



---

## **Estratégias empresariais no contexto de direitos de propriedade sobre a terra mal delineados**

### **Business strategies in the context of poorly-delineated land property rights**

**Autor(es):** Carolina Torres Graça; Décio Zylbersztajn  
**Filiação:** Universidade de São Paulo; Universidade de São Paulo  
**E-mail :** ctgraca11@gmail.com

**Grupo de Pesquisa:** GT9. Questão agrária, governança de terras, políticas agrárias e assentamentos rurais

#### **Resumo**

Este artigo explora patologias sociais associadas a direitos de propriedade sobre a terra mal definidos e protegidos pelo Estado no Brasil e como operações florestais responsáveis respondem a tal ambiente institucional. De acordo com a teoria da Análise Econômica de Propriedade, esta condição leva com que os direitos mal delineados sejam alocados em domínio público, criando possibilidade para tentativas de captura e proteção de valor. Além disso, estratégias para a proteção do direito de propriedade além de mecanismos legais são discutidas tais como comunicação, negociação de direitos e engajamento de partes interessadas. A análise empírica foi construída a partir da comparação entre cinco estudos de caso de empresas florestais com operação no Brasil.

**Palavras-chave:** direito de propriedade; estratégia de empresas; posse da terra; direito sobre a terra

#### **Abstract**

*The article explores social pathologies associated with the poor definition and enforcement of land rights by the state in Brazil, and how responsible forest operations respond to this institutional environment. According to the Economic Analysis of Property Rights framework, this condition is reflected in the allocation of poorly-defined rights on public domains, opening up the room for value capture and value protection attempts. Therefore, this article explores situations where land rights are allocated on public domains. In addition, it discusses strategies to protect land rights beyond legal mechanisms, such as communication, negotiation of rights, and stakeholder engagement. The empirical analysis is built on the comparison of five case studies of forestry companies operating in Brazil.*

**Key words:** property rights; business strategy; land tenure; land rights;

## **1. Introduction**



When government does not enforce property rights, economic agents tend to protect it on their own (Barzel, 1997), which may result in costs and other consequences. This article explores how the poor legal protection of land rights in Brazil gives rise to unclear property rights definition, compelling economic agents to create strategies to respond to the business environment in which they are inserted. The use of private military power is not an option for responsible businesses whose reputation is also an important asset.

Good institutions are frequently associated with economic development (Acemoglu, Johnson, & Robinson, 2001; de Soto, 2000; North, 1990). A legal framework that enables contract enforcement and protection of property rights also encourages investment and sustainable use of natural resources (Deininger & Jin, 2007). When such conditions are absent, investment incentives are poor and economic development is limited (de Soto, 2000). The poor protection of land rights is also associated with social conflicts (Alston, Harris, & Mueller, 2009; Alston, Libecap, & Mueller, 2000) and deforestation (Alston et al., 2000; Araujo, Bonjean, Combes, Combes Motel, & Reis, 2009; Reydon, 2011b; Robinson, Holland, & Naughton-Treves, 2014) in Brazil. However, little attention has been given by academia to how responsible businesses respond to insecure land rights.

The planted forest sector cultivates about 8 million hectares in Brazil (Indústria Brasileira de Árvores, 2016), exposing it to land tenure challenges. Most of that area is certified as socially and environmentally responsible operations. In addition, many companies have shares traded on the stock market and are listed in sustainability ranks such as the Dow Jones Sustainability Index and Índice de Sustentabilidade Empresarial (ISE). All those reasons compel them to put procedures and mechanisms in place to solve disputes in a fair manner, prioritizing negotiation with stakeholders before resorting to the legal system.

This article is organized in six sections apart from this introduction: reasons for insecure land tenure in Brazil; theoretical background of the economic analysis of property rights; methodological procedures; pathologies caused by poor institutional environment; strategic consequences for forestry companies in Brazil; and conclusion.

