STRATEGY OF CONTRACT: POWER, CHANGE, AND APPROPRIATION

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Abstract

Brazil and USA are worldwide leaders in orange juice production. Although the final products are close substitutes, the organization of transactions between farmers and processor industries in those countries are significantly different, especially in terms of contract design. The paper attempts to explore one the possibility of pre-contractual opportunistic behavior, which is to affect strategically the contract design to appropriate rents. We argue that contract power in São Paulo enables processor industries to affect the design of contracts, influencing property rights structure and appropriating rents from farmers, when compared to Florida. We define contract power as the ability to unilaterally set contract terms. Theoretical framework based on Barzel's economic analysis of property rights is developed to show the strategic use of contracts. Case study comparing São Paulo and Florida orange juice sectors provides preliminary empirical evidence of this practice. We analyzed price behavior of orange juice and box of orange through time in São Paulo and Florida. The results support the proposition of rent appropriation through contract design. This is an ex ante opportunistic action during contracting process with implications to private strategy and public policy formulation.

Key words: *Strategy, Property Rights, Rent Appropriation, Contract Design, Orange Juice*

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1. Introduction

> "*Commodity variability is the root of all evil*" (Barzel, ISNIE Conference, 2012).

Brazil and United States of America are jointly responsible for more than 88% orange juice production in the world[1]. Although no differences in the final products of these two countries, there are significant distinctions in the organization of the transactions between farmers and processor industry. In fact, contracts between citrus growers and juice processor industry are remarkably different in those countries. While few conflicts for new ways of pricing orange is posed in USA, protests against the contract design are frequent in Brazil, including antitrust interventions (Marino and Azevedo, 2003) and lawsuits (Paulillo, Almeida and Mello, 2008). Concentration of processor industry and power are the main features of these events. Nevertheless, power exertion is not directly over quantities or prices, but it affects the contracts in order to control prices. This is recognized in the documents of the legal procedure initiated by citrus growers in CADE[2], the Brazilian Antitrust Agency:

> the real question lies in the concerted manipulation, promoted by juice processor industries, of some elements - the essential ones – of the standard contract for the purpose of dominating the market for buying orange[3] (SDE, 1994, p. 1659, administrative litigation between citrus growers and juice processor industries).

We investigate this phenomenon using a strategic lens, since contracts arise from a negotiation process. Contracts stipulate how commodities are measured and priced. The terms of contract allocate property rights and influence rent distribution. Thus, bargaining positions and information asymmetries are critical in determination of contract terms (contract design), payment methods, and distribution of rents. Contract choice, in this sense, became a strategic action. Nevertheless, the strategic management literature focuses on industrial analysis, resource developing, and economizing in transaction costs, putting aside the role of

contracting process in competitive advantage. We claim that ex ante contracting process is a strategic choice, which define the future allocation of property rights and the residual claimants, providing sources of competitive advantage.

In the strategic use of contracts, contract power is defined as the ability to unilaterally set contract terms and, consequently, the decision maker can explore incomplete rights of some attributes and, then, to appropriate rents from another party. Appropriation of rents is frequently related to contractual breaches (Klein, Crawford, and Alchian, 1978). In effect, greater attention is paid to contractual duration (Joskow, 1987, Crocker and Masten, 1988, Zylbersztajn and Lazzarini, 2005), letting aside the role of contractual design, or the terms of contracts, in income redistribution. The research problem of the paper arises when people are assigned to make decisions that influence the allocation of rights and these actions have distribution effects on incomplete rights. Since the measurement of property rights is costly, it will never be completely delineated. The decision power enables some people to determine the terms of contracts, especially in measurement standards and payment methods.

The paper attempts to explore one the possibility of pre-contractual opportunistic behavior, which is to affect strategically the contract design to appropriate rents. We argue that asymmetries between contracting parties (contract power) culminate with the imposition of a contract design that provide rent appropriation. Using a case study of Orange Juice Chains in Brazil and USA – states of São Paulo and Florida, respectively –, the comparison of contract design shows how contract terms were used to affect orange prices. Contract power exertion in São Paulo resulted in redistribution effects in comparison with Florida. We expect that this discussion will generate important conclusions with implications to private strategy formulation and public policy of antitrust interventions and also to the theory building in both Strategic Management and Transaction Costs Economics literatures.

The paper is organized in four sections, including the introduction. The second section presents the theoretical background and the property rights approach for rent appropriation strategies through contract power. In the third section, we provide preliminary empirical evidence of rent appropriation through contract design, using the cases to illustrate the strategic use of contracts. Finally, in the fourth section, concluding remarks follow.

