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Reallocation of property rights in agro-food systems: addressing diffuse stakeholders' rights

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Abstract

Stakeholders are individuals who can substantially affect the decision-making and sharing part of the value created by firms. This paper explains how parties that have not exercised cooperative production efforts, hold decision-making rights and share rights to the value created. The objective of this paper is to present a theoretical explanation for the existence of stakeholder activity, based on the property rights theory. In addition, the paper explores examples of development banks and a system of certification of sustainable forest production, exploring strategic implications. The paper is organized into four parts. Following the introduction, part two presents a selective literature review, part three presents a property rights allocation model and part four presents cases and conclusions.

Keywords: stakeholders' rights, social regulation, social empowerment

1. Problem statement

Cases are observed where stakeholders, seen as external members of communities focused on agro-based projects, affect the decision-making and share part of the value created. Stakeholders are defined as 'all individuals or groups who can substantially affect, or be affected by, the welfare of the firm' (Jensen, 2001). Since the economics of organizations involves the study of incentive mechanisms that promote cooperation in production, it is relevant in explaining cases where stakeholders, viewed as parties that have not exercised cooperative production efforts, hold decision-making rights and share rights to the value created. The objective of this paper is to present a theoretical explanation for the existence of stakeholder activity, based on the property rights theory. In addition, the paper explores examples of development banks and a system of certification of sustainable forest production, exploring strategic implications.

The present study explores institutional arrangements of production that are affected by agents who have not taken part in the production effort, but nonetheless exercise influence on the production plans and hold some rights to the value generated. The debate has shaped the modern theory of the firm, with some authors focusing on the profit-maximizing behavior of the firm as the unique explanation for managerial decisions, while others echo the criticism outlined by Ronald Coase in his Nobel prize lecture. He argued that:

> '…What is studied (in traditional economics) is a system which lives in the minds of economists but not on earth. I have called the result "blackboard economics"… Even more surprising, given their interest in the pricing system, is the neglect of the market or more specifically the institutional arrangements which govern the process of exchange.'

This study focuses on the institutional structure of production and the internal organization of agro-based systems to explain the stakeholders' strategies. It explores agro-based organizations where we observe community groups exercising political pressure to obtain public or communal benefits; private certification mechanisms that value strategies which include stakeholder groups; and development banks that consider the social impact of projects as part of the criteria for evaluating investment projects.

The paper is organized into four parts. Following this introduction, part two presents a selective literature review focusing on the incentives for cooperation, market and non-market mechanisms, and the logic of private efforts towards the production of public goods. Part three presents a property rights allocation model to explore public-private limits and a typology to study the different observed cases. Part four presents cases of contractual mechanisms exemplified by financial and certification mechanisms, describing the concepts of 'additionality' and 'social standards.' Conclusions and implications for the strategies of agro-based system players make up the fourth chapter.

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2. Revisiting the stakeholder debate

The fact that stakeholders affect the strategic plan of organizations has received some attention from scholars in the field of management, as seen in the literature of corporate social responsibility (CSR). This is less true in economics, as it is more aligned with criticism of the lack of theoretical and empirical support for CSR concepts. A strong criticism of the concept of CSR is presented in Jensen (2001), who rejects the notion of the double objective function of a firm. In his analysis he finds no consistency in the coexistence of profit maximization and social responsibility.

The author proposes a new corporate objective function, 'enlightened value maximization.' According to him, enlightened stakeholder theory meets the demands of all corporate constituencies while specifying long-term value maximization as a firm's objective. He concludes, however, that special interest groups will continue to use the arguments of stakeholder theory to legitimize their positions (Jensen, 2001: 21).

Shareholder-stakeholder conflict

Traditional economic analysis addresses the socially responsible corporation either as a deviation from the profit-maximizing objective or as the result of an expansion of the shareholders' utility function to incorporate elements other than profit.

Interpreting the first element, a firm operating in a competitive environment has to survive in a market in which not all players operate according to the same principles. Therefore, the development of cost advantages by contracting informal or child labor, or practicing tax evasion, may lead to survival in the long run, whereas a socially responsible organization may not have the same luck, both subject to the competitive environment.

The second element carries even more complex questions. Depending on the capital structure of the firm, control can be more or less concentrated. Should there exist innumerable small shareholders, or if the shareholder is an investment fund, it is more difficult to identify a typical utility function that does not favor pure and simple short-term economic returns, since if it does not operate within acceptable levels of return the investors will simply recompose their stock portfolio.

Brickley *et al.* (1997) also state that if the value of the firm is reduced, it's long-term survival could be at risk. Organizations in structured economic environments with efficient legal systems will tend to have a more standardized level of competition, reducing the scope for opportunistic action.