## **2. The reasons for insecure land tenure in Brazil**

There are many reasons for insecure land rights in Brazil (Alston et al., 2009; Araujo et al., 2009; Reydon, Fernandes, & Telles, 2015): the two most referenced in the literature are: historical tension between de facto and de jure land rights, and lack of a sound land governance system. These factors result in limited capacity of the State to define and enforce property rights.

Brazil's colonization has been characterized by disputes between squatters or irregular landowners and the State. In colonial times, when land was abundant, possession of vacant land enabled peasants to access land, and land owners to enlarge their properties (Silva, 1997). The tradition of claiming land has persisted over the years, despite many attempts by the State to regularize de facto landowners and limit further possession of vacant or public land (Reydon, 2011a, 2014; Reydon et al., 2015; World Bank, 2014). In fact, Brazil has never banned this form of land acquisition, and it is even upheld by current constitution (Brasil, 1988), which poses a problem to the security of property rights.

During the 1990s, social movements emerged with the objective of promoting land reform (Reydon, 2014). Between 1995 and 2009, Brazil settled more than 1 million families on about 75 million hectares (Reydon, 2014). Despite this, from 2009 to 2015 the number of



conflicts, families, and land surface involved increased dramatically (by 13%, 50%, and 42% respectively) (Comissão Pastoral da Terra, 2016). This fact illustrates the tension around land disputes in the country.

The 1988 constitution also acknowledged the land rights of indigenous people and afro-descendent groups (Brasil, 1988). Since then, these groups have enjoyed legal status as traditional communities due to their cultural background, and land demarcation has taken place according to their claims. In many circumstances, expropriation of private land has been necessary to compose traditional communities' territory.

The land registry and cadaster have numerous weaknesses, according to the study commissioned by the World Bank in 2014. Some of these are: the lack of integration between notaries (private organizations) and public agencies; lack of an integrated cadaster of private and public land; absence of a full public land inventory; low accuracy of land records (geo-referenced shapefiles were not a requirement for land registers until 2001)—which has allowed multiple land titles issued in the names of different owners for a given piece of land, and ownership regularization based on fraudulent possession titles; out-of-date land registries, since registration is not compulsory by law; and finally, taxes on exchanges of property rights deter landowners from officially registering transactions over an asset (World Bank, 2014). All these weaknesses limit land right protection by the State.

Forestry operations are embedded in this institutional environment. Despite competitive advantages associated with the mild climate, and extensive surface and technological development over the past 50 years, insecure land rights pose a challenge to the pulp and paper sector's competitiveness and expansion in Brazil.

### **3. Economic analysis of property rights applied to business strategy**

What happens when property rights are poorly defined and enforced? This is the underlining question of the Economic Analysis of Property Rights Theory, developed by Barzel (1989, 1997, 2002). The author leaves aside legal analysis and concentrates on what he called economic property rights<sup>1</sup>. According to his theory, economic property rights are those exercised by economic agents in accordance, contradiction, or even beyond legal rights. The theory framed by Barzel was latterly applied to business strategy to assist businesses to protect value (Monteiro, 2010; Monteiro & Zylbersztajn, 2011, 2012a, 2012b; Zylbersztajn, 2010).

Incomplete definition of property rights is a frequent situation for many reasons. First, an asset is composed of many attributes, which can be owned by distinct persons (Barzel, 1997). Rights are linked to the attributes, forming a bundle of rights. Since asset ownership is shared by multiple owners, the definition of property rights is key to preventing disputes among them. Second, extensive ownership definition is a resource consuming activity, so valuable attributes tend to have linked rights which are better defined than less valuable attributes (Barzel, 1997). Third, measurement and enforcement of property rights are also costly activities (Barzel, 1997). Those three reasons explain why the definition of property rights is not exhaustive, opening the room for the allocation of rights on public domain.

