), amongst others, contend that the pressures perceived by top management to become a multinational led to the opening of branches around the globe in Eastern Europe and Asia, as

[19] At the same time, I am aware that, in today's world, the tasks charged to these federations may be more extensive than my criteria or the tasks and institutions identified in other work (such as Smith and Spicer). For example, no list appears to adequately cover issues surrounding inclusivity (e.g., the need to assess representation of marginalized groups in governance structures and key positions) or of sustainability and measures to respond to climate change. Clearly federations must take strong stands on such issues and ensure that member firms are on board with such positions.

well as the acquisition of a French company. For diverse reasons it was decided not to export the PC model to these branches outside of the Basque County—arguably thus producing de facto degeneration. However, for others these issues are not so clear cut. Basterretxea, Cornforth and Heras-Saizarbitoria (2022), acknowledge that governance difficulties at Fagor likely contributed to the firm's demise, but they identify several measures that can and have been used to improve governance. Storey, Basterretxea and Salaman (2014) compare large retailers in Spain and the UK (one a hybrid PC, the other a firm with substantial employee ownership and some non-managerial participation) outlining ways in which it is possible to resist degeneration, even in a globalized world. Jones and Kalmi (2012) and Arando et al. (2011) also arrive at more optimistic conclusions. By referencing PC experiences in Mondragon as well as other cooperative experiences, they argue that there is no necessary trade-off between efficiency (requiring bigger scale) and democracy within individual PCs. They illustrate ways in which organizational architecture has been adapted by networks of cooperatives to respond to co-ordination problems among and between groups of cooperatives in a network, or second tier cooperatives, and how innovative forms of monitoring and forms of corporate governance may be expected to emerge in response to these potential difficulties. In sum, notwithstanding the critical challenges that have emerged in the last fifteen years or so, the positive effects on performance of strong and deep supporting structures for the case of Legacoop and Mondragon have continued to be demonstrated and, if anything, that need may have been enhanced in a globalized world.

Turning to other cases, the new case I examine is the Cooperative Productive Federation (CPF) that existed to support what have been labelled "long–established" UK PCs (e.g., Jones and Backus, 1977). To assess the nature and scope of that federation as well as networking activities, I use three main sources[20]. The first is copies of the Cooperative Yearbook (CYB) published during the period 1935 to 1970. Second, are annual reports, balance sheets and income statements submitted by individual PCs to the Registrar of Friendly societies and the Cooperative Union. Lastly, I draw on surveys I administered to a sample of UK PCs in 1972 as well as interviews with PC managers.

Using these data, I classify the CPF as an example of a SO in the second category in the typology of PCs SOs. My sources reveal evidence of active networking among PCs but also a situation in which support for individual PCs from the CPF itself appears to have been quite shallow. The mission statement of the CPF contains one strand of evidence for this conclusion with no indications of what might be characterized as an expansive mission revealed in statements in issues of the CYB. In addition, articles in the CPF during this period provide no evidence of activity by the CPF in the first, fifth and sixth areas—no provision of services such as training or banking services; no risk sharing activities, such as profit pooling; no role in facilitating entry of new PCs

[20] The first two sources are scarce and, when available, are often difficult to access and incomplete. Over the years I have accessed such material mainly at the Cooperative Union library in Manchester and the Cooperative College library at Loughborough. Some material is now held in the Hamilton College library, Clinton, NY. An example of the first source is Cooperative Productive Federation (1934).

inside or outside of those sectors within which PCs were traditionally represented or looking ahead for new products or innovations. Also, there is only slight evidence that the CPF provided services to PCs as described under points (ii), (iii) and (iv). In the second area, PC membership in a UK "cooperative commonwealth" appears to have been quite restricted—the CPF was unsuccessful in facilitating vertical coordination, and consumer cooperatives (supported by the CWS) were under no obligation to support these PCs by buying their output. At the same time, individual PCs, especially in the clothing and footwear industries, were quite close geographically (especially in the Midlands) and did actively network. Activities included regular social interaction (e.g., cricket matches between teams from PCs, as reported in the CYB); hence, PCs may have benefitted from modest network externalities. Even though most PCs that existed in the UK then were members of the CPF, formal horizontal co-ordination appears to have been minimal. Concerning political activity—point (iii)—some cooperative and Labour Party MPs did contribute occasional articles for publication in the CYB, and the CPF was a presence at the Annual Congress of the UK cooperative movement; but these forces favoring worker-centric PCs were far weaker than those supporting other UK cooperatives. In sum, it seems reasonable to assign the CPF to the second moderate kind of SO in the proposed typology.