2. Property Rights, Contract Design and Appropriation: A Strategic Approach

Information is not perfect and the assumption of bounded rationality holds that human beings are not capable to process all information, which is already imperfect (Simon, 1961). These are strange elements for Walrasian world, but common elements of our real world. The maximization assumptions of Walrasian world, therefore, is no longer a natural way for resource allocation of economic life and that is because there are costs to carry on transactions (Coase, 1937). In the absence of transaction costs, resources will be allocated where they are most valued (Coase, 1960), while with the frictions of transaction costs, rationality constraints lead to imperfect delineation of property rights and resource allocation is no more trivial. In reality, property rights are never perfect delineated (Barzel, 1997).

In this sense, the firms and individuals' identities involved in transactions and the rules of the game matters and caveat emptor transactions are rare. In this institutional structure of production (Coase, 1992), institutions – formal and informal rules that constrain human interactions (North, 1990) – shape governance structures (Williamson, 1985, 1996). Institutions are the working rules and it determines who is able to make decisions in some arena and what are the limits, procedures and payoffs from decisions (Ostrom, 1990). Thus, "from a theoretical standpoint, it is important to recognize that the move to positive transaction costs is also a move to a different, more realistic conception of decision markers" (Furubotn and Richter, 2005: 47) and it includes different realistic process of resource allocation compared to Walrasian world, that matters for all the modern field of Economics of Organization

We adopt an economic analysis of property rights grounded in the ideas of Yoram Barzel (1997). In effect, the role played by decision makers, given their actions constraints, are determinant to the delineation of contracts. Contracts will define income distribution among contractors and different forms of contracts result in different allocations of property rights. People have discretion in property rights delineation, that is the design of contract are made by people's choice. Given the assumption of multi-attributed assets (Barzel, 1997), ownership problems arise rather some attributes of one commodity can be owned by others, that is commodities commonly have a divided ownership among firms and individuals. So, delineation of property rights is a complex and incomplete process.

Property rights have many definitions and the right to ownership is actually a subcategory of the general concept. The right to ownership of an asset consists of three elements: "(a) the right to use the asset (usus), (b) the right to appropriate returns from the asset (usus fructus), and (c) the right to change the asset's form and/or substance (abusus)" (Furubotn & Pejovich, 1974: 4). According to Barzel (1997), we can distinguish economic property rights and legal property rights. The first is the individual right over an asset, i.e. the capacity to consume services from the asset, and it is related to informal institutions. The second is recognized and partially enforced by the state, and it is related to formal institutions (Zylbersztajn, 2010). Property rights are not absolute and the agent's action can change it.

Contracts forms vary according the features of the relationship as well as the measurement costs of assets attributes.

> The decision of whether to adopt a land-rent or wage contract [for instance] depends on which of two results in a smaller total loss from the marginal discrepancies, thus maximizing the net gain of the cooperation [...]. The one that will maximize the net value of the resources is expected to be adopted (Barzel, 1997: 48-49).

Transaction costs and property rights are closely related concepts, since transaction costs are those spent in transfer, capture and protection of rights (Barzel, 1997). Given the absence of transaction costs in Walrasian world, property rights are perfectly defined and the production factors are paid regarding their contributions to marginal productivity. So, measurement problems from multi-attributed assets with divided ownership originate costs in transactions and transaction costs in Barzelian framework are measurement costs. The costs of measuring attributes of transacted assets are the determinants to adoption of contract form and firms and individuals have to find out mechanisms to cooperate.

Cooperation among firms and individuals offers potential gains from divided ownership, but these gains also depend of the chosen contracts. Contracts are result of negotiation process and the choice of the unit by which the transaction will be executed is one of the most important decisions during bargaining. "Such a change in unit affects the whole structure of attribute ownership, or responsibility, and the associated incentive system" (Barzel, 1997: 48). In this endeavor, liability and variability must be considered. Variability in attributes quality can cause transaction costs by the associated measurement cost. If the

person who causes variability is also liable for the results, property rights will be well defined and rewards for value creation and compensations for harmful effects fall in the person that is responsible for it.

In transactions, each of contractors contributes to the variability in the value. Contracts, therefore, are mechanism to allocate liability and define the income distribution from divided ownership. So, to be efficiently designed, the contract must define the party that provokes most of variability as the residual claimant.

> Efficiency is the sole motivator for this hypothesis (since the model here assumes risk-neutrality): Parties are expected to assume more of the variability when their gain from affecting the outcome increases, thereby guaranteeing a larger share of their own actions, which could otherwise become damaging. When the parties guarantee their actions, their incentive to take advantage of exchange partners is curtailed (Barzel, 1997: 78).