Stakeholders are the non-shareholders involved directly or indirectly in the operation of the organization. According to Berenbeim (1999) they are the employees, clients, suppliers, and the local community. Organizations may have incentives to adopt strategies that benefit stakeholders, which will result in a redefinition of the property rights to the residuals generated.

In some cases the stakeholders acquire legal rights, which forces the organization to adopt measures of cooperation, as in the case of the social rights of laborers. In other situations, the local population benefits from community actions, as in the case of anti-pollution measures, which also fit into the category of compulsory measures.

There are also situations characterized by spontaneous cooperation between the organization and society, such as cooperation with local philanthropic entities and various social promotions. These actions are justified from the maximizing viewpoint whenever the firm benefits from a positive environment of social relationships, which can result in added value for the organization in the long run, which is consistent with Jensen's concept of the enlightened stakeholder theory. In other cases they can signify a deviation between the objective functions of the shareholders and management, where the latter succumbs to local social pressures to the detriment of the former's interests, a situation which can be configured as an agency problem. This indicates a risk of rising agency costs if social actions are not backed with adequate internal controls. Finally, they can result in a proposal from the shareholders to derive utility from a socially positive position valued by the stakeholders.

An analysis of the incentives for the production of informal norms of cooperation among economic agents can be conducted based on the concept of market failure. Thus, norms of ethical behavior can be viewed as public goods; they present the characteristic of being non-rival (the cost of utilization does not grow with the number of adherents) and non-exclusive (those who do not contribute to the implementation costs can benefit from the incentives).

This analytical approach allows us to derive conclusions about the exaggerated production of negative externalities, and is present in Wieland (1994) and Tomer (1994). The authors view the problem of lack of production of norms guided by ethical principles as stemming from market failures. The second author concludes normatively that economists well trained in orthodoxy are incapable of appreciating arguments that consider the social responsibility of an organization, and further develops the doctrine of the responsible firm, which is presented as an alternative form of control to that offered by the market or government. It is an approach that seeks to explain the voluntary actions of an organization through the existence of an implicit social contract between the organization and the group represented by the stakeholders.

This theory clarifies the costs to an organization of not acting in a cooperative fashion, proposing an expanded objective function that includes factors other than profit. Organizations implement strategies that commit them to a harmonious relationship with the social environment that interferes positively in the value of the organization.

The extent of incentives for an organization to share value with stakeholders remains an open question. Tomer's (1994) view assumes that the intertemporal discount rate is low or zero when not considering the competitive environment in the short run. In other words, if the benefits of cooperative action can only be gained over the long term, when information on the ethical action is known and supposedly valued by the consumer, the firm may not survive to collect them. This argument can be seen as a criticism of the enlightened stakeholder theory.

Table 1 seeks to summarize the effects of ethical attitudes on the controller, stakeholders, and managers. It indicates that each decision implies a distinct result for the agents involved.

The debate based on mainstream economics matters to the science of organizations since it stems from important prescriptive aspects. However, it tends to leave aside the importance of both the institutions and internal organizational structures for dealing with problems resulting from non-ethical actions related to information asymmetries and opportunistic behavior, dimensions that will be explored next.

Logic of incentives to cooperate

The notion of profit maximization is widely accepted by economists as being the main driver of private strategies. At the same time, we observe private agents engaged in non-market activities that generate value which is not captured by firms, but instead are spread throughout society.

There has been much debate over corporate objective functions, stakeholder theory, and the social role of business enterprises. Fields such as theory of the firm, organization theory, managerial economics, corporate governance, business ethics, and more recently public entrepreneurship, have all evolved from different perspectives.

Scholars studying business ethics and social responsibility explore the effects of a positive relation with society that, at the end of the day, will be manifest in increased cash flow and long-term value maximization of firms. This argument assumes that the society values the social role of firms in addition to the production of goods and services priced in the market. The argument fits the concept of externalities, where some value is produced but not captured by firms; instead, other firms – or society in general – receive the impacts, positive or negative, of a firm's strategies.

Private production of public value

A different vein of literature is emerging from research on organizations focused on the interdependence of private and public interests. This approach maintains that private or public interests cannot be treated as separated entities. Mahoney *et al.* (2009) suggest that the interaction of public-private interests should be studied to adopt a criterion of global sustainable value creation. Along similar lines, McGahan *et al.* (2009) explore the management of organizations that innovate in the public interest. Also, Klein *et al.* (2009) look to public entrepreneurship, taking into account that the interaction of public and private entrepreneurship must be considered in entrepreneurship models.

Table 1. Implications of stakeholder theory.