The record is mixed with regard to the relationship between this second level SO and the performance of PCs within its aegis. For many years these PCs appear to have performed very well compared to IOFs according to criteria such as productivity (Jones and Backus, 1977) and survival (e.g., Jones, 1975). Individual PCs were sometimes quite large with, for example, individual PCs in the clothing industry with labor forces in excess of one thousand; most of these PCs belonged to a PC federation, the CPF (e.g., Cooperative Productive Federation, 1934)[21]. However, the substantial contraction in the number of individual PCs in the UK during 1948-1975 also indicates the potential weakness of a moderate SO such as the CPF. While individual PCs could soldier on for several years (e.g., Equity Shoe in the UK survived for more than a century), arguably without the capacity provided by a group body to search for new business avenues, individual PCs (and eventually the sector) would be unable to weather such shocks and ultimately would wither away. So, overall, this second level SO has a performance record that is inferior to that of maximalist PCs such as Mondragon.

One example of a SO that falls in the third minimalist type of SO is that of contemporary US PCs. Although there is a national federation for US PCs (the United States Federation of Worker Cooperatives), as with other related institutional set-ups in the US, such as for labor unions, the national federation appears to be weak. It has modest functions, including some lobbying and data gathering from member PCs in order to present a profile of the US PC sector. Alongside the national federation we find many essentially autonomous bodies at local levels, constituting a large decentralized/city network of such supporting institutions. I do not know of any empirical work that examines the impact of these arrangements on PC sectoral performance.

[21] Some were also members of the Co-partnership Association, a body that stressed participation in financial returns via profit sharing (see Park, 1987).

Finally, many examples of PCs do not appear to have a formal federation at all—i.e., these are examples of the fourth category of PC SO (none). This is apparently the case for many of the defunct PC clusters in the US, such as shingle weavers and cooperages (Jones, 1979). There may have been regional clustering (e.g., Aldrich and Stern, 1978; Conte and Jones, 2015) but no formal federating. And in all of these US cases, as for the UK, using criteria such as business performance compared to IOFs and survival over many years, there is evidence of a solid performance. The evidence is especially strong for US plywood PCs (e.g., Craig and Pencavel, 1992). But in all cases, the clusters of PCs eventually disappeared. Arguably in all instances, this results from not having a strong support structure, especially a federation that would have been empowered to act when confronting major technological changes and the need for PCs to move beyond traditional methods, markets and processes.

4. Evidence on the nature and effects of institutional design for individual PCs

To provide evidence in this area it is again useful to develop an appropriate typology. I propose a threefold typology in which in the first case, control lies with a single stakeholder (workers) and usually on an equal basis (hereafter the *traditional* set-up). Remaining cases are MSCs and at least one other stakeholder is involved in governance. In the second case, (*dual member*) there is just one other membership group, though that group's influence in governance essentially matches that of the primary stakeholder, the worker-members. In the third case (*diverse*) there are at least three stakeholders and governance is more diffused.

The bulk of the available evidence, while limited, is for PCs that were usually considered to have the traditional set-up and are located in capitalist economies—Italian PCs, French PCs, industrial PCs in Mondragon, Uruguayan PCs, US plywood PCs and many long-established UK PCs. While much of this evidence is rather dated, it is clear that it offers support for the importance for performance of internal institutional features within PCs. Although they do not cover all of these ostensibly traditional PCs, two published survey articles are especially useful—Ben-Ner, Han and Jones (1996) and the meta-analysis of Doucouliagos (1995), as well as some individual studies when there is variation in key aspects of the internal organization of PCs[22].

