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# Competition rules and the cooperative firm

**ABSTRACT**

This paper investigates whether and under what conditions the working of cooperative firms can be affected by competition law or market-enhancing regulations. The nature of collective benefits sought by different types of cooperative enterprises is analysed to show whether and how a tension may arise between the market mechanism and the mechanisms through which alternative collective benefits are attained by cooperative firms. On the whole, market-enhancing regulations have an ambiguous impact both on the working of cooperatives and on social efficiency. While benefitting society, a market enhancement reduces the scope for cooperative firms aiming at reducing the deadweight loss in imperfectly competitive markets. A similar conclusion holds if the cooperative firm aims at protecting an investment decision from a hold-up problem, provided that the market enhancement enlarges the set of outside options for the firm's stakeholders. A market enlargement has a positive impact both on the working of cooperatives and on social efficiency when the aim of the cooperative firm is to prevent shirking in team production. In contrast, a negative impact ensues, with adverse consequences both for social efficiency and the cooperative firm, when the collective benefit sought by the latter is to overcome asymmetric information, as typically happens in the case of credit cooperatives.

**KEY-WORDS**COOPERATION; COOPERATIVE ENTERPRISES; CREDIT COOPERATIVES; COMPETITION LAW;  
ASYMMETRIC INFORMATION; RELATIONSHIP LENDING.**Acknowledgements**

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## 1. Introduction

For a long time a widespread presumption has held that market economies require the optimal provision of goods and services to be organized in capitalist firms, i.e. firms owned by their investors. Non-investor-owned firms were viewed, in theory, as a less efficient way of organizing the production and the provision of goods and services and indeed as accidents or exceptions in need of specific justifications under specific circumstances.

The above presumption contrasts with the observation that, even in developed economies, in many important industries a prominent role is played by non-investor-owned firms, a large subset of which is constituted by cooperatives, i.e. member-owned enterprises that serve to generate mutual benefits. As different cooperatives have different stakeholders as members, different ownership structures of cooperative enterprises can be identified, such as worker-owned cooperatives, farmer-owned producer cooperatives, wholesale supply and service cooperatives, consumer-owned cooperatives, mutual banks and mutual insurance companies.<sup>1</sup> In general, cooperatives adhere to a principle of “share and share alike” among their members, namely the group of stakeholders holding the residual rights of control. This involves a specific, non-standard, objective function being assigned to each ownership structure, and decisions inside the cooperative firm being taken on a “democratic” one-member one-vote basis. According to the traditional view, the application of this principle has a cost in terms of lower efficiency of cooperatives *vis-à-vis* investor-owned firms. Nevertheless, if a genuine, albeit immaterial, social merit is attached to the principle, it can be worthwhile for society to pay for the efficiency cost. Thus, almost everywhere, cooperative firms have been granted special protection in the market (often through favourable tax treatment), and the existence of a protective regime is commonly held as the very reason for their survival when competing with standard, investor-owned, firms.

Modern theory regarding the cooperative firm, built on the “new institutional economics”, has substantially changed the picture. Focusing on pervasive transaction and information costs affecting economic relations between suppliers of production factors and/or between producers and consumers, the new approach argues that investor ownership is not a necessary consequence of free markets and free enterprise, since an efficiency rationale exists for a range of non-investor-owned firms. The view that, in several circumstances, cooperative firms have an “efficient merit” of their own as an alternative way of organizing production has deeply impacted on our understanding of how cooperatives operate in the market. However, there remains a gap not entirely bridged between theory and policy approaches to the cooperative firm, in particular with respect to competition and market policies. On the theoretical side, the new approach suggests that cooperative firms can prove the factual existence of their efficiency rationale only by acting in the competitive market arena just like any standard, investor-owned firm. However, on the policy side, preferential policies are still advocated as necessary conditions to sustain cooperative firms in the market.

The Communication from the European Commission “On the promotion of co-operative societies in Europe” (2004) provides an example of this contrast. According to the Communication, “there are no grounds for special treatment of co-operatives in the general competition rules”. When carrying out economic activities, cooperatives are undertakings in the sense of the relevant articles of the European Community Treaty (now in the Treaty on the Functioning of the European Union). Moreover, cooperatives of legal entities are associations of undertakings and undertakings in their own right, and their behaviour

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<sup>1</sup> Classical reference is Hansmann (1996). Note that, in Hansmann’s view, the standard capitalist firm is also to be interpreted as a particular form of cooperative among providers of financial resources.

is to be assessed according to competition law. At the same time, however, the Communication recalls “previous decisions and rulings”, to reassert that “[...] certain aspects of [cooperatives] legal form and structure should be taken into account on a case-by-case basis”. In a more general approach, the Communication remarks that, due to limited access to capital and credit markets, cooperative firms may be in need of tailored business-supporting services in several circumstances. Furthermore, agreeing with the position of some Member States, the Communication accepts that “the restrictions inherent in the specific nature of co-operative capital merit specific tax treatment”. In any case, it is argued that “in all aspects of the regulation of co-operatives [...] any protection or benefits afforded to a particular type of entity should be proportionate to any legal constraints, social added value or limitations inherent in that form and should not lead to unfair competition”. The overall argument lacks clarity. At least in principle, the “legal constraints and limitations” only reflect the specific organization needed by the cooperative firm to meet its efficiency rationale. Therefore they should be viewed, rather than as a weakness, as an essential strength of the cooperative firm in the market, a conclusion that leaves unclear whether, and what kind of, protection or benefits should be ultimately afforded.

This paper intends to provide a critical assessment of the Commission’s Communication by investigating whether, under what conditions, and how the working of cooperative firms is affected by competition law and market-enhancing regulations. In the light of the basic argument of the paper, to acknowledge that cooperative firms have an efficiency rationale – thus casting aside their depiction as less efficient, albeit otherwise worthy, organizations – does not imply that cooperatives are to be treated as undifferentiated actors in the market arena *vis-à-vis* investor-owned enterprises.