Rights on public domain are those whose property rights are vaguely defined, and consequently poorly protected, creating the possibility of value capture without compensation to the due owner (Barzel, 1997). For this author, definition and protection of rights is a matter of choice. Owners select to exercise rights when the gain offsets the cost. When the balance is (potentially) negative, they opt to abandoning them on public domain. Such analysis is



dynamics, which means that rights are recovered from or placed on public domain any time that perceived value changes (Barzel, 1997).

For the Economic Analysis of Property Rights Theory, transactions mean property rights exchange and value appropriation is preceded by value generation and capturing efforts. Therefore, Barzel (1997) defines transaction cost as the cost associated with transference, capture, and protection of property rights.

Bearing in mind that economic property rights are not entirely regulated by law, that ownership over an asset is shared among multiple owners, and that some rights are allocated on public domain, then economic agents (organizations included) strive to minimize transaction cost. One possible way is to select an efficient ownership structure (Barzel, 1997); another possibility is to increase rights protection (Monteiro, 2010; Zylbersztajn, 2010).

Zylbersztajn (2010), based on Barzel's theory, proposes that rights are protected by the interaction of legal and economic rights. The first is enforced by the State (formal property rights – PR<sup>F</sup>) and the second is enforced by economic agents on their own (informal property rights – PR<sup>I</sup>). The sum between those two classes of protection can be 100%, at the extreme, but since full protection is costly, their combination can often be below the ceiling. What is left unprotected (PR<sup>0</sup>) is on public domain, and therefore susceptible to capture. Figure 1 illustrates the components of property rights index (PR<sub>i</sub>).

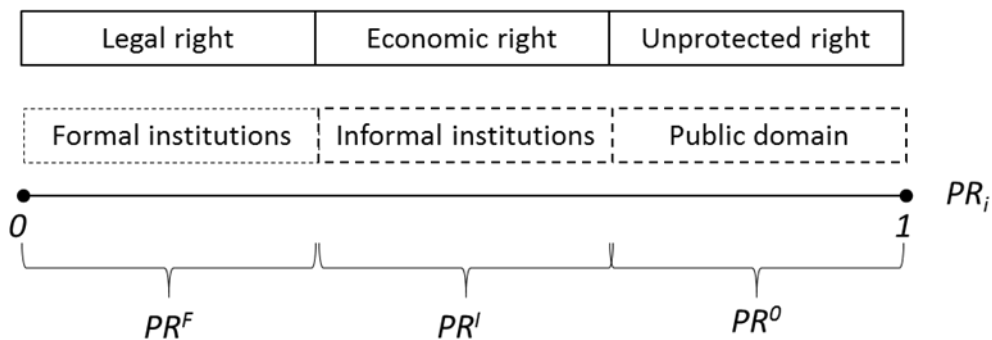


Figure 1: Components of property rights index (PR<sub>i</sub>). Source: Zylbersztajn (2010)

Ultimately, transactions only take place in the presence of a minimal property right protection threshold (PR<sub>i</sub>), which means a small PR<sup>0</sup> share. In cases where PR<sub>i</sub> < PR<sup>F</sup>, transactions are likely to happen via market mechanisms. When PR<sup>F</sup> < PR<sub>i</sub> < PR<sup>F</sup> + PR<sup>I</sup>, transactions rely on the combination of formal and informal mechanisms for property rights protection. Change in the business environment may affect the distributions of those three shares, allowing PR<sup>F</sup> + PR<sup>I</sup> to fall below the threshold (PR<sub>i</sub>), thereby preventing transactions and/or allocating rights into public domain. In this scenario, economic agents may engage in the revision of rights protected by formal and informal mechanisms in order to establish a new balance. Indeed, once economic agents identify an opportunity for profit, they strive to create enabling conditions for the transaction to happen (Dixit, 2004).

