

**Institutional environment interference in agribusiness systems:
A comparative analysis in Brazil and the United States soybean farms**

Abstract

The role of the institutional environment and the institutions as the rules of the game has long motivated and inspired, outlining the interests of the New Institutional Economics, the theoretical framework of this study. As the Nobelist Prof. Douglass North taught us, changing our way of analysis: institutions matter. But how and exactly do they matter in the design of agroindustry systems and how do this unfold in the competitiveness of these economic systems? Our main motivation in this paper is to contribute to go further in both of these questions. The research was developed through multiple case studies in two different countries: Brazil and the United States, competitors in the production and commercialization of the crops covered in this study: soybean, sugarcane, orange. The specific look of the research is turned to the judicial (legal) system of the countries. The results highlighted uncertainty as the key element, representing the variable that links the strategy adopted and the producer's perception of the judicial system in the analyzed countries. Our results reinforce judicial system influencing governance structures of the agribusiness networks, and that uncertainty plays an important role in this choice. In add, value created in the outsourcing transaction has emerged as a relevant variable during decision making. Besides in Brazil, outsourcing was not viewed favorably before 2017 (Law 13.429) by the Labor Court because, in its opinion, the practice could harm the labor rights. In terms of impact, this paper contributes to the promotion of public and private policies; been suggestive for future research an in-depth research in each agribusiness system approached and to conduct the Brazilian survey to track the outcome of changes in law that occurred during the survey.

Key words: governance structures, competitiveness, uncertainty, institutional environment, judicial system

1. INTRODUCTION

The role of the institutional environment and the institutions as the rules of the game has long motivated and inspired, outlining the interests of the New Institutional Economics, the theoretical framework of this study. As the Nobelist Prof. Douglass North taught us, changing our way of analysis: institutions matter.

But how this happens in the designs of agro-industrial systems and how it unfolds in competitiveness of these economic systems is the intention of this research, through two emblematic cases in terms of their role in global agribusiness and the competitiveness between them. The importance of the study is reinforced by illuminating how the rules of the game in each country interfere in their competitiveness. And fostering decision makers, being able to stimulate them from the perspective of public policies that nurture an institutional environment conducive to competitiveness.

Organizations, public and private, have the role to improve the capacity of productive systems that are currently exposed to national competition (Milgrom & Roberts, 1992). Porter (1990) argues that the globalization of economic activity makes the competitive advantage of nations important. Furthermore, Farina, Saes and Azevedo (1997) comment on the importance of systemic relations and the provision of public and collective goods to maintain and create competitive advantage. In this context, the support offered by collective organizations and the institutional environment plays a crucial role in creating and maintaining the competitive capacity of agro-industrial systems. From this perspective, the research question of the present study is outlined: what is the role of the institutional environment in the competitiveness and arrangement of agro-industrial chains? The specific look of the research is turned to the judicial system of the countries, which is an important contribution to the mainstream since most studies do not examine this component of the institutional environment.

The present manuscript also intends to look with a different focus from the usual on the relationship between the institutional environment and the governance structures present in agribusiness chains. The focus that is typically on the firm and unique transactions in this paper wants to understand how a value chain organizes itself.

The origin of studies on governance structures begins with the seminal concept introduced by Ronald Coase (1937) of the make or buy paradigm, where the transaction of production factors could be organized within or outside the firm's scope. In turn, Williamson (1991) in his article Strategizing, Economizing and Economic Organization argues that saving on transaction costs (economizing) is associated with the best strategic choice. The efficiency treatment that he addresses is predominantly treated from the perspective of transaction cost savings as a comparative analysis of feasible alternative arrangements.

The company, in the New Institutional Economy, is seen as a nexus of contracts and, therefore, is affected by the legal apparatus surrounding transactions in the transfer of decision and property rights. This apparatus is formed by the institutions. The organizational environment and governance structures are immersed in the institutional environment in which the rules and regulations governing the activities (North, 1994). Changes in the institutional environment, in property rights, contract law, norms and customs; induce changes in comparative transaction costs (Williamson, 1993). There is also the issue of uncertainty affecting the governance structure, and this uncertainty could be raised from institutional environment. The issue of uncertainty is raised by Williamson (1979), who points out how transaction governance is affected by the increased degree of uncertainty. As uncertainty diminishes as an industry matures, which is the usual case, the benefits of integration presumably diminish (Williamson 1979).

This paper is organized in 5 sections. The next presents the theoretical basis for the discussion, followed by methodology, results and conclusion.

2. FIRM GOVERNANCE STRUCTURE THEORIES

The word 'firm' according to Cheung (1983) is the abbreviated description of a way of organizing activities under contractual arrangements that differ from those of ordinary product markets. According to Coase's (1937) central thesis, differences in the operating costs of institutions (transaction costs) lead to the emergence of a company to supplant market. Therefore, market transactions involve products or goods; and 'firm transactions' involve factors of production.

