

# THE IMPORTANCE OF INFORMAL INSTITUTIONS IN INSTITUTIONAL ARRANGEMENTS WITH SMALL PRODUCERS: CASE OF TABLE GRAPES IN THE REGION OF JALES, SAO PAULO, BRAZIL

## ABSTRACT

In 2011, the largest Brazilian states to produce table grapes were Pernambuco and São Paulo. The region of Jales, a city located in the northwestern region of São Paulo, is the largest producer of fine table grapes. In this region, producers work exclusively with wholesalers (CEAGESP), passing through an intermediary called *mateiro*. In order to verify the importance of this intermediary, the objective of the research has been to analyze and understand the functioning of institutional arrangements used by grape growers in the region of Jales to market their production. It was used a model that combines formal and informal institutions with the model of Transaction Cost Economics (TCE). A questionnaire was conducted in April 2008 with 6.2% of producers of the region of Jales and 12.5% of the purchasers of table grapes. The sampling was non-probabilistic. Hybrid arrangements are recommended, with necessity of guarantees for the producers. Nevertheless, formal contracts do not work well with small producers, as they do not know the wholesalers, increasing the difficulty of establishing informal guarantees. Producers considered their products as delivered to the *mateiros*, with whom they established lasting relationships of trust. In conclusion, the *mateiro* is the main actor between producers and wholesalers and acts as an independent agent, although employee of the wholesaler. Relations between farmers and *mateiros* are based on the existence of social capital, which allows the creation of informal guarantees and the reduction of transaction costs.

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## 1 INTRODUCTION

Grapes are one of the most consumed fruits in the world, both fresh and as juice (TARSITANO, 2001). In 2012, 67 million tons of grapes have been produced in the world. China was the largest producer with 9.6 million tons, followed by the United States of America, with 6.7 millions tons, Italy with 5.8 and France, with 5.3 million tons. Brazil occupied the twelfth position, with 1.5 million tons (FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS - FAO, 2014).

According to Instituto Brasileiro de Geografia e Estatística - IBGE (2012), the Brazilian production of grapes in 2012 was 1,514,768 tons, and the state of *Rio Grande do Sul* was the largest producer, accounting for 840,251 tons, which most of its production includes wine and juice production.

Among the 82,063 hectares of grapes harvested in Brazil in 2012, 49,900 were located in Rio Grande do Sul state, 10,716 in São Paulo and 6,763 in the state of Pernambuco. Despite of the smaller cultivated area in Pernambuco, the total production of this state was higher than in São Paulo, with a total of 224.758

tons for the first state and 214.684 for the second one (IBGE, 2012).

For Costa (2011), the table grape production in Brazil can be divided into two groups, one consisting of fine grapes, composed essentially of the variety “Italia” and its mutations (Rubi, Benitaka and Brasil), and the other containing the common grapes, formed by the variety “Niagara rosada” (*Vitis labrusca* L.).

São Paulo mainly produces table grapes. Piedade was the major producing city in 2012, with 41.9% of the state production, Jundiaí, in second position, produced 15.9% of the state production, Campinas 12.6%, Jales 12.2% and Sorocaba 8.5% (IBGE, 2012). Unlike the production of Pernambuco state, two-thirds of grapes growers in the state of São Paulo have areas under 50 ha (COSTA, 2011).

As a result of the hot weather and use of technologies, producers of the region of Jales perform an early harvest and are able to sell their production from July to December, a period considered out of season in relation to other producing regions (HIGA, 2002). For Costa (2011), the commercialization out of season allows for better market prices.

The fine table grape has always represented the majority of production in the region of Jales, but the number of planted vines is in steady decline since the late nineties (INSTITUTO DE ECONOMIA AGRÍCOLA - IEA, 2014). In 2013, the proportion was reversed, with the predominance of common grapes vines, with 510,450 plants, in which more than 448,900 vines consist of fine grapes, according to the survey of IEA (2014). Despite of the increase in the quantity of plants, the highest productivity explains why in 2014 the fine table grapes continue to be the most produced plant in the region (IEA, 2014). Yields of high quality grapes were estimated as 32 t./ha by Costa (2011), while 20 t./ha for common grapes.

For Tarsitano (2001), commercialization, one of the most important stages of the table grape's production chain, faces a number of problems. Most producers cannot offer enough volume to sell directly to retailers and deliver their production to a wholesaler passing through an intermediary called *mateiro*, which is an employee of the wholesaler.

Based on this finding, our research hypothesizes that the *mateiro* has a key role in the relations between producers and wholesalers and is essential for the occurrence of transactions. In order to verify the importance of the *mateiro*, the objective of this research is to analyze and understand the functioning of institutional arrangements used by grape growers in the region of Jales to market their production.