An approach of Economic Analysis of Property Rights applied to business strategy was developed by Monteiro & Zylbersztajn (2011, 2012a, 2012b). Indeed, these authors propose incorporating property rights analysis into the business strategy formulation process. Based on Barzel's definition of an asset as a bundle of attributes, firms are advised to identify valuable attributes and property rights held by them. The next step then is to analyze rights vulnerable to third party appropriation without due compensation. Based on such analysis, firms may decide how many resources to allocate in value creation, appropriation, and protection





activities. Multiple protection efforts may be necessary to protect numerous attributes of one asset. Misallocation of resources is likely to happen, since it depends on imprecise evaluation of competitors' resource allocation in those three activities on their end. Under- or over-allocation of resources is a threat to any business. How the institutional environment can influence the relative efficacy of capture in relation to the protection of economic rights shall also be considered in business strategy formulation.

Considering that a firm cannot control the allocation of resources by its competitors, then a dedicated analysis on how to protect rights may be carried out. The protection mechanisms can be grouped in two categories: legally centered mechanisms (L), such as justice courts and police power, and private action centered mechanisms (P). Both cost curves are functions of capture efficacy vis-à-vis protection effort ( $\sigma$ ) and a group of shifter parameters ( $w$ ). There is also the possibility of not protecting rights, which means abandoning them on public domain. Under a strong institutional environment (I1), the protection of rights via legal mechanisms is provided by the State at low cost, therefore it is the preferential protection mechanism. Under a weak institutional environment (I2), the effectiveness of protection by the State is low, for example marked by dubious or slow court judgments, and consequently the cost of the legal mechanism increases more rapidly than the private mechanism, which then becomes the preferential mechanism for rights protection (most efficient mechanism at lowest cost). However, there is a maximum protection cost that firms can bear ( $\bar{c}$ ). Beyond this tipping point, they opt to leave the right unprotected.

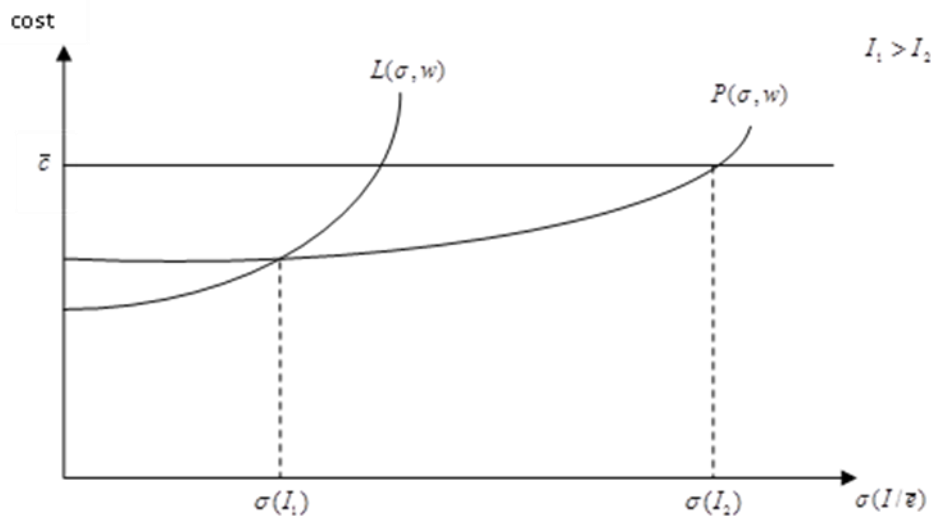


Figure 2 : Efficacy of capture effort vis-à-vis protection effort. Source: Monteiro e Zylbersztajn (2012b)

It is clear that definition and enforcement of property rights affect economic agents' decisions. Value capture and rights protection are two important components of business strategy. The institutional environment is key to the selection of property rights protection mechanisms (Monteiro & Zylbersztajn, 2011, 2012a, 2012b).