In summary, the Barzel's (1997) framework takes the fundamental idea that transaction costs are positive and rights can never be well defined. People, otherwise, have discretion in choices of contracts forms and they will select those contracts that maximize the net value of inter-firm transactions. The selection of contract form occurs as follow:

> In general, both parties to a contract can contribute to the variability in outcome. Since the individual effects cannot be costlessly isolated, as a rule property rights are not well defined. A fundamental proposition here is that as the effect a party exerts on the value of the outcome increases, rights will be better defined if that party assumes a larger share of the variability of outcome. This is the hypothesized guiding principle behind the formation of contracts that govern the operations of an organization, as well as behind the determination of when a party will assume a larger share of the variability, thereby, becoming more of a residual claimant (Barzel, 1997: 78).

Despite our agreement that contract choice as described by Barzel is the most efficient one, we cannot agree that there is the expected contract form to be adopted in real world. In other words, the logic of organization is not wrong, but incomplete. We claim that others forces can drive resource allocation, given bounded rationality and incomplete rights (or

prohibitively costly delineation of rights) involved. The strategic use of contracts can lead to other contract form or, at least, to another contract design, and redistribution of income through new allocation of rights takes place. The maximization of net value of cooperation is, therefore, substituted by the maximization of value capture from power exertion.

Strategic View

Strategy might be dependent on inter-firm relationships. The classical literature in the field (Chandler, 1962, Ansoff, 1965, Andrews, 1971, Chistensen, Andrews and Bower, 1971) deals with modes of competition based on environmental and internal analyses and setting firm's goals. The further developments of Strategic Management focused on the reasons for some firms outperform others and competitive advantage is the core of research efforts. Competitive advantage results in performances increases, through value creation and superior rents. In a brief overview, we can indicate value creation from (1) positioning in industrial organization (Porter, 1980, 1985), (2) Idiosyncratic (or positioning of) resources (Wernerfelt, 1984), isolating mechanisms (Rumelt, 1984), and ricardian rents (Barney, 1991, Peteraf, 1993); and (3) avoiding value dissipation through economizing in transaction costs (Williamson, 1991).

All of these approaches deal with performance improvements, value creation and increasing rents. The contractual perspective, therefore, can investigate the economic analysis of property rights as a strategic phenomenon, because it highlights the main features of inter-firm relationships and clarifies the redistribution of rents from a transaction accomplishment. At the same time, the choice of the entrepreneur is a key element in strategic literature (Penrose 1959, Chandler, 1962, Ansoff, 1965) and the selection of contract form or contract design can be a strategic decision.

Barzel's framework offers a perspective of contract choice and income distribution under positive transaction costs. Regarding decision making constraints and problems of shirking, incentives, free riding and others, the framework suggests that people have discretion to select the better contract form to optimize them. Nevertheless, to select better contract forms, decision makers need detailed information about what could happen in each situation, so he can choose the right option, like a nash-equilibrium. Due to imperfect

delineation of property rights, entrepreneurs can act in different fashion in decision making, since detailed information about the future is not available. Furthermore, entrepreneurs can strategically select which information can be used and which information can be disregarded and the maximization of net value loses place to self-maximization of value. Information asymmetries and/or power relations enable entrepreneur to select a wide range of alternatives rather than a unique net maximizing one.

The strategic approach of property rights concerns with the entrepreneur's decisions about contract forms and how asymmetries lead to new allocation of rights. The assumption of maximization is still valid, but the self-maximization does not lead always to maximization of net value from cooperation. We define *contract power* as the ability to unilaterally set contract terms. Contracts provide the specification of commodity's attributes and its prices. We call this set of specifications and prices as the contract design. The payment method deserves an emphasis as the unit of analysis, since the specifications and prices are readily identified. So, changes of contract design are basically changes in ownership structure over attributes. Those whom posses the contract power will be able to use it to coordinate the transaction in order to maximize his own value. Thus, the expected contract form is that which maximizes the value of the party with contract power rather than maximize the outcome of cooperation.

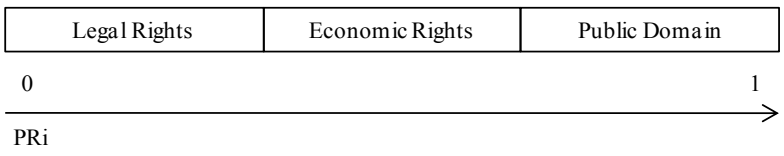


Figure 1 – Property Rights Index

Source: Zylbersztajn (2010)

Illustrating possible configurations of ownership structure, Zylbersztajn (2010) suggests the Property Rights Index (PRI) (Zylbersztajn, 2010). Based on Barzel (1997), it distributes the asset attributes in three dimensions: legal rights, economic rights and public domain. The allocation of rights is defined by transaction costs (measurement costs) through an index, which ranges from 0 to 1. The first pole consists of an absence of transaction costs and full legal rights, and the second pole consists of infinite transaction costs and the rights

being totally in public domain. In the real world a mix of these dimensions is observed, as the several attributes of an asset will be allocated in one of these dimensions, legal rights, economic rights, and public domain. Figure 1 shows the PRI.

