

Plural Forms of Governance: Evidence from a Poultry Cooperative in Southern Brazil

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Abstract

The existence of plural forms of governance in the same production chain poses challenges to theories on vertical boundaries of companies. The goal of this article is to analyse the plural forms of governance in an agro-industrial cooperative located in southern Brazil. This is a case study with a descriptive, qualitative approach for assessment of the governance structure in the six main links of the poultry production chain, namely: matrix, hatchery, feeding, poultry farmers, slaughterhouses and distributors. Data collection was performed through interviews with managers involved in the production chain. Plural and singular forms of governance can coexist, tending towards a vertical integration. In the distribution process, the plural form tends to remain stable as the different governance structures used to coordinate the same activity also serve different markets. In addition, the need to control and reduce the production costs is pointed out as the main reason for establishing a hierarchical structure for governance. This study sought to contribute to the theoretical analysis of plural and single forms of governance by demonstrating that both can coexist within a company.

Keywords: governance structures, plural forms of governance, poultry industry

1. Introduction

Plural forms of governance are a phenomenon which is important for organizational management and still poses a great challenge to be understood. According to Ménard (2004), the coexistence of market and hierarchy in a single firm is a well-known fact. Empirical studies show the use of simultaneous forms of governance to coordinate the same transaction (Lafontaine, 1992, Bradach, 1997, Parmigiani, 2007), and such phenomenon is known as plural forms of governance, as named by Bradach and Eccles (1989).

In this sense, Ménard et al. (2014) state that the definition of a governance structure cannot be determined by simply choosing between 'doing' or 'buying'. They point out that plural forms can be useful to explain different governance structures consisting of organizational arrangements in which a firm combines different forms of coordination to carry out similar transactions.

Therefore, the main purpose of this article is to assess the presence of plural and singular forms in a poultry cooperative called Aurora, located in the state of Santa Catarina, Brazil. The focus of this article is, therefore, to understand which factors lead a large firm to adopt different governance structures and its reasons for maintaining stable and transient forms of governance.

The main motivation for choosing this firm as an object of study was the fact that its poultry productive chain is highly verticalized, in which the existence of plural forms is not common, even in small proportion. A strong verticalization of the poultry chain was verified in previous studies (Zylberstajn & Nogueira, 2002, Zanella et al., 2013), more specifically, regarding the coordination of activities carried out by a cooperative in which factors of differentiation from other types of firms are evaluated. This article contributes to the theoretical analysis of plural and singular forms according to the time length of plural forms, i.e., whether they are transient or not. This article is structured into five sections: 1. Introduction, 2. Theoretical framework, 3. Method, 4. Results and 5. Conclusion.

2. Theoretical Framework

2.1 Plural Forms of Governance

The study of vertical boundaries of organizations was founded on the Coase's seminal article entitled 'The Nature of the Firm'. Coase (1937) explains that outside a firm, the price movement guides the production through a series of transactions. Inside a firm, however, these market transactions are eliminated as instead of this complex structure of exchanges it is the entrepreneur who plays the role of production coordinator. The central focus of studies on a firm's vertical boundaries is to understand when it is the best time to produce in a hierarchical way and the most interesting moment to let the market coordinate the production through the price mechanism.

The literature on firm vertical boundaries generally presents a dichotomy regarding the make-or-buy decision in the market (Williamson, 1996). However, it is possible to identify a variety of governance structures. At one end of the spectrum is the arrangement through the market, in which ordinary operations such as commodity transactions are anonymously conducted (Klein, 2000). This is the main mechanism for transactions not requiring specific investments or systemic coordination (Langlois, 1992). In the market, prices provide incentives for the discovery of profit opportunities and then entrepreneurs quickly adapt to changes in relative prices of these transactions (Kirzner, 1978). Thus, competition between firms protects the parties from the opportunistic behaviour of their peers.

Hybrid governance structures (e.g., franchises, joint ventures, take-or-pay contracts, and plural forms) are mechanisms placed between market and hierarchy, which can protect firms from opportunistic behaviours. Firms choose a hybrid arrangement in order to achieve some hierarchical coordination and protection for specific investments, maintaining the incentives of market relations (Klein, 2008).

Vertical integration has the advantage of allowing the firm to adapt sequentially without needing renegotiation (Williamson, 1985). However, Joskow (2008) points out that vertical integration should not be taken as a costless process. Nevertheless, the New Institutional Economics considers that the minimization of transaction costs is the main factor influencing the choice of one form of governance at the expense of another (Williamson, 1996).

Bradach & Eccles (1989, p. 112) were the first to introduce the term 'plural forms' as an 'arrangement in which distinct mechanisms of governance are operated simultaneously for the same function by the same firm.' To Ménard et al. (2014, p. 54), plural forms can be understood as 'organizational arrangements in which, for a type of transaction that deals with the same activity and in the same institutional and competitive environment, one party simultaneously uses different modes or depends substantially on different types of contracts at the same time'.

