The Co-operatives' Sources of Efficiency: A Catalyst for the Emergence of Stable and Localised Norms

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A large theoretical literature has characterised co-operatives through two main deficiencies: a low flexibility and low average skills (rationalisation). These authors conclude that it induces a low capacity to optimise the use of their resources, that is to say a low efficiency (results may be weaker than what their resources could produce). However, the empirical literature has not confirmed a significantly lower level of efficiency for co-operatives. Moreover, the latter are far from disappearing, which means that they are competitive. A survey of the empirical literature and new data on French co-operatives show that the diagnostic on deficiencies was right but that their inferences were wrong, since they overlooked alternative sources of efficiencies. On one hand, difficulties of coordination with the markets occur due to co-operatives' lack of flexibility and rationalisation. On the other hand, these deficiencies foster the emergence of another source of efficiency, based on a deep knowledge of the activities by and between the actors, and protect the co-operatives from the current excessive instability of the economic system. Local efficiencies create co-ordination problems with external actors, but these offset each other rather than create ongoing inefficiencies.

1. Why Haven't Co-operatives Disappeared?

Since the nineteenth century, co-operatives have remained marginal in the economy (less than 5% of employment, with strong differences from one sector or one country to another), but they periodically keep raising strong interest in the economic literature: thanks to their continual existence, co-operatives have been used by economists as testing grounds to observe alternative behaviours that may potentially spread to the whole economy. For instance, the large theoretical literature about the producer co-operatives in the 1970s and the 1980s gave insights about the incentive problems in enterprises in the context of a crisis of authority and the necessity of increasing productivity. This literature – whose main authors were Alchian and Demsetz (1972), Furubotn and Pejovich (1972), Furubotn (1976), Jensen and Meckling (1976) or Fama and Jensen (1983) on one side and Vanek (1970), Meade (1972), Hansmann (1980) or Bonin and Putterman (1987) on the other side – has been recently reviewed in Cook (1995), Doucouliagos (1997), Borgen (2004), Boatright (2004), Faleye et al (2005), or Jossa (2009). Jensen and Meckling's paper has also been reprinted in Jensen (2000). Although, there are four distinct literatures on co-operatives (I gathered 150 papers on co-operatives in agriculture, bank, insurance and labour-managed firms, mostly about Europe and North America in the period 1985-2010), I show in this paper that it makes sense to analyse the co-operative sector in itself, whatever the activities, countries, and forms[1] of the co-operatives.

The current crisis may raise new interests for co-operatives, whose economic stability contrasts with the current economic volatility. Each of these crises has raised awareness for co-operation in the main stream and improved the knowledge of the co-operatives. In this paper we focus on two characteristics. First, the individual profitability in co-operatives is reduced. Secondly, power is only vested a posteriori (after elections), since members have a priori equal powers. These two characteristics are common to all co-operatives and they may have similar impacts regardless of the sector in which they develop.

Since stock companies are the great majority of the enterprises, tools are principally developed in the economy to reach their specific needs. For instance, stock markets and accountability norms give them the possibility of reaching higher levels of performance. Co-operative companies obey different rules, meaning that stock companies-specific tools are partially unsuitable for them.

On one hand, opponents to co-operatives deduce from the above statement that co-operatives should eventually disappear if there were no competition distortions based on public policies, or that they should exist only in under-developed sectors or under-developed countries as the demutualisation processes in Great-Britain seem to confirm. On the other hand, defenders of co-operatives consider that the environment is biased in favour of stock companies. They argue that co-operatives' continual existence is in itself proof of strong efficiencies, and that these efficiencies would be significantly greater in a more favourable environment. More generally, they live in an environment which promotes competition rather than co-operation, and elitism rather than democracy. These authors defend the idea that public policies should help co-operatives to overcome this competition distortion.

The empirical literature does not allow us to conclude in favour of one thesis over another. For instance, in terms of labour managed firms, which have benefited from the most comprehensive analyses, there is no significant difference between co-operatives' and stock companies' efficiencies (Doucouliagos, 1997). Thus, in this paper, we shift the question of efficiency from an analysis of its level towards one of its source: in co-operatives, the knowledge is widely shared rather than specialised and experienced rather than rationalised. That shift helps to explain why the global equivalence of efficiencies might coexist with local inefficiencies. After recognising that co-operatives encounter inefficiencies as expressed in parts of the literature, we go on to argue that the obstacles to economic flexibility and rationalisation release space for the expression of other sources of efficiency. We argue that the universal rational framework - which is developed in stock companies - helps them coordinate with external partners since the economic rationality is the dominant logic, but this framework prevents them to adapt to local specificities. On the contrary, co-operatives suffer from their lack of economic rationality (lack of mobility and of professionalisation), but the inter-acquaintance which emerges from a better stability of activities and people help them to build a better localised rationality.