The contract design delineates which attributes will be allocated in each dimension. When a contract is defined, there are asset attributes with direct measurement and others with indirect measurements. The last consist in quality measurements that need some kind of test, for instance, laboratorial test. Those attributes with indirect measurements cannot be precisely evaluated ex ante because of the variability of the quality of these attributes. Indeed, indirect measure cannot be allocated in legal rights unless running tests. So, definition of contract design depends on availability and economic viability of measurement attributes and also the choice whether perform the measurement or not. The unit of payment, or contract design, should follow a coordinating mechanism in order to the party that most affect variability receives the rewards or injuries from variability. Nevertheless, the coordinator – who has he contract power – can choose if the quality measurements will take place or if the variability will be internalized by any participant in the transaction, assuming that measurement technology is economic viable. So the contract choice can determine which attributes are legal rights and which are economic rights, thereby defining the property rights allocation.

Our proposed framework, as represented in figure 2, shows two contractors, A and B. A is the seller and B the buyer in the transaction. In a world without transaction costs, no matter the initial allocation of resources, the final allocation will be the most efficient (Coase, 1960). Assuming that transaction costs are positive and assuming that the buyer, firm B, has some coordination role – contract power – in the transaction, he can choose the contractual design by defining the costs of measurements. If it is advantageous internalize the variability of attributes with indirect measures, the coordinator can avoid the measurement and assign the payment methods according to the direct measurements. The practice of avoid indirect measurement enable the buyer to appropriate rents that otherwise would belong to firm A.

The following proposition encompasses these relationships:

Proposition: property rights are never perfectly delineated and firms and individuals face asymmetries in power relations. The logic of economic organization leads to an institutional arrangement that maximizes the income of those who have contract power. Contract power, therefore, allows the appropriation of rents.

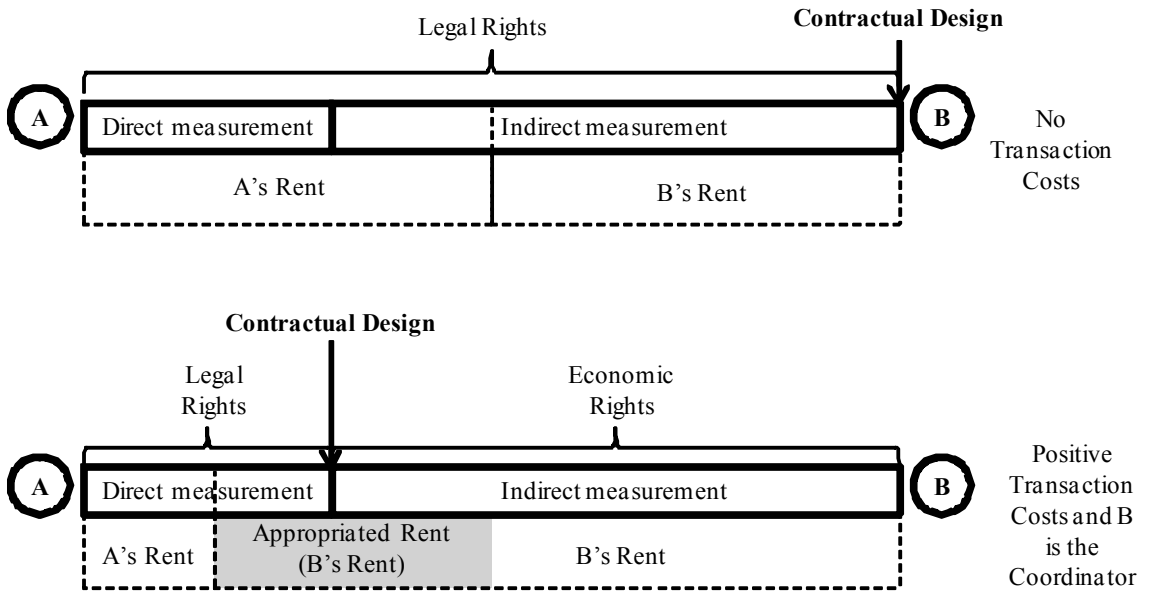


Figure 2 – Property Rights Approach for Rent Appropriation Strategy

Source: elaborated by the authors

3. Orange Juice Chains: US and Brazil

Brazil and USA are worldwide leaders in orange juice production, as shown in table 1, and their products are substitutes. However, they have distinctive differences in the organization of Orange Juice sector. While in Brazil the processor industry is partly backward vertically integrated, the industry in USA is not. Indeed, opposite patterns emerge in these countries as the Brazilian movements of vertical integration of the supply of oranges are applied since 1990s and the separation of orange grow and juice production in USA within the last 20 years (Azevedo, 1995, Fernandes Júnior, 2003). Furthermore, contract design between the two countries is significantly different, especially regarding payment methods, whereas contracts in USA have strong incentives, because orange price are attached to the Frozen Concentrated Orange Juice (FCOJ) prices in New York Board of Trade (NYBOT). FCOJ prices are quoted following the brix degree in NYBOT. For instance, prices are usually quoted by US$/lb of solids and we can calculate 1 ton of FCOJ 65º brix, converting solids to ton: 1 ton of FCOJ 65º brix = 1.433 lb per solids. Thus, Florida's citrus growers have strong incentives to produce a high quality orange, as they are also residual claimants for the

variability. Brazilian sector, in turn, adopts the box of 90 lb, or 40.8 Kg, as measurement unit for price formation.