The relevance of the research is based on the characteristics of the region, which is one of the major production centers of table grapes in Brazil, along with the states of Bahia, Pernambuco and Paraná. Tondati (2006) emphasizes the importance of the northwest part of São Paulo State, where Jales is located, for the production of fine grapes in Brazil. With the anticipation of the harvest period, due to the local hot weather and the use of appropriate technologies, local producers can commercialize their production during the off-season (from July to November), when there is a lack of product from other producing regions (HIGA, 2002).

Besides the fact that Jales is a very important region in table grapes production in the state of São Paulo, the land structure of the region is essentially composed of small rural production structures, where grapes production is a significant part of their income. Most of these farmers grow, on average, 2 to 3 hectares, with grape being the main crop. The creation of cooperative

arrangements between the producers would be of great importance and could reduce transaction costs, as emphasized by FAO (2009b).

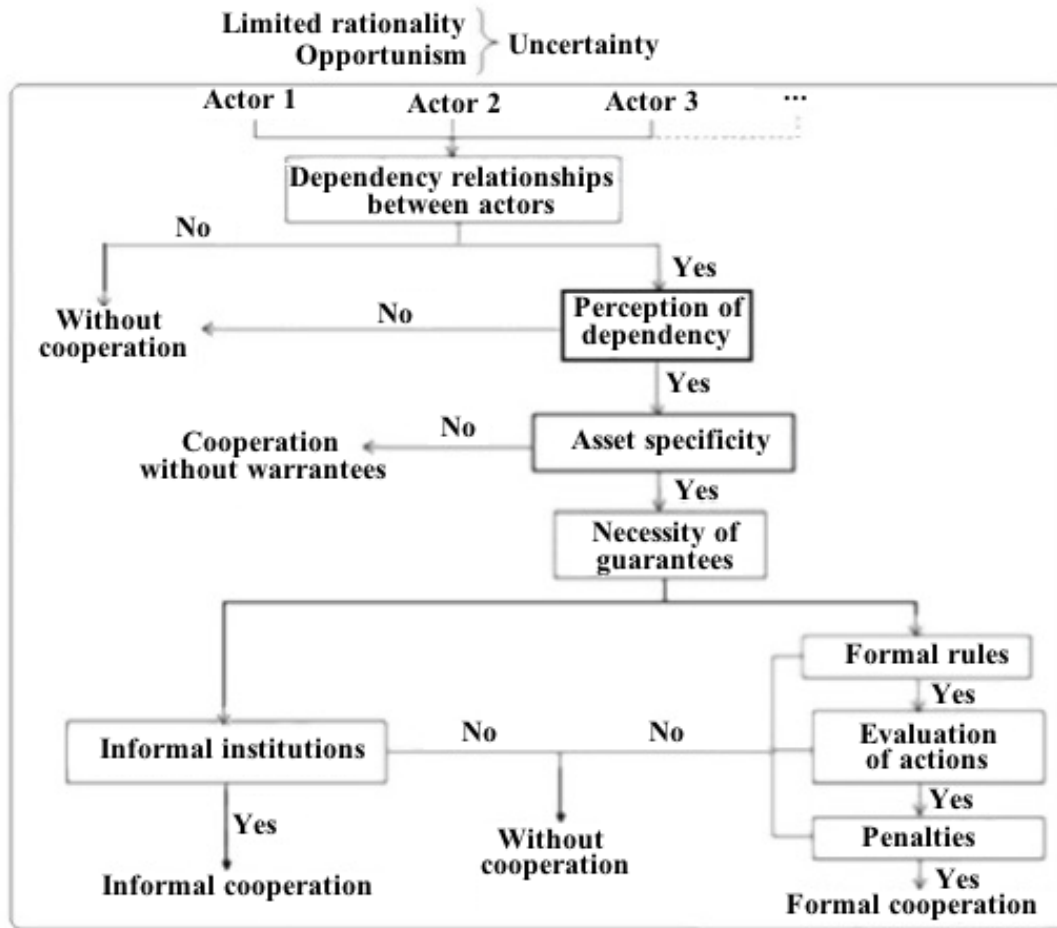
Despite the benefits of cooperation, FAO (2009a) remembers that most organizations of small producers in the world do not work satisfactorily and that contracts are more common with larger producers than with small ones. Producers of Jales are not an exception, marketing their products individually. The cooperative of Jales, the only cooperative in the region that has a storage structure to prepare the fruit in the best quality conditions, was created in the early nineties, but since the implementation of Real, in 1994, it accumulates loss and was abandoned by most producers. In contrast, the *mateiro*, who is an intermediary between the individual producer and the buyer, allowed the development of a unique arrangement model, arrangement whose analysis will allow a better understanding of transactions

After the presentation of the theoretical framework used in the analysis, this paper discusses the research methodology and the results of analysis before concluding it with final considerations.