		Decision maker	Result
Ethical and socially responsible attitude	Problem of agency	Agent	Agent captures value
	Risk taker	Controller	Lowers firm value
	Market structure	Managers	Survival in the long run
	Market response	Dispersed	Market rewards ethics

The study published by Mahoney *et al*. (2009) explores the dynamics of public-private interaction in the production of goods and services. The authors are particularly interested in exploring how organizations engage in the production of public and private goods and services. The authors first explore public-private partnerships, followed by private actions with implications for public welfare, and finally the incentives for limited liability corporations. The authors conclude that, in order to explore how business policies (strategies) and public policies align, more research should be carried out on the interplay between value creation and value capture.

Along similar lines, McGahan *et al*. (2009) explore the private sector and its performance in the production of public value. Entrepreneurship is traditionally studied based on a private for-profit incentive environment. How can the concept of entrepreneurship be extended in an environment where public interest replaces profit in entrepreneurship as a result of non-market strategies? A relevant concept treated in the paper is that a reallocation of resources results from a political process that is based on forced transfer rather than through voluntary consent.

A relevant contribution that helps to understand the role played by organized social groups on the observed organizations is from Nee and Swelberg (2005), from the economics sociology perspective. The authors compare the contribution of the New Institutional Economics, based on Williamson's (1996) analysis of governance, with the economic sociological perspective. Based on the explicit introduction of collective action mechanisms and social groups, the authors review the basic model of governance proposed by Williamson (1994), which provides the framework for the new institutional economics, whose core idea is that institutions provide the incentive structure for organizations and individuals.

Nee and Swelberg (2005: 801) point out that NIE emphasizes those incentives reinforced by the effect of formal rules, while the economic sociology perspective specifies the manner in which close-knit groups interact with formal rules in the realization of common interests, with attention placed on informal rules. They add that sociologists tend to focus on the dynamics of interfirm relations to explain the behavior of individual firms.

Stakeholders in agro-based systems: missing analysis

The theory of organizations applied to agro-based systems has demonstrated steady evolution since the work developed by Davis and Goldberg (1957) at Harvard, which exposed the need to consider the interdependence of economic agents in the analysis of agro-based systems. Departing from the analysis of a single firm, managerial and economic perspectives have moved towards the study of complex mechanisms of production based on contracts and network organizations. From firms to networks, the study of agro-based organizations has shown a pattern of evolution both in terms of realism and complexity, motivating scholars to focus on problems that have been traditionally ignored in the literature. The role and impact of stakeholder's organizations and the limits between public and private production of value still demand further study.

Organizational economics offers cases and examples based on agro-based institutional arrangements to highlight the theory and suggest the alignment of the theory to the real world of organizations. Illustrative cases abound in the literature of the complex contract organization of agro-based systems, suggesting that food-fiber and bio-energy production serve as iconic cases of observable complexity in the mechanisms of governance. Examples can be found in Menard (1996), who studied what he called 'strange forms' in the French poultry industry; and in Barzel (2010) in his study of contract choice, where land contracts are used as examples. The discussion of contract length in the seed industry is addressed by Zylbersztajn and Lazzarini (2005) and the analysis of collective action has benefited from studies by Michael Cook and others. Studies of governance mechanisms of natural resources is explored by Ostrom (1990) and in his seminal paper 'The problem of social cost' Coase (1960) relies on the case of farmers' strategies reacting to court decisions on the allocation of property rights related to fire damage caused by trains crossing farmers' fields.

Studies of agro-based contracts by Allen and Lueck (2002), focusing on land and equipment contracts, and MacDonald and Corb (2011), mapping the relevance of contract mechanisms in agriculture, are examples that support this theoretical development since they represent, in its essence, detailed mechanisms of the coordination of multiple players and inter-temporal arrangements. The evolution observed in the literature reflects the effort to push the frontier of applied theories of the firm to clarify the mechanisms related to the definition of firm boundaries and the explanation of the patterns of inter-firm cooperation.

In addition to providing examples for social scientists' efforts to refine the models of governance and coordination in general, the real world of agro-based systems, taken as a subject of study, has also shown impressive changes over time and increased complexity in the observed arrangements. The sources of complexity are mainly related to the impact of new technologies, particularly bio-technologies, new regulatory frameworks related to the use of natural resources, and changes in the profile of consumers who demand more information about the food supply, which in turn generated the impulse in the studies of food certification.

The phenomenon of empowerment of social groups and communities has not yet received sufficient attention from scholars in the field of agro-based systems. While academics have not shown interest in dealing with stakeholders and other non-market interactions, the persistent presence of organized social groups around agro-based activities has attracted the attention of food companies, since they are pushed – either by market forces or by regulation – not only to offer clients technological information but also to make transparent statements on how the companies deal with social groups of stakeholders which are affected by the production activity.