Rather than opting for one of the forms of coordination, firms can use two or more for similar transactions simultaneously, as shown by Lafontaine and Slade (1997), Jacobides and Billinger (2006), and Parmigiani (2007). In this same direction, Ménard et al. (2014) argue that the proposition that firms choose a governance structure for minimizing transaction costs, as Williamson (1996) points out, is challenged by the existence of countless cases in which the same transaction is conducted through different governance structures adopted simultaneously by the same firm. Ménard (2018) points out that plural forms are hybrid structures of governance allowing firms to diversify the types of supply arrangement on which they rely.

It is possible to observe that in the literature on plural forms there are a variety of arguments explaining this phenomenon (Mello & Paulillo, 2010, Silveira et al., 2014, Carrer et al., 2014, Lopes & Leite, 2016, Higashi et al, 2017, Nunes, 2018) and which can be classified into three groups:

- a) Different attributes of the transactions: Minkler and Park (1994) consider that different levels of asset specificity involved in the transactions justify the simultaneous presence of different governance structures. Fan (2000) states that the use of integrated or hybrid structures in situations in which asset specificity and uncertainty about business performance are more or less intense. Both are aligned with the Williamson's view (1991), who considers that different mechanisms govern different transactions in at least one attribute. The theoretical model proposed by Ménard (2013) added ambiguity and complexity of the transactions to the analysis of plural forms.
- b) Plural forms as transient phenomenon: with regard to franchises, the coexistence of different governance structures was considered as a transient situation, which could be explained by the market characteristics and existence of intangible assets; when the system is matured, only one form of coordination would remain (Raynaud et al., 2019). Bai and Tao (1996) believe that the coexistence of governance structures is a temporary path. According to Silveira et al. (2014), transaction cost economics (TCE) admits that an

efficient organizational structure is aimed to understand the limits of a firm that wants to survive in the competitive process. In this sense, the coexistence of organizational forms, as observed in the real world, would be a transient phenomenon because the most efficient governance structure will prevail in the long run. In this same direction, the issue on plural forms was addressed by Zylberstajn and Nogueira (2002), who concluded that the most efficient arrangement will be gradually adopted by the agents. In this way, plural forms of governance can be explained by the existence of specific and non-transferable routines and by the differences in the institutional environment where the transactions are processed, which creates barriers to the diffusion of a superior governance structure. Once these barriers are overcome, a single pattern of governance is more likely to be diffused.

- c) **Stable plural forms:** Lewin-Solomons (1999) believes that one governance structure is used for a certain reason, whereas another is used for another, both of which must coexist for the system to function. Ehrmann and Spranger (2004) consider that the use of different governance structures aims at achieving certain synergies which would not exist if only one structure were used. Plural forms are stable and consist of strategically coordinating the firm's transactions, thus justifying the complementarity of the governance mechanisms (Bradach & Eccles, 1989; Bradach, 1997; Parmigiani, 2007; Heide et al., 2014). This stability occurs due to the possibility of exploring the synergy between complementary governance mechanisms, revealing that in addition to being an alternative, the coordination mechanisms may be complementary (Silveira et al., 2014).

Ménard et al. (2014) consider that plural forms are stable and non-transient and proposed a model, which was a substantially revised version of the Williamson's TCE model (1985, 1991, 1996). They consider three possible determinants: ambiguity, complexity and strategic behaviour. The recognition that TCE does not provide subsidies to explain the totality of different governance structures had already been highlighted in the literature (Schnaider et al., 2018).

The existence of plural forms could be explained from the TCE perspective, either by different attributes, asset specificities or temporariness. Schnaider et al. (2018) point out that other studies have demonstrated, empirically or through theoretical arguments, the stability of plural forms over time (Bradach, 1997, Lafontaine, Shaw 1999, 2005, Silva & Azevedo, 2007, Raynaud et al., 2019), showing that plural forms can complement the analysis of firms from the theoretical framework of TCE.

3. Method

This study was based on an empirical research characterized as a descriptive survey using a qualitative approach and resorting to single-case study strategy. The focus was on analysing plural forms in the six main chains of poultry production of a cooperative located in the state of Santa Catarina, Brazil, namely: parent stock, hatchery, feed mill, integration (farmers), slaughterhouse and distributors. In order to analyse the existence and motivations to use plural forms in the transactions between the production chains, the methodological procedure of this study was based on a case study. Because this is an exploratory-descriptive study, preliminary information on the firm was collected from indirect sources before conducting interviews with the managers of the production chain. The development of the questionnaire was based on theoretical references, as suggested by Ménard (2013).