Companies need goods and raw materials to produce. Cheung (1983) presumes private ownership of productive inputs. Each owner of inputs, therefore, has the option of (1) producing and trading goods himself, (2) selling his contribution directly, or (3) entering into a contractual agreement, waiving the use of his contribution to an agent in return of an income. The company comes up with the third option: the entrepreneur or agent holding a limited set of contractual rights directs activities without immediate reference to the price of each activity, and the goods produced are then sold on the market.

There are other reasons for company's emergence, including division of labor, risk and coordination of production activities. Coase (1937) considered these factors and then rejected them all. For him, transaction costs are the main consideration. Their argument is subject to rebuttal because the list of other plausible factors makes it possible to conceive that total transaction costs may increase as the company emerges. However, Cheung (1983) considers that the emphasis on transaction costs does not negate the potential gain of specialization through division of labor or more efficient coordination of productive efforts.

2.1. Transaction Costs Economics

The seminal insights of Coase (1937), in his article *The Nature of the Firm*, have inserted in economics and social sciences the concept that firms and institutions matter, and with that understanding their behavior is important. That said, Coase (1937) promoted the make or buy paradigm of vertical integration and firm boundaries and began a new perspective for approaching the firm, which differs from the firm of neoclassical economic theory and served as the basis for New Institutional Economics (NIE) literature.

Transaction Cost Economics from Williamson (1979) presents three main attributes for describing the transaction: (i) asset specificity present in the transaction, (ii) uncertainty involved, and (iii) frequency. The most important is asset specificity, defined as the specific investment made by the agents for that particular transaction to occur, increasing the possibility of value appropriation in case of hold up problem. The lack of asset specificity is characterized when there is the possibility of reallocating the asset for alternative uses, without affecting its value. For Williamson (1985, 1996), when asset specificity does not exist, transaction costs are low and the market is the best form of governance. On the other hand, as asset specificity increases, contractual and vertical integration forms are more effective in protecting value appropriation.

The uncertainty issue is raised by Williamson (1979), who points out how transaction governance is affected by the increased degree of uncertainty. Non-asset specific transactions are those for which continuity is of little value as new business relationships are easily organized. Increasing the degree of uncertainty does not change the organization of transactions without asset specificity. As a result, markets continue prevailing and the discrete contract

paradigm (classic contract law) remains standard for transactions, regardless of the degree of uncertainty.

The situation is different, according to Williamson (1979), with specific investments made in the transaction. Where investments are idiosyncratic, increasing the degree of uncertainty makes it more important for the parties to develop a mechanism to 'get things done' - as contractual breaches will be greater and occasions for sequential adaptations will increase in number and importance the more uncertainty increases.

Uncertainty is particular relevant to transactions involving mixed investment attributes, says Williamson (1979). There are two possibilities: (i) one would be to sacrifice valued design resources in favor of a more standardized good or service, with market governance applied; ii) the second would be to preserve specificity, but to surround the transaction with a governance apparatus elaborated via contracts, thus facilitating more adaptive and sequential decision making. More elaborate contracts with arbitration apparatus may be planned for occasional, nonstandard transactions. Bilateral governance structures often give way to vertical integration as the uncertainty for recurring transactions increases.

Decreases in uncertainty, of course, justify shifting transactions in the opposite direction. As uncertainty diminishes as an industry matures, which is the usual case, the benefits of vertical integration presumably diminish (Williamson, 1979). Asset specificity, frequency and uncertainty ratios are summarized in Figure 1 below.

Figure 1. Choice of governance structure in uncertainty presence.

		Asset Specificity			Asset Specificity		
		Non Specific	Mixed	Idiosyncratic	Non Specific	Mixed	Idiosyncratic
Frequency	Occasional	Market	Contracts	Contracts/ Vertical Integration	Market	Contracts/ Vertical Integration	Vertical Integration
	Recurrent	Market	Contracts	Vertical Integration	Market	Vertical Integration	Vertical Integration
Low or Medium Uncertainty				High Uncertainty			

Source: Williamson (1979).

Uncertainty is not the most relevant transaction attribute in Williamson's research (1979, 1985, 1991a, 1993, 1996, 2000), but plays an important role when we relate the transaction to the institutional environment.

North's (2005) studies point out that uncertainty has a long history in the economic literature. It usually returns to Frank Knight's definition of reliance on probability criteria to distinguish risk from uncertainty. In his 1921 study, Knight points out that humans have an ubiquitous drive to make their environment more predictable, and thus to turn uncertainty into risk. Heiner adds, in 1983, that whenever a human being finds himself in a gap where he has no competence to make a decision on a complex subject, he builds rules to restrict the flexibility of choice. By channeling choices to a smaller set of actions, you can improve the agent's ability to control the environment; although there is no implication that the agent's perceptions are correct. These rules are known as institutions as quoted in North (2005).