## 2 MODEL ANALYSIS OF INSTITUTIONAL ARRANGEMENTS

This chapter presents a methodology used to identify the potential for cooperation and is based on Vilpoux (2014). In the presence of bounded rationality and with the possibility of opportunistic behavior, the Transaction Costs Economics (TCE) approach (WILLIAMSON, 1985, 1996) suggests that there is always uncertainty in the interactions between actors, and that this uncertainty always influences the interaction between them (Figure 1).

Vilpoux (2014) considers the existence of dependency relationships between actors as being the first step for the existence of co-operation (Figure 1). Ménard (2006) follows the same path. For him hybrid arrangements are developed on the basis of expected benefits in the case of the existence of a mutual dependency. This dependency is close to the notion of common objective developed by Olson (1971), in the *Theory of Collective Action*. Common objectives turn cooperation into a positive-sum game, where the stability of the relationship is crucial and is linked to the fact that each member considers that greater gains can be obtained with a cooperative arrangement than with other forms of institutional arrangements, with no, or less, interaction (GRASSI, 2006).



**FIGURE 1** – Mechanisms responsible for the adoption of institutional arrangements  
Source: Vilpoux (2014)

Besides the need for a certain degree of dependence between actors for the realization of a cooperative arrangement, there is also the necessity for this dependence to be perceived by the actors (VILPOUX, 2014). Often, members of a community do not perceive the benefits of cooperation with others, and therefore prefer individual action.

For Vilpoux (2014), a simple dependence between actors is not enough to explain the types of institutional arrangements adopted. In the case of dependency, the completion of the transaction means the loss of additional gains associated with the interaction, but this is not synonymous with an effective loss for the actors. The author cites the example of producers and companies that come together to make common purchases. In this case, the common purchases feature a cooperative arrangement, and

allow for increases in scale and lower prices. However, the end of the agreement does not involve costs for the parties involved, who return to their original status before the cooperation agreement (Table 1 - Without specific assets). To complement this analysis, it is necessary to introduce the notion of specific assets as defined by Williamson (1985, 1996). The occurrence of asset specificity means that it is impossible, or difficult, for an actor to change partners after starting a transaction (Table 1 - With specific assets).

To Fiani (2002), after investing in a specific asset, buyers and sellers form an exclusive relationship that increases the dependency between them. In this case, Vilpoux (2014) mentions that the cost caused by the interruption of the operation leads the actors to seek institutional arrangements that offer some type of warranty.

**TABLE 1** – Importance of specific assets in the case of dependency relationships between actors

Actors	Time 0 (before interaction between A and B)	Time 1* (After interaction between A and B)	Time 2** (Early ending of the interaction)	Asset specificity
A or B	\$ 100	\$ 200	\$ - 200	Yes
		\$ 200	\$ 100	No

A\* Net revenue of the interaction = earnings – costs of interaction.

\*\* Net revenue of interaction, after premature finalization.

Source: Vilpoux (2014)

A level of assurance is offered by formal institutions (Figure 1) or, as defined by North (1990), by formal rules of the game. Efficient contract laws reduce uncertainty and allow the formalization of the interaction between individuals with the adoption of formal contractual arrangements.

However, difficulties in enforcing contracts and issues related to compliance with laws, such as the cost and time related to litigation, may adversely affect the formal contractual solutions. In such cases, informal institutions offer other types of guarantees. The proximity of the actors, with the existence of a common regional culture and the sharing of the same rules, allows the emergence of informal institutions that enable the execution of transactions based on trust (VILPOUX, 2014). There are no absolute guarantees that a collective action among various actors will succeed, only that the risk of a premature termination due to a misunderstanding between the participants will be reduced. These guarantees are based on the division of the same rules, customs, traditions and codes of behavior, defined as formal and informal institutions and which permit the creation of shared meanings as defined by Ostrom (2011).

Social capital is another aspect directly related to informal institutions, facilitating the functioning of informal arrangements. For Putnam, Leonardi e Nanetti (1993), social capital can be defined with the degree of trust between social actors in a society, the civic norms of behavior they practice and the associative level of the members of this society. Relations of trust and cooperation are the heart of social capital. According to Putnam, Leonardi e Nanetti (1993), the creation of social capital occurs from a virtuous cycle of trust and cooperation.

For Lin (1999) social capital can be defined as norms, values, institutions and shared relationships that allow the cooperation within or between different

social groups. To Radomsky (2006), reciprocal relationships may be at the origin of social life, but they are also built socially and historically. La Ferrara (2011) agrees with Radomsky and mentions that a fundamental prerequisite for the success of risk-sharing agreements is reciprocity.

The strengthening of social ties requires the creation and establishment of trust. Developed ties produce human values of trust and solidarity, cementing the cooperation networks (TESCHE, 2007). Trust can act in the dissolution of potential conflicts, inhibiting opportunistic behavior (PUTNAM, 1996). For Gulati and Nickerson (2008), trust lowers transaction costs in all kinds of exchange relationships in which a risk of opportunism is present.