To start with, the “market” and the “firm” are alternative organizations through which economic agents reap some form of collective benefit. Whereas the market emphasizes individual exchange as the source of collective benefits (“gains from trade”), in the firm economic agents exploit other sources of collective benefits. To further this aim, they substitute the coordination provided by market exchanges with the coordination provided by some alternative organization, usually centred on the ownership structure of the firm. Secondly, different sources of collective benefits may require different mechanisms of coordination and thus different ownership structures for the firm. A cooperative firm specifically emerges whenever a group of stakeholders is able to enlarge the expected benefits by “sharing” some crucial decisions (usually concerning sales, or purchases, or labour provision, or transmission of information). According to the different groups of stakeholders, to whom residual rights of control are assigned, different ownership structures for cooperative firms can be identified.

Within this general framework, regulations enhancing the market mechanism have an ambiguous impact on the working of cooperative firms. In some cases, exploiting “gains from trade” complements the way in which cooperative firms attain the specific collective benefit. Under such circumstances, enlarging the scope for the market is neutral, or even beneficial, to the working of cooperatives. In other cases, however, the market mechanism can either bear on the grounds for substituting the market coordination with the coordination provided within the cooperative firm, or impinge on the ability of a specific cooperative firm to fulfil its efficiency rationale *vis-à-vis* alternative ownership structures. In both cases, enhancing the market mechanism can be detrimental to cooperatives. This is the case when an enhanced market invalidates the specific efficiency rationale of cooperatives *vis-à-vis* standard, investor-owned enterprises. Alternatively, while the intrinsic rationale for the cooperative organization of the firm is not removed, the cooperatives’ ability to achieve “benefits of cooperation” can be hampered in an enlarged market context.

The object of this paper is to characterize the conditions under which the market and the cooperative firm act as either complementary or contrasting institutions. To this purpose, in section 2, I briefly refer to the literature on the efficiency reasons of different ownership structures of cooperatives within the framework

of the modern theory of the firm. A subsection of section 2 focuses on credit cooperatives as a special case. In section 3, I discuss whether and under what conditions the sources of collective benefit exploited by different types of cooperative firms may be in tension with the market mechanism. If a tension arises, it is legitimate to wonder whether indiscriminately applied competition rules may affect the working of cooperative firms. In this respect, three alternative sets of circumstances can be envisaged: (i) circumstances in which no tension exists and competition rules are neutral, or even favourable, to cooperative firms; (ii) circumstances in which pro-competitive regulations limit cooperative firms, but with an overall benefit for society; (iii) circumstances in which competition law and market-enhancing regulations may hamper the working of cooperative enterprises with negative consequences for social efficiency. In section 4, I focus again on credit cooperatives as a special case. With the support of an empirical investigation, I argue that credit cooperatives are a prominent instance of situations in which competition-enhancing regulations may lead to inefficient results in the (credit) market.

## 2. The cooperative firm within the theory of the firm

This section reviews the efficiency rationale of cooperatives in the framework of the modern theory of the firm. As is well known, the general idea that individual market exchanges are not the only mechanism through which economic agents secure any sort of collective benefits forcefully entered economic analysis with Coase's seminal investigation on "The Nature of the Firm". Coase encompassed under the label of "transaction cost" the theoretical reasons for substituting the coordination provided by market exchanges with the coordination within a firm. Following his Marshallian bent, Coase defines the transaction cost as the actual cost of physical resources that agents consume when they provide production factors through market exchanges.<sup>2</sup> Coase then confronts the transaction cost with the cost of the (possibly different) bundle of resources that agents have to consume if they establish an alternative social relationship to provide the same production factors to the same economic activity. When the former cost is higher than the latter, the market proves to be an inefficient institution to organize production *vis-à-vis* possible alternative social relationships. Indeed, Coase has in mind one specific alternative, which he identifies with the "authority" relation, and describes the entrepreneur as the specific agent having the power to ensure that all owners of production factors perform their tasks by "order" (rather than as the result of a market transaction). The subsequent literature partially deviates from Coase's Marshallian track, giving the notion of transaction cost an interpretation closer to that of a proper opportunity cost. This involves both the cost of the resources deployed in, and the output generated by, alternative ways of organizing production being taken into account. When owners of production factors try to secure a common surplus by organizing production through market exchanges, they bear a transaction cost (i.e. a cost inherent in the exchange relationship) if the possibility is open to them of resorting to an alternative institutional arrangement (i.e. a different social relationship) that allows for a larger surplus to be reaped, through either a larger output, or lower costs, or both. Within this general framework, a number of different explanations have been put forward to justify the "firm" as a mechanism of coordination among production factors exploiting sources of collective benefits that are different from a "gain from trade". In what follows I briefly recall the main alternative approaches in the modern theory of the firm, to shed light on conditions under which they explain the emergence of the "cooperative" firm.

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<sup>2</sup> Coase stuck to this definition until his latest contributions. See Coase (1988).

A first instance is provided by team production, a situation notoriously subject to “shirking” in the market when the effort of individual owners of production factors is not freely observable. The pivotal contribution to the “team” theory of the firm is due to Alchian and Demsetz (1972) who describe the firm’s entrepreneur as the agent having the specific tasks of (i) monitoring all other individual agents’ efforts in order to prevent shirking, and (ii) establishing, for every individual agent, a remuneration dependent on the monitored effort. Observe that Alchian and Demsetz do not in fact depart from the classical “catallactic” theory of the firm put forward by Schumpeter (1911) and Knight (1921), since they view the entrepreneur as an “additional” agent who enlarges the net of market relations among the owners of production factors, establishing with them a series of “market” exchanges. The departure from the catallactic theory of the firm is due to Holmström (1982), who revisits team production in a way that leads to an alternative explanation for the entrepreneur’s role. Observing that “monitoring” the effort of individual agents in a team entails a formidable problem, Holmström argues that the entrepreneur has rather the task of “disciplining” agents’ behaviour. To this purpose, the entrepreneur stipulates an incentive contract with the team members, which allows for the possibility of breaking the firm budget according to a simple rule: every team member is given an (equal) share of the surplus, “only if” the latter amounts to the Pareto-efficient level. Otherwise, everyone receives a “zero” share of the output. Holmström’s rule is incentive-compatible (no individual prefers to provide a lesser effort than the one conducive to the optimal level of the surplus) and informatively less demanding than Alchian and Demsetz’s theory (the entrepreneur only needs to know the *ex-ante* average efficient, rather than the *ex-post* individual level of effort). The change comes from the fact that the incentive contract gives the entrepreneur the “power” to impose penalties on team members whenever the level of overall effort is inefficient. Thus, the relationship linking the entrepreneur to the owners of production factors definitely departs from a market relation, featuring as an authority relation within a hierarchical organization.