Table 1 – Production of Orange Juice

Country	Production (2011/12)	%
Brazil	1,260,000	57%
United States	687,488	31%
EU-27	98,298	4%
Mexico	70,000	3%
China	25,000	1%
South Africa	24,300	1%
Other	38,600	3%
Total	2,201,886	100%

Source: USDA

Thus, the distinguishing feature of contracts from USA and Brazil is the unit of payment. Florida's contracts, on the one hand, adopt soluble solids (brix) and Brazilians' contracts, on the other hand, adopt the weight. Taking for granted that the quality of orange measure in Brix is the attribute that most affect the quality and quantity of juice squeezed from the fruits, we can assume that growers are the party that most affect the variability and they should be the residual claimants. In real world, contracts in São Paulo are historically influenced by processor industry, while in Florida's contracts individuals who work for the state of Florida perform quality measurements. The coordination is performed by different entities and the allocation of rights, therefore, will follow the income maximization of coordinator.

First, in Florida, after the harvesting of the oranges, the fruits are weighted in the processing plant and the number of box is determined. Then, State's agents perform the evaluation of the amount of brix in a sample. The price of orange is set according to the brix concentration. Second, in São Paulo, the oranges are also weighted in processor plant, but the price is set per box, without any evaluation of the amount of brix. In the history of Orange sector in São Paulo, four types of contracts were used: (1) from 1963 to 1970, transactions were totally free; (2) from 1970 to 1986, Government imposes minimum prices as constraints to contracts. This procedure had not practical effects; (3) from the crop season 1986/87 to

1995, a contract of participation was implemented, linking the NYBOT orange juice prices to the box prices. In this type of contract, industry could set the number of boxes as the reference of industrial yield to calculate the box price; and (3) from 1995 to present, contracts are set case-by-case, as CADE decided to extinguish the contract of participation and prohibited collective negotiations. Nowadays, orange is priced according the weight and no quality measures are applied in Brazil. Following the theoretical framework developed in section 2, figure 3.1 and 3.2 show the allocation of rights in USA and Brazilian contracts, respectively.