The concept of trust has traditionally been taken to signify and represent a coordinating mechanism based on shared moral values and norms supporting collective cooperation. Trust is associated with the capacity to cooperate in a spontaneous way on the basis of shared values rather than on the basis of formal rules (YOUSFI, 2011). For Fukuyama (1996), trust is the lubricant that leads a group or an organization to work more efficiently. Costa (2004) states that building trust is related to the ability of individuals to relate, recognizing the abilities, skills, knowledge and habits of the others. Trust between firms involved in an exchange is likely to reduce the need for control through formal governance mechanisms (GULATI; NICKERSON, 2008).

According to Granovetter (1985), social and economic relations are “immersed” in networks of social relations, which are based on power established by mutual trust both for the development of market interactions and for the establishment of broader social interactions. The “immersion” reinforces the role of social relations in generating trust and discouraging opportunism.



After the development of the theoretical framework, a questionnaire test was applied to a group of eight producers in the city of Jales. Those producers were not included in the final sample. Applied in January 2008, the test aimed to evaluate the questionnaire. According to the responses obtained in the application of tested questionnaires and according to the understanding of the questions by producers, a definitive questionnaire was prepared. It was composed of qualitative and quantitative questions. The on-site investigation was carried out in a non-probabilistic sample. This sampling technique, according to Malhotra (2001), does not use random selection, but relies on personal judgment of the researcher.

As described in Table 2, the questionnaires were applied to 41 producers located in the municipalities of Jales, Palmeiro d'Oeste and Urania. At the time of the survey the sample represented 6.2% of the total universe. Five buyers of a total of 40 present in the region at the time of the study were also visited, being 12.5% of the total. The application of questionnaires was conducted in April 2008.

The choice of a non-probabilistic sampling with the research in three municipalities of the region can be explained by the importance of these municipalities and the difficulty to find the producers in the other locations. The selection of visited properties has been done with the support of a local producer, trying to distribute the producers among the three municipalities. Malhotra (2001) states that non-probability samples can provide good estimates of population characteristics, but do not allow an objective evaluation of the accuracy of sample results. Since there is no way to determine the probability of choosing any particular element in the sample, the estimates obtained are not statistically projectable on the total population.

The information collected in the questionnaires attended the following needs of knowledge:

- Forms of existing arrangements between local actors (producers, intermediaries and buyers);
- Characterization of producers: age, education, origin, property size, types of production, grape production, household income, etc;
- Analysis of different variables described in Figure 1: dependency relations, asset specificity, formal and informal guarantees.

The analysis of quantitative data was performed using the XLSTAT program (ADINSOFT, 2011). The research results are presented in the following Chapter.

#### 4 ANALYSIS OF RESULTS

In this section we analyze the institutional arrangements adopted in the transactions of table grapes in the region of Jales, using the methodology presented in Chapter II.

##### 4.1 Dependence Between Producers and Buyers of Table Grapes

In the region of Jales, producers commercialized mainly to wholesalers of the São Paulo General Warehousing and Centers Company (CEAGESP) through the *mateiros*, who purchased the grapes directly from the properties and were in charge of transport. *Mateiros* are employees of wholesalers who are working and living, for some of them, in the producing region.

Only one of the 41 farmers interviewed was selling his production directly to the CEAGESP, without the *mateiros* support. This producer was the biggest among the ones interviewed and his large production was sufficient to transport his products without the necessity to join other producers and *mateiros*. His large capacity indicates the lack of dependency in relation to other grape producers or buyers.

**TABLE 2** – Population and Research Sample

Population	Estimated population target	Description	Sample size
Producers	664	Table grapes producers in the northwest region of SP.	41 Producers of the cities of Jales, Palmeira D'Oeste and Urânia
Buyers ( <i>mateiros</i> )	40*	Buyers, intermediaries working in the purchase of table grapes for other agents.	5 buyers working in the cities of Jales, Palmeira D'Oeste and Urânia

\* Source: Tondati (2006)

For the remaining producers, the lack of options regarding commercialization indicates the *mateiros* dependency, which is necessary for the commercialization to wholesalers from CEAGESP. The effects of this dependence are evident for the producers when considering the importance of table grapes. Even if this crop occupied only an average of 12% of the area of interviewed producers, the participation of grape production accounted for an average of 56 % of family income.

The wholesalers and the *mateiros* decide the payment terms, prices as well as the quality of the products. However, it is possible to estimate that they also depend on the Jales producers for the supply of table grapes.

Table 3 indicates that between July and November, the region of Jales is the main supplier of grapes to the São Paulo market. The two regions competing with Jales are Pirapora, with a small production, and the San Francisco Valley, in the Northeast region of Brazil, which the distance from São Paulo limits the commercialization in that state. The lack of competition during the harvest of Jales increases the bargaining power of producers, creating a relationship of dependency for wholesalers, who cannot redirect their purchases to another region.