Non-market incentives in agro-based systems

Studies of private strategies in agro-based systems of production show that they differ from the literature of corporate governance. Agro-based systems deal with a number of independent actors who are willing to cooperate in order to generate value, similar to the literature on networks (Zylbersztajn and Farina, 1999).

Harvard agribusiness case studies show some examples of socially responsible firms active in models that show strong relations with stakeholders, as seen in Fisher and Zylbersztajn (2007) and their study of the Brazilian Grupo ORSA. In addition, one can see from the literature exploring non-traditional roles in agriculture, as they relate to the production of environmental services, that they are examples of activities that generate value which is captured by the society. Recent case studies focused on Forest Stewardship Council (FSC)-certified companies also explore the impacts of private strategies on stakeholders around forest-based agro systems.

This raises the question of how to expand the analytical models applied to agro-based systems within the framework of an expanded contractual organization in order to study the existence of non-market incentives to promote stakeholder strategies. The next chapter seeks to offer an answer.

3. Property rights model: a typology

The chosen theoretical approach to explore the relationship between private and diffuse stakeholders' interests is found in the measurement branch of transaction cost economics, as developed by Barzel (1997), which is rooted in the concept of property rights. The relevance of the concept to agro-based systems is explored in Zylbersztajn (2010) and Zylbersztajn and Caleman (2012), which provides the basic analytical framework adopted in the next section. This branch of the theory differs from the efficient alignment hypothesis of Williamson, based in the quasi-rents appropriation derived from the existence of asset-specific investments. The theory based in the property rights construct (Barzel, 1997) explores contract choice as a result of the variability level of the transaction attributes. Pointing out the relevance of the composition of economic and legal rights, the theory adds to the arguments that put forth the protection of quasi-rents as an explanation for the existing complex contractual mechanisms of governance in and among firms in traditional transaction cost economics.

The measurement cost approach suggests a rationale based on the existence of formal and informal mechanisms to protect property rights, whose allocation is affected by product and factor variability. By considering the relevance of the allocation of property economic rights based on informal mechanisms, I interpret that the theory proposed by Barzel (1997) is closer to the economics of sociology approach than to the quasi-rents rationale. The connection between economic sociology and the measurement branch of transaction cost economics can be further developed by exploring the structure of economic rights as being based in social relations. This vein is open for further development.

The fundamental construct of the measurement cost branch of transaction cost economics is based on the existence of value with different degrees of protection. In the presence of low variability and easy-to-measure attributes, transactions are performed at a lower cost due to court-enforceable contracts. If transaction attributes are highly variable and difficult to measure, property rights are not properly defined and alternative mechanisms based on reputation are expected to serve to protect economic rights. Beyond legal and economic rights, some value might remain unprotected in the public domain, and thus subject to capture.

From this approach it follows that the observed institutional arrangements represent a blend of formal institutional protection associated with legal rights, and informal institutional protection associated with economic rights (Figure 1). Formal and informal mechanisms provide the set of incentives that shape organizations.

Consider a complex transaction that can be decoupled in n independent dimensions. For simplicity consider the total

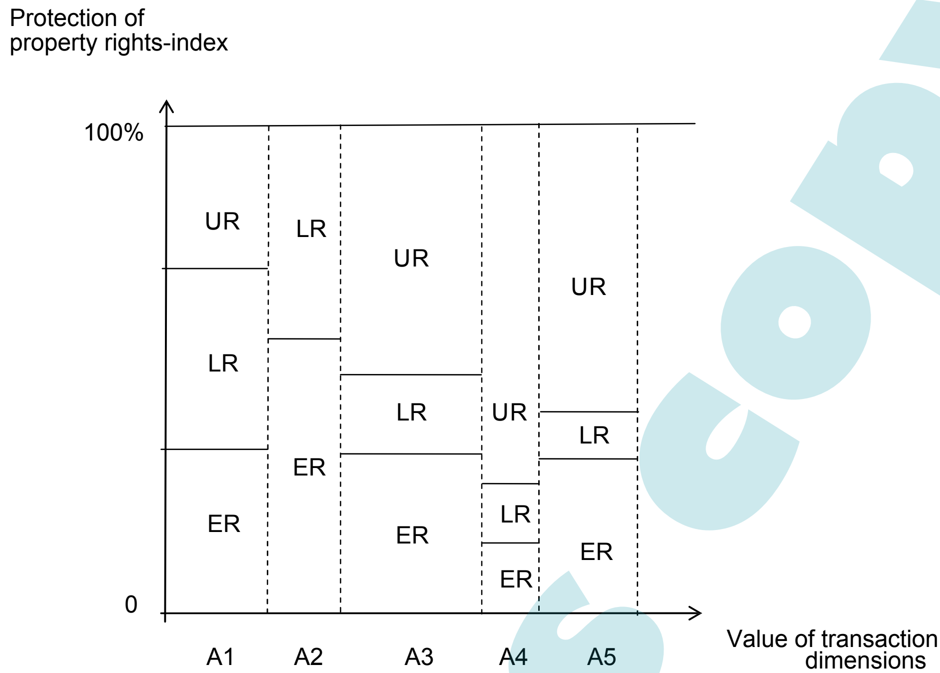

Figure 1. Value created in complex transaction dimensions.