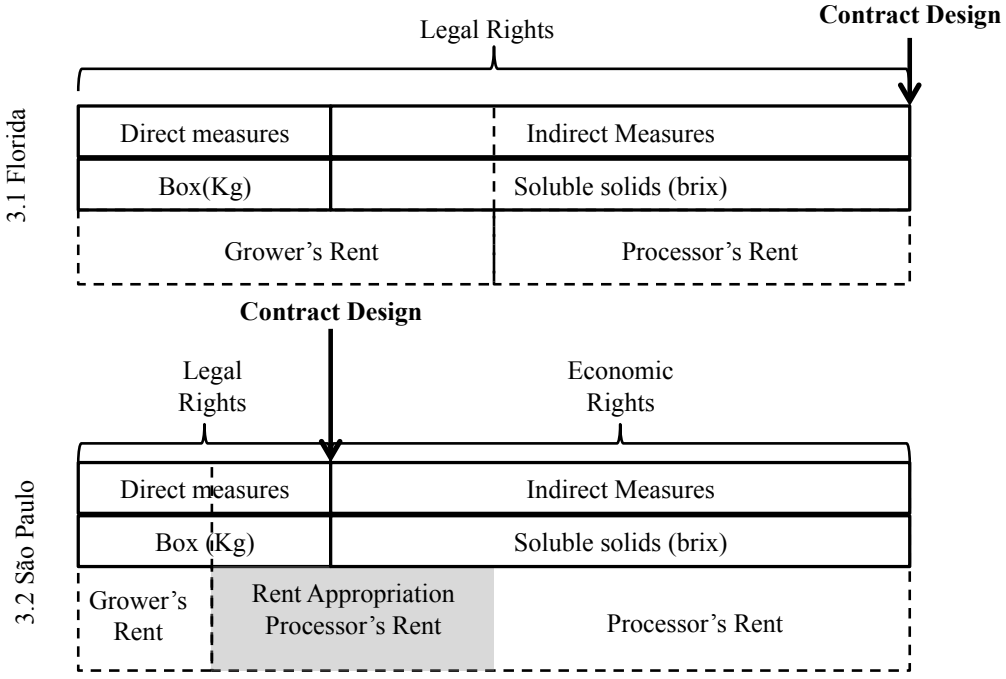


Figure 3 – Rent Appropriation from Contract Design

Source: elaborated by the authors

Within orange transactions, the main attribute with direct measurement is weight, represented in boxes. Both cases use this measurement in the contract design. Attribute with indirect measurement, in turn, is brix. The assessment of brix requires a laboratorial test from a sample of the oranges, but offer an alternative to remunerate the growers as they contribute to the variability juice quantity squeezed from oranges. Accuracy in the last payment method is higher than using only weight. In Florida, variability created by the quality of oranges is shared among farmers and processor industries, while the variability in Brazil is freely consumed by processor industry.

Contract power manifests in Brazilian sector in two ways. First, before crop season 1986/87 and after CADE intervention in 1995, processor industry avoids attaching orange prices to FCOJ prices in NYBOT. Prices in NYBOT are quoted by brix and imposing weight as payment methods, farmers are not able to evaluate the real contribution of the variability that they are liable in productivity. Second, during contracts of participation, processor industry could impose boxes quantities as references to price formation. The conversion quantity of box of orange necessary to produce 1 ton of orange juice was the most important conversion procedure to price formation. Farmers could not evaluate their contribution to variability, as they could not discover the real industrial yield from their orange boxes. Thus, the case study has three hypotheses:

Hypothesis 1: before crop season 1986/87 and after 1995, correlation between FCOJ and box of orange prices are higher in Florida than in São Paulo.

Hypothesis 2: during contracts of participation, correlation between FCOJ and box of orange prices in Florida and São Paulo is equivalent, but industrial yield of box of orange used as reference in contracts are higher than the real one.

Hypothesis 3: margins, measured by FCOJ prices minus orange box prices, are more volatile in São Paulo and more stable in Florida, indicating that brix variability is explored by processor industry in São Paulo.

Empirical Evidence

In a preliminary attempt to pursuit empirical evidences that support the proposed rent appropriation from contract design, data about price behavior was collected. The following prices were collected: Frozen Concentrated Orange Juice (FCOJ) in NYBOT; box of orange for industry in São Paulo; and box of orange in Florida. Data source are IEA[4], USDA[5], Maia (1996) and Neves and Trombin (2011). The sample is annually, based on crop season, from 1971/72 to 2009/10.

Graph 1 represents price behavior through time. Prices of FCOJ and box of orange are volatile. The visual analysis of the graph shows that prices of box of orange in Florida have more adherences to FCOJ prices than box of orange prices in São Paulo. Furthermore, prices

in Florida are always higher than prices in São Paulo, regarding box of orange. After crop season 1998/99, an unexpected behavior of prices in Florida occurred and the cost of box of orange to produce 1 ton of FCOJ superseded the FCOJ price. There is no explanation for those events.

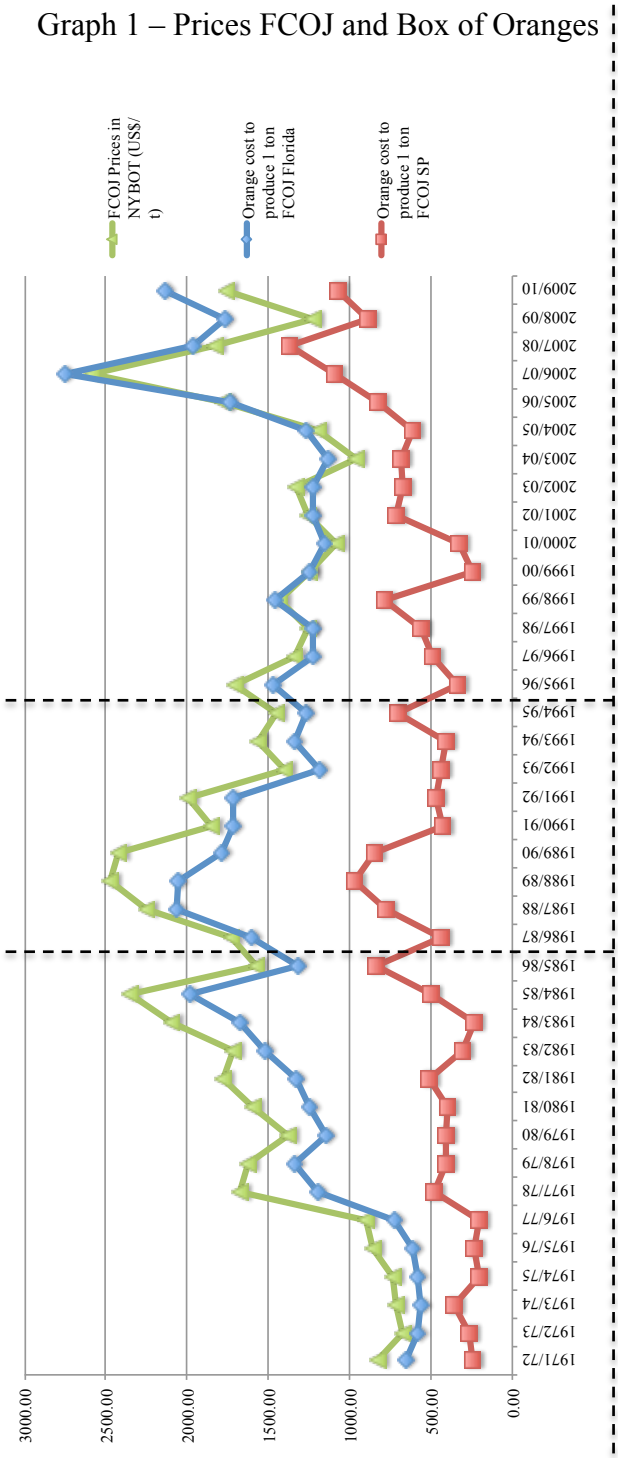
Table 2 represents the correlation between FCOJ and orange prices in different periods. Florida has strong correlations between FCOJ and box of orange prices, coefficient higher than 0.90, as expected considering their payment methods. São Paulo has weak correlation between FCOJ and box of orange prices before crop season 1986/87 (r=0.48), but contract of participation increased the coefficient (r=0.70) and even after the extinction of contract of participation, correlation was maintained in the same level (r=0.71). In general, correlations in Florida are higher than in São Paulo, supporting hypothesis 1. However, contract of participation was not sufficient to equilibrate the correlations, although the distance became significantly smaller. Thus, hypothesis 2 was partially supported.