Figure 1 indicates that the dependency among actors has an impact only if they are aware of its existence. Otherwise, the actors have a feeling of independence, without external influences, performing their transactions in the spot market.

For producers, the interviews indicated that respondents were aware of this dependency, as 95% of them admitted that they had no control over commercialization and prices, which were in the hands of buyers. They acknowledged that the price of grapes was based on the wholesale market price, without control of the producer. Regarding the quality, 76.67% of surveyed producers

stated that there was no formal classification of grape and 23.33% said that there was a classification under the responsibility of the purchasing companies.

Wholesalers were also aware of the importance of dealing with producers and all of them worked with a local representative, the *mateiro*, who is responsible for contacting producers as well as purchasing grapes.

The existence of dependence perceived by actors decreases the interest of transactions through spot market, with a preference for hybrid governances. However, these arrangements may require formal or informal guarantees, depending on the existence of specific assets. The assets specificity is related to the costs arising from the impossibility of that asset to be allocated in an alternative transaction.

#### 4.2 Asset Specificity in the Production and Sale of Table Grape

For the producer, a dependency without specific assets would mean that he needs the wholesaler to increase his family income. However, in case of difficulties, the completion of the transaction would not cause additional losses besides the decrease of income related to the end of the activity linked to the transaction (example of Table 1).

The analysis of asset specificity for producers can be separated into two categories, one related to the situation during the harvest season and another to the decision to start or not a new crop at the beginning of the planting season. Among the six types of specificities indicated by Williamson (1996), three are of great importance among producers, the site and temporal specificities, related to the time when the harvest is already underway and physical assets specificity, regarding the decision to start a new crop.

**TABLE 3** – Production seasonality of table grapes in the main Brazilian producing regions

Regions	Market	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
San Francisco Valley	Europe												
	National												
	Mercosul												
Jales (SP)	National												
Jundiaí (SP)	National												
São Miguel Arcaño (SP)	National												
Pirapora (SP)	National												
Paraná State	National												

Source: Barros and Boteon (2002)

Site specificity is very important, because in addition to the fact that the grape is a perishable product, producers depend on the buyer who takes the production directly on the property. Only one of the producers interviewed, the biggest one, was able to carry his product to the wholesaler.

Temporal specificity is related to the perishable nature of the product. In grape production, if harvest passes the maturation point, losses can be very high. After harvest, the production must be sent the same day to the wholesaler in order to minimize product deterioration. The importance of this specificity is proportional to the loss suffered in the event of losing the crop. Costa (2011) estimated, for the year 2010, the operating costs of the fine grape production in US\$ 15,000.00 per season and US\$ 10,000.00 for common grape production. Those are high values for small producers, which confirm the importance of the temporal specificity.

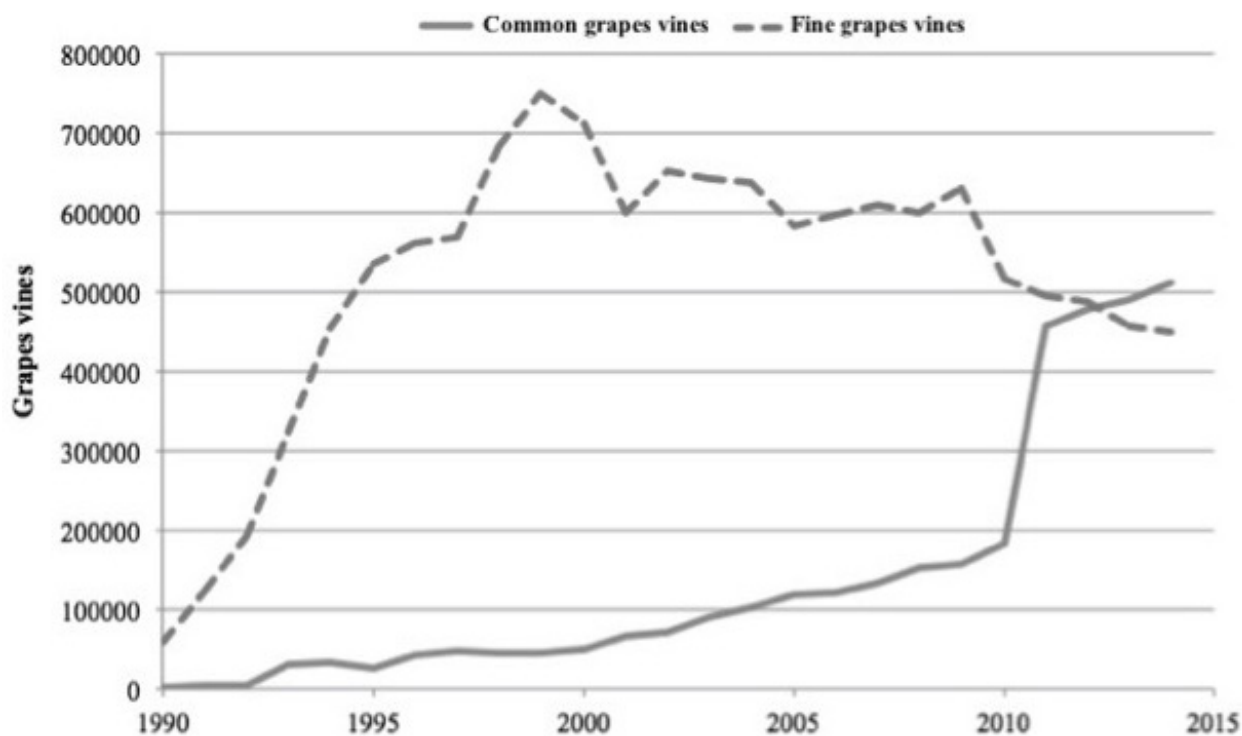
Physical assets specificity is significant according to the investment required to implement the culture of table grapes. According to Costa (2011), each hectare