When the firm is viewed as an institutional response to a problem of team production, the emergence of the cooperative firm follows from an interesting development of Holmström’s approach put forward by MacLeod (1988) under specific, but relevant, circumstances. When involved in an indefinitely repeated game, team members can solve the typical team problem without resorting to either a monitor (as in Alchian and Demsetz) or an external authority (as in Holmström). Peer monitoring, even if imperfect, becomes a sufficient “internal” mechanism for the optimum level of effort to arise as a Nash equilibrium strategy. In other words, the hierarchical capitalist firm is not the necessary alternative to the “market”, since cooperative firms also allow social agents to secure a collective benefit under conditions of team production.

Klein, Crawford and Alchian (1978), Grossman and Hart (1986), Hart and Moore (1990) trace the existence of the firm to a quite different set of circumstances, setting the frame for the so-called “property rights” theory of the firm. In their view, the firm is a hierarchical organization arising from the need to bind future actions of some agents involved in production in order to prevent opportunistic behaviour. The “property rights” theory of the firm has a wider scope than the “team” theory, since the former allows not only owners of production factors, but also customers and suppliers of intermediate goods, to take on a role in the firm organization. In the simplest setting, a stakeholder has to make a decision about an investment with significant (positive) externalities towards other stakeholders. Suppose that it is costly to write a detailed long-term contract precisely specifying current and future actions contingent on every possible future event, so that any contract is intrinsically incomplete and subject to *ex-post* renegotiation. Under such circumstances, in order to be induced to an efficient investment decision, the investor must be protected against the “hold-up problem” that might arise from other stakeholders’ future opportunistic behaviour. Since opportunistic future exchanges are difficult to prevent in the market, protection is provided

by allowing the investor to exert “authority” on all other stakeholders, namely by giving the former the rights of control (“property rights”) over the firm’s assets, as such a condition involves the inherent power of excluding other stakeholders from the use of the assets.<sup>3</sup>

Under the “property rights” theory, cooperative firms can be justified in a broader multi-asset, multi-individual setting. Hart and Moore (1990) analyse the general situation in which some stakeholders, although not having an investment decision, still can be non-substitutable, or “indispensable”, trading partners for some other stakeholder whose investment (in physical, as well as human, capital) is important in the generation of surplus. Under such circumstances, the indispensable stakeholders can be efficiently given residual rights of control over the firm’s assets. A crucial result is that the broader setting encompasses not only ownership by a single stakeholder, but also more general control structures, such as partnerships and worker or consumer cooperatives.

The “property rights” theory of the firm is intrinsically dynamic, as it involves the existence of continual relationships between stakeholders. Observe that the same characteristic holds in MacLeod’s “team” theory of the cooperative firm. The dynamic setting is at the root of Hansmann’s (1988) theory of the ownership of enterprise, which provides the general reference for the theoretical explanation of different ownership structures of cooperatives.<sup>4</sup> Let us label as “patron” a stakeholder involved in repeated interactions with other stakeholders and as “owner” of the firm the specific patron formally entitled to residual rights of control and residual earnings. While residual earnings refer to what remains after every stakeholder has received his or her contractual compensation, residual rights of control concern the decisional power in all circumstances that cannot be defined *ex-ante* in a contract, because of bounded rationality of agents, or their inability to write a complete contract.<sup>5</sup> Patrons who are not owners establish contractual relations with the firm covering reciprocal obligations in all circumstances defined *ex-ante* in a contract, but are subject to the owner’s authority in all other circumstances. Insofar as establishing a contractual relation is a resource-consuming activity, patrons who are not owners bear “transaction costs”. By contrast, owners do not bear transaction costs, but have to bear “ownership costs”.

Patrons can be grouped according to whether they are investors, workers, or customers – the latter category including both suppliers of raw materials and intermediate goods, and consumers. A specific (and normally different) sum of ownership costs (borne by owners) and transaction costs (borne by other patrons) can be attached to each alternative form of firm organization (namely an investor-owned, an employee-owned, or a customer-owned enterprise). Ownership of the firm is efficiently allocated to the patron, or group of patrons, for whom the sum of contracting and ownership costs is minimized.<sup>6</sup> It is useful to describe contracting and ownership costs in more detail. Contracting costs are associated with the working of the market mechanism. They arise because of (i) *ex-ante* market power; (ii) *ex-post* market power; and (iii) asymmetric information. Although it is common to refer to all sources of contracting costs as instances of a “market failure”, the generic label actually covers two quite different sets of circumstances. The first set refers to market “imperfections” (*ex-ante* market power) hindering economic agents from fully

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<sup>3</sup> If more than one stakeholder has an investment decision to make, assigning the “property rights” to a specific stakeholder brings costs as well as benefits since, while the latter’s incentive to invest raises, other stakeholders’ incentive to invest falls. Under such circumstances, the efficient, albeit second-best, solution is to give residual rights of control to the stakeholder whose investment decision is most valuable to the firm (Grossman and Hart 1986).

<sup>4</sup> Crucially, however, Hansmann is not concerned with the reasons why firms emerge instead of markets and only focuses on why and how ownership differs across enterprises.

<sup>5</sup> Thus the notion of ownership is straightforwardly connected to the notion of incomplete contract that lies at the core of the “property rights” theory of the firm.

<sup>6</sup> Non-profit organizations, where no patron is assigned the ownership, are also covered by Hansmann’s theory. However, I ignore non-profit organizations in this paper which is about cooperative firms *vis-à-vis* the market.

exploiting all possible gains from trade in situations in which otherwise (namely, if all markets perfectly competitive) all collective benefits would be reaped by economic agents. The second set refers instead to the intrinsic “inadequacy” of the market as a coordination mechanism in situations in which economic agents face *ex-post* market power and asymmetric information. In contrast, ownership costs are linked to the working of non-market organizations and include the cost of controlling managers, the cost of collective decision-making and the cost of risk bearing.