In conclusion, when property rights are poorly defined and enforced, economic agents have three options: abandon their rights on public domain (Barzel, 1989, 1997, 2002), select a governance structure that allows rights protection (Barzel, 1989, 1997), or to raise rights protection. The last option is one emphasized in this review. Through a combination of public formal and informal institutions, agents are able to create enabling conditions to run their



business (Zylbersztajn, 2010). Under weak institutional environments, property rights protection via private mechanisms tend to play a significant role in business strategy. How this strategy unfolds for the planted forest business in Brazil is presented in the following sessions.

#### **4. Methodological procedures**

Five business cases of forestry companies affected by land tenure disputes and geographically dispersed across Brazil were reviewed (Graça, Reydon, Postal, Bueno, & Moreira, 2017). The case studies, from Fibria - Aracruz unit, Jari, Stora Enso - Rio Grande do Sul unit, Suzano - Maranhão unit, and Veracel, present the land acquisition process, land disputes, social investment for the development of surrounding communities, and current challenges for each company. The analysis of multiple study cases has enabled us to group pathologies associated with insecure land rights in Brazil into three categories. The five gradations of strategic implications were built on content analysis of four interviews with forestry sector executives (sustainability managers and asset managers), held between February and March 2017 in person or by telephone.

#### **5. Main pathologies associated to insecure land rights in Brazil**

Since land rights are poorly protected by the State in Brazil due to the previously mentioned reasons, some pathologies (or dysfunctionalities) emerge. The problem touches landowners across the country, but especially the forestry sector: given its dependence on large tracts of forest to supply their mills.

The first pathology is the allegation of vacant land occupation by forest companies. Such pathology counts on the support of two factors: land donation from government to private entities and acquisition of land subjected to possession title. Indeed, in the seventies, the government donated land to some companies in order to incentivize the establishment of forest plantations in certain regions (Fibria, 2014b), but the extent of these donations was limited compared to the expansion process that took place right after. Forestry companies bought many farms around the mill site to secure log supply. Many of them had only possession titles, which means a transitory title according to Brazilian regulation. Therefore, they promoted a full registry to obtain the deed. The way this process was carried out has been frequently contested by some stakeholders (Fibria, 2014b; Malina, 2013). One company has registered farms in the name of its employees for later registry under its own name, because the process was less bureaucratic that way (Fibria, 2014a). Another company made purchase agreements with land owners, making contract validity conditional on land regularization by the seller. In the eyes of some stakeholders, both strategies have allowed private companies to acquire vacant land using intermediaries.

One group that poses fierce criticism of the forestry sector is the landless movement. According to them, vacant land acquisition by large companies has prevented land reform from taking place in those areas. This argument is used to justify the invasion of forest farms by the landless (Conselho Indigenista Missionário, 2011; MST, 2009a, 2009b).

The second pathology is the contestation of land titles. This is possible because the land governance system has many weaknesses, as previously explored. Given the existence of



multiple land titles linked to the same piece of land, fraudulent land titles, and errors in the land register, titles are frequently contested.

Discriminatory lawsuits (ações discriminatórias) are examples of this pathology. It consists of recruiting various landowners of a given region to present land titles to authorities. The document analysis allows the discrimination between private and public land and the identification of illegal appropriation of vacant land. Occasionally forestry companies are cited in discriminatory lawsuits.

The third pathology is the expropriation of private land for different purposes, frequently followed by conflicts caused by unclear property rights in the interim phase. The main reasons for land expropriation are: creation or expansion of indigenous groups' reservation; afro-descendent groups property; agrarian reform settlements; and establishment of natural vegetation reserves. There are many examples in the forestry sector of how long and critical those processes can be, such as the creation of Pau Brasil Indigenous Land. On three occasions (1981, 1998 and 2007), private land was expropriated to create and expand the indigenous reservation, all of them preceded by social conflicts ("Fibria - Relatório 2014," n.d.; Fibria Celulose, 2010). Another indigenous group has been awaiting federal justice to decide about the expansion of the Barra Velha reservation for more than nine years (Veracel, 2016).