The following section is a survey on co-operatives through the lenses of their deficiencies. Then, a third section suggests that those deficiencies might positively result in a greater stability: using French data (780 jobs in co-operatives and 25,500 jobs in stock companies), we show that co-operative jobs have significantly higher tenures than jobs in stock companies. The fourth section concludes by showing that co-operative norms are favourable to the emergence of localised alternative rules. On one hand, the economic deficiencies leave place for the expression of alternative norms. On the other hand, the stability promotes the emergence of local rules which are the result of a shared history. These alternative rules are based on a good knowledge of the activity, which is favourable to efficiency. But their specificity raises a problem of coordination with external actors, who are by definition unfamiliar to those norms, which is a source of inefficiencies.

2. Economic Deficiencies

Co-operatives' distortions of the capacity of the markets to allocate resources optimally are based on two main types of deficiencies: co-operatives exhibit rigidities which prevent them from correcting the allocation of resources according to the environment's evolutions; and they lack accuracy when they reallocate mobile resources. First, we present theoretically those deficiencies and second, we analyse two empirical aspects: innovation and growth. We also benefit from an empirical literature, but the literature on co-operatives was for the most part theoretical, so we are often resigned to referring to papers dating from the 1980s, to cover the main sectors in which co-operatives develop. Having said this, drawing from the past literature also allows us to test that co-operative norms have a similar affect across time and sectors.

2.1 Two types of deficiencies

Co-operatives encounter two main difficulties: first, in setting precise objectives, and second, in reaching these objectives accurately and at low cost.

Slowness of the decision processes: pluralism of objectives and difficulties of financing

For co-operatives, rigidities stem from the slowness of their decision-making process and the low insertion in the capital market. In co-operatives, power is less concentrated than in stock companies, since it is not commensurate with capital ownership. Thus, it takes more time to make a strategic decision: more people have to be consulted on the board of directors[2] or in general meetings. And the decision making in co-operatives require a slow path of change: the coordination between a broad number of members requires collective references which are tacit and disappear in a rapidly changing environment (Hansmann, 1996). Moreover, there is no univocal consensus on the objectives of a co-operative, which implies that there is no common language to facilitate the decision-making process. Whereas most stock companies make decisions under the generally accepted norm of maximising profit (La Porta et al, 1999; Aglietta and Reberioux, 2004), it is not the case for co-operatives since profits are not redistributed. Namely, while the profit seeking is not abolished, it is explicitly limited, which allows for a pluralism of objectives (Jensen and Meckling, 1976).

Once a decision is made, the financing of important decisions (to realise new investments or to redeem an enterprise to achieve critical mass) extends the lead time. Co-operatives have indeed a low capacity to gather capital[3]. They control the prices and the sales of their stocks, which inhibits the possibility of realising capital gains. Moreover, dividends are limited, making co-operatives' stock relatively unattractive to investors[4]. Even their own members are not prompted to invest sufficiently (Vanek, 1977): co-operatives still face three investment' problems which imply that raised capital amounts remain lower than stock companies' despite financial innovations (Brown, 2004). First, according to what Furubotn and Pejovich (1972) name the horizon problem, the co-operatives' members have no possibility to sell their stocks at their updated value, which implies that they definitely lose the benefits of investments that have not fully born their fruits at the time of their departure from the co-operative. Thus, members are limited to making short-term pay-off investment decisions. Second, members benefit from much less liquidity than a mere stockholder who invests in a co-operative, as members' financial decisions are tied to other functions (worker, user or provider): their investments are much riskier. This leads to the portfolio problem (Cook, 1995): members are prevented from adjusting their co-operative assets to match their personal risk preferences, which means that the members' investments are suboptimal (Nilsson, 2001). Third, co-operatives face a common-property problem (or free-riding): since all members benefit equally from the advantages which stem from investment, each member holds the interest to benefit from without investing. Consequently the difficulties to gather required funds also contributes to the delay co-operatives encounter in taking decisions[5].

