

# Producer cooperatives: a Transaction Cost Economic Approach

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## Abstract

This paper aims at positioning producer cooperatives within the Transaction Cost Economics theory, one of the most cited and prolific theories on management studies. To accomplish this goal, I will answer the questions what is a cooperative, which transactions producer cooperatives regulate, under which market conditions they operate, and where are the boundaries for such organizations. This paper offers a comprehensive framework to study producer cooperatives, adopting a comparative institutional point of view, where producer cooperatives are compared with markets, firms and other hybrid types.

**Keywords:** Producer Cooperatives, Transaction Cost Economics, Institutional Comparison

## **1. Introduction**

Despite the overall number of cooperatives relative to the private corporation population has always been small; cooperatives have been part of global economic life for more than 150 years (Karantininis, 2007), playing an important role in the economy of several industrialized nations (Normak, 1996; Hansmann, 1999). Cooperatives constitute an enduring phenomenon, which is not small, neither marginal.

While recent economic literature highlights the economic disincentives of cooperatives (Cornforth, 2004; O'Sullivan and Diacon, 2003; Hansmann, 1996; Williamson, 1985), and the sociologists defend their importance as social movements and expressions of individual and collective social identities (Schneiberg et al., 2008; Weber, Heinze, and DeSoucey, 2008), neither schools on their own are able to account for the contradictions that characterize the literature on cooperatives. If cooperatives are indeed inefficient forms of organizing, why do they exist at all in a market economy? Indeed, modern cooperatives compete in capitalist markets, and as Normak (1996) argued, there is no evidence that the cooperative enterprises are weaker than private firms in handling competitive markets; actually cooperatives compete often on highly competitive markets (Menard, 2007).

These questions have been intriguing researchers from diverse fields, and this paper aims at contributing to this discussion. The goal is to analyze comparatively the conditions under which producer cooperatives are efficient organizational forms through the lenses of Transaction Cost Economics theory (TCE).

In this paper, cooperatives are considered hybrid forms of organizing, since they present both market-like and firm-like mechanisms, such as agents' autonomy (market-like), coordination, and centralized structures (firm-like) (Chaddad, 2012). Furthermore, producer cooperatives regulate transactions that present three main characteristics: first, the environment presents a medium uncertainty level, where disturbances' frequency and variance remain at stable levels; second, the transactions present a medium/high frequency level and are regulated through long-term contracts; and third, the transactions present average levels of asset specificity, where members' side asset specificity balances with cooperatives' side asset specificity. Furthermore, producer cooperatives emerge to correct market failures through a more efficient allocation of resources, since under certain market failures they present comparative advantages to market and also to firms. The last point discussed in this paper was about producer cooperatives boundaries. Producer cooperative will tend to expand until the costs of coordinating an extra transaction within the centralized firm and between the members equals to the costs of carrying out the same transaction through markets or firms.

In the following sections, I will develop the argument about producer cooperatives economic nature, types of transactions that producer cooperatives regulate, and market conditions under which they operate. The last sections will be dedicated to the boundaries of such organizations and to open some discussion points.

## **2. Cooperatives as hybrid organizations**

The concept of governance structure is central to the theory of the firm. The idea that there are alternative ways to organize transactions goes back to Coase (1937), being later on followed by Williamson (1975), who formalized TCE theory. At the heart of TCE theory rely the assumptions that transactions entail uncertainty about their outcome because first, agents are opportunist (people tend to realize individual gains through a lack of candor or honesty in transactions); and second, agents possess bounded rationality (limits on the capacity of individuals to receive, store, and process information without error) (Williamson, 1973). To overcome uncertainty, under eminent opportunism and bounded rationality, agents implement

a governance structure that minimizes transaction costs (Williamson, 1981). For Coasians, there are two main governance structures: markets (regulated through price mechanisms) and firms/hierarchies (regulated through authority), which differ in their capacity to economize transaction costs (Williamson, 1981). In simple words, agents decide whether they buy in the market, which is regulated through price, or do it internally in the firms and in this case the transaction is regulated through authority/hierarchy. Later on, Williamson (1991) defined hybrids as intermediate governance form between markets (regulated through price mechanisms) and firms/hierarchies (regulated through authority). This model represented a major step towards a more comprehensive TCE theory, where a set of “weird” economic arrangements finally found theoretical coherence. This was also the case of cooperatives that found in hybrid form an opportunity to reinvent its nature (Menard, 2007; Ilioupolos, 2003; Chaddad, 2012).