Given the general framework described above, investor-ownership, and its prevalence, can be explained as the combined result of two elements. First, capital markets are intrinsically unable to deal with the information asymmetries and *ex-post* market power tends to plague market relations between the firm and the patrons providing financial resources. Second, investors normally bear relatively lower costs to control managers, to make collective decisions and, above all under limited liability, to manage risks, *vis-à-vis* other patrons. However, under several circumstances, different forms of ownership tend to prevail. Worker-ownership (i.e. worker cooperatives) becomes a candidate ownership structure under team production, which makes the cost of contracting in the market relatively high for workers. However, two further conditions must be simultaneously met for worker cooperatives to arise. First, capital requirements must be low enough to keep low the cost of contracting with patrons providing capital resources and attenuate the latter’s relative advantage in bearing ownership costs. Second, workers have to bear relatively low costs of ownership. The latter condition is likely met if a high degree of worker homogeneity reduces the costs of management control and collective decision-making.<sup>7</sup> Customer-owned enterprises tend instead to arise when the firm enjoys significant *ex-ante* market power with respect to some customers, either in the product market (thus leading to a consumer cooperative) or in the market of some production factor (thus leading to a producer-cooperative). When the firm enjoys *ex-ante* market power, customers have a twofold interest in becoming owners: (i) they can appropriate the monopolistic rents; and (ii) they can reduce the deadweight loss associated with the monopolistic solution in either the product or the factor market. However, additional conditions must also be taken into account, to ensure that ownership costs borne by customers are sufficiently low. In particular, homogeneous interests among customers are required, to keep low both the costs of manager control and the costs of collective decision-making. This explains why customer-owned enterprises are more common for wholesale than retail firms (where customers tend to be numerous and dispersed) and in rural rather than urban areas (where customers are more transient and have less homogeneous interests).

### 2.1. Credit cooperatives as a special case

However, a specific customer-owned enterprise, namely the credit cooperative, deserves a different explanation. Indeed, the focus on *ex-ante* market power does not adequately fit mutual credit organizations among small and marginal firms in local markets. As shown in particular by the European experience of cooperative banks, the crucial incentive for small and marginal borrowers to become owners and therefore “self-producers” of credit services lies in a very different circumstance: the need to escape the risk of financial

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<sup>7</sup> This explains the relative rareness of workers cooperatives – typically diffused in specific services where the three conditions above are simultaneously met – with respect to alternative explanations. For instance, Alchian and Demsetz (1972) only focus on the comparison between peer monitoring and hierarchical monitoring, while ignoring that worker ownership is normally characterized by very high costs of ownership.

exclusion when banks typically resort to credit rationing.<sup>8</sup> The essential reason for credit rationing to arise is that market relations are inadequate to cope with the transmission of crucial information between banks and their borrowers. As is well known, the market mechanism ignores the transmission of individual information by economic agents, since all relevant information is assumed to be encapsulated in (market) prices which, in addition, give all individual agents the correct signals for their economic decisions (in short, expand supply when prices go up, expand demand when prices go down, and *vice versa*). However, this picture is far from appropriate when exchange relations take place in credit markets, as the latter are characterised by inherent conditions of asymmetric information that give rise to adverse selection and moral hazard. Credit rationing is the typical “market” response to adverse selection and moral hazard.

Consider, first, adverse selection. A bank, not knowing the risks of individual projects, fears that a high interest rate – to cover the expected losses from riskier projects – would attract only borrowers with the highest probability of not repaying the debt. Therefore, in the market, a higher interest rate would induce banks not to expand the credit supply, but to deny credit to some borrowers (thus giving rise to credit rationing). This is an inefficient result of the market mechanism, since borrowers with the highest probability of being excluded from credit are those for whom the cost of conveying individual information is high, and this circumstance is quite independent from the individual probability of not repaying the debt. Consider, next, moral hazard. A bank fears that a high interest rate – to cover the risk of a debtor’s suboptimal level of effort in implementing the financed project or in scrupulously repaying the original debt – results in a perverse incentive for the debtor to reduce effort. Therefore, to tackle moral hazard in credit markets, banks tend not to respond to prices, but to follow other patterns of behaviour. Crucially, all such patterns are not only different from, but also enter into tension with, the market mechanism. For instance, a bank may require the borrower to put his or her own financial means into the financed project, or to provide a collateral. The tension with the market arises because both solutions involve at least partial self-production of the credit service, a result that “reduces” the scope for market exchanges. Alternatively, the bank may rely on the debtor’s reputation (asking him or her to provide a credit history, or exchanging information with previous lenders). In this case, the bank resorts to mechanisms of information transmission that are in contrast with the “impersonal” market mechanism. Because of such tension, dealing with moral hazard in the market also leads to suboptimal results: borrowers with less financial means, or for whom the cost of conveying individual information is high, end up with the highest probability of being excluded from credit, although there is no general reason for them to coincide with borrowers with a lower intrinsic merit of credit (Pagano and Panunzi 1997). To sum up, when trying to govern market exchanges in order to prevent adverse selection and moral hazard, banks are forced to follow patterns of behaviour inadequate to sort out the most deserving borrowers, dooming some of the latter to financial exclusion.

At least in the prevailing European experience, the distinctive feature of credit cooperatives is to provide credit to borrowers typically running the risk of undeserved financial exclusion in the market.<sup>9</sup> In pursuing

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<sup>8</sup> The European experience is partially different from the U.S. experience, where depositors have always played a major role as crucial patrons of cooperative banks. In the U.S. depositors became owners, not so much to contrast low deposit interest rates arising from traditional market power, but to prevent investor-owned banks’ opportunistic behaviour in the use of funds (in fact, non-profit and cooperative banks lost part of their advantage *vis-à-vis* investor-owned banks with the development of governmental regulation providing greater security to depositors). It is useful to recall that, in the XIX century, the earliest types of non-investor-owned banks, namely savings banks, essentially emerged to warrant fiduciary protection to depositors and were organized as non-profit institutions. Mutual savings and loan associations, as well as credit unions, also emerged as depositors’ cooperatives. The latter categories provide also consumer loans to their members, especially to finance the construction or purchase of a house. In these cases, therefore, adverse selection and moral hazard associated with lending add a further element, more akin to the European experience, to explain the cooperative form of ownership.