Deficit of rationalisation to reach the objectives: obstacles to the use of controls and optimisation techniques

Once a co-operative has set an objective, that is to say once a decision is made and has received the required financing, how efficient are co-operatives in reaching it precisely and at lower cost? On one side, co-operatives are lacking the proper tools to reduce the pluralism of objectives and the resulting agency conflicts with their employees. Stockholders benefit from specific tools for enforcing objectives (Fama and Jensen, 1983) which leads to greater accuracy. They may align the employees' objectives with their own objectives of profitability by granting stocks, which gives them the possibility of compensating for the necessary contractual incompleteness (Hart and Moore, 1999). Yet, this solution is not open to co-operatives, since the profitability of their stocks is limited by the lack of freedom to sell them and the weight of indivisible reserves. Lastly, members of co-operatives often exhibit lower competences in a managerial role. Indeed, whereas stockholders are specialised with respect to their financial role, members of a co-operative are both financiers and users (or providers or workers). This lack of specialisation implies a lack of rationalisation.

On the other side, they are disadvantaged in using optimisation techniques. First, since the objective of a co-operative may be loosely defined, it prevents co-operatives from benefiting from optimisation techniques, such as financial calculation techniques. Second, co-operatives' employees may be less competent in using these techniques, because co-operatives are less attractive for competent workers. For instance, in Spanish Basque co-operatives (Prades, 2006), managers have lower salaries than their counterparts in stock companies. In addition, rigidities in co-operatives offer fewer career opportunities for workers, meaning that co-operatives are less capable of attracting the most qualified workers compared to their counterparts[6]. Our data on French co-operatives (appendix) reveal that for equivalent occupational groups, people in co-operatives have a lower education level than their counterparts in stock companies. The same has been shown in Portuguese co-operatives (Pestana and Gomes, 2003). Our data also show that the percentage of managers and supervisors among the workers is lower in co-operatives than in stock companies. The same is shown by Fakhfakh et al (2009) for workers' co-operatives in France. Lastly, in a co-operative, many decisions are made by non-specialists: since members have always two functions in their co-operative, they cannot be specialised for both of them.

For all of these reasons, rationalisation techniques may be less prevalent in co-operatives than in stock companies. In practical terms, using a sample of 37 financial advisers for small and medium enterprises' advisers in the western region of France, Abdesselam et al (2002) show that the customer-adviser relationship in co-operatives is based on a deeper inter-acquaintance thanks to the longer life of the relation. Indeed, non-technical information is used more often in co-operatives, as opposed to accounting, financial, or industry-specific documents and other control techniques. A study on Germany and France (Hildebrandt and Quack, 1996) confirms that banking advisers replace their clientele less frequently in co-operatives than in stock companies and Plihon (1998:10) shows that the average size of agencies of co-operatives is 11 employees compared to 21 for stock companies. Both of these figures imply a greater degree of inter-acquaintance and familiarity between advisors and their clientele.

2.2 Consequences on innovations and growth

Innovations

Four theoretical causes for a lower level of innovation in co-operatives may be identified. First, co-operatives tend to be risk-averse, especially regarding risks that are introduced through innovation. Members are at once financiers and users (or workers or providers) within their co-operatives, which means that they accumulate the risks associated with both of these functions. Consequently, they already perceive a high level of risk and the decision to innovate depends on both financial and non-financial elements. Second, even if members are eager to innovate, the co-operative may have trouble financing the project: as seen above, members tend to reach a suboptimal level of investment due to three types of investment problems and co-operatives are relatively unattractive for external investors. Thirdly, even if innovation is green-lighted and financed, co-operatives must deal with a slower decision-making process, a potential handicap that makes co-operatives susceptible to innovating later than their counterparts. Lastly, the lack of control over employees by members of a co-operative prompts them to curb the introduction of new competences (marketing, international or technological innovations), which they will not be able to properly control or manage. In addition, even if a decision to innovate is made, co-operatives' limited recourse to compensation options prevents co-operatives from attracting the best skills on the market, the very skills that are most likely to produce the latest innovations.

Data on 541 workers' co-operatives in France between 1970 and 1979 (Defourny, 1990) show that co-operatives in building, printing and intellectual services are less capital intensive than the industry average: more efforts are made in the recruiting and compensation of members (higher personal costs) than investing in technical solutions. Marketing innovations are also less spread in co-operatives as shown for 25 dairy co-operatives compared to 104 dairy stock companies in Greece (Oustapassidis et al, 1998), for 17 wine co-operatives in France (Couret, 2006) and through the history of the consumer co-operatives in Europe and North America (Furlough, 1999). These authors show that members might consciously reject some marketing innovations as foreign to the co-operative tradition. Oustapassidis et al (1998) also argues that the process of diversifying activities is slower in dairy co-operatives than in stock companies[7]. The international development is also lower in co-operatives, as shown for French co-operative banks (Plihon 1998:22) and European co-operative banks (Dalmaz, 2002:77). This last author also notes that financial innovations are implemented less often in co-operative banks.