Table 2 – Correlation between FCOJ and box of orange prices

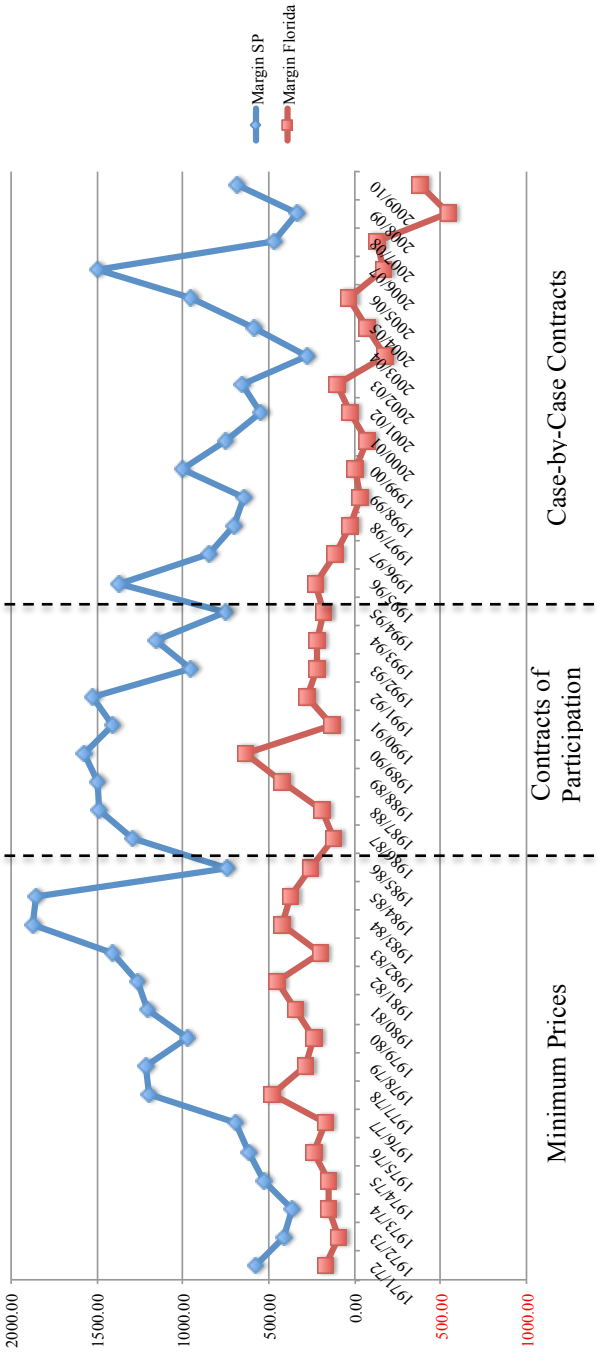
Period	Correlation
FCOJ and box of orange in Florida before 1986/87	0.99
FCOJ and box of orange in São Paulo before 1986/87	0.48
FCOJ and box of orange in Florida after 1995	0.92
FCOJ and box of orange in São Paulo after 1995	0.70
FCOJ and box of orange in Florida during contract of participation	0.93
FCOJ and box of orange in São Paulo during contract of participation	0.71

Source: elaborated by the authors

Graph 1 – Prices FCOJ and Box of Oranges



Graph 2 – Margins



Source: elaborated by the authors.