Ben-Ner, Han and Jones (1996) review many empirical studies through the lens of the conceptual framework developed by Ben-Ner and Jones (1995). As such, they review both PCs as well as other participatory firms. For PCs they find support for the key predictions emerging from that framework—PCs with most participation in control and in returns perform the best. This is also the

[22] Note that much of the recent econometric evidence on issues such as the comparative performance of PCs and IOFs is inappropriate for our purposes since it employs what we dub the "smart dummy" approach. Our focus is on the heterogeneity of PCs where, within-PC variation in institutions is not captured by a simple dummy variable for "PC".

conclusion reached in the meta-analysis by Doucouliagos (1995). He reviews diverse organizations including PCs and finds that "[…] profit sharing, worker ownership, and worker participation in decision making are all positively associated with productivity [and that] … all the observed correlations are stronger among labor-managed firms (firms owned and controlled by workers) than among participatory capitalist firms" (Doucouliagos (1995: 58). These conclusions derived from secondary reviews of many studies can also be illustrated by findings from some of the relatively few studies that have attempted to investigate the consequences of variation among and within PCs, including Estrin, Jones and Svejnar (1987) and Jones and Svejnar (1985) who investigate PCs in France, Italy and the UK. Both studies find that firm productivity is enhanced when profit sharing and employee ownership stakes grow and membership rates by worker-members are increased.

In assessing evidence for the case of long-established UK PCs there is some additional information that may be relevant for the traditional set-up cases. Often there was some degree of cross-ownership in these PCs. Examination of individual reports submitted to the Registrar of Friendly Societies over many years for several PCs shows that individual PCs often had modest share ownership positions in other PCs. This was especially the case in PCs in the footwear and clothing industries[23]. For example, during the period 1948-1968 such reports indicate that Equity Shoe owned shares in other UK PCs most of whom were also in the footwear industry and typically within 50 miles, as well as some other non-PC cooperatives. By 1968 the firm had also assumed a modest ownership position in the CPF. Another PC, Chesham Boot and Shoe, during a similar period, always had ownership positions in other PCs, other cooperatives and the CPF. In clothing PCs, a similar situation typically prevailed, though the sums involved usually were more modest than with footwear PCs. But in all of the above cases, while there were other stakeholders besides the primary group of worker members, overwhelmingly, control was vested with the primary stakeholder group.

George, Fontanari and Tortia (2020) study Italian PCs and find that collective ownership has a positive impact on firm productivity. As such this finding is at odds with earlier findings, notably Jones and Svejnar (1985) for Italian PCs and Estrin, Jones and Svejnar (1987) for French PCs[24]. Several possibilities exist in accounting for this discrepancy. Compared to Jones and Svejnar, George, Fontanari and Tortia use a sample that is larger, more recent, with a different industrial mix and,

[23] I inspected many such reports in the archives of the Cooperative Union, Manchester.

[24] Also, the liquidator's report on the closure of Bristol Printers (a UK PC) details the distribution of net assets to members—the winding up resulted in share-owners receiving 28 pounds per share (for a share issued at one pound). In that case the evidence is suggestive that the firm may have been able to continue as a viable entity, but pressure to close came from non-worker members. This is reflected in changes in the distribution of ownership of shares in the years leading up to the closure as reported in reports submitted to the Registrar. Some consolidation of ownership occurred, consistent with some members seeing closure as in their interests (sale of shares for an on-going entity was only at par, whereas closure meant shares would reflect accumulated assets). Such an event could not happen with French PCs, where net assets are treated as inalienable and if a PC closes the net assets are distributed to the cooperative federation. Again, the precise nature of internal organizational feature potentially matters a lot for the behavior of different PCs.

perhaps most important, a sample that is not restricted to PCs (but also includes social cooperatives whose behavior may not gel with that of PCs). Also, they conduct their investigation when the internal design of Italian PCs had changed—now there are more stakeholders/owners than in the past, and perhaps at least some of these Legacoop PCs are now more properly considered as not belonging to the traditional set-up, but rather are better classified as MSCs.