Growth and volatility

The slowness of the decision processes and the difficulty in gathering capital funds are factors of a slower growth for co-operatives[8]. That slowness is increased by the lower fidelity of rapidly growing members. Indeed, Barraud-Didier and Henninger (2009:57) and Kyriakopoulos et al (2004:385-386) show that in agricultural providers' co-operatives it is rational for members with the highest growth rate to leave the co-operative, since they will not benefit from more power in spite of their size and given that their needs and objectives have become distinct from those of the majority[9]. The lower levels of product and geography diversification also imply a lower growth of the economic activity.

The co-operatives' slower growth–rate also stems from the slowness of the decision processes for mergers. Among numerous barriers, a merger requires general meetings in each co-operative and history shows that these decisions are particularly time-consuming to make (Bonin (2005) for dairy co-operatives, Dalmaz (2002) for financial co-operatives, Ellerman (2007) for workers' co-operatives). As a consequence, using German financial co-operatives in 1997, it has been shown that 80% of them have a business volume of less than 250 million euros although the higher scale economies have been known to reach 300 millions euros (Kotz and Nagel, 2002:66). The same results have been shown for 86 Acadian co-operative banks (Leclerc et al, 1999), 697 Spanish co-operative banks (Marco and Moya, 1999) and for French co-operative banks characterised by a lower merger and acquisition activity than in stock companies (Labbye et al, 2002:92). Lastly, bank co-operatives are less developed in risky activities whose growth rate is even higher. Here, I do not discuss the efficiency of mergers, but just the practices of mergers as a sign of slow decision processes. Of course, numerous authors show that mergers may induce lower rather than higher level of efficiencies as recalled by Erdal (2011:65, 90) and O'Sullivan (2001). Thus, in the same line as in the third and fourth section, the slowness of merging processes may be a source of efficiency, preventing from excessive practices of merging.

But those factors of slower growth and delay in innovations may be understood as sources of stability, which means that the growth is more robust. Especially, the lower reactivity may also induce a slower decrease, that is to say a slower volatility of the activity (variance of the growth). There is indeed no evidence that co-operatives have less and less weight in their sectors, which should derive from their slower growth. On the contrary, they enhance their market shares in many countries in sectors like banking and insurance. In the following paragraph, I focus on this point: in the current context of crisis, the low flexibility may be positively read as a high stability.

3. Stability

Those who oppose co-operatives deduce from these deficiencies that co-operatives should disappear over time, if it were not for the fact that they are supported by competition distortions. Proponents of co-operatives try to show that these predictions apply neither in the theoretical literature, nor in the empirical literature. In this paper, we concede that co-operatives face the structural deficiencies mentioned above. However, we show that these deficiencies result in a high stability of economic activity, which allows for a different source of efficiency to emerge (as expressed in the fourth section).

3.1 The stability of the activities and of the members

As shown in the precedent section, there is a low liquidity of co-operative stocks, especially in terms of reserves. Yet, Dalmaz (2002:78) notices that in European bank co-operatives indivisible reserves are the main part of the capital stocks, which means that an important part of the capital stocks is stable. The stability of the capital results in the stability of the activity. Standard and Poor's gives high marks for European bank co-operatives on the ground of the strong stability of their activity despite an unstable environment. Allen and Gale (in Labbye et al, 2002:87) show that the variations of depositors' incomes and of financing costs are lower in co-operative banks. The lack of liquidity of the co-operative stocks reduces the likelihood for the board of directors to change, whereas the stock company's higher degree of liquidity may lead to rapid change in the composition of the majority.

A significant part of surpluses are entitled to indivisible reserves, which means that if stakeholders want to benefit from them, they have to remain members. Every member who leaves the co-operative loses the possibility of benefiting from the surpluses he has contributed to build over time. On top of that, those benefits are all the more important, that they are collectively owned, which makes it possible for co-operatives to create new services for members. The inter-acquaintance contributes to the creation of a collective patrimony whose value is conditional on the loyalty of members within the co-operative. The democracy structure also strengthens stability, since it provides members (workers, providers or users, according to the co-operative type) with the possibility of expressing their ideas rather than quitting when there is a problem. Lampel et al (2010:5) show that employee-owned businesses present a higher stability than non-employee owned: "their performance is more stable over business cycles, displaying less sales variability".