Under contracts of participation (from 1986 to 1995), box of orange were priced following FCOJ prices in NYBOT. Contracts of participation introduced a conversion rate to

prices of FCOJ/brix into box of orange, defining the number of boxes necessary to produce 1 ton of FCOJ. The new contract design supposed to mitigate the appropriation of the variability of brix from processor industry, as orange prices are directly derived from FCOJ prices. The conversion rate would be an average brix concentration. Nevertheless, farmers were frequently protesting against the conversion rate determined by industries, because the rate was always greater than the industrial yield of box of orange in the Frutesp plant, a processor plant owned by a citrus growers cooperative. Table 3 shows the conversion rates adopted in contracts of participation and the real industrial yield calculated from CitrusBR data. CitrusBR is the representative association of the main orange juice processor industries in Brazil. Conversion rates adopted in contracts overestimate the number of boxes necessary to produce 1 ton of FCOJ and, therefore, underprice orange boxes. Thus, hypothesis 2 is supported.

Table 3 – Comparison of Industrial Yield and Rate of Transformation in Contracts

Crop Season	Conversion rate in Contracts	Real Industrial Yield	Overestimation
1986/87	280	n/a	n/a
1987/88	280	n/a	n/a
1988/89	272	n/a	n/a
1988/89	272	260	4.4%
1989/90	270	259	4.0%
1990/91	270	242	10.4%
1991/92	260	236	9.2%

Source: elaborated by the authors, from Maia (1996) and CitrusBR

Graph 2 shows the behavior of margins through time. Margin is FCOJ prices minus the box of orange cost to produce 1 ton of FCOJ. It represents the amount of value inside the processor industries, but it does not consider other variables that affect margins, as cost of production, for example. We are concerned about the comparison of the margins variability between Florida and São Paulo. We consider margins from crop season 1971/72 to crop season 1997/98, in order to avoid the prices unexpected behavior after crop season 1998/99. Standard deviation in São Paulo (S=427.5) is higher than Florida (S=137.7), indicating that

margins in São Paulo are significantly more volatile than margins in Florida. Correlation between margins in São Paulo and Florida are not so strong (r=0.59). The simple visual analysis of graph 2 already indicates this relationship, suggesting that the variability of orange quality is internalized by processor industry in São Paulo. Thus, hypothesis 3 is supported.

4. Concluding Remarks

The paper aims to show contract power exertion and its impact in rent distribution. For this, a theoretical discussion of contract power and economic analysis of property rights based on Barzel's ideas was developed in a strategic fashion. Case study comparing São Paulo and Florida Orange Juice sector shed light in this strategic action and empirical data suggested that that processor industry in São Paulo could indirectly affect orange prices using the contract terms. Processor industry influenced contracts in two forms: (1) avoiding the directly link between FCOJ prices and box of orange prices, using different units of measure – brix and box of orange, respectively; (2) defining overestimated rates of conversion in contracts, underpricing the boxes of orange. Thus, contract design could induce rent appropriation.

Although results supported the hypothesis and due to the proposed theoretical framework, conclusions have limitations. First of all, more deep description of the transaction and institutional differences between Brazil and USA must to be considered. Then, alternative hypothesis should be formulated and tested, in order to isolate other factors that influence redistribution of incomes. Second, production costs to both farmers and processor industries are different in Brazil and USA and it has to be evaluated as well. Third, contract coordination in these two countries are different and the impacts in governance curves can create efficiency explanations to contractual differences.

Understand the strategic use of contracts have potential implications for private strategy formulations, as the protection against contract power or the strategic use contracts can be a important source of competitive advantage, especially when the variability of commodity's attributes are significant. Furthermore, given CADE intervention in Brazil and the lack of long-run effectiveness of the intervention (Marino and Azevedo, 2003), the concept of contract power can guide new intervention forms. Indeed, asymmetries between farmers and processor industries and inability to build an effective contract design in São

Paulo lead to question whether Government should regulate or not the sector. Thus, the paper has potential contribution to public policy. Finally, from theoretical point of view, we contribute to highlight rent appropriation from ex ante opportunistic action during contracting process, which is not considered in Transaction Costs Economics literature.

[1] Crop season 2011/2012. Source: USDA
[2] CADE is the Administrative Council of Economic Defense, the Brazilian Antitrust Agency.
[3] Translated from Portuguese.
[4] IEA is the Agricultural Economics Institute. It is a research organization of the State of São Paulo.
[5] USDA is the United States Department of Agriculture.

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