There is also some evidence for PCs in non-capitalist economies and which had set-ups resembling the traditional arrangements. Thus, for Poland, Jones (1985) finds positive effects on performance flowing from institutional features including individual ownership stakes and the importance of worker membership.

Turning to evidence for cases within the second group (dual member) in our typology, there appears to be limited econometric evidence on this point—an econometric case study of Eroski, a Mondragon cooperative in which initially substantial control was exercised by both workers and consumers throughout the business (Arando et al., 2015). However, as Eroski grew, especially in the 1980s and 1990s, in some newer stores outside of the Basque area, workers had less influence and ownership than did workers in the Basque stores, while in stores acquired from formerly capitalist ownership, there was essentially no employee involvement in governance and ownership. Arando et al. (2011) find evidence of the crucial importance of institutional differences within that case, such as in the size of ownership stakes and the extent of control rights, for outcomes such as business productivity and worker job satisfaction. For contemporary MSCs there is also qualitative evidence of the increased viability of MSCs compared to traditionally structured PCs (e.g., Sacchetti and Birchall, 2018). However, many, including this author, do not find that evidence to be compelling.

Some of the long-established UK PCs might be better viewed from today's perspectives as MSCs. Thus, in many PCs in printing, typically dominant control did not attach to the worker members in the primary PC, but resided with another party (e.g., consumer cooperatives). And, as reviewed by Doucouliagos (1995), the performance of these printing PCs was inferior to PCs with more traditional set-ups. Moreover, in these MSCs, investment in other printing PCs as well as in the CPF was exceptional, though many printing PCs did invest in other cooperatives (that were not PCs).

To the best of this author's knowledge, there do not appear to be any econometric studies by economists (either cases or firm-level) for PCs that fall within the third category (diverse) in our typology and which investigate the potential role of within-firm institutional differences and outcomes for PCs in this category.

5. Conclusions and policy implications

In this paper, in keeping with the importance Johnston Birchall attached to real world institutional details in and among cooperatives and the search for cooperative models, I investigate issues surrounding the design and effects of institutions for a particular form of cooperative, namely

the PC. I develop some competing perspectives success with regard to the effects of the varying nature of PC structures and the internal organizational design of individual PCs on their success. To investigate these competing perspectives, I first propose some typologies based on features of SOs and heterogeneous PCs. Evidence is then assembled, including for a case, the CPF, a SO that has not been examined as much as have other SOs, notably Mondragon. While the evidence I provide is preliminary, largely qualitative and incomplete, the exercise does yield some preliminary and tentative findings, as follows:

1. Evidence derived from examples located within a typology of shelter organizations, suggests that individual PCs typically benefit from strong support networks and robust 2nd degree cooperatives. Also, sustained success for individual PCs requires active networking among individual PCs and a well-resourced and strong central federation. At the same time, an expansive SO is unlikely to be the most appropriate institutional set-up for all PCs: the design of the preferred SO may vary across industries, countries, both capitalist and non-capitalist, according to factors including varying styles of capitalism. Also, regardless of the precise list of key features of the federation[25], the ability of the structure to adapt, while remaining strong and vital is crucial[26].
2. Evidence derived from examples located within a typology of individual forms of PC indicates that the institutional design of individual PCs does matter for key outcomes, such as PC performance. Design features that appear to be most important for success include measures to facilitate strong participation in control and in returns by core worker-members. However, it is unlikely that a single set of arrangements will be universally appropriate, especially in a world with increasing numbers of MSCs.

Equally, it is clear that research on these issues is in its infancy. A need exists for more expansive typologies for individual PCs to be developed. The typology developed by Ben-Ner and Jones (1995), and which focuses on participation in control and in returns by worker members, may prove to be only a starting point when investigating the range of internal organizational features that potentially matter in accounting for the record of PCs. Other characteristics, such as limits on capital and the terms on which capital is supplied by members, may be important features that need to be included in broader typologies. Also, such newer typologies need to account for the varying roles of taxation regimes for PCs and other organizations and their differences across countries. In this context, the emergence of MSCs presents challenges and opportunities that future work must

[25] For example, more clarity is needed on several areas including: (i) whether PC members of federations are bound to adhere to all policies/recommendations of federations; (ii) the financial arrangements governing PC membership in such federations; (iii) the precise boundaries of federation oversight over members on matters such as required minimum worker-membership/labor force ratios, and assessment of fulfilling inclusivity policies.