value created as the sum of value created in each dimension. The total value is:

$$TV = V1 + V2 + \ldots + Vn \quad (1)$$

The value generated for each attribute transacted is associated with different degrees of protection, namely the variability and measurability of those attributes which are key to determine if legal rights or economic rights are preferable instruments to protect value. The resulting institutional arrangement is composed of formal contracts and a variety of informal mechanisms designed to protect economic rights, designing the structure of incentives of production. If no legal or economic rights can be properly defined, that value remains in the public domain. The total value transacted is represented by:

$$Vn = LR + ER + UR \quad (2)$$

where LR is the value of each attribute protected by legal rights (easy-to-measure attributes), ER is economic rights (difficult-to-measure attributes), and UR represents the remaining unprotected rights.

The model defines a property rights index that considers how much of the total value is unprotected. The smaller the ratio UR/ER+LR, the larger the incentives for joint production efforts, since the agents engaged in the transaction feel that their rights to the value resulting from the cooperative effort are protected.

Introducing stakeholders' rights in agro-based systems

Value creation in agro-based systems is the result of cooperative efforts by different independent agents, from the farm gate to the consumer's table. Cooperation is achieved based on incentives to agents that indicate the likelihood of success in cooperative efforts. In addition, cooperation is motivated by credible rules for sharing the value created and allocating risk among the agents that have engaged in joint production efforts. A recent phenomenon in agro-based systems shows that stakeholders who are not directly engaged in production efforts also claim a share of the value created, and hold decision rights over the technology of production.

Examples of pressures exercised by organized social groups abound in agro-based systems. In Brazil, traditional Indian tribes have been granted legal rights over land, providing a strong form of reallocation of legal property. Regulations on the use of land for production purposes and rights to landscape views are also examples to be considered. Urban populations in areas close to sugar-ethanol mills sought rights related to clean environment, mainly air pollution. Examples of economic rights also abound. Communities around forest plantations are receiving attention from forestry companies since certification mechanisms and financial agencies have introduced private rules that serve as incentives for property rights reallocation.

The existing literature does not explore the origin and effects of the allocation of stakeholders' rights. The aim of this section is to explore possible explanations for the emergence of the reallocation of stakeholders' rights and its impact on the value created in agro-based systems.

To study the strategies involving reallocation of rights from producer agents to stakeholders, this paper presents the family of incentive mechanisms that shape the joint strategies of agro-based systems. Consider a typical model, where a number of farmers (Fi) supply a processing company (firm A) with a product under contract. Firm A coordinates the production and connects the farmers to the market. The supply system can be seen as an institutional arrangement where each farmer agrees with the contract clauses and gives up part of their decision rights about the technology to be adopted for production. Farmers might form an intermediary organization, for instance a cooperative or a farmers' horizontal organization, that negotiates the contract terms with the industry. This kind of organization can be seen as a Strictly Coordinated Supply System (Zylbersztajn and Farina, 1999).

Considering the definition of firms proposed by Barzel (1997), if firm A offers guarantees to the Strictly Coordinated Supply System, then it can be treated as a single firm. Otherwise, if farmers provide part of the guarantees, then the system can be seen as a complex contractual arrangement involving different firms.

The system generates value based on cooperation among the parts. The contractual arrangement observed selectively transfers some property rights to the value created by each transaction dimension. The institutional structure of production is defined by the complex mechanism resulting from the interaction of players that cooperate in production. In order to introduce the stakeholder effect, consider a third category player, defined as St, that represents the social groups that are not part of the production effort, but exercise some rights over specific production dimensions. The question now is to explain the incentives to sharing value with players that did not take part in the production effort.

As a group, St can choose a variety of organizational forms, or function without any formal organization. It can formally represent the community near the area of production, the organization of the labor force, or be organized as a formal social group that defends the CSR of firm A in a way that affects the decision rights of the agents.

I define the key characteristics of the St group as: degree of formality, size and homogeneity, local or global organization, internal organization, and reputation in society. These different characteristics are expected to affect the capacity of St to interfere in the system. The relevant proposition is that:

> Proposition 1: Formality, size, internal organization, homogeneity, and political reputation are the explanatory variables for the stakeholders' capacity to capture value.