3.2 The stability of the co-operatives' partners: the case of the employees

We assume that the stability of partners creates a general atmosphere of stability which in turn effects on all partners. In particular, we examine this assumption about employees in the case where they are not members, namely

Table 1: Average Job Tenure

Average Tenure (in years)	Stock Companies	Co-operatives
Food Industry ***	10	13
Supermarkets and Central Purchasing ***	10	13
Finance, Insurance *	14	15

Source: Enquête Emploi Insee 2007.

728 jobs in co-operatives, 25,299 jobs in stock companies.

*** Values are significantly different at the 1% level.

* Values are not significantly different.

in providers' and users' co-operatives (not in workers' co-operatives). Specifically, we analyse the average tenure of employees in providers' and users' co-operatives. Our data are extracted from the 2007 "Enquête Emploi" conducted by the INSEE (French national institute of statistics and economic studies). The database includes 53,146 workers, among whom 780 work in a co-operative[10] and 25,600 work in a stock company. Although the employment survey is not built to be representative of the enterprises, our population is structured as the general population[11]: around 1.5% of all jobs, 80% of which being concentrated in three sectors: 56.9% in finance, 15.9% in commerce and 6.3% in the food industry. Dow (2003) shows for workers' co-operatives offer a greater employment stability than conventional firms. Here, our results concern essentially the whole population of co-operative, among which workers' co-operatives are very few but we find similar results.

The average tenure of an employee is 9.8 years for stock companies, compared to 13.9 for members of co-operatives. This gap is reduced if the analysis is limited to industries in which co-operatives are present, which means that co-operatives develop especially in more stable industries[12]. However, there is still a significant difference (about 3 years) within the food industry and supermarkets and central purchasing, so that the co-operative structure seems to have an impact on the norms which rule an industry. The literature acknowledges the significance of such a difference: for instance, a similar two-year gap has been studied in Germany when comparing companies with and without collective wage contracts; the former companies have a higher tenure (Gerlach, and Stephan, 2008). This confirms our assumption that co-operatives reduce the domination of rules based on economic rationality.

Co-operatives are less attractive on the labour market, meaning that the highest-skilled workers, who happen to be the most mobile, are likely to prefer working in stock companies. On the employer side, co-operatives are more concerned with retaining their employees, given the fact that they provide jobs that are less attractive on the labour market. In other words, employers in co-operatives run the risk of deteriorating their labour skill sets by being forced to fill a vacancy with a lower skilled worker. Given that co-operatives are less committed to technical and marketing innovations, they also tend to invest less in recruiting young workers with new skill sets, who are often characterised by their mobility. More generally, workers who search rapid careers may not be attracted by co-operatives, which mean lower average skills for all workers in co-operatives.

In these latter explanations the greater stability seems to result from passive consequences of co-operatives' characteristics. But co-operatives and employees could also voluntarily seek and actively contribute to greater stability. Individuals who know that there is more stability in co-operatives may decide to join co-operatives for that very reason, if they have a preference for stability. For instance, our data show that executives are less paid in co-operatives than in stock companies (see appendix): even though they receive lower compensation, they choose to stay in their enterprises. On the employers' side, co-operatives may try to recruit workers who value co-operative principles, rather than the most competent workers, who are the most mobile. Lastly, if there is a general atmosphere of stability in a co-operative as shown on the side of members, employees will less be prompted to seek mobility.

4. Conclusion

From the previous sections, we know that co-operatives structurally interfere with the development of economic rationality and that they are characterised by a higher stability of activities and of members. The second section shows that the lower pressure of economic rationality on co-operatives' activities creates space for other norms to come about and rule the activities. The third section implies that this space may be taken up by norms which are designed within co-operatives, thanks to a temporality which makes it possible for people to develop inter-acquaintances, and thus, common norms. Finally, the general idea is that co-operatives should not be regarded as a direct source of alternative norms, but as a catalyst for the emergence of localised norms, which build themselves in the specific environment where their activities develop (Prades, 2006). Whereas enterprises where there is a strong mobility are ruled by external norms, a sufficient stability of internal social relations may result in the building of norms, which are specific to the enterprise. Those local norms make it easier to use informal knowledges: members "can have greater knowledge and commitment to the business" as Turnbull (2001) shows for firms owned by their employees, customers or suppliers. Turnbull (1994, 1997, 2002) shows that social complexity and human variations require a high variety of information dispatched within the organisation for many local adaptations rather than a unitary board with centralised and rationalised action.