of planted common grape needed, in 2010, an initial investment in infrastructure of US\$ 15,000.00 for common grapes and US\$ 30,000 for fine grapes, which is a high value for family farmers who cannot be redirected to other crops.

The dependence of producers in relation to commercialization in CEAGESP and high asset specificity encourage the search for some kind of guarantee before entering into this activity. In the absence of sufficient guarantees, the tendency is a gradual exit of producers, confirmed by the data of IEA (2014) for fine grapes, as indicated in Figure 3.

Figure 3 indicates that number of fine grapes vines is decreasing regularly in the Jales region since the end of 1990. Part of these vines has been substituted by low quality varieties, mainly Niagara (common grapes vines). Even if physical assets specificity limits the possibilities of a change of activity, producers can wait for the depreciation of their investments and not renew their production infrastructures.

Implantation of fine grapes is more expensive and difficult to produce, with higher production costs.



**FIGURE 3** – Evolution of the number of table grape vines, depending on the type, from 1990 to 2014  
Source: Based on IEA (2014)



After harvest, conservation is more complicated and a fast commercialization is required. All these elements increase specific assets. In comparison, common grapes, such as Niagara variety, are more resistant with lower risks of degradation after harvest. They also have lower implantation and production costs, all elements that reduce asset specificity.

The increase in common vines compensated the total production of table grape, which remains stable since the beginning of the century. To reduce dependence on grape production and providing an additional income during the off-season, producers of the region sought to diversify their production. Most of them cultivate orange, banana and Barbados cherry and have some livestock, mainly for milk production.

In the case of wholesalers from CEAGESP, the situation is more comfortable. Despite the identification of a dependence on producers from Jales for the supply of table grapes between the months of July to November, it is not possible to say that there is some kind of asset specificity.

In the absence of table grapes to commercialize, wholesalers would no longer benefit from the product but the costs would be limited. Since the wholesalers work with a wide variety of products, the absence of one will not harm the commercialization of other products. Moreover, the period of higher commercialization of grapes is focused on the holiday season, at the end of the year, which coincides with the off-season for the producers from Jales (Table 3).

The only specific investment made by the wholesalers in dealing with table grapes is the hiring of the *mateiros*. When the season ends in a region, most of the *mateiros* move to a different region, intending to intermediate new purchases. Some of these *mateiros* can also work temporarily for the wholesalers. In this case, the completion of the transactions would result in the dismissal of the *mateiro*, reducing the cost for wholesalers.

In summary, the analysis of the levels of dependency and asset specificity between grape producers of Jales and wholesalers identified three situations:

- Producers of fine grapes: dependence on commercialization to the wholesalers of CEAGESP and high asset specificity. In this case, hybrid arrangements are recommended or contractual relationships protected or unprotected by law, according to Furubotn and Richter (2005).
- Producers of common grapes: dependence on commercialization to the wholesalers of CEAGESP

and asset specificity, but in a lower level that for fine grapes producers. Hybrid arrangements are also needed, but level of guarantees can be lower that for fine grapes producers;

- Wholesalers: dependence on producers, without specific assets. Wholesalers need the production of Jales for the marketing of grapes between July and November, but the absence of asset specificity decreases the importance of the product and reduces the need for safeguards.

### 4.3 Choice of Institutional Arrangements

The analysis of dependence and asset specificity revealed the asymmetry of the situation between producers and wholesalers, with the need for guarantees only for the first, even if the continuity of transactions is also beneficial for wholesalers. This asymmetry is higher for fine grapes producers.

#### 4.3.1 Formal Guarantees

Figure 1 indicated the possibility of two types of guarantees, formal and informal. In the first case, it is necessary to sign a formal contract between two or more parties, with the necessity to monitor compliance to the agreement and the existence of penalties for noncompliance.