[26] However, Joshi and Smith (2008) argue how this may still not be enough for either the establishment or continued existence of a successful PC support structure.

address more thoroughly. Characteristics already included in existing typologies, such as the precise arrangements for worker involvement in corporate governance (besides using simple membership ratios) and how the effect of such institutions operate in PCs that are better viewed as MSCs, warrants further research. In turn, the impact on firm and worker outcomes of a more elaborate consideration of such institutional features that can vary among and across PCs, such as the de facto governance processes surrounding managers, needs to be investigated. As is evident, many of these issues are interrelated.

A second important need is for *more robust data* to better test our preliminary findings as the search for cooperative models continues. In principle, some of this additional evidence should be relatively easy to assemble. By identifying the key characteristics of PC federations that are not closely examined in this paper (e.g., French SCOPs and PC SOs in Uruguay), and by augmenting institutional detail for MSCs, the institutional base could be readily enlarged[27]. Perhaps the feasibility of launching a cross national effort to muster systematic information for individual PCs that resembles the approach that has been so successfully used by Bloom and his colleagues for investor-owned firms (e.g., Bloom and van Reenen, 2007) might be examined. In principle, the approach could be extended to SOs as well.

The next step in the research agenda implied by this "institutional perspective" would be to provide *more robust evidence*. Statistical analysis of the effects of differences in individual PC and SO design on outcomes including enterprise survival, exit rates, efficiency and the sustainability of cooperative democracy, would add to our understanding. The heterogeneity of real-world PCs both concerning internal organizational features as well as the nature and extent of PC SOs, stands in contrast to the simple internal institutional characteristics often assumed in empirical and theoretical work and the almost complete neglect in that literature of the role of SOs. Arguably the parsimonious institutional approach adopted in the bulk of empirical analysis on most questions in the last thirty years or so has led to the relative neglect of the importance of PC support structures and networking among PCs[28]. The failure to include institutional features of PCs (to not go inside this black box) and SOs, may limit understanding on many key issues, including PC survival, degeneration, growth and efficiency. Hence, one key take-away from our discussion is to underscore the conclusion of an influential early review on PCs (Bonin, Jones and Putterman, 1993)—the twain continue *not* to meet. An implication of this paper is that the use of what one might label the "smart dummy approach" (using a simple dummy variable to capture the essence of PCs vis a vis IOFs in twinned studies) may not always be the most fruitful approach and will need to be supplemented by other

[27] Imaz, Freundlich and Kanpandegi (2023) begin this process for the case of MSCs at Mondragon. This author is grateful to interactions with country experts that are enlarging his knowledge, notably for France (F. Fakkfar, T. Mirabelle and V. Pérotin) and Uruguay (G. Burdin and A. Deane).

[28] The range of issues addressed by most recent theoretical and especially the empirical literature on PCs has focused almost exclusively elsewhere—on issues such as the behavior and efficiency of PCs compared to IOFS.

empirical approaches—what might be labelled a "dumb dummy" approach[29]. Equally, in accounting for differences in PC behavior, findings obtained only from many case studies that employ diverse methods and likely ignore internal variation in features such as actual governance systems and the design of incentive systems, may be a perilous strategy[30]. Eventually, one would want to determine how this additional evidence, especially for MSCs, meshes with other findings for other cooperative forms that calls for a new view of cooperatives (e.g., Jones and Kalmi, 2015). Other challenges also remain. Crucial selectivity matters have not been addressed[31] and there are important endogeneity issues concerning the role of PC networks and support structures. While some of these matters have begun to be addressed—Joshi and Smith (2008) discuss how the adoption of the one-person-one-voter rule can change endogenously the ease of establishing a SO. But more work is needed—for example, is it the case that individual PCs with sophisticated internal organizational arrangements are feasible only when strong SOs *already* exist?[32]

There are also important *theoretical* challenges, especially for the analysis of MSCs. One important theme in the theoretical literature on traditional PCs is that of "degeneration" (e.g., Ben-Ner, 1984). Arguably those issues are even more pressing for understanding MSCs. Analysis of matters surrounding degeneration will be of keen interest to many. How are the determinants of membership in MSCs to be modelled? Does the approach advanced for particular types of cooperatives (e.g., Jones and Kalmi, 2015, for bank cooperatives), carry over to MSCs?