<sup>9</sup> Differently from the U.S. experience, the circumstance that members are also depositors is in a sense only ancillary to the above objective.

this purpose, a cooperative bank is characterised by two essential elements. First, it acts as an alternative mechanism of coordination with respect to the market, since it allows that class of borrowers to transmit the relevant information by “pooling” it within a specific organization. Second, the provision of credit by cooperative banks partakes of the nature of team production. Thus, the cooperative bank can be described in short as an efficient institutional response to a problem of “team” credit provision arising when borrowers pool individual information to avoid financial exclusion in the market. This description rests on several characteristics of the cooperative bank’s membership, which typically involves small and marginal firms in local markets. First of all, there is a high degree of homogeneity among members, who belong to the same local community (the source of shared culture and values) and usually also to the same social group (involving tighter inner relations). Second, individual membership is subject to explicit acceptance by all other members (in some cases, even leaving the cooperative needs the consent of all other members). Third, borrowers are typically members of the cooperative. Fourth, ownership is dispersed: there is a ceiling to the number of shares in the hands of any single member and decisions are taken on a one-member, one-vote basis.

All the characteristics above combine as follows. To start with, consider that relevant information in credit relationships includes both *ex-ante* information (before the credit is granted) needed to “screen” potential borrowers, and *ex-post* information (when the credit has been granted and must be repaid by the borrower) needed to “monitor” the borrower’s *ex-post* behaviour and to enforce contractual obligations. Screening and monitoring are both greatly facilitated when hard information (namely, information easily reduced to numbers, and thus easy to store and transmit in impersonal ways) is complemented by soft information (namely, information which is difficult to completely summarize in a numeric score) (Petersen 2004). This is particularly the case when information concerns credit worthiness of, and the kinds of projects available to, small local borrowers, about which hard information is much more difficult to obtain. The inefficiencies of “market” solutions to adverse selection and moral hazard are largely associated with the difficulties of collecting soft information in the market. Precisely in this respect, the features of cooperatives’ membership, emphasizing members’ reciprocal and personal knowledge, maximize the production and diffusion of soft information, which are therefore at the root of the relative advantage of credit cooperatives.

However, a second element is needed to fully understand why the cooperative bank succeeds in avoiding financial exclusion. Whereas the diffusion of *ex-ante* soft information is a necessary and sufficient condition for adequate screening to prevent adverse selection, *ex-post* information – though helpful to monitor the use of loaned funds and to recover them, as argued by Banerjee, Besley and Guinnane (1994) – is not sufficient to guarantee the enforcement needed to prevent moral hazard. To this purpose not only information, but also rewards and penalties, must be provided. To efficiently prevent moral hazard, the characteristics of cooperatives’ membership help in two connected ways. On the one hand, they allow the provision of credit to be organized in a team. On the other hand, they allow the cooperative bank to act as an efficient response to a problem of “team” credit provision. This happens because the cooperative mechanism rests on a strong form of “relationship lending” (Berger and Udell 2002).<sup>10</sup> Three crucial elements deserve to be highlighted in this respect. First, the circumstance that borrowers are typically members of the cooperative

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<sup>10</sup> Any provision of credit, in a sense, needs resting on some form of relationship banking, that is on a long-term personal relationship helping the lender to overcome his asymmetric information with respect to the borrower. The relationship between the two, however, normally remains focused on the economic exchange and subject to the incentive system provided by the, albeit imperfect, market mechanism. Thus outside options remain usually open and can break the original relationship, whenever particularly expedient. By a “strong” form of relationship banking I intend instead to emphasize that the system of rewards and penalties, supporting the incentive to avoid moral hazard, differs from usual market rewards and penalties, as it extends to all social links acting as social bounds.

bank permits peer monitoring, emphasizing the role of soft information in tightening the control of moral hazard (Stiglitz 1990). Second, belonging to the same community allows members to establish long-term relations with each other and with the cooperative bank. Last, the establishment of long-term relations makes members aware that they are all going to bear any loss for unrecovered loans, thus laying the conditions for the typical team incentive to apply.

### 3. The cooperative firm *vis-à-vis* the market mechanism

This section identifies circumstances of potential tension between different mechanisms of coordination provided by alternative ownership structures of cooperative enterprises and the coordination provided by the market. My purpose is to assess whether, and under what conditions, competition rules enlarging the scope of the market hinder the development of the cooperative firm. *Ex-ante* it is reasonable to expect that three alternative sets of circumstances can be detected: (i) circumstances under which no tension exists and market regulations are neutral, or even favourable, to the cooperative firm; (ii) circumstances under which market-enhancing regulations may limit the development of the cooperative firm, but the overall result is beneficial for society; (iii) circumstances under which competition rules may hamper the cooperative enterprise with adverse consequences for the efficient provision of concerned goods and services.

Table 1. Effects of market-enhancing rules on the working of cooperative firms

Cooperatives	Collective benefit	Effects of market-enhancing rules	
		For cooperatives	For society
<i>workers cooperatives</i>	<i>to prevent shirking</i>	neutral or beneficial	beneficial
	<i>to prevent opportunism</i>	detrimental	detrimental if no outside option are opened beneficial if no outside option are opened
<i>customer (suppliers and consumers; credit) cooperatives</i>	<i>to prevent deadweight loss</i>	detrimental	beneficial
	<i>to prevent opportunism</i>	detrimental	detrimental if no outside option are opened beneficial if no outside option are opened
	<i>information transmission</i>	detrimental	detrimental

As explained in section 2, different ownership structures of cooperative firms are institutional responses to coordination problems arising in dynamic contexts when patrons try to secure alternative forms of collective benefits that cannot be reaped through market coordination. Table 1 considers the two main ownership structures (namely, worker cooperatives and customer cooperatives) and identifies a total of four different sources of collective benefits, related to either or both ownership structures. In detail, while worker cooperatives may arise as coordination mechanisms (i) to prevent shirking in team production, or (ii) to prevent future opportunistic behaviour by some stakeholder, customer cooperatives are to be seen as coordination mechanisms aiming at (i) preventing deadweight loss, (ii) preventing future opportunistic behaviour, or (iii) allowing efficient information transmission.