Ilioupolos (2003) and Menard (2007) have been building the argument that producer cooperatives are hybrid forms of organizing. According to the authors, cooperatives are formed to capture rents by pooling resources (Cook, 1993; Ilioupolos, 2003; Menard, 2007), what involves some form of low or high joint planning; their governance form is based on both formal and informal contracts for coordination among members (Shaffer, 1987; Ilioupolos, 2003; Menard, 2007); and they combine cooperation with competition, since they are autonomous identities that compete in the same market (Ilioupolos, 2003; Menard, 2007). Chaddad (2012) also contributes to economic nature of cooperatives discussion, arguing that producer cooperatives are ‘true hybrids’, since they possess market-like mechanisms (separated ownership and high powered incentives), and hierarchy-like instruments (administrative controls, authority and common staff in a central structure). Chaddad (2012) also reinforced that producer cooperatives display some unique attributes, as is the case of the democratic governance – one-person, one vote (Chaddad, 2012, Menard, 2007; Ilioupolos, 2003).

The idea that producer cooperatives are hybrids opens avenues to interpret this phenomenon through the lenses of TCE. The next sections analyze which type of transactions cooperatives should regulate and how they internally organize such transactions.

### **3. What types of transactions do producer cooperatives regulate?**

To answer these questions, I will recall Williamson’s (1991) ‘discrete alignment principle’, which argues that calculative agents operating in a competitive environment will adapt the mode of organization that fits comparatively better with the attributes of the transaction at stake. Thus, governance structures are tailored to meet the specific needs of transaction attributes (Williamson, 1981) in order to minimize transaction costs. Therefore, the question is what are the attributes of transactions organized by producer cooperatives? And how do they differ from the ones organized by firms, markets and other hybrids?

Williamson (1985) argued that transactions’ attributes vary across three dimensions: frequency – how frequent is the transaction; uncertainty level – internal and external disturbances; and asset specificity - the value of investment that will be lost in any alternative use.

#### **3.1. Transaction Frequency**

Transaction frequency refers to how frequent is the transaction. Frequency is important because the cost of conceiving, negotiating and re-negotiating contracts, which regulate transactions, can be very high. Therefore, there are situations where long-term contracts are desirable in order to avoid the cost of having several short-term contracts. However, under an

uncertainty scenario, the longer the period of the contract, the more incomplete it tends to be (Coase, 1937; Williamson, 1985).

TCE predicts that firms should integrate transactions (regulate them through authority) when celebrating long-term contracts present high risk, due to uncertainty and asset specificity, and carrying several short-term contracts is too costly. On the other hand, markets are desirable to carry short-term low risk contracts, and hybrids middle/long-term contracts with medium risk.

In the specific case of producer cooperatives, the transactions at stake (the ones that I am focused in) are between the cooperative and the members, and since members are suppliers, several transactions occur. These transactions can be more or less frequent (daily or seasonal depending on the industry), but are always repetitive. In producer cooperatives short-term contracts are replaced by long-term contracts in order to reduce costs. These long-term contracts differ from the firms' contracts, since the parties remain independent, and no full integration occurs. However, they also differ from markets' contracts since they present some coordination and control mechanisms between the agents. Cooperatives' contracts also differ from bilateral hybrids'<sup>1</sup> (strategic alliances and joint ventures) contracts since there is no end-term. So, producer cooperatives regulate transactions that present a medium/high frequency, through long-term contracts where no end-term is stipulated.

### **3.2. Transaction uncertainty**

Uncertainty refers to internal - problems in inputs, outputs, or transformation processes; and to external disturbances - shifts in institutional environment (political, social and legal) (Williamson, 1991; Menard, 2006). These disturbances can vary in terms of frequency – changes in the probability distribution of disturbance occurrence; and variance – changes in the level of disturbances' consequences (Williamson, 1991). Higher the variance, more consequential are the disturbances, therefore higher is the level of coordination needed in order to adapt efficiently to the disturbance occurred. This will ultimately determine the efficiency of the different organizational forms (Menard, 1996).

Markets are the favored form for low coordination, either the frequency is high or low, since each part adapts autonomously and no coordination is needed. However, as variance increases, more coordination is needed, and the propensity is higher to integrate the transaction in a firm hierarchy. In this way, hybrids are preferable when medium coordination is needed, but as disturbances increase in frequency and variance, this form increasingly loses efficiency advantages. It is important to highlight that in a scenario of more disturbances (frequency) and more consequential (variance), where coordination is needed, the efficacy of markets and firms may deteriorate, but the hybrid mode is arguably the most susceptible (Williamson, 1991) due to the difficulties to coordinate autonomous agents.

In producer cooperatives, where members can ascend hundreds (Rothschild and Whitt, 1986), coordination between these autonomous agents can assume very high costs. Therefore, producer cooperatives regulate transactions under a medium uncertainty environment, where disturbances' frequency and variance remain at stable levels.