Legal rights effects

In terms of the property rights model, stakeholders dispute legal rights, in cases where they convince the legislature and judiciary to support their demands. They will be able to capture economic rights in the sense that they can use reputational mechanisms to pressure the firms. One can consider that beliefs and social norms might evolve through time, becoming formalized norms. This is the case where the social group of stakeholders (St) has economic rights over part of the value created that later become legal rights.

The debate on the empowerment of social groups is based on both economic and legal rights. Economic rights work when social groups impose private incentives that affect and limit companies' strategies. In these cases, stakeholders develop public campaigns directed at the market, work through environmentalist organizations, or apply pressure through labor unions, among other forms of social pressures. Even without legal support, stakeholders are able to create an unstable environment for the target company. For open capital companies, the stakeholder strategy might be directed to the stock markets.

In addition to economic rights, legal rights might be captured either through pressure on the legal system to enforce existing legislation, or by changing the legal framework through the political process. Both mechanisms are relevant.

Formalization

Informal organizations frequently act as stakeholder groups. Formalization means that they become legally responsible. We expect that as the groups evolve, there will be incentives to become formalized. By choosing formalization, groups become eligible to receive international or governmental funds.

Size and homogeneity

The larger the group, the greater the pressure that it can apply and the broader the scope of its activities. At the same time, larger groups tend to be heterogeneous and in such cases the capacity to capture value declines.

Internal organization

As the stakeholder group grows and formalizes, some specialization is needed to carry out complex activities. Formalization comes aligned to the level of internal organization and the adoption of mechanisms as governance boards.

Political reputation

As the stakeholder group evolves, it creates reputational capital, making its communication with government and other stakeholder groups more efficient.

We expect to identify regularities in the activities of stakeholder groups. As the informal norms that direct the stakeholder groups diffuse throughout society, more support from formal organization might result. As the environmental movement gained strength, the strategies of development banks were to adopt new rules for investment analysis, demanding adherence to socially accepted norms. As a result, norms that become widespread beliefs have a more pronounced effect on a company's strategy. As the specific stakeholder group intensifies its network relations with other groups, its competence to capture value grows stronger. As stakeholders' beliefs are shared with larger stakeholder groups, their ability to capture value increases.

In order to follow the strong changes that are affecting the activities of agro-based systems, the clarification of the stakeholders' organizations is a necessary step. The next section analyses two cases of stakeholder empowerment.

4. Case studies

The present chapter presents short cases as examples associated with the typology suggested above.

The previous section presented a conceptual model derived from the agribusiness systems approach, but incorporating the property rights perspective. It stems from the idea that an agro-based system is to be treated as an expanded Coasian organization (complex multiplayer institutional structure). The agents must cooperate in order to generate value, meaning that they define decision rights and allocation rules, and also define rules for sharing property rights to the value created through cooperation. The question addressed in this section is how to explain the emergence of rules that share part of the value with stakeholders who play no part in the production effort.

In order to explore possible answers, the study develops an in-depth analysis of the FSC, a forest production certification system; includes an analysis of International Finance Corporation (IFC) guidelines expressed in terms of the concept of 'additionality'; and explores the cases of the Soy Moratorium and ORSA, a Brazilian pulp and paper company.

Forest Stewardship Council principles

The FSC is a non-governmental, independent, and not-for-profit global organization with its own collective governance structure, whose mission is to promote good management of forests around the world in accordance with collectively developed principles and criteria. The criteria are defined based on collective decisions involving companies, governments, and stakeholders, who together have shaped a list of principles including:

a. compliance with local legislation;
b. international treaties and conventions;
c. compliance with labor rights and evolution towards gender equality and adequate labor welfare conditions;
d. recognition of indigenous peoples' rights, including identification of the existence of traditional communities and the organization of good relations between the company and the traditional social group;
e. identification of communities living in the area of the project and compensation for environmental impacts caused by the agro-industrial exploitation;
f. identification and protection of sites with specific cultural, environmental and/or religious significance;
g. management of the various services and products connected to the forest through development of a long-term plan identifying such activities;
h. assigning priority to local suppliers of services;
i. identification and protection of species of environmental value and their preservation in their natural habitats;
j. presentation of a socio-environmental plan of exploitation of the area and monitoring of activities, particularly considering the sensitive aspects to be controlled.

Once a company decides to apply for FSC certification, it must adapt to the relevant norms and principles. This process introduces a significant cost, since new specialized technical and administrative structures must be introduced.

The FSC has ten principles which serve as guidelines for companies, but for this study we are interested in Principle 4, which expresses stakeholders' rights. We conducted 21 interviews with Brazilian FSC-certified companies and local communities, applying a questionnaire to ascertain the level of compliance to the norms. We measured the perception of compliance, ranging from 100% to 0%, as presented in Figure 2. The horizontal dimension presents the different companies that were interviewed.