Expanding on the framework described in Table 1, let me first focus on situations in which enlarging the market mechanism actually limits the development of cooperative firms, albeit with a benefit for society as a whole. The general case concerns cooperative firms emerging to prevent deadweight loss in imperfectly competitive markets. Recall that “gains from trade” can be “fully” reaped in the market, not just when a relation of exchange is generically established, but “only” if exchanges take place in ideal (i.e. perfectly competitive) markets where the sufficient conditions set by the first Theorem of Welfare (implying, in essence, absence of market power) are met. Outside ideal markets, market power hampers the realization of all efficient exchanges in the market, giving rise to a deadweight loss. When operating on the side of the market with less or no market power, providers of intermediate goods or consumers of final goods or services are therefore encouraged to avoid a market exchange if, by doing so, they can prevent, or at least reduce, the deadweight loss. In other words, providers of intermediate goods or consumers may prefer respectively forward or backward integration to social division of labour. A producer-owned or, respectively, a consumer-owned cooperative will be eventually established if Hansmann’s test – requiring that the sum of contracting and ownership costs is minimized under the corresponding ownership structure – is satisfied. Observe that, under these circumstances, the benefit pursued by the cooperative firm does not substantially differ from a “gain from trade”. By reducing the monopolistic rents and the deadweight loss, competition-enhancing rules intrinsically attenuate the incentive for consumers or providers of intermediate goods to become the owners of the firm. If the end result changes the balance between (lowered) contracting costs and the ownership costs borne by the cooperative firm *vis-à-vis* standard investor-owned firms, the development of cooperatives will be hindered. However, such a result would be only desirable for society.

Consider now alternative situations in which the cooperative firm exists to deal with other sources of collective benefit. As recalled in section 2, a relevant setting whereby both worker and customer cooperatives may eventually emerge involves a stakeholder refraining from an investment decision for fear of being caught in a hold-up problem. At first sight, the hierarchical pattern envisaged by Klein, Crawford and Alchian (1978) and Grossman and Hart (1986) to prevent opportunism by other stakeholders does not likely fit the cooperative firm, as relevant investment decisions that are collectively in the hands of a group of stakeholders are not common. However, as shown by Hart and Moore (1990), the cooperative firm can also emerge from a more articulated framework in which a group of stakeholders, although not having to make a common investment decision, are still non-substitutable, or “indispensable”, trading partners for another stakeholder who has to make the investment decision.

The presence of “indispensable” stakeholders is a crucial element of the circumstances depicted above. Indispensable stakeholders are such because they are endowed with a certain degree of market power allowing them to preclude outside (i.e. market) options to other stakeholders. Therefore a tension between customer or worker cooperatives and market-enhancing rules may arise, crucially depending on whether and how the enhancement of the market enlarges other stakeholders’ outside options, thus reducing the

non-substitutability of cooperative members. If competition rules, while hampering the prevention of future opportunistic behaviour, do not at the same time succeed in opening new outside options for stakeholders subject to the risk of a hold-up problem, the emergence of cooperative firms is hindered, with negative consequences for efficiency. In contrast, if competition-enhancing rules succeed in providing opportunities for outside options to materialize, thus reducing the market power of “indispensable” stakeholders, the rationale for organizing the cooperative firm under such circumstances may be attenuated or eventually removed. Under the latter circumstances, the cooperative firm explained by the “property rights” approach shares a common element with the cooperative firm arising as an answer to market imperfections.<sup>11</sup> In both cases, competition-enhancing rules are detrimental to the cooperative firm but, under general circumstances, the end result is desirable for society as a whole.

A worker cooperative emerging to prevent shirking in team production is the typical candidate for situations in which market-enhancing rules are in principle neutral, or can even be favourable, to the development of cooperative firms. Worker cooperatives have a comparative advantage in solving the free-riding problem normally plaguing team production over market exchanges between workers and an investor-owned firm. When workers are involved in long-term relations, peer monitoring becomes an efficient mechanism of internal control to induce every team member to provide the optimal level of effort. Therefore, worker-ownership will actually prevail if the savings in the (otherwise high) costs of contracting with workers combine with low contracting costs with providers of capital resources (a likely case if capital requirements are low) and low costs of worker ownership (a likely case when the degree of worker homogeneity is high). When the above conditions are all met, there is no reason to expect a tension to arise between the cooperative firm and the market mechanism, either in the labour or in the final product market. The point essentially is that the coincidence of low capital requirements with a high degree of worker homogeneity normally implies that the size of the worker cooperative is small. Adding very little to the demand for labour, a worker cooperative can neither significantly affect competitive conditions in the labour market, nor be affected by market-enhancing rules improving those competitive conditions. At the same time, in the market of the final good, the efficiency rationale of shirking prevention provides worker cooperatives with a competitive advantage that an improvement of the competitive conditions in the same market can only enhance.