3.1 About the Cooperative Aurora

Aurora is the largest food cooperative in Brazil and a benchmark in meat processing technology worldwide, consisting of 13 other affiliated ones. More than 25,000 employees work at the Aurora plants and another 8,000 employees at the affiliated cooperatives in the industrialization and marketing of pork, poultry, dairy, pasta, vegetables and supplements for animal nutrition. The industrial, commercial, farming and distribution units are located across Brazil.

Aurora emerged from the alliance of small and medium rural producers who had established cooperative societies, built silos and warehouses, acquired vehicle fleets to deliver their production and entered the markets on equal terms with large corporations in the sector. It is noteworthy that poultry and pork production and management are under the responsibility of rural producers through an integration system in which a contract is directly made between them and an affiliated cooperative. The cooperative, in turn, provides technical assistance service and accounts for sending rations and housing chicks and piglets.

Producers maintaining a relationship with the Aurora cooperative were assessed, which consists of seven slaughtering plants located in three states of Southern Brazil. In this way, the sample was intentionally selected as follows: an operation manager, a production manager, a poultry manager, a commercial manager, a PPCP

(poultry, parent-stock and hatchery) analyst, a production supervisor (poultry integration), eight poultry farmers, a supplier of day-old chicks and a distributor, totaling 16 interviews.

Data were collected by means of personal semi-structured interviews, which also included documentary research and direct observation, for content analysis. For Bardin (2004), a content analysis comprises a set of communication techniques using systematic procedures and objective description of the message's content to obtain quantitative or non-quantitative indicators, thus allowing to know the conditions of production/reception of messages (i.e. inferred variables).

4. Results

Based on the interviews, it was found that the choice of governance structure is influenced mainly by the presence of behavioural attributes. In the transactions made by the Aurora cooperative, there is a high level of asset specificity. The existing physical structures are aimed at specific use, ranging from dairy farms, hatcheries, feed factories and aviaries to even slaughter and processing facilities. In most cases, suppliers are unable to trade the transacted products with other affiliated cooperatives without loss of value, thus being in alignment with the definition of asset specificity. Table 1 summarizes the identified governance structures in the cooperative.

Table 1. Summary of identified governance structures

Link	Hierarchical or vertical integration	Hybrid forms	Market	Plural forms
Parent Stock (egg production)	X	X		X
Incubators - Incubation of eggs (production of day-old chicks)	X	X		X
Housing of day-old chicks	X	X	X	X
Breeding of broilers (management and breeding)		X		
Feed mill (feed production)	X			
Refrigeration/slaughterhouse (slaughter and processing)	X			
Distribution	X	X		X

According to the collected data, the Aurora cooperative uses plural and singular forms in its production chain as the presence of a hierarchical structure was identified in the chain links 'Feed production' and 'Slaughter/Processing'. It was noticed that there is a tendency to use a hierarchical form in cases where there is a possibility of risk, whether related to the quality of products and/or animal health. But hierarchy cannot be assessed solely by such factors. It should be considered that, even in the case of products with a high degree of standardization, legal requirements (formal and informal) demand greater control of the processes, especially regarding the feed production (i.e. formulations generating a better or worse performance) and slaughter processing, whose quality assurance is guaranteed to the customer regarding product traceability, weight control and temperature. It should also be noted that strategic information is available in the case of feed production, especially regarding the product formulation.

Figure 1 shows each of the chain links and their respective structures and 'plural' and/or 'singular' forms of governance, if present. It was also verified that when the chain is verticalized, a link transfers the incurred costs to the next one without margins. This, of course, does not occur when there is purchase in the market. Interviewee 3 comments that: 'You cannot survive if you still have to pay margin to the supplier. As I told you, buying (chicks) has been decreasing a lot in the last few years, and that's the trend. Producing everything at home to obtain more (income) in total.' Moreover, Interviewee 4 comments that:

We want to produce everything at home. But, in the case of the chicken and the parent stock there is no way, right? On the contrary, a lot of people are involved. There are many personnel to be hired, dismissed, all this stuff. And actually, what strengthens the cooperatives is the system of integration. In this case, we have to maintain the system, and we want to maintain the integration system. But of course, the gain per unit is very small, so there is need to produce a lot. And as I told you, there is the matter of building very large sheds, we do not ask too much for several factors. One of them would be, for example, the presence of salmonella, and then the whole lot would be compromised.