To ensure the smooth running of transactions, North (1994) emphasizes the importance of institutions in enforcing contracts and agreements. Without them many potential gains would be unexplored, because one or both parties would fear that the other party would not comply and would avoid engaging so.

Institutions, according to North (2005) have been and continue to be human efforts to structure the environment to make it more predictable. In his conception developing well-specified property rights will make the environment more predictable. One of the biggest puzzles to explain is how, and under what conditions, markets with low transaction costs are created to increase the material well-being of those engaged in economic activities.

2.2. Nature of the Deal: Organizational Architecture

From financial literature, Brickley et al. (1995) proposed a framework for analyzing organizational problems and designing more effective organizations, called organizational architecture. They proposed three aspects of corporate organization in this framework: i) to allocate decision-making rights within the company, ii) the systems and tools for evaluating performance, and iii) the methods of rewarding individuals for performance. The term organizational architecture was introduced to add to the hierarchical structure the previously overlooked performance appraisal and reward systems.

That way, the three components of organizational architecture - the allocation of decision rights, the performance system, and the reward system - are highly interdependent. Organizational architecture is described as a 'three-legged stool': changing one of the three legs without carefully considering the other two is typically a mistake - they must be designed together to keep the stool stable. Organizational architecture is based on the economic theory that individuals make choices, and those choices are responses to incentives.

Beyond Organizational Architecture, Sykuta (2012) adapted the concept of organizational architecture to the nature of agreements, where three variables would balance out as in the three-legged stool of organizational architecture by Brickley et al. (1995). The agreements allocate within their structure i) created value, ii) uncertainty (and the risks related to it) and iii) the rights of decision between the parties in a way that balances the interests of the parties in light of the asymmetry in the contract information, incentives and opportunistic potential.

Each transaction consists of three allocation problems in the arrangement architecture proposed by Sykuta (2012). First, the allocation of the value created by the exchange, the value of the transaction being not necessarily determined by the intrinsic value of the good or service being traded, but by the value created. In the case of business-to-business transactions, the value of the good is best determined by how the buyer intends to use the good to create additional downstream value.

Second, every transaction involves some degree of uncertainty that will be allocated between the parties. As the duration of a transaction increases or as the complexity of a transaction increases, the degree of uncertainty increases along with the number of sources of uncertainty. The value of contracts as promises that are legally enforceable is in dealing with uncertainty about whether parties will honor their promises, that is, dealing with behavioral uncertainty between the parties. How the terms of the contract allocate uncertainty between the parties will determine which party will bear the risks associated with the uncertainty. There is therefore a need for institutions that encompass uncertainty about the future and all possible environmental and economic conditions that might encourage a party to behave differently than it originally agreed to.

Finally, every transaction requires certain decisions to be made, and these decision rights are allocated between the parties. Decision-maker decisions have significant implications for the value created by the transaction, the level of uncertainty that affects the transaction, and the way the risks associated with that uncertainty are sustained.

The attribution of decision rights is a fundamental element of the agreement. From an organizational economics standpoint, decision rights should be allocated where they add the most value to the business. Decision rights should ideally be allocated with the specialized information necessary for effective decision making. However, the nature and sources of value and uncertainty, the types of decision rights available to the parties and the resulting information and incentive issues are directly influenced by the regulatory and market context.

Just as the three aspects of organizational architecture work together to affect organizational performance, the balance between agreement variables also affects performance and contract design. Which party is best placed to make decisions that relate to the value of the transaction? What incentives are created by the specified allocations of value and uncertainty? Which party holds the decision rights in cases of incomplete contracts and which incentives would prevail in such cases? These issues and their implications for transaction value need to be considered when evaluating the best structure.

Just as in organizational architecture, these three parts are interdependent and align like a three-legged stool that keeps agreements balanced. These three dimensions of the framework must be aligned with the objectives of the transaction and designed to complement each other to ensure effective performance (Sykuta, 2012).

3. METHODOLOGY

The paper intends to answer the research problem using the analysis of multiple cases in two distinct institutional environments: Brazil and the United States agribusiness systems.

Brazil and United States are justified because they are leaders in the production and commercialization of the crops covered in this study: soybean, sugarcane, orange. The diversity of cultures addressed in the case studies is justified because most Brazilian farms are diversified and this broader look at the firm as a whole, in contrast to focusing on a single crop, is important in the strategic choices that are made. Also, the choice of both countries is because they compete globally in agribusiness systems, so analyze their strategies in choosing their governance structure with focus on institutional environment enlighten and address some possible public policies for the governments.

Case study analysis has as its main purpose the research of a real-life phenomenon and aims to do an in-depth empirical investigation. In its context serves especially when the boundaries between the phenomenon and the context are not clear (Yin, 2010).

Our empirical problem fits this approach and intends to deepen the understand about the institutional environment's interference in business strategies from agribusiness chains. Especially the ones regarding governance structures to achieve better competitive advantages.

The case study will be exploratory and descriptive and aims to study the strategies that companies from agribusiness value chain assume in relation to the governance structure adopted in different institutional environments and highlights the relationship between the choice of different institutional arrangements and the perception that agents have of quality and trust in the judicial system. Whereas judicial system is an important institution in guaranteeing rights and reducing uncertainty and risk in transactions.

Additionally, the study is developed in several levels of analysis in a single study, as suggested by Yin (2010), in this case the first level is in the different institutional environments studied: Brazil and the United States. The second level the research aims to analyze is the agribusiness systems of soybean, orange and sugarcane and the relations between their chains. The third level analyzed is the firm strategies (farms) and their motivations to choose one governance structure over others focusing on judicial systems. The research seeks to highlight in each level of the case studies variables that influence the decision-making of agribusiness

actors in their respective institutional environments, since it can be better evaluated in different contexts.

In the United States it was studied the cases of 8 farms, and it was interviewed 9 farmers, in the state of Missouri. In addition to 2 specialized agricultural service providers in the same US State. In Brazil, 9 rural properties and 1 company managing a consortium providing services were studied. Total of 20 particular cases in both countries. The interviews occurred between August, 2018 and March, 2019. The unit of analysis of the cases is the governance structure of agribusiness companies (farms) and the study conducted will focus on strategic choice of them within the agribusiness system they are inserted. As the unit of analysis was the rural properties, an instrument for data collection was developed, referring to as semi-structured interview script applied to the decision-making farmers. The questions were elaborated within the categories of analysis, they are (1) the characterization of the rural property; (2) company network and resources; (3) organizational architecture; (4) interference from the judicial system; (5) perception of judicial system in both countries; and, finally, a category presented only in Brazil (6) impact of changes in the judicial environment.

4. RESULTS: COMPARATIVE ANALYSIS BETWEEN BRAZILIAN AND THE UNITED STATES CASES

4.1. Governance structures

In the Brazil case study, two out of nine rural producers outsourced in soybean as a complementary of vertically integrated activities, and three of them outsource in auxiliary crops such as orange, sugarcane, livestock and wood production, once most Brazilian farms are diversified regarding their production.

In Brazil, therefore, outsourced farmers opts to do so in labor-intensive crops (such as manual harvesting of orange crops where the frequency of transactions is very low; therefore, the transaction costs involved do not justify the integration of the activity) or in complementary cultures to their main ones, considering in addition to transaction costs also the potential gain of specialization through the division of labor or even a more efficient coordination of productive efforts, as highlighted by Cheung (1983). There are also those who partially outsource an activity that is vertically integrated to complement their own capacity. This way, they are not totally dependent on third parties, so they are not exposed to *hold up problems*.

Consequently, the Brazilian decision of outsourcing is based in some peculiarities: labor-intensive crops, as manual harvesting of orange, or in complementary to their main crops, as in soybean or even when they integrate the activity but has some extra seasonal demand.

In the United States, the case study was conducted on farms that only cropped soybeans. The farms that outsource some activity are five of the eight properties and they are primarily grain producers. Most of the outsourced activities involve high value equipment with high embedded technology, however, which do not have high asset specificity, besides being performed sporadically (low frequency), such as fertilizer application or grain harvesting.

Comparing general data that in Brazil one of the nine farms chose to be fully integrated, and in the United States, three of the eight farms integrate all activities, it could be prematurely inferred that in Brazil there is more outsourcing than in the United States. However, the case study method allows us to see in depth that the outsourcing rate when it occurs in the United States turns out to be higher because US decision takes into account whether the activity is all outsourced and not only supplement farmer's capacity s in Brazilian farmers' decision.

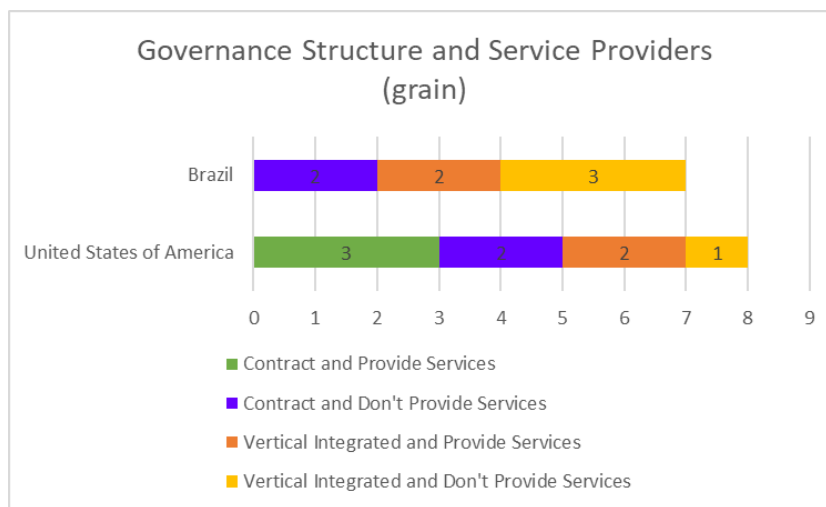
Moreover, when comparing the total outsourcing, it is not considered that in Brazil a broader number of crops were considered, unlike the United States, where the case study was

performed only on grains. The larger number of crops is justified because Brazilian farms are more diversified and have, on average, three different crops on the farm.

Taking into account only grain crop in Brazil and the United States, a different scenario presents itself: while in Brazil, two of the eight farms contract outsourced services, in the United States, five of the eight farmers contract some services from third parties, such as shown by the Figure 2 on the next page.

Comparison between similar crops is important because the necessary production operations are similar as well. In Brazil, however, grain farmers invest in a double crop in an agriculture season because of favorable weather conditions, which increases the temporal specificity of some activities, increasing transaction costs and therefore vertical integration.

Figure 2. Governance structures and grain service providers in Brazil and the United States.



Source: Prepared by the Authors (2019).

4.2. Value Created

In deciding the organizational architecture of the transactions, decision makers analyze the value will be created within the options available, in the research the options are to be vertically integrated or contracted from third parties, as indicated by Sykuta (2012). The value created in the outsourced transaction is perceived differently by each agent as well as the asset specificity. Asset specificity (Williamson (1985, 1991b, 1991a, 1996) and value creation in agreements (Sykuta, 2012) are interrelated concepts; when there are specific assets involved, transaction costs are higher; consequently, lower value creation in outsourcing agreements.

The average value index created in the United States in outsourced transactions in agriculture was 0.67, while in Brazil this index was 0.87, indexes that support the largest number of cases that opt for outsourcing contracts in Brazil. In Table 1, as shown on the next page, the pros and cons of outsource in both countries are summarized.

By focusing on each case, as shown in Table 2, it is clear that the created value perceived by decision makers plays an important role in deciding the best governance structure of the company. When farmers do not see value created (negative) in outsourcing, they are vertically integrated. When they consider the created value positive in disintegrating activities, most of the time they outsource some activity. Some exceptions occur when the case farmer provides services. That is, the value created in the agreement is an important variable in aligning the organizational architecture of the agreements.

Table 1. Value Created in Outsourcing in Brazil and the United States.

Value Created on Outsourcing		
Positive	Negative	
BRAZIL	<ul style="list-style-type: none"> · Non-immobilization of financial resources in equipment. · Delegate employee management as well as compliance and concerns with labor law requirements. · Maintenance resource savings. · Focus on core activities. 	<ul style="list-style-type: none"> · Poor performance of service provider · Temporal specificity of production activities because of double crop. · Little availability of professional and reputable service providers. · High taxes on service providers increase the price. · Legal risks of co-responsibility
U.S.A	<ul style="list-style-type: none"> · High interest rates for equipment acquisition. · Access to better and new technologies. · Scarce and expensive rural labor. · Service Provider specialization. · Speed of execution of activities, simultaneity in execution. · Focus on core activities · Fewer employees needed. · Initial Investment Savings. · Fixed Operator Cost Reduction. · Access to new technologies and modern machines. 	<ul style="list-style-type: none"> · High price of contracted service. · Temporal specificity of some activities. · Delays likelihood. · Waive the right of control and decision

Source: Prepared by the Authors (2018).

Table 2: Value created in the United States and Brazil cases

Farm	United States of America							
	US1	US2	US3	US4	US5	US6	US7	US8
Outsource	No	Yes	Yes	Yes	No	No	Yes	Yes
Judicial System Quality and Trust Perception ¹	2,8	3,7	2,4	2,8	2,8	3,9	2,8	3,5

Farm	BRAZIL								
	BR1	BR2	BR3	BR4	BR5	BR6	BR7	BR8	BR9
Outsource	yes - orange no - grains	Yes	No	yes - orange	partially	yes - sugarcane no - grains	yes - silage no - grains	partially	partially
Judicial System Quality and Trust Perception ¹	2,2	2,5	3,3	3,3	2,9	2,1	2,7	2,6	2,3

1 - 5 points likert scale (2,5 neutral point)

Note: responses recorded on a 5-point scale : “strongly agree”, “agree”, “doesn’t agree or disagree”, “disagree” and “strongly disagree”

Source: Prepared by the Authors (2019)

4.3. Uncertainty and Risk

In decision-making, the institutional environment plays an important role, but has often minor importance in management and economics of organizations research. The institutions act as support for the agreements, reduces uncertainty and, therefore, the transaction costs of the environment, allowing parties to engage in transactions outside the firm's scope. Uncertainty is seen as an important attribute for both Oliver Williamson (1985, 1991b,

1991a, 1996) and Michael Sykuta (2012) in the alignment of transactions, whether in transaction cost economics or organizational architecture.

Whether in the definition and enforcement of laws in the judiciary originating from French civil law; or in the customs and decision of the judges of the *common law*- based judiciary, it is critical that laws are adopted following norms and established precedents, made public, and consistently and impartially enforced. It is imperative that the judicial system is based on a rule of law that represents all parties and enforces contracts and property rights. The rule of law is intended to ensure that the government exercises its authority in a fair manner, and is crucial to ensuring freedom and justice for the people of any nation (North, 1991, 1992, 1994, 1999, 2005). It should be remembered that institutions emerge to reduce uncertainty by structuring human interactions. (North 1991).

When choosing to outsource some activity, one of the firm's interests is to delegate part of the decision rights and responsibilities to others. In such a way, the manager can focus his resources and effort on core activities that he considers indispensable within the company structure. However, the negative bias about outsourcing in Brazilian judiciary, made such option to be considered a way of worsening employment conditions, as if the labor force was treated as a commodity, and also that the practice was a way of evading from workers' rights.

Constantly, companies that outsourced activities were sued and prosecuted by the Ministry of Labor by framing them in TST Precedent 331, which prohibited the outsourcing of core activities. The precedent was intended to preserve workers and their rights. However, what was seen in practice were penalties that did not bother to check whether employees of outsourced companies were deprived of their rights, or whether the activity was really a core one to the company's value chain, or in extreme situations if such sanctions would not cause negative externalities in other value chain links. As with orange processors, when the court ruled that industries could no longer process orange from third-party orchards, forcing an upstream vertical integration into orange production.

The new law in Brazil from 2017 (Law 13.429) allowed all activities to be outsourced, regardless of position and importance in the company's value chain. Thus, with legally authorized practice, it is now up to the manager to choose the governance structure more suitable. However, despite delegating and outsourcing the activity, the company is still co-responsible for it, thus decreasing the value creation that the option for outsourcing could bring to the business and increasing the risk exposure when outsourcing (the uncertainty), since the practice transfer the directly decision rights and management on resources and labor.

In the United States, a manager who outsources an activity is only responsible for it if he is negligent in any information or action that may cause harm. Otherwise, the contractor is directly responsible for their actions, errors and negligence, and also the particular risk transfer mechanisms such as liability insurance reduces managers' risk exposure.

Although uncertainty is not the most relevant attribute of the transaction in accordance to Williamson (1985, 1991, 1996), it plays an important role when relating the transaction to the institutional environment. Uncertainty is relevant to the transactions arrangements with mixed investment attributes, says Williamson (1979). Many bilateral governance structures, such as contracts and market transactions, often give way to vertical integration as the uncertainty for recurring transactions increases. Reductions in uncertainty, on the other hand, justify shifting transactions in the opposite direction: when uncertainty decreases as an industry matures, the benefits of integration diminish (Williamson, 1979).

The case study of both countries, Brazil and the United States, explored the knowledge and perception of the contractor's responsibility to outsource an activity were explored. The perception of responsibility, or co-responsibility, about the service of the third party increases the uncertainty in the transaction, so as to increase the likelihood of value destruction if the third party makes an error in the performance of the activity.

The result of the *likert scale questions* about liability and culpability, when the third party make a mistake, reinforces this finding, with 3.27 average answers in the US above the neutral point (2.5 out of 5 points). That is, in the United States farmers believe they would probably not be held liable or sentenced for negligence or non-compliance by contractors on their properties. This shows that the degree of uncertainty in the US institutional environment is not high regarding the issue of legal liability over the third party and this low degree of uncertainty increases the likelihood of outsourcing activities.

In Brazil, there are many doubts and divergence of understanding about jointly liability and who would be liable in case the independent contractor faces any problem due to error, own negligence or accidents. This is partly because the law is new and many are not fully aware of its implications. Still, in Brazil, farmers believe that if something, especially related to labor, occurs on their property, they will somehow be accountable for what happened, the average response is below the neutral point 2.1 and 2.2; indicating that the owners believe they would probably be held liable if the contracted third party responds to a legal problem, ie that courts increase uncertainty about contracts, which makes it more likely that farmers will vertically integrate the largest number of activities. It is worth remembering that. The new outsourcing law ratifies the perceptions of Brazilian farmers.

The results on judicial liability in outsourced services in both countries are resumed together in Table 3.

Table 3. Legal Responsibility for Third Party Services in Brazil and the United States.

Liability	United States of America		Brazil	
	Average result	Standard deviation	Average result	Standard deviation
Would you be liable in courts for negligence or error of the third party company	3.27	1.01	2.1	0.88
Would you be guilty if sued for a third-party problem.	3.27	0.9	2.2	0.92

Note: responses recorded on a 5-point scale: “definitely yes”, “I would be”, “I don’t know”, “I would not be” and “definitely no”.

Source: Prepared by the Authors (2018).

Thus, the uncertainty and risk that the institutional environment brings to Brazil's business environment when companies establish governance structure is greater than in the United States. Accordingly, outsourcing transaction costs are higher in Brazil, which consequently decreases the value created in the decision to subcontract. Thus, in an attempt to avoid this uncertainty, when deciding on organizational architecture, farmers choose most of the time to integrate vertically and maintain the right of decision and control of the activity. As much as the number of Brazilian case study farmers outsourcing some activity is higher, their outsourcing rate is lower. And, these farmers opt for outsourcing only when they do not have sufficient resources to vertical integrate, or when they analyze that the cost of integrating the activity is much higher than the risk faced by outsourcing.

Looking at the individual cases in Table 4, however, the perception of judicial responsibility index does not present results that corroborate that co-responsibility affects the individual option to outsource activities, as farmers who believe they would be held accountable still contracted, and the opposite also occurred.

Nonetheless, in Brazilian cases farmers reported that they avoided contracting services and companies because of jointly liability and, in the United States, service providers have ceased to provide services considering legal liability, once in United States, the company providing the service will be liable for any errors or negligence committed by them. These

results show that judicial liability does not prevent them from contracting, but it directs (leads) them to be more diligent in making decisions and choosing service providers.

The case study also showed that the new law contributed to many of the outsourced activities in the country, as two producers of the eight respondents indicated that outsourcing contracts were started in the last 2018/2019 crop, after Law 13.429 from 2017.

Table 4. Judicial Responsibility in US and Brazilian cases.

United States of America								
Farmer	US1	US2	US3	US4	US5	US6	US7	US8
Outsource	no	yes	yes	yes	no	no	yes	yes
Jointly Liability	no	no	only for injury	no, not sure about injury	no	no	only for injury	no
Judicial liability from third party errors in the farm.	3	4,5	3	4	2	3,5	3,5	3,5
Refrain from outsourcing because liability	no	yes, in dangerous activities besides agriculture		no	yes, refrain to provide services because of the risk.	yes	no	yes, refrain to provide services because of the risk.

Brazil									
Farmer	BR1	BR2	BR3	BR4	BR5	BR6	BR7	BR8	BR9
Outsource	yes	yes	no	yes	yes	yes	yes	yes	yes
Jointly Liability	yes	yes	no	not for injury, yes for lack of employee payment, taxes and labor rights.	yes	not for injury, yes for lack of employee payment, taxes and labor rights.	no	not for injury, yes for lack of employee payment, taxes and labor rights.	no
Judicial liability from third party errors in the farm.	2	2	2	3	3	2	2	1	3,5
Refrain from outsourcing because liability	yes	yes	yes, in construction	yes	never thought about	yes	yes	yes	yes

Note: responses about judicial liability recorded on a 5-point scale: “definitely yes”, “I would be”, “I don’t know”, “I would not be” and “definitely no”.

Source: Prepared by the Authors (2019).

4.4. Court system

Several authors have examined the effect of institutions and legal systems on economic growth or other human welfare measures inspired by the works of Alchian & Demsetz (1973) and North (1991)¹.

It is well known that institutions and the legal system affect the business environment. Wang *et al.* (2014) observed that the poor quality of the judiciary system has impacts on the economic development of a country, but also on the microeconomic environment of organizations, where it can present adverse effects. In their study, they point out that the search for judicial quality will generate, besides impacts on the economy, impacts on the comparative advantage of companies that use inputs with relational asset specificity.

Alchian (1965) emphasizes that the set of rules that guarantee the distribution of property rights determines the firm's level of production because it establishes each individual's incentives to produce.

The judiciary system of the two case study countries is different, just as the governance indicators of the institutional environment considerably differ in terms of political stability,

¹ Some examples are Acemoglu, Johnson, & Robinson (2001), Almeida & Zylbersztajn, (2012), Azevedo & Silva (2007), Bednar (2004), Borner, Brunetti, & Weder (1992), Castelar (2009), Cooter & Ulen (2016), Cross & Donelson (2010), Djankov et al. (2002), Haggard & Tiede (2011), Hall & Jones (1999), La Porta et al. (1997), LaPorta et al. (1998), Rezende & Zylbersztajn (2012), Sanches & Bataglia (2015), Sztajn & Zylbersztajn (2005), Timm (2009), Wang et al. (2014), and Woodruff (2006).

government effectiveness, regulatory quality, rule of law and corruption control. And also the origin of the two judicial systems is also different.

The results in Table 5 and Table 6 show the difference in farmers' perception of the two countries. Indexes such as the overall satisfactory quality of the judicial system reveal that Brazilian farmers do not agree that the Brazilian judicial system has satisfactory quality above average, while Americans agree that the US judiciary is of satisfactory quality.

Apart from 'perceived rapidity in dispute resolution' the other indexes such as 'cost' and 'bureaucracy' to use the judicial system were close to and below the neutral point, showing that farmers in both countries do not have a positive perception about these attributes of their judicial systems.

Table 5. Judicial System Attributes in Brazil and the United States.

Judicial System Attributes	United States of America		Brazil	
	Average result	Standard deviation	Average result	Standard deviation
Satisfactory judicial quality (time, cost, access, predictability, impartiality)	3.82	1.08	2.2	1.03
Speed/ time in dispute resolution	1.91	0.7	2.8	0.92
Cost of using the court system	2.09	1.3	2.1	0.74
Bureaucracy of the judicial system	2.09	0.83	2.4	1.35
Access to the judicial system	3.64	1.29	4.1	0.99

Note: responses recorded on a 5-point scale for the attributes, with a neutral point.

Source: Prepared by the author (2018).

When analyzing confidence in conflict resolution mechanisms in both countries, the United States has higher confidence index in all of them. Although all mechanisms have positive indices (above 2), those in Brazil are closer from the neutral point, even showing that the mechanism that the Brazilian people least trust is the courts, with an average of 2.1.

Another point that reinforces the lack of trust in the courts and judges in the country is the confidence in the impartiality of the courts, which shows negative results (1.8 out of 4), accentuating the lack of confidence that Brazilian farmers have, unlike American farmers who It has an index of 2.91.

A quality judiciary inspires confidence and reduces uncertainty in the business environment so that managers, agents and organizations can engage in transactions, negotiate and contract.

Table 6. Degree of Confidence in Dispute Resolution Mechanisms in Brazil and the United States.

Trust Rate ¹	United States of America		Brazil	
	Average result	Standard deviation	Average result	Standard deviation
Trust on mediation	3.09	0.54	2.2	0.63
Trust on Arbitration	2.55	0.69	2.3	0.67
Trust on courts and judges	3.0	0.89	2.1	0.57
Confidence in the impartiality of the courts	2.91	0.83	1.8	0.79
How Much Time Do You Trust Courts Will Do Right *	1.91	0.83	1.8	0.79

Note: responses about trust and confidence are recorded on a 4-point scale: “very low”, “moderately low”, “moderately high”, “very high”. The response about how much of the time is recorded in a 3-point scale: “just about always”, “most of the time” and “only some of the time”.

Source: Prepared by the author (2018).

5. CONCLUSION

The purpose of a case study is to qualitatively investigate a phenomenon that is still occurring, the relationships between this phenomenon and the variables that affect them. In deciding the firm's governance structure, farmers decide whether transactions are organized within the firm's structure, whether they are acquired in the market or organized with third parties through contracts. These individual choices also reflect in the competitiveness of the chain the firms are embedded, the agribusiness value chain. The choice to develop activities outside the scope of the firm, contracting third parties, is not a current phenomenon, however, in Brazil there were some legal barriers from institutional environment to outsource services, which were removed after the sanction of Law 13,429, 2017 (Brazil, 2017).

The case study aimed to conduct a comparative analysis between the United States and Brazil to better understand the influence from the institutional environment, especially the uncertainty induced by the judicial system from each country. United States has a recognized rule of law and judicial system of higher quality and stability than in Brazil. In the United States, the practice of outsourcing has long been adopted and there are no barriers from the rule of law, nor is there a bias in the judicial system against its adoption. So that entrepreneurs find greater security in the institutional environment to disintegrate an activity from its scope. The case studies show the positive perception regarding the quality and impartiality of the North American judicial system, characteristics that give the business environment less interference from uncertainty in the alignment of transactions. The results also show that alternative dispute resolution mechanisms such as mediation and arbitration are developed and well-known by the parties, as they give smaller disputes faster resolution and help to unblock the courts.

In Brazil, outsourcing was restricted to some activities before 2017, through Precedent 331 of the Superior Labor Court. Therefore, partially authorizing outsourcing for middle activities caused doubts in the business environment as to the governance structure that could legally be adopted, constraining many companies from opting for vertically disintegrated activities. Added to this restriction was noted also the negative perception of the judicial system quality.

Rather than ensuring the reduction of uncertainty, the Brazilian judicial system is seen by decision makers as biased. In Brazil, the rural insurance market, such as liability insurance, is not developed in the rural area, so the farmers fearing legal problems when contract, eventually integrate the activities. In addition, alternative dispute resolution mechanisms, such as mediation and arbitration, are at an early stage in the Brazilian environment.

These findings reassure that to create value to the agribusiness chains the institutional environment should work to ensure competitiveness, increasing trust and decreasing uncertainty in the relationships among the participants so the transaction costs are minimized.

The research presents some limitations regarding the number of cases of each crop, that is not as representative of the value chains approached. Also, the phenomenon was studied at the same time the institutional environment evolved through the withdrawal of the Precedent 331 that restricts outsource in Brazil. For that reason, we suggest further research is made in each one of the agribusiness chains approached to understand better the unique aspects from them. Another suggestion should be the continuation of Brazilian case study to understand the impacts of this new law in the competitiveness of the agribusiness chains.

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