According to the results, 76.67% of producers surveyed stated that the classification of the products was carried out by common sense in an informal way, through the tacit knowledge of buyers and producers. The other producers said that only the purchasers carried out the classification. In all cases, classification was completely subjective, preventing the determination of quality criteria by contract. The solution involves the selection of more objective criteria that is easy to check.

Even in the case of more objective criterions, such as quantity and some quality criteria, the adoption of formal arrangements is not a solution. For Moore (1994), even in societies where the rule of law is respected, law plays only a limited role in regulating commercial transactions, in function of the complexity of relations, the cost of a legal recourse and the difficulty in collecting reliable independent evidences needed to win a legal case.

In Brazil, the formal institutions offer mainly high levels of guarantees in transactions between large companies. For transactions with small businesses, or small producers, such as those found in table grape transactions, the guarantee level drops considerably.

In this type of business, transacted values are reduced and resources are limited, reducing the ability to pay for eventual compensation. For court action work as a deterrent against opportunistic breach of contract, Fafchamps (1996, 2011) affirms that the threat must be credible. For the author, this is seldom the case for small transactions because the magnitude of the loss is not commensurate with the direct and indirect cost of court proceedings. This situation is common in the informal sector where microenterprises dominate, entrepreneurs are poor, and transaction sizes are small.

For Fafchamps (2011), even in developed economies, the threat of court action is not credible for most market transactions. For many transactions, the fear of losing a valuable relationship serves as a deterrent to opportunistic behavior. The author mentions that expectations of behavior depend on expectations of continued interest in the business relationship.

In the case of a malfunction of formal institutions, the players need to seek alternative guarantees, such as informal institutions and social capital.

#### 4.3.2 Informal Guaranties

The survey identified a total of 87.8% of the interviewed producers who stated that they commercialize exclusively or with high frequency with the same agents (*mateiros*), in order to reduce the risks. Besides the uncertainty in regards to price, producers faced uncertainty over the payment periods, because the grape was paid only after the final commercialization from the wholesalers to retailers. Despite this uncertainty, 90% of producers said they always receive on time.

The information obtained indicates that the transactions were based on trust, with development of informal rules or informal institutions that were known and respected by the agents. The producers explained that to conduct transactions with occasional buyers carries greater risk because they are more likely to not pay for the product delivered. Half of the producers said they had a relationship outside work with the buyer, which characterizes ties of friendship and facilitates the creation of social capital.

In general, the *mateiro* are related to the producers because all those interviewed lived in the area and knew the work of producers and the quality of the grapes they purchased. Proximity provides exclusivity in the negotiation as it creates links from the relationships and constant and exclusive interactions. For Kennedy (1999), the shared place identity contributes to social cohesion. For

the author, when people are attached to their towns and distinguish themselves from the inhabitants of neighboring towns, it creates social ties between that facilitate economic cooperation. The *mateiros* had reported that harvests have the buyers informally defined in advance, according to previously established relationships with producers. The longer is the relationship the greater the trust between them.

The producers had a significant time relationship with *mateiros*, with an average of 5 to 10 years for 28.1% of producers and more than 10 years for 40.2% of them. In a temporal view, Baudry (1991) and Salais (1989) argue that oldest relations create a routine of personal ties grounded on the notion of trust. In this case, it is not necessary to formalize a written document and relations are exclusively implicit. For Ostrom (2010), repetition of interaction generates sufficient information about the likely behavior of others to be trustworthy reciprocators. For the author, knowing the past history of other participants increases the likelihood of cooperation. La Ferrara (2011) explains that importance of repetition is because of the ability to exclude deviators from future transactions. Thus, repeated interaction is a key element of any informal enforcement strategy.

For producers, social capital is the network of relationships they established with the *mateiros*, to whom they trust and can rely on to commercialize their production. This social capital reduces the uncertainty of transactions, favoring the permanence of producers in this activity.

The wholesalers did not have direct relationships with producers because the transactions were made by the *mateiros*. If the *mateiro* leaves the transaction, the trustful relationship between wholesaler and producer disappears. As explained in Section 4.2, the lack of guarantee is not so important for wholesalers, due to the absence of asset specificity.

However, the help of an external actor is not sufficient to explain the success in grape transactions. Escoval and Cavero (2012) identified that in rural Peru, even with the help of an external actor who helps to develop coordination between small farmers and agroindustry, only a few farmers were able to commercialize in the agro industrial markets. In the Jales region, with the purchase of grapes, the existence of social capital can be identified by the *mateiro*, which is the network of established relationships with producers based on trust and with whom the *mateiro* can expect to acquire the amount of product needed.

In this context, it is observed that the relations of trust, based on the existence of common informal institutions and social capital between actors located in the same region, offer an alternative guarantee for hybrid arrangements, reducing transaction costs in relation to spot market.