### **3.3. Asset specificity**

Asset specificity is linked to the degree to which alternative users can redeploy an asset to alternative uses without sacrificing its value (Williamson, 1991). So, asset specificity reflects the value of investment that will be lost in any alternative use (Menard, 2006). As assets become more specific, the transaction takes a progressively stronger mutual dependence that

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<sup>1</sup> In this paper I will only consider bilateral hybrids such as strategic alliances and joint ventures, for simplification purposes. My reasons rely on the fact that this hybrid form is the most referenced on the TCE literature on hybrids.

opens avenues for hold-up (Menard, 2006). In this scenario, the governance costs of markets increase, and firm integration is desirable (Williamson, 1981). Examples of asset specificity are physical assets (site specificity, physical specificity, and dedicated assets), human assets and brand name capital (Menard, 2006; Dnes, 1996; Lafontaine and Shaw, 1999).

The impact of asset specificity is always interpreted in interaction with uncertainty. This happens because even if asset specificity is high, but uncertainty is low, it is possible to conceive complete contracts, and the risk for opportunism is low. However, when asset specificity is high and uncertainty is high too, opportunism may surge (Menard, 2006) and integration (firm) is desirable. On the other hand, when there is low asset specificity, markets enjoy advantages in both governance and production cost. Following this rationale, hybrids are preferable for medium level of asset specificity and uncertainty (Williamson, 1981).

In producer cooperatives, asset specificity possess two components: member's side asset specificity (individual level of investment to conclude the transaction with the cooperative), and cooperatives' side asset specificity (members' joint investment in the cooperative). Because members are autonomous, but at the same time they own the cooperative, we may observe opposing effects. TCE predicts that the higher the asset specificity, the higher the hold-up (opportunism) costs between parties. However, while member's side asset specificity pulls members for hold-up, the investment that they made on the cooperatives' asset specificity pushes them from holding-up. It is important to highlight that cooperatives' side investments, due to cooperatives principles, cannot be transferable, so if the cooperative fails or if member exits from the cooperative, he loses the value (non-transferable and non-redeployed), of what immediately leverage cooperatives side asset specificity levels.

I defend in this paper that these two asset specificity levels (member's side and cooperative's side) should remain in balance, because if member's side asset specificity is higher than cooperative's side, the member has an incentive to hold-up, increasing costs, what leads to a loss of efficiency of the producer cooperative compared to firms. However, if cooperative's side asset specificity is higher than member's side, the member avoids holding-up, accepting transactions conditions that are not optimal for him, what can make him incur in losses. So in order to maintain efficiency advantages over firms and markets, the cooperative side asset specificity should balance the member side in order to achieve optimal transactions conditions, and avoid inefficiencies losses. I also defend that the same logic exists in bilateral hybrids. Of course, this balance between sides asset specificity assumes more importance in governance structures with hundreds of members, due to a pure scale problem. So, producer cooperatives administrate transactions with average levels of asset specificity, where member's side asset specificity balances with cooperative's side asset specificity.

#### **4. Under what market conditions do producer cooperatives operate?**

Economic theories on cooperatives defend that cooperatives are created in an attempt to either correct or attenuate perceived market failures (Sexton and Iskow, 1988; Kenworthy 1995; Hicks and Kenworthy, 1998; Cook, 1995). There are two main market failures that cooperatives address: abuses from monopolies, oligopolies, monopsonies and oligopsonies<sup>2</sup> (Normak, 1996; Cook, 1995), and markets inability to bundle relevant resources (Menard, 2007).

Coase (1937) argues that all forms of market failure can be attributed to transaction costs. This argument is aligned with the view that market failures are ultimately originated by inefficiencies in resource allocations, and can be solved or attenuated through a more efficient resource allocation mechanism. Williamson (1971) also argued that firms are able to correct

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<sup>2</sup> Oligopsonies and Monopsonies represent a market structure where there are one or few buyers and several suppliers.

market failures through integration, which ultimately reflect a more efficient allocation of resources. Therefore, firms exist because there is a cost in using market mechanisms (Coase (1937). These costs include finding relevant prices, haggling over prices, and concluding separate contracts for each transaction exchanged. Inside firms, price mechanisms are replaced by authority, transactions are not eliminated, but they are greatly reduced, as are the costs (Coase, 1937). Therefore, by internalizing transaction, firms avoid using market mechanisms and in this way reduce transaction costs, correcting/attenuating market failures.