Disputes between forestry companies and afro-descendent communities are also found. The time lag between recognition as a traditional community and land title issued in the name of the group can also be long. One company reported two land claims by an afro-descendent community awaiting a decision for more than four years (Fibria, 2017).

Private land can also be expropriated for the creation of land reform settlements. At many times, those acts are preceded by land invasions as a means of pressuring government to speed up legal procedures. That is the reason for the 235 farm invasions in 2014 in Brazil by social movements (Dataluta, 2015). Three out of five cases reviewed were touched by land expropriation for the creation of rural settlements (Fibria, 2015; Instituto Nacional de Colonização e Reforma Agrária, 2014; Veracel, 2015).

Land occupation by individuals is also frequent. According to Civil Code (arts. 1.238 and 1.239, Lei nº 10.406/2002), squatters can claim land right after five to fifteen years of pacific possession over a private land.

Finally, land expropriation for the creation of natural reserves can occasionally affect private companies and usually take many years to be fully accomplished. The creation of Cajari River Extractive Reserve is one example. In 1990 a decree expropriated 481,650 hectares from Jari Celulose, but the company was not compensated until 2007 (Claro, 2007).

These three pathologies are consequences of the weak institutional environment around land rights protection in Brazil. Under the limited capacity of the State to define and enforce property rights, the efficacy of capture effort vis-à-vis protection effort tends to be high, and consequently disputes emerge. Responsible businesses have to put strategies in place to protect their rights on one hand, and uphold stakeholders' rights on the other. The way they have exercised this balance is presented in the next section.

## **6. Responses by responsible businesses to insecure land rights in Brazil**

Responsible businesses strive to balance social, environmental, and economic outcomes of their activities, keeping in mind the interests of their stakeholders (Elkington, 1994). In this spirit, it is desirable that companies favor conflict avoidance and negotiated agreement before



resorting to legal mechanisms for right protection. To achieve such goals, responsible forest companies have adapted their organizational structures and developed ad hoc strategies to solve land disputes.

The organizational structure of the interviewed companies is composed of the following areas, among others: community relations, security patrol, land administration officer, and lawyers (internal or outsourced) specializing in land rights. The team of experts responsible for looking after the relationship between the company and its neighbors is called a sustainability team, corporate social responsibility team, or community relations team. This group is responsible for mapping stakeholders near forest sites, hearing community demands and/or claims, and establishing communication processes on behalf of the company. In cases of land invasion, such personnel are tasked with initiating a communication process with the occupiers.

Security patrols are responsible for verifying the integrity of the farms, watching for vestiges of illegal hunting, fishing, collection of fauna and flora, and other human activities (stolen objects abandoned in the forest, drug trafficking, etc.), as well as damage to fences, gates, natural vegetation, traffic or communication signs, and other infrastructure. In case of invasion or the presence of unauthorized persons on the farms, security personnel identify them and communicate with them whenever possible. Occurrences are recorded and communicated internally for further action. Some occurrences are filed by security staff at government agencies to protect the company from illegal acts (such as illegal hunting or logging) and/or request legal protection or assistance.

Forestry companies in Brazil usually own or rent land for their plantations. Land administration officers assess requirements for land acquisition prior to purchase or rental, including: deed or possession title; dominion chain; tax payment; preservation and registration of areas set aside for natural vegetation conservation at Rural Environmental Cadaster (CAR); assessment of soil fertility; topography; access to roads; and distance from the mill. They, along with the community relation team, also assess potential conflicts with local stakeholders such as small-scale farmers, indigenous groups, afro-descendent groups, and settlers or squatters living on the land. Despite the due diligence before land acquisition, there are always threats related to insecure land rights in Brazil.

The team of lawyers (internal or outsourced) specializing in land rights is consulted in abnormal situations or when a dispute needs to be brought to the courts.

Besides the internal structure, forest companies are required to take action whenever a land dispute (or potential dispute) is identified. They are called ad hoc actions, since they are taken only when an occurrence (abnormality) is observed, and are regulated by internal policies, procedures, or