Thus, the co-operatives' stability has a significant impact on efficiency. The norms which develop inside the co-operatives are more adapted to the lives of the members and their partners, which may enhance the internal efficiency. But they complicate the coordination with external partners and people who are the most mobile, which reduces their efficiency. Conventional firms might be better to attract resources and partners but worse to use them. Co-operatives might have an efficient internal organisation (a high x-efficiency) but do not make the most of those capacities because of difficulties of coordination with external actors. Overall, both kind of firms have no different productivities[13], but in a context of growing scarcity of resources, co-operatives may be strongly supported. This result also implies for the development of co-operatives that inter-co-operation is a very valuable means to accelerate the development of co-operatives. Since they have an advantage in building localised norms, they may want to explore this growth opportunity, by reinforcing the co-operation with other co-operatives, rather than focusing on stock companies' tools which are based on an economic rationality for which they are structurally disadvantaged. The co-operative model is not a technical one, based on formal innovations, but a living way of building adequate norms, according to specific social relations.

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Appendix: Executives' levels of education in co-operatives and stock companies

Table 2: Executives' Levels of Education in Co-operatives and Stock Companies

Executives' Level of Education	> bac+2	bac+2	bac	CAP-BEP*	Without Qualification
Stock Companies	56.7%	17.5%	12.7%	7.2%	5.9%
Co-operatives	35.5%	27.1%	21.3%	9.7%	6.4%

Source: Enquête Emploi Insee 2007.
3,804 jobs in stock companies, 155 jobs in co-operatives.
* CAP and BEP are French vocational training qualifications.

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Notes

1 Workers' or users' co-operatives, with users being individuals or firms. I do not focus in this paper on the differences between these forms, but only on the similarities.
2 "Because of their elaborate decision-making structure (farmers councils, farmers board, and management board), co-operatives are easy to get trapped in endless, political, and internal oriented discussions, hurting the quality and speed of decision-making" (Kyriakopoulos et al, 2004:385-387).
3 Fakhfakh et al (2009) show about the workers' co-operatives in France that the ratio fixed assets/employment is always lower than conventional enterprises' ones or not significantly different whatever their activities.
4 In a co-operative, investors have less power than in a stock company. For instance, the fourth principle of the Co-operative Identity Statement elaborated in 1995 by the International Co-operative Alliance is the following: "If they enter into agreements with other organisations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their co-operative autonomy". From this point of view also, investors are more interested in investing in stock companies than in co-operatives.
5 Solutions have been engineered to increase exchanges of stocks on internal markets (see case studies on the website of the Employee Ownership Association www.employeeownership.co.uk) but those markets remain little, which reduce the deficiency without offsetting it.
6 Technical competences are only a part of overall competences. Thus, following the same idea as in the third and fourth part, their lack do not induce a lower efficiency: task specialist may be less socially competent than their co-operative counterparts, even if they are more technically competent.
7 It may be added that the lower diversification of activities induces a lower diversification of risks, although co-operatives' rigidities are already a weakness in coping with risks.
8 Those factors may be offset by a lower volatility (see third section): co-operatives are less reactive but at middle course, they may reach high sizes, as is well-known for cases such as Mondragon and John Lewis Partnership (Erdal 2011). Fakhfakh et al (2009) show that workers' co-operatives "grow at least as fast as conventional firms in all industries studied".
9 Of course, there are differencies among the co-operatives: for instance Ridley-Duff (2009) shows that workers' co-operatives know a higher growth of employment than other co-operatives.

10 We gather “coopératives” and “mutuelles” in our population, since “coopératives” and “mutuelles” in France are often “mutual” and “co-operatives” in other countries. All these enterprises have in common the two characteristics we analysed in the second section: they have indivisible reserves and the power is conditioned by the economic participation but is not proportional to the capital amount.

11 Two national studies were realised in 2007 in France on co-operative and mutual enterprises: by the INSEE (www.insee.fr/fr/themes/detail.asp?reg_id=99&ref_id=eco-sociale%C2) and by Recherches et Solidarités (www.recherches-solidarites.org/thematiques/economie-sociale).

12 Mayers and Smith (1988) “seek to explain why different structures are most efficient in different lines of business (an equilibrium approach)”.

13 Fakhfakh and al (2009) show that workers’ co-operatives have a better use of their inputs than the conventional firms. Though, they do not have a better productivity. The internal performance might be offset by deficiencies. Our work suggests that these deficiencies could be due to a worse coordination with external actors (the worse external performance offsets the better internal organisation).