Cooperatives are composed by an association of members and by a centralized firm, whose owners are the members (Shaffer, 1987). Through this centralized firm, members are able to centralize several transactions upwards and downwards the supply chain. Some of them are for example, searching for relevant prices (see Kadoma, 2007; Bonus, 1986), haggling over prices with buyers and suppliers, and concluding several contracts (see Coase, 1937). Since members are able to centralize these activities in a firm, they are able to reduce their individual costs. These are the transaction costs that producer cooperatives are able to economize in comparison to markets, but what are the costs that producer cooperatives are able to economize compared to firms? My argument here is based on the rationale that all forms of organization are costly, and their respective advantages can be assessed only comparatively (Menard, 2006). Coase (1937) argued that firms exist because there is a cost in using market mechanisms; now I argue that there are also costs in opting by integrated firms. These costs include the drawbacks of integration, such as lost of flexibility (Menard, 2002), bureaucratic costs, and weak incentives (Menard, 2011; Williamson, 1991). Therefore, when compared to markets, cooperatives are able to economize in the search for relevant prices, in the haggling over prices with buyers and suppliers, and in the conclusion of several contracts; and compared to firms, cooperatives are able to reduce costs associated to integration (loss of flexibility, bureaucratic costs, and weak incentives) (Menard, 2002, 2011, Williamson, 1991). This rationale is aligned with Arrow's (1969) argument that collective action can serve to economize on transaction costs.

## **5. What are the boundaries for producer cooperatives?**

For TCE, a firm becomes larger as additional transactions are organized internally, and becomes smaller as the number of these transactions decrease (Coase, 1937). As a firm gets larger, the costs of organizing additional transactions within the firm may rise. Naturally, a point must be reached where the costs of organizing an extra transaction within the firm are equal to the costs involved in carrying out the transaction in the open market. Therefore, a firm will tend to expand until the costs of organizing an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange on the open market (outsourcing) (Coase, 1937).

The producer cooperative incentives and limitations for integrating one more transaction in the cooperative are similar to firm except for three factors: first, producer cooperatives are less likely to integrate into unrelated activities or into products that compete with products of members; second, the producer cooperative operates under a more limited access to capital for expansion (Shaffer; 1987); third, the calculus for coordination cost of a new transaction encompasses also the cost for coordinating members for one more transaction. Therefore, producer cooperatives integration decision (internalize transactions) is an equation with more variables and constraints than firms' one. This ultimately explains why cooperatives are more conservative in terms of expanding boundaries.

Summarizing, producer cooperative will tend to expand until the costs of coordinating an extra transaction within the centralized firm and between the members become equal to the costs of carrying out the same transaction through markets or firms.

## 6. Discussion

This paper presents an attempt to study producer cooperatives through a pure TCE perspective. While existing research (Iliopoulos, 2003; Menard, 2007; Chaddad, 20012) focuses on hybrid organizations characteristics, I focus on understanding whether and when producer cooperatives achieve efficiency advantages over firms, markets and other hybrid forms. Therefore, producer cooperatives regulate transactions that are medium/high frequent, with medium levels of uncertainty, and average levels of asset specificity, where member's side asset specificity balances with cooperative's side asset specificity. Furthermore, producer cooperatives emerge to correct market failures through a more efficient allocation of resources, since under certain market failures they present comparative advantages to market and also to firms.

The last section of this paper concludes the rationale for a complete/comprehensive TCE theory on producer cooperatives with the question what are the boundaries? Through an analogy with Coase (1937) argument for firms' boundaries, I argue that producer cooperatives will tend to expand until the costs of coordinating an extra transaction within the cooperative and among the members become equal to the costs of carrying out the same transaction through markets, firms, or other hybrids. Further theoretical and empirical research is needed in this topic; this paper is just a step toward a more complete understanding of this intriguing phenomenon.

Concerning the contributions or implications that this paper possesses for TCE, several points deserve our attention. The first point regards the expansion of the rationale that roots TCE. Until now, hybrid forms were a general category where all 'weird' organizational forms that are not firms or markets, are pushed. In this paper, I made the point that hybrids between two partners (bilateral) are different from hybrids with hundreds of partners (multilateral), and in a comparative economic analysis, this scale factor makes a difference. The coordination costs to align 2 agents are certainly lower than aligning hundreds of agents *ceteris-paribus*. Therefore, such coordination costs can endanger the comparative efficiency of such governance mechanisms.

Why is it so important to know more about these hybrids? It is important because they are more and more common in our society. As economy progresses, more and more alternative organizational structures surge and TCE is a powerful theory that has been contributing for a structural understanding of these 'weird' organizational forms.

The nomination of 2012 as a Year of Cooperatives by United Nations is an attempt to shed light to the 'cooperative solution', mainly for developing countries. Several initiatives and incentives were designed in this direction. I hope this paper can help to design better incentives, elucidating when cooperatives should exist, and which transactions they should regulate. For practitioners, this paper also elucidates important aspects, such as when is it efficient to form a producer cooperative and what are the main efficiency/cost trade-offs.

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