Another implication is that this comparative institutionalist approach triggers the need for a *more expansive research agenda* than has been typically proposed (e.g., Sacchetti and Birchall, 2018). For example, an additional direction of work flowing from this paper is to investigate whether one might expect (and then find) synergies between the preferred set of institutions in an individual PC and the corresponding arrangements for PC networking and 2nd degree cooperatives. Does the emerging literature on institutional complementarities[33] lead one to expect synergies to emerge when the two sets of arrangements, within and without the individual PC, dovetail? One hypothesis stems when the institutional arrangements for a PC SO with extensive

[29] Of course, pragmatism, and the nature of the available administrative data, may dictate the adoption of this simpler approach.

[30] Diverse kinds of case studies of PCs exist. These employ different methods (including, qualitative analysis, mixed methods and insider econometrics). See, for example, Arando et al. (2015) and Errasti, Bretos and Etxezarreta (2016).

[31] This paper notes that potential selectivity issues exist on many issues and in much empirical work. I am only able to note some of these concerns and then briefly in this paper.

[32] However, we do note that much of the Mondragon support structure was in place before there were many individual PCs; Mondragon is a case of a support-structure-led PC sector. Whereas in the UK, the Cooperative Productive Federation was also present early on it was always weak and the range and scope of its functions never grew much when individual PCs flourished and, consequently, individual PCs were unable to face challenges that emerged later on.

[33] The idea of institutional complementarities has been developed in several ways for labor market institutions. One recent application is Burdin and Kato (2022).

functions (maximalist case) are combined with the traditional PC set-up (and the scope of the internal organizational arrangements within the individual PC are essentially worker-centric). Does such a combination produce complementarities that are expected to be especially strong? Other hypotheses concerning complementarities emerge by considering different combinations of arrangements that exist in the two underlying typologies (and when a competing perspective is employed)[34]. For some of these cases there may be limited supportive evidence. The example of Mondragon with strong performance by individual PCs alongside a strong support network is clearly apparent in the pre-great recession era (see e.g., Arando et al., 2011). While it is more contentious, as discussed earlier, I think that this role has continued, even during the aftermath of the closure of Fagor as well as concerning the challenges posed by the difficulties faced by Eroski. In both cases, while errors may have been made by individual PCs and the support structures, all elements in the whole set have shown a continued ability to adapt and learn from previous mistakes. And without a strong center it is unlikely that adaptation would have taken place so quickly and effectively.

Another example is that for Legacoop PCs. Jones and Svejnar (1985) provide evidence that enhanced ownership stakes and enhanced profit sharing, as well as greater participation in control, deliver strong performance. In turn, this is suggestive of the benefits of developing and administering such rules by a strong support structure (Legacoop). More interestingly, the potential importance of these synergies is illustrated for a case when technical efficiency for PCs was found to be below that for comparable IOFs (Jones, 2007). Though during the study period these Italian PCs were being outperformed by IOFs and many PCs were in commercial difficulties, the support structure (Legacoop) encouraged the stronger PCs to merge with those PCs in trouble. Legacoop saw the benefits to the group (in particular, positive externalities flowing from job saving) of individual PCs adopting a longer run horizon and Legacoop was willing and able to offer support for some of these rescues. Subsequent reorganization of the acquired PCs apparently led to improved efficiencies, although the design of some of these PCs has apparently shifted in the direction of MSCs.