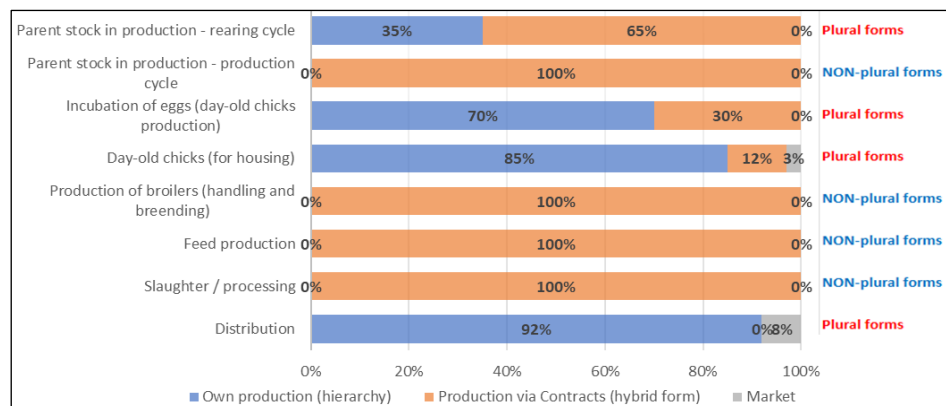


Figure 1. Presence of plural and non-plural forms of governance

It should be noted that vertical integration is still justified by the possibility of reducing the production costs. The use of hybrid form (i.e. contracts) happens only in the chain link ‘Production of broilers (handling and breeding)’ as it is related to the presence of high-medium asset specificity, uncertainty and opportunism.

Management and rearing of broilers take place through the integration system, that is, between producer and cooperative. The use of integration system is very traditional in the region and reveals a high degree of trust between the partners. It was noticed that both the cooperative and integrated producers realized that this system strengthens family farming, especially by including small producers in the activity, helping in the diversification of crops and guaranteeing periodic income to the families. For interviewee 1:

What would it be like if it were not so? Ever wondered if we had to build the sheds? Here it is not like in São Paulo or in the Midwest, here there are no big producers as most of them are small [...] as I said, we like to work with the little ones.

The use of plural forms of governance was identified in most of the chain links studied here, namely: Parent stock (i.e. egg production), Incubation of eggs (i.e. production of day-old chicks), Housing for one-day-old chicks and Distribution of finished products. However, according to the interviewees, it was verified that characteristics and complexity of the transactions, influence of the institutional environment, complementarity, guarantee of flexibility in the face of uncertainties and variations in the demand can explain the use of plural forms.

It was also understood that plural forms are used in certain specific situations involving opportunities sporadically or occasionally in order to increase the production volume and meet specific demands. Otherwise, the cooperative would not be able to meet the demands due to time factor and high investment in order to increase its productive capacity.

In the case of egg production (i.e. parent stock), the plural form refers to ‘hierarchy’ and ‘hybridity’ and it is used in the integration system for being efficient in the production of broiler chickens (through integrated producers) as well as in parent stocks and egg production. There is the presence of highly specific assets, which makes the maintenance of the relationship more advantageous than an eventual breach of contract. Moreover, the fact of being a cooperative strengthens the relationship between the partners, allowing to establish a trust environment. At the beginning of its activities, the cooperative invested in the construction of its own parent stock in order to reduce uncertainties and opportunistic behaviour of the partners, as it already happened in the pork production. In fact, uncertainty regarding guarantees of delivery of raw material (i.e. eggs) for incubation was a problem as they had to buy eggs in the market (via spot or forward contracts). Over the years, however, the cooperative began to develop partnerships with producers for construction of parent stocks and operate through the integration system, which is already used for the production of broilers.

According to Interviewee 2, the cooperative started to build its own parent stocks in the early 1980s, and from the 1990s, it began to establish partnerships for egg production because of the high cost of new plants.

From the decision to produce through a vertical integration, increases in the whole capacity were achieved by using the structure and governance in a hybrid way, that is, with partnership contracts and no longer investing in own facilities. In this case, it is perceived that plural forms of governance are used because of the existence of physical structures of their own, which will be maintained with their employees, fixed costs and cooperative’s responsibility. It seems that if the cooperative had not chosen to build its own facilities in the past, the only

governance structure present in that chain link would be the hybrid form through contracts.

It should be emphasized that there is no differentiation between the products generated in both structures, that is, the eggs produced hierarchically or through an integration system (i.e. hybrid form) are not intended for specific poultry farmers or different markets. When questioned about the production costs of different governance structures, Interviewee 1 comments that: ‘Own production is more costly [...] the staff generally does not think so, but it is more expensive. You see, there is the whole question of physical structure, land, personnel costs, termination, and so on. For example, I pay the producer for incubated egg and that’s it. It is easier to manage this process because it is all standard, right?’

Likewise, Interviewee 3 comments the following:

If today you ask me what is the best thing, I would tell you for sure that it is partnership. It is cheaper, and the final product is the same. The technician is the same, the procedure is the same, but here I have all the costs, you know.

The next chain link in which plural form of governance was identified refers to the incubation process of eggs. In this case, plural form exists due to an opportunity to improve the productive capacity without increasing fixed costs and physical structure. The managers interviewed were unanimous in affirming that they aim to internalize the incubation process, preferably, by acquiring hatcheries which now operate through sub-contracts (i.e. hybrid form).