The average of perceived compliance with the norm was 80%, with a 0.20 standard deviation. We have established three levels of compliance, A being high, B average, and C low. The results show 57% of companies classified as level A, 19% as level B, and 24% as level C.

The interviews with stakeholder groups revealed that complaints are mainly directed to externalities, such as the impact of truck traffic on urban areas, lack of well-defined stakeholder leaders hindering negotiations with the company, and the reactive – instead of pro-active – strategies on the part of companies.

The analysis of FSC-certified companies shows that they do not usually report a premium in the price received for the final product. However, they cite as the main driver behind the strategy periods of low world market prices, when it is easier to sell the certified product while maintaining market share. Companies reported a significant cost impact of implementing the certification process, mostly related to the need for hiring professionals who are specialized in the management systems that must be adopted. For instance, some companies hire anthropologists and sociologists to help develop relations with local communities.

In terms of the proposed typology, we consider that market incentives have been perceived. In addition, most of the certified companies have expressed the existence of similar social values (beliefs) to those expressed by top management, which are part and a reflection of the values adopted by the shareholders.

The FSC norms work towards enforcing local laws and regulations. The certification introduces strict norms, besides the formal legal ones. Evidence shows that market forces, corporate values, and compliance with formal rules are explanatory factors for the strategies, and that value appropriation by stakeholder groups comes from two incentives. First is the compliance with legal norms fostered by the FSC's reputation; second are pure market incentives, also triggered by the FSC seal, which informs the market about the company's profile.

International Finance Corporation – additionality (IFC, 2009)

The IFC is an international organization that provides loans to finance private projects. It works in strategic alignment with the World Bank, which offers loans to governments, whereas the IFC offers loans to the private sector. The IFC has a specialized agribusiness arm, where the concept of the agro-based system is relevant. The bank is aware of the importance of projects that support agro-industrial initiatives that have a multiplicative impact through a network of farmer-suppliers.

The IFC proposes a stakeholder framework for assessing the development impact of the projects. They define stakeholders as: the rest of society, customers, neighbors, suppliers,

Figure 2. Perception of compliance with Forest Stewardship Council principle 4.

producers of complementary products, competitors, and new entrants (www.iic.images/0022ysy%20Frank.pdf).

Additionality has become a concept widely debated in the institution, representing one of the elements adopted to evaluate the projects and ex-post impacts of the bank's activities. Thus, the IFC considers that: 'Development and financial results for both IFC and other stakeholders are better where IFC's additionality is stronger (www.iic.int/images/0016Stevenson%20Willian.pdf).'

The bank defines additionality thus: 'IFC's additionality is best described as the unique benefit or value addition that IFC brings to a project, and that a client would not otherwise have.' Therefore, a company that submits a project to the IFC must be aware of the additionality criteria, and treat the project proposal in conformity with them.

In this case, stakeholders' value appropriation results from institutional incentives which result neither from social beliefs nor from organized stakeholder pressure. The bank relies on market incentives to define a norm that must add to the traditional project evaluation carried out by a commercial bank.

Two other cases will be briefly mentioned. First, the case of ORSA (Fischer and Zylbersztajn, 2007) presented in a Harvard business case study. The company decided to share value with a diffuse group of stakeholders via a socially-oriented organization. The company is controlled by an entrepreneur who has decided to direct 1% of the group's total sales to social activities, managed by a private foundation. Some of the arguments presented in the case are similar to the FSC analysis: the company considers the reputation effect to be very relevant, but difficult to quantify. In this situation, personal beliefs join market effects as the main drivers for motivating the appropriation of value by stakeholders.

A different case is the Soy Moratorium, a private initiative that aims to encourage responsible production in the Amazon region. Based on this agreement, a group of companies defined a joint strategy of not trading soybean produced in areas of the Amazon biome deforested after July 2006. This target is more restrictive than that established by Brazilian law, which allows the use of 20% of any property in the Amazon region for production purposes.

The objectives are to develop a governance structure for responsible production, discourage deforestation, and meet clients' concerns over environmental conservation. The organization is composed of private traders and global non-governmental organizations such as Greenpeace and the World Wildlife Fund.

The implementation of the program is hindered by the lack of formal property titles in the region, and difficulties associated with both the identification of non-compliance and the high cost of enforcement. This case exemplifies the strong impact on market practices by the international activities of non-governmental organizations acting on behalf of diffuse stakeholders.

The present study reviews the concepts of 'additionality' adopted by the IFC and of social empowerment as present in the FSC standards. It developed a survey of the agents engaged in production in order to address their perception about non-market and non-legally enforceable requirements.

A final discussion is necessary in order to focus the basic hypothesis presented by the study in light of the relevant theory, and thus draw conclusions that can be useful for strategic decisions. What are the incentives for promoting value appropriation by stakeholders in agro-based projects?