The last case refers to cooperative firms acting as a mechanism of information transmission. Now, in contrast with the previous cases, competition-enhancing rules come in general in tension with the working of cooperatives when asymmetric information between the two sides of the transaction prevents all efficient transactions from being carried out through market exchanges. Under such circumstances, cooperative enterprises are typically established by consumers who integrate backwards to “self-produce” the relevant good or service. The benefit of such an arrangement is that it allows the transmission of the relevant information between the two sides of the transaction to be governed within the network of social relations that link the members of the cooperative. Consumer-owned firms help consumers to better deal with asymmetric information both when consumers are uninformed about producers and when producers are uninformed about consumers. However, when one looks at the effects of market-enhancing regulations on the working of the cooperative, the latter case is of greater relevance. While normally leaving unchanged the incentives of better-informed producers to behave opportunistically, an enhancement of competition in the market for the final good or service necessarily enlarges the scope for opportunistic behaviour by better-

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<sup>11</sup> Albeit with a crucial difference. In the latter case, it is the group of stakeholders endowed with less, or no, market power that organize the cooperative firm to react to other stakeholders’ market power. Instead, when the efficiency rationale of cooperatives lies in the need to prevent the negative consequences of opportunistic behaviour, the stakeholders who become members of the cooperative firm enjoy themselves market power, because of their “indispensability”.

informed individual consumers. The incentive for better-informed consumers to organize a consumer cooperative arises from their awareness that, in the market, uninformed producers would be induced to make an inefficient supply. To avoid such an inefficient result, better-informed consumers prefer to substitute poorly informed impersonal market exchanges with exchanges relying on the richer information provided by the personal, long-term relationships that are established within the cooperative firm.

Observe, however, that long-term ties among the members of the cooperative are weaker, the stronger is each individual member's temptation to deviate provided by possible outside options. The trouble with competition-enhancing rules is that they always enlarge the set of outside options, thus increasing the temptation to deviate. Insofar as an enhancement of competition actually alters the consumers' choice, inducing them to leave the transaction to be organized in the market rather than through the cooperative firm, competition-enhancing rules will eventually prove detrimental not only for the working of cooperatives but also for society as a whole. A typical instance of cooperative firms for which the main source of collective benefit is information transmission is provided by credit cooperatives. The following section is devoted to a detailed analysis (also supported by an empirical investigation) of a specific but relevant case in which a competition-enhancing regulation in the credit market inefficiently hampers the working of this class of cooperatives.

#### 4. Competition in credit markets and intra-competition among mutual banks

In the last twenty years, the Italian banking sector has undergone significant changes. Following liberalization, a number of administrative constraints – previously hindering internal and external growth of banks – have been relaxed. Banks were allowed to expand in a number of directions, exploiting the benefits of scale and scope economies (Angelini and Cetorelli 2003). The increase in competition has had an impact not only on individual banks, but also on the overall structure of the Italian banking industry, blurring the traditional distinction among different types of banks. Local banks have been particularly affected by liberalization. Several credit institutions traditionally serving local markets, such as *banche popolari* and former savings banks, belong today to credit conglomerates that operate nationwide. Weaker links with the territory have reduced banks' capability to serve local financial needs, altogether implying a restriction of access to credit for small local businesses.

Yet, within this general picture, cooperative banks tell a different story.<sup>12</sup> Mergers have taken place only within the cooperative credit system, with no relevant effects observed in size, territorial reference, and ownership structure. Still today, mutual banks are focused on collecting local savings and providing financial services for local small-sized firms. At first sight, the persistence of the traditional model of local banking was taken as a competitive weakness. Cooperative banks were deemed to be at a serious cost disadvantage, especially in providing the innovative and dynamic services that lie at the competitive core of modern financial markets (Clemente 2002). Moreover, as other local banks were withdrawing from local credit provision, the geographical concentration of borrowers did not allow mutual banks to adequately diversify credit risk, and a worsening quality of loans from mutual banks was feared.<sup>13</sup> However, other facts and considerations led observers to different conclusions (Bongini, Di Battista and Zavarrone 2007). Over the

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<sup>12</sup> In what follows I will refer to such institutions indifferently as “mutual banks”, “cooperative banks” or “credit cooperatives”.

<sup>13</sup> The fact that, in those same years, the *ratio* of bad loans to total loans for mutual banks overcame the same *ratio* for the entire banking system was taken as a serious negative signal, as traditionally this *ratio* was more favourable to mutual banks.

last decade, Italian cooperative banks expanded loans much more than other financial intermediaries did. This performance is well in agreement with the economic theory of banking, which highlights “distance” as a barrier to lending and a cause of segmentation of credit markets (Guiso, Sapienza and Zingales 2004). Spatial proximity is a source of comparative advantage, because “hard” information about small borrowers is difficult to attain, and easier access to “soft” information greatly helps local banks in “screening” potential borrowers, “monitoring” the use of loaned funds, and “enforcing” loan repayments. Besides, as already commented in section 2.1, cooperative banks add the benefits of a strong form of “relationship lending” to those of spatial proximity. Long-term relations among customers and members allow mutual banks to prevent borrowers’ moral hazard also through social sanctions, peer monitoring, pressure of voice, and loyalty. Moreover, strong team incentives arise from members’ awareness that losses for unrecovered loans are eventually borne by all. In a nutshell, even after liberalization, mutual banks remain non-substitutable providers of loans in local markets, since the institutional features of credit cooperatives remain unique in helping local borrowers to avoid the risk of financial exclusion.

The picture above suggests that competitive conditions in local markets may crucially affect the working of cooperative banks. In a historical perspective, the institutional characteristics of credit cooperatives explain why mutual banks mainly started as “natural monopolists” in small and geographically segmented territories. It is true that, as time passed, most cooperative banks expanded into larger territories, where they were competitively confronted with other types of banks. However, credit cooperatives kept being tied to their original “mission” even in different environments. Loans mainly went to marginal borrowers for whom credit from other banks would have been either excessively costly to obtain, or totally denied. Normally, market segmentation led to only one mutual bank operating in a given territory. In Italy, this type of market arrangement was also enforced by law. However, things changed after liberalization. Since 1993, the new Italian Banking Law (*Testo Unico Bancario*) no longer precludes the territorial overlapping of cooperative banks. On the contrary, both the Bank of Italy and the Italian Competition Authority have actively advocated competitive confrontation among mutual banks (“intra-competition”) as a valuable component of competition in banking markets and a desirable complement to standard competition between mutual banks and other non-mutual banks (“inter-competition”). When acting as the authority in charge of applying Italian competition law to banking markets, the Bank of Italy has formally stated on several occasions that decisions by associations of mutual banks aiming at preventing territorial overlapping of two or more mutual banks constitute anticompetitive agreements.<sup>14</sup> During the last decade most mutual banks willingly followed the new view when designing their growth strategies, and today territorial overlapping of mutual banks is a widespread feature of the Italian banking industry.