In the same way as in the production of eggs (i.e. parent stocks), there is no distinction between products generated by using either hierarchical or hybrid form. It is also worth noting that there is a trend towards the transitoriness of the plural forms over the years aiming at the internalization of the whole incubation process of eggs.

As in the case of the incubation process, the managers were unanimous in affirming that they aimed to internalize the process of chick production. Plural forms can be used in the acquisition of day-old chicks for an opportunity to increase the production capacity quickly and with lower production and installation costs. This allows to meet the surplus demand or even to balance the volume of production in situations in which the domestic production did not achieve the planned productivity.

As already pointed out by the interviewees, the hierarchical form would be the most adequate structure, especially due to the greater possibility of controlling processes, volumes, and deadlines, thus reducing environmental uncertainty and risk of opportunism as well as minimizing the effects of limited rationality. As for the previous chain links, hierarchy is considered the most adequate governance structure because it requires less distribution of results. In other words, there is no transfer of margins between the chain links, thus generating a reduction in production costs.

It should also be mentioned that the cooperative has already acquired a large amount of chicks. Over the years, it has been increasing its internal production capacity. And, as it was noticed in the interviews, there is a tendency to reduce even more the amount of purchased in the market. In this sense, there are signs that plural forms are transient.

Finally, the last chain link in which the presence of plural forms was identified refers to the distribution of finished products. Sales via distributors occur only in the domestic market, which is concentrated in localities and/or minimarkets where the cooperative cannot reach because domestic sales works with large volumes aimed at large supermarkets. In addition, sales to the foreign market are carried out only hierarchically.

The distribution of finished products occurs in this way (i.e. hierarchical and hybrid forms) for one main reason: to be able to leave its mark in all regions of the country for all publics. However, the cooperative cannot distribute to small or mini-markets hierarchically as they do not buy large volumes, instead they buy small quantities. Moreover, selling in fractional amounts is not the focus due to the necessary logistics and costs involved. Therefore, in this case the distributor is an ideal partner to promote distribution in such a format.

The Interviewee 1 comments the following:

We have already sold a lot more through distributors. We internalized this over time to be able to negotiate price and volume, right? So I sell to large supermarkets and large networks, domestic and abroad, too, and they pack with their brand names.

The interviewees were asked about the reason for why they maintain plural forms, that is, hierarchy and hybrid forms. For the interviewee 1, “The main focus is on selling. We sell large volumes and earn money in volume because the margin is low”. There is a tendency to maintain the plural form because there would be stability and

maintenance of the structure of plural governance. This is especially motivated by the fact that through hierarchical structure the cooperative would have greater difficulty in distributing its products to all regions and all publics.

The first factor cited by the interviewees as one of the greatest reasons for using the hierarchical form was ‘control’, which is understood by them as a means of reducing the environmental uncertainty and the risk of opportunistic behaviour.

The second factor cited by the interviewees as one of the greatest motivators for using hierarchical form was ‘cost reduction’, as the fewer firms involved in the processes, the lesser will be the division of profits. Foss and Klein (2011) already stated that the transaction costs do not necessarily imply the make-or-buy decision, but rather the costs of production.

These factors directly influence the temporariness of plural forms. It was clear that there is a trend towards a greater vertical integration in the upstream links to the distribution process, which is the best-fit governance structure, that is, egg incubation and acquisition/production of day-old chicks. In the chain links ‘egg production/parent stock’ and ‘broiler breeding’, the tendency is for the governance structure to predominate through a hybrid form (i.e. contracts for an indefinite period). In this case, it is understood that the costs to maintain the internalized structure would be very high. However, the greatest reason is the presence of an integration system, considered by the interviewees as an ‘almost-hierarchical form’ as the relationship created between the partners is one of mutual dependence and trust, thus drastically reducing opportunistic risks and effects of limited rationality. These transactions are frequently used as they have standardized processes, thus facilitating the measurement of costs and attributes of transacted goods. In this chain link, reputation is the main differential.

In this sense, when evaluating the upstream production chain of the distribution process, it was concluded that a plural form of governance tends to be transient regarding these links. When evaluating a plural form in the distribution process, it was concluded that it tends to remain stable as the products distributed by different governance structures are also aimed at different publics (i.e. each structure meets a specific demand). Table 2 shows a scheme of the main determinants of governance structures present in the chain under study.

Table 2. The determining factors of the governance structures present in each link of the productive chain

Vertical Integration	Feed	The decision is affected by the possibility of greater control and reduction of production costs . “Control” is influenced by the uncertainty and opportunism present in the environment and, in addition to the high degree of asset specificity, and by ‘links’ in which quality control and sanity (control and measurement of attributes) are critical factors for the firm, which were conquered over the years through its reputation by ‘managing the internal resources’..
	Production	
	Slaughter/ processing	
Hybrid forms (contracts)	Broiler production (handling and breeding)	The decision to produce broilers only with integration contracts is influenced by the regional culture of the system of integration and cooperativism . The high degree of asset specificity of the assets makes it more advantageous to remain in the activity as there would be no other application to the physical structure and tacit knowledge generated. Reliance derived from the strong brand (strategic asset) and reputation generated over the years allow reducing opportunistic behaviours.
		It should be noted the high frequency (which impacts the impacts on the reduction of transaction costs, as information and contract elaboration become more and more standardized), as well as the creation of an environment of trust between agents, which favours the reduction of opportunistic behaviours.
Plural forms of governance	Parent stock	Even in the case of specific assets, the decision to use plural forms of governance along the production chain is affected by factors such as the high standardization of processes and products, the possibility of monitoring costs as well as the attributes of transacted items.
	Hatcheries	However, the major reason for using plural forms in upstream distribution processes is due to the possibility of taking advantage of opportunities to increase capacity or to meet surplus demand without increasing fixed costs.
	House for one day chicks	In the case of distribution, plural forms are used so that it is possible to put the cooperative’s products on diverse markets, ranging from large supermarkets (direct sales) to mini-markets (sales through distributors).
	Distribution	

The hierarchical form is the preferred governance structure among the interviewees, mainly because it offers a greater possibility of controlling and reducing the costs of production. On the other hand, the plural form is maintained because it allows increases or even reductions in productive capacity without drastically interfering with costs in a quick manner. In the case of distribution process, the plural form is used to operate in markets where the cooperative would have much cost (i.e. with logistics and personnel) with its products.

4.1 Stable or Transient Plural Forms

The plural forms identified in this study are transient in relation to the upstream distribution process, which involves stable plural forms. This finding was demonstrated from the empirical evidence observed during data collection.

In general, multiple governance structure was found to be transient in other chain links in which plural forms were detected (e.g. egg incubation and day-old chicks acquisition), specifically regarding the need to maintain high sanity, quality and productivity controls. Moreover, the whole reputation of the cooperative may be denigrated by an opportunistic behaviour of a partner. In this sense, a sporadic opportunity to increase the productive capacity to meet a given demand, coupled with high levels of control required throughout the production process, make the existing plural forms transient. In other words, from the moment that a production contract is no longer necessary (e.g. slaughter and processing, purchase of chicks) to the extent that the demand is supplied, the whole process is internalized again.

The transitoriness of plural forms regarding the upstream distribution process is further justified by the need to reduce the costs of production, which is large enough to generate positive results for those involved in the partnership. In this case, the greater the number of partners (i.e. different firms) involved in the process, the higher the production cost of the final product as it adds up to the contribution margins of each participant.

When evaluating the distribution process, there is a trend towards the stability of plural forms. The distribution process tends to be maintained in the hierarchical and hybrid forms through the distributors. Although distribution sales occur to a lesser extent than that using hierarchical form, the maintenance of both exists to serve different markets. While foreign markets and large supermarkets are served hierarchically, distributors (i.e. hybrid form) are aimed at another profile of customers (i.e. small and mini-markets). In fact, Aurora cooperative uses two governance structures for the same activity, that is, distribution of its products, thus characterizing the plural forms. Therefore, the final products from plural transactions are aimed at specific markets, reinforcing the findings of Silva and Saes (2005) showing that different governance structures exist to serve different markets.

5. Conclusion

The purpose of this study was to understand the factors determining the use of plural forms of governance for poultry transactions by a cooperative firm, located in the west of Santa Catarina, in which their transitoriness or stability was analysed. The discussion was based on transaction costs economics, for which the firm would use one of the governance structures to coordinate a particular transaction, namely, hierarchical, market or hybrid forms. In this study, the use of only one of these structures was called as 'singular forms of governance'. It was perceived that different governance structures are used to coordinate the same transaction, which characterizes the 'plural forms of governance'.

Singular forms were identified in the following chain links: broiler breeding (i.e. handling and breeding) using hybrid form through contracts only; feed factory (i.e. feed production) and refrigerator/slaughtering (i.e. slaughtering and processing) using hierarchical form or vertical integration only. Plural forms were identified in the following chain links: parent stock (i.e. egg production), incubation of eggs (i.e. production of day-old chicks) and distribution using hierarchical (vertical integration) and hybrid forms through contracts, one-day chicks for housing using hierarchical (vertical integration), hybrid (contracts) and market forms.

Vertical integration is used in the chain links 'feed production' and 'slaughter/processing'. The decision to use vertical integration is affected by the possibility of better controlling and reducing the production costs. 'Control' is influenced by the uncertainty and opportunism present in the environment and by the high degree of asset specificity. The use of hybrid form (contracts) happens only in the chain link 'production of broilers' (i.e. handling and breeding).

Market form may even be used, but in conjunction with other structures, thus characterizing plural forms. In this sense, plural forms of governance are used in certain specific situations, aiming at occasional or sporadic opportunities in order to increase production volume and meet specific demands. Otherwise, the cooperative would not succeed due to lack of time and high investment needed to improve its productive capacity.

Therefore, it can be stated that plural forms existing in the upstream distribution process tend to be transient, considering that they are specific assets with high frequency and that the firm is exposed to opportunistic behaviour of partners and to the uncertainty present in the environment. Moreover, the need to control and reduce production costs is indicated as the major reason for using a hierarchical structure, in addition to other ones such as sporadic opportunities, reduction of information asymmetry, reduction of uncertainty in the environment and/or created by the institutional environment. These findings are corroborated by Zylberstajn and

Nogueira (2002), who argued for the transitoriness of the plural forms when they studied the Brazilian poultry sector.

Finally, this study sought to contribute to the theoretical development of the analysis of plural and singular forms of governance, either transitional or stable, in poultry production chains by assessing the time length of plural forms in the main chain consisting of six links, thus going far beyond the analysis of a single link (e.g. producer/buyer). It is worth highlighting the fact that, in the same chain, there are stable and transient plural forms, showing that both can coexist as they serve different purposes.

This scenario points to the need of further studies on agro-industrial economy, especially in the state of Santa Catarina, such as pork and milk productions. The west of Santa Catarina is an extensive field for research on the agro-industrial segment and this article may open way to carry out other related studies.

Authors contributions

CZ, ALSL and NAN were responsible for Conceptualization, Formal analysis, Investigation, Methodology and Validation. CZ was responsible for Data Curation. CZ, ALSL, NAN, SVS and IJ were responsible for Resources, Visualization and Writing - Original Draft. CZ, and ALSL were responsible for Supervision. ALSL was responsible for Project administration. SVS and IJ were responsible for Writing - Review & Editing. All authors read and approved the final manuscript.

Competing interests

The authors declare no conflict of interest.

References

- Bai, C. E., & Tao, Z. (2000). Contractual mix in franchising as a mechanism for public-good provision. *J. Econ Manage Strateg.*, 9(1), 85-113. <https://doi.org/10.1111/j.1430-9134.2000.00085.x>
- Bardin, L. (2004). *Análise de conteúdo*. Edições 70.
- Bradach, J. L. (1997). Using the plural form in the management of restaurant chain. *Admin Sci Quart*, 42(2), 276-303. <https://doi.org/10.2307/2393921>
- Bradach, J. L., & Eccles, R. (1989). Price, authority and trust: From ideal types to plural forms. *Annu Rev Sociol*, 15, 97-118. <https://doi.org/10.1146/annurev.so.15.080189.000525>
- Carrer, M. J., Souza Filho, H., & Vinholis, M. M. B. (2014). Plural forms of governance in the beef industry: A case study in Brazil. *Brit Food J*, 116(4), 643-661. <https://doi.org/10.1108/BFJ-04-2012-0089>
- Ehrmann, T., & Spranger, G. (2004). Successful franchising using the plural form. In J. Windsperger, G. Cliquet, G. Hendrikse, & M. Tuunanen (Eds.), *Economics and management of franchising networks* (pp. 89-108). Physica-Verlag. https://doi.org/10.1007/978-3-7908-2662-3_5
- Fan, P. H. J. (2000). Price uncertainty and vertical integration: An examination of petrochemical. *J Corp Fin*, 6(4), 345-376. [https://doi.org/10.1016/S0929-1199\(00\)00006-7](https://doi.org/10.1016/S0929-1199(00)00006-7)
- Foss, N. J., & Klein, P. G. (2011). *Entrepreneurial judgment and the theory of the firm*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139021173>
- Heide, J. B., Kumar, A., & Wathne, K. H. (2014). Concurrent sourcing, governance mechanisms, and performance outcomes in industrial value chains. *Strateg Manage J*, 35(8), 1164-1185. <https://doi.org/10.1002/smj.2145>
- Higashi, S., Fagundes, M. B., Coleman, S. G., Sauer, L., & Saes, M. S. (2017). Plural forms of governance at central supply. *Rev Adm Contemp*, 21(6), 743-763. <https://doi.org/10.1590/1982-7849rac2017160166>
- Jacobides, M. G., & Billinger, S. (2006). Designing the boundaries of the firm: From “Make, Buy, or Ally” to the dynamic benefits of vertical architecture. *Organ Sci*, 17(2), 249-261. <https://doi.org/10.1287/orsc.1050.0167>
- Lafontaine, F. (1992). Agency theory and franchising: Some empirical results. *Rand J Econ*, 23(2), 263-283. <https://doi.org/10.2307/2555988>
- Lafontaine, F., & Slade, M. E. (1997). Retail contracting: theory and practice. *J Ind Econ*, 45(1), 1-25. <https://doi.org/10.1111/1467-6451.00032>
- Lewin-Solomons, S. (2000). Innovation and authority in franchise systems: An empirical exploration of the plural form. *Cambridge Working Papers in Economics*. University of Cambridge, Faculty of Economics.
- Lopes, D., & Leite, A. (2016). What accounts for plural forms of governance structure in the same industry or

- firm – The case of the Brazilian electricity industry. *Brazilian Adm Rev*, 13(4), 1-18. <https://doi.org/10.1590/1807-7692bar2016160041>
- Martins, R., Serra, F., Leite, A., Ferreira, M., & Li, D. (2010). Transactions cost theory influence in strategy research: A review through a bibliometric study in leading journals. *J. Strateg Manage Educ*, 6(3), 4-29.
- Mello, F. O. T., & Paulillo, L. F. O. (2010). Formas plurais de governança no sistema agroindustrial citrícola paulista. *Rev Econ Sociol Rural*, 48(1), 135-159. <https://doi.org/10.1590/S0103-20032010000100007>
- Ménard, C. (2004). The economics of hybrid organizations. *J. Instit Theor Econ*, 160(3), 345-376. <https://doi.org/10.1628/0932456041960605>
- Ménard, C. (2013). Plural forms of organization: Where do we stand? *Managerial and Decision Econ.*, 34(3-5), 124-139. <https://doi.org/10.1002/mde.2578>
- Ménard, C. (2018). Research frontiers of new institutional economics. *RAUSP Manage J.*, 53(1), 3-10. <https://doi.org/10.1016/j.rauspm.2017.12.002>
- Ménard, C., Saes, M. S. M., Silva, V. L. S., & Raynaud, E. (Eds.). (2014). *Economia das Organizações: Formas plurais e desafios*. Atlas.
- Minkler, A., & Park, T. A. (1994). Asset specificity and vertical integration in franchising. *Rev Ind Organ*, 9(7), 409-423. <https://doi.org/10.1007/BF01029514>
- Nunes, R. (2018). An attempt to classify plural forms of governance. *RAUSP Manage J*, 53(1), 98-108. <https://doi.org/10.1016/j.rauspm.2017.12.004>
- Parmigiani, A. (2007). Why do firms both make and buy? An investigation of concurrent sourcing. *Strateg Manage J.*, 28(3), 285-311. <https://doi.org/10.1002/smj.580>
- Raynaud, E., Schnaider, P. S. B., & Saes, M. S. M. (2019). Surveying the economics of plural modes of organization. *J Econ Surveys*, 33(4), 1-22. <https://doi.org/10.1111/joes.12315>
- Richardson, R. J. (1999). *Pesquisa Social: Métodos e Técnicas*. Atlas.
- Schnaider, P. S. B., Ménard, C., & Saes, M. S. M. (2018). Heterogeneity of plural forms: A revised transaction cost approach. *Managerial Decis Econ*, 39(6), 652-663. <https://doi.org/10.1002/mde.2935>
- Silva, V. L. S., & Azevedo, P. F. (2007). Formas plurais no franchising de alimentos: evidências de estudos de caso na França e no Brasil. *Rev Admin Contemp*, 11(1), 129-152. <https://doi.org/10.1590/S1415-65552007000500007>
- Silva, C. L., & Saes, M. S. A. (2005). Questão da coexistência de estruturas de governança na economia dos custos de transação: Evidências empíricas na avicultura de corte Paranaense. *Rev Admin Mackenzie*, 6(3), 88-118. <https://doi.org/10.1590/1678-69712005/administracao.v6n3p88-118>
- Silveira, R. L. F., Carrer, M. J., Carvalho, T. B., Foschaches, C. A. L., & Saes, M. S. M. (2014). Formas Plurais de Governança: Uma análise das transações de suprimento entre frigoríficos e pecuaristas. *Rev Econ Sociol Rural*, 52(4), 761-782. <https://doi.org/10.1590/S0103-20032014000400008>
- Zanella, C., Leite, A. L. S., Fiates, G. G. S., & Cario, S. A. F. (2013). A verticalização da cadeia produtiva de frango da Região de Chapecó – SC. *Rev Alcance*, 20(4), 533-550. <https://doi.org/10.14210/alcance.v20n4.p533-550>
- Zylberstajn, D., & Nogueira, A. C. L. (2002). Estabilidade e difusão de arranjos verticais de produção: Uma contribuição teórica. *Economia e Sociedade*, 11(2), 329-346.
- Williamson, O. (1985). *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. The Free Press.
- Williamson, O. (1991). Comparative economic organization: The analysis of discrete structural alternatives. *Administrative Science Quarterly*, 36(2), 269-296. <https://doi.org/10.2307/2393356>
- Williamson, O. (1996). *The mechanisms of governance*. Oxford University Press.

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