There are also examples where weak support structures and limited networking existed for long periods alongside flourishing individual PCs. When fundamental changes in context faced individual PCs, they were ill prepared and under-resourced to react and there was no external institution available to lead change. This was the case with examples such as the UK PCs and the plywood PCs. When faced with fundamental changes in technology and/or product markets—in the case of UK clothing and footwear, the shift to lower cost overseas production—individual PCs

[34] Might propositions analogous to those associated with the theory of the second best, better apply? For example, if the initial institutional set-up involves something less than the preferred arrangements (e.g., a moderate SO) then moving towards the optimal configuration (with a maximalist SO) may harm rather than improve success.

were woefully underprepared for these challenges[35] and the CPF had no real resources to provide guidance. But such observations offer only weak evidence for the possibility of complementarities and the issue need to be investigated much more thoroughly. An empirical investigation of whether PCs that were started by or received early support from SOs, such as Mondragon, fared better than PCs that remained or became independent or started independent but joined the SO later would be enormously helpful in shedding light on these crucial issues.

Is the conclusion of the need for strong support institutions, generalizable to other related organizational forms that have bigger footprints than do PCs such as consumer and bank cooperatives[36]? And to organizational forms that are closely related to PCs, namely employee-owned firms that are not PCs? To put it another way, in accounting for variation in the extent and nature of employee ownership across countries, what is the importance of support structures and networking among individual firms with some employee ownership? By some estimates the US has much more employee ownership than exists in most other mature capitalist economies (e.g., Kruse, Freeman and Blasi, 2010). To what extent does this situation reflect the presence of support structures such as the National Center for Employee Ownership? Would the extent of employee ownership in the US be even more visible if the "employee ownership ecosystem" was less fragmented and more centralized and more formal arrangements to encourage networking among individual firms were established? Or is a key driver of employee ownership in the US allegedly favorable tax arrangements for such firms? Are there similar institutions and/or tax incentives in other countries and does the "employee ownership ecosystem" vary across types of capitalism with important implications for sectoral success? Similarly, what is the impact of differences in mechanisms for employee ownership (including ESOPs, employee ownership trusts, and employee stock purchase plans) and other institutional features of firms with employee ownership (e.g., machinery to provide for employee participation at plant and board level) on enterprise performance? For example, in the UK there is a contentious debate on the comparative benefits of trusts and ESOPs (Pendleton and Robinson, 2015)[37].

Finally, there are *policy implications*. In general, a better understanding of the scope, nature and effects of PC networking and support structures and the internal design of PCs would not only provide a deeper and more nuanced analysis of the overall record for real world heterogeneous PCs, but also provide policy makers with a better sense of the most effective measures for those wishing to support growing PC sectors. Even at this early research stage, if one wishes to foster a larger

[35] In 1971, for my doctoral research on UK PCs, I made field trips to several of these UK PCs. Evidence collected during interviews as well as both surveys clearly indicated that the search for either new technologies or new products was not a pressing concern for these firms, even as sales continued to slip and competition from lower cost overseas competitors became keener.

[36] Desrochers and Fisher (2005) find powerful benefits flowing from strong federations for financial cooperatives.

[37] There have been many partial efforts in this direction where the focus has been on assembling evidence for some features of internal organization, usually employee ownership and profit sharing (e.g., Pérotin and Robinson, 2002). But to thoroughly investigate such questions along the lines I envisage would require a much more extensive approach.

PC sector, some possible tentative policy implication of the findings concerning the appropriate direction of policy emerge. A larger PC sector is a goal of many, including city administrations in the US. Seed money to establish new PCs, as well as fiscal incentives for procurement from PCs, is also often found (e.g., Sutton, 2019). The finding of this paper suggests that, for long term success, rather than have a large decentralized/city network of autonomous supporting institutions that often have an informal feel, a stronger state-level and perhaps nationwide body might be best encouraged and supported and also more concrete measures be undertaken to encourage horizontal cooperation among PCs. For lobbying and regulatory matters, a national organization might be preferred. But in providing specialist support services (e.g., legal and finance) these might be best done on a state or sectoral basis for sub-sets of PCs, rather than provided through a central federation.

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