Nevertheless, the economics of cooperative credit suggests that territorial overlapping of mutual banks may indeed be a matter of concern. The “strong” form of relationship banking among lenders and borrowers within cooperative banks aims at preventing moral hazard by simultaneously acting as a mechanism of information transmission and an incentive system of rewards and penalties. This becomes the source of a crucial tension between “market competition” and “mutual cooperation”. Market competition rests on “impersonal” exchanges intrinsically open to outside options. Instead mutual cooperation rests on “personal” exchanges grounded on a network of long-term social relationships. Outside options, involving the possibility of exiting a given relationship, jeopardize mutual cooperation, since they may easily induce individual participants to behave opportunistically whenever higher short-term benefits can be obtained by deviating from cooperation with long-term partners. In the specific case of cooperative credit, outside

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<sup>14</sup> See Bank of Italy (2002, 2004a, 2004b). The Bank of Italy was in charge of applying the Italian competition law in matters concerning banks between 1990 and 2005, when the task was passed on to the Italian Competition Authority.

options – namely, the option for a member of a cooperative bank to exit his or her current team in order to join an alternative cooperative bank – remove a necessary condition for the sharing of losses and gains to act as an appropriate incentive to peer monitoring and moral hazard control in “team” provision of credit. In short, competition “between” credit cooperatives collides with cooperation “within” credit cooperatives. Preventing territorial overlapping with other mutual banks seems thus to be a necessary condition for any cooperative bank to succeed in establishing an effective network of long-term credit relations.

The conclusion above has been tested in a recent paper in which the working and performance of mutual banks in the decade 2000-2009 is analysed in a specific but representative setting: the Italian province of Trento (Barbetta, Colombo, Colombo and Grillo 2012). Almost uniquely in Italy, in the province of Trento a well-developed banking system serving a wide array of small- and medium-sized firms rests on a large number of mutual banks that cover on average more than half of the area’s whole banking industry in terms of loans and deposits. Besides, a variety of competitive environments can be seen in the province, ranging from local markets in which the only credit institution is a single mutual bank to local markets where mutual banks compete not only with other credit institutions, but also among themselves. Overall, mutual banks operating in the province of Trento can be divided into three groups: (i) the group composed of the limited number of mutual banks still enjoying territorial monopoly; (ii) the group composed of mutual banks that, in their territory, compete only with non-mutual banks; (iii) the group composed of mutual banks that, at least in some of their local markets, compete not only with non-mutual banks, but also with other mutual banks.

In the paper, the effects of “intra-competition” (i.e. competition among mutual banks) and “inter-competition” (i.e. competition between mutual banks and other non-mutual banks) have been disentangled to analyse whether and how different competitive environments may systematically affect the working of credit cooperatives. To this aim, a test has been built on the following theoretical conjecture: if credit cooperatives are to be understood as institutions aiming at preventing the financial exclusion of small borrowers in local markets, then their capability to fulfil such a “mission” should be limited in some sense by “intra-competition”, since competition “among” credit cooperatives hampers the cooperation “within” credit cooperatives that rests on long-term, “personal” relationships. The paper considers two fundamental indicators of how mutual banks comply with their “mission”: the “loans to deposits” *ratio* and the “loans to total assets” *ratio*. The former can be labelled as “local effectiveness”, since a higher *ratio* of loans to deposits implies a greater ability of mutual banks to transform local savings into loans to local borrowers. The latter *ratio* can be taken instead as a measure of “mission efficiency”. The idea is that the loan portfolios of mutual banks are on average riskier than those of other banks, because of the larger risk correlation associated with the geographical concentration of mutual bank customers. Thus, assuming that risks are efficiently managed, a larger loans-to-assets *ratio* must be interpreted as evidence of greater efficiency in assuming and managing credit risk. The main results can be summarized as follows. During the decade 2000-2009, the three groups of mutual banks exhibit noteworthy differences in both the “loans to deposits” and “loans to total assets” *ratios*, suggesting that “intra-competition” and “inter-competition” matter. Specifically, at least for medium- and large-sized mutual banks, the “loan to deposit” *ratio* tends to be significantly higher for mutual banks that compete only with non-mutual banks, but do not compete with each other. Although in a more attenuated form, the same group of mutual banks also show a higher “loans to total assets” *ratio*. Moreover, the *ratio* of “bad loans to total loans” is significantly lower for mutual banks competing with non-mutual banks only. These results suggest that the ability to transform local savings into local loans (“local effectiveness”), and the ability to manage the credit risk (“mission efficiency”) are better achieved when the degree of inter-competition is high, but the degree of intra-competition is low.

## 5. Conclusions

Whether competition law and competition-enhancing regulations hinder or enhance the working of cooperative firms essentially depends on two things: (i) the nature of the specific collective benefit sought by different types of cooperative enterprises; and (ii) whether a tension arises between the mechanism through which the cooperative firm attains its specific collective benefit and the market mechanism. When the cooperative firm is established to enlarge the “gains from trade” in imperfectly competitive markets, a competition-enhancing regulation must be expected to hinder the working of cooperative firms, albeit with a benefit for society as a whole. When the cooperative firm is established to protect an investment decision by a stakeholder fearing to be caught in a hold-up problem by other non-substitutable stakeholders, a similar conclusion holds, provided that market-enhancing rules reduce the non-substitutability of cooperative members, thus enlarging other stakeholders’ outside options. However, if the application of competition rules does not open new outside options for stakeholders subject to the hold-up problem, the enhanced market may hinder the development of cooperative firms, but with negative consequences for efficiency. When the cooperative firm is established to help economic agents to prevent shirking in team production, laws or regulations improving competitive market conditions are either neutral, or even favourable, to the development of cooperative enterprises. Instead, competition-enhancing rules may be in tension with the working of cooperative firms, with negative consequences for social efficiency, when the cooperative firm is established to allow economic agents to better deal with asymmetric information, particularly in credit markets. An empirical analysis of the competitive conditions among mutual banks in the Italian province of Trento illustrates the last statement.

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