Table 2 shows that market forces are important drivers in all cases studied, a result aligned with Jensen's enlightened stakeholder model discussed in the introduction. Other variables, such as values, beliefs, and organized stakeholder pressure, are subsidiary. There is evidence, however, that both markets and the enforcement of legal rules are triggered by the activities of stakeholders or organized groups that act on their behalf. This cross effect deserves more empirical attention.

Legal rights are associated with the capture of value through the improvement of enforcement mechanisms resulting from social pressures. Reputation plays its role, explaining the value captured by stakeholders exercising economic rights.

The evidence allows us to draw the conclusion that the value captured by stakeholders' groups is the result of interconnected variables that promote incentives for private agents to consider stakeholders in developing their strategies. In saying this, I consider that one should examine the market incentives aligned with the value maximization principle, incorporating corporate values, organized stakeholder pressure, and legal institutions.

No doubt naïve or radical interpretations persist, which usually consider just one of the elements expressed above, ignoring their interaction. The lesson is that we should move

Table 2. Incentives for stakeholder value allocation.

	Cases			
Origin of incentives	FSC	IFC	ORSA	Soy moratorium
Market	strong	strong	average	average
Values/beliefs	week		average	
Stakeholders	average			strong
Legal system	week			

towards more empirical studies to identify the incentive mechanisms and how they work.

Final comments

Traditional agricultural practices have been increasingly bound by sophisticated regulatory mechanisms that deal with environmental and external social effects. The mechanisms that aim to internalize external costs are well known and widely adopted in many countries. In addition, the adoption of private standards of quality attributes represents a trend that is already known to farmers all over the world. In both cases one can say that property or decision rights are reallocated, so that agents face a new set of feasible production plans. They are limited by new socio-environmental rules that affect their choice of technologies and impose new organizational challenges.

The present paper explores the private production of public value in agro-based systems. To perform this task, we amplify the concept of agro-based systems by introducing stakeholders' rights, and present examples of the reallocation of rights that actually affect the strategic positioning of players, in both instances focusing on the boundaries between public and private strategies. The first is the concept of 'additionality,' introduced in the project evaluation method of the International Finance Corporation, and the second is the inclusion of stakeholders' rights in the forestry practices adopted by the Forest Stewardship Certification in order to certify forest products. IFC clients operate in a wide range of agribusiness activities and the FSC focuses on forest exploitation. In general, agro-based systems are characterized by complex governance mechanisms, rapid growth, global trade, and multi-stakeholder presence around the chain.

This paper proposes a rough conceptual structure for exploring the private production of public value, via the reallocation of property rights motivated by the organization of social groups. Secondly, the paper identifies cases of specific institutional arrangements, seen as complex contract mechanisms of production, adapted to incentives and answering the question of how the reallocation of rights reflects strategies and governance mechanisms. The third objective is to verify how players in specific agro-based systems perceive the new requirements in terms of the structure of incentives. We are thus able to identify and describe some coordination mechanisms that align the independent agents with stakeholders' requirements.

Farmers' strategies are framed by a complex set of regulatory mechanisms, ranging from public regulation of food safety to private standards of quality attributes. Formal regulation is enforced by law and requires farmers to adapt to new technological standards. Contracts are framed based on regulatory constraints. Market regulation is based on private agreements based on consumers' requirements and preferences, usually organized by complex certification mechanisms. Private agreements reflect the objectives of the processing and distribution players in food chains, and depend on enforcment mechanisms other than courts in order to be implemented. In both cases, agro-based systems adopt enforcement mechanisms that affect farmers' choices, usually imposing adaptation costs on them.

In summary, production agents in agribusiness systems find their options constrained by public regulation and private agreements. The design of the observed organizational forms in vertical food systems is shaped according to both forces, and contracts are designed accordingly. Property rights allocation determines the incentives for cooperation to create and share value. However, this explanation is no longer sufficient to describe the observed organization mechanisms, due to new elements that have recently emerged which affect the allocation of property rights and consequently the design of complex contracts.

The literature on agro-based contracts and organizational forms in the agri-food sector has recently received relevant additions. At the same time, a new branch of literature on economic organization explores private activity in areas of public interest, as seen in McGahan *et al*. (2009), and Klein *et al*. (2009). This paper merges both streams by examining how private organizational arrangements are adapting towards servicing society by means other than the market.

The fundamental hypothesis of this paper is that non-traditional regulation affects how farmers deal with contract choices, and more generally affects the governance mechanism of complex agro-based systems in a predictable way. Tighter mechanisms of control are required to fit the regulatory mechanisms as well as the constraining mechanism represented by the empowerment of social groups in society.

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