#### 4.4 Institutional Arrangement of the Table Grapes Transactions in the Jales Region

The transaction T1 shown in Figure 4 identifies the transaction that existed between producers and wholesalers for the sale of table grapes in Jales. This transaction can be classified as a contractual relationship unprotected by law, according to Furubotn and Richter (2005). As producers and wholesalers did not maintain any relationship, T1 had no guarantee, which did not interfere in the behavior of wholesalers, but negatively impacted the producers, who, with high levels of asset specificity, may prefer to exit this kind of activity.

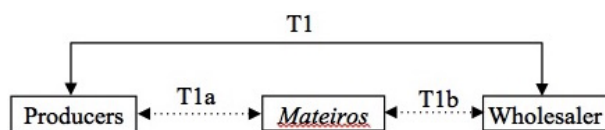


FIGURE 4 – Description of transactions between buyers and producers of grapes in the region of Jales

To allow the permanence of producers it is necessary to offer guarantees to them. For this reason, T1 was divided in T1a, transactions between producers and *mateiros* and T1b, between *mateiros* and wholesalers. Transactions T1b are relations between employees and employers, where the *mateiro* buys grape in exchange for a salary. T1a is a commercial relationship, where the *mateiro* exchanges grape with a commitment to pay for the product, in the name of the wholesaler.

The interviewed farmers did not know the wholesalers and considered that they delivered their products to the *mateiros*, with whom they established lasting relationships of trust. In this case, the transaction T1a is based on trust, formed from informal institutions and social capital. This transaction provides the necessary guarantees for producers.

Trust relationships, based on social capital and informal institutions, are the main guarantees used in transactions with small farmers and micro and small companies in Brazil (VILPOUX, 2013). These guarantees

depend on common norms between the actors. The norms can be facilitated by the existence of a common culture, participation in the same organizations and similar experiences, among others. For Ostrom (2011), shared meaning is very important in the formulation of informal institutions in order to avoid multiple interpretations and confusion about what actions are required, permitted or forbidden. Ostrom (1990) analyzed several communities and identified that the ones that succeeded in establishing stable cooperation were the ones that remained stable over a long period and where individuals shared a past experience, living side by side for a long time. In communities that failed to introduce such arrangements, people were heterogeneous, composed of individuals with diversity of ethnic and cultural background and producers had little attachment to their land and to one another.

## 5 FINAL CONSIDERATIONS

In the absence of dependency between actors, each agent would act individually in the spot market. This situation is the one described by TCE in the absence of specific assets. In this case, this type of arrangement minimizes transaction costs and is more efficient.

With the importance of an extended relation, as in the table grapes transactions in Jales, producers seek guarantees in order to protect themselves from opportunistic actions. The formal guarantees do not require relations of trust between individuals and thus are more comprehensive. In order to function, they need only effective formal institutions and tangible flows, which is very difficult to reach in the table grape market.

Even though the *mateiro* is an employee of the wholesaler, he depends on the confidence of producers to supply his employer with grapes and receive his salary. The lack of seriousness from the wholesaler could significantly harm the *mateiro* and cause a loss of credibility with producers and a consequent difficulty in buying product. Therefore, the *mateiros* have the greatest incentive to maintain trust relationships with producers, despite being employees of wholesalers.

Producers with lower social capital commercialize their products with unknown *mateiros*, with high risk of default. The *mateiros* with little social capital need to pay more and have difficulties acquiring the required amount of product. In this case, individuals with more social capital have lower risks in the transactions of table grapes.

The adoption of the model developed in Figure 1 allows one to integrate the role of institutions

to TCE and facilitates the analysis of informal hybrid arrangements. The methodology clearly states the importance of informal institutions and social capital. The existence of social capital and trustful relationships are often understood as sufficient for the implementation of cooperative arrangements. However, these arrangements appear only in the case of existence of dependency between actors. Otherwise, they will prefer the spot market.

The methodology also facilitates the understanding of the differences that may exist between actors in the same transaction as in the case of grape producers in the region of Jales, who face asset specificity as well as wholesalers with low levels of specificity. There is also a difference between manufacturers of fine grapes and common grapes, with less specific assets in the latter case. As a consequence, producers of common grapes are satisfied with this type of arrangement, while producers of fine grapes could benefit from arrangements with stronger guarantees such as in formal contracts. These contracts are difficult to implement for this type of transaction, increasing the uncertainty of this activity, which may be an explanation for the change from fine grapes to common grapes production.

The model adopted also allows understanding the possible coexistence between different arrangements in the same industry in different regions, as informal institutions and social capital vary between actors and regions. Although the sample is not probabilistic, it is possible to project the results obtained for all the grape growers of the Jales region. Further research could be carried out in other grape-growing regions of São Paulo and other Brazilian States.

Finally, the same methodology could be extended to other activities to evaluate business transactions or collective actions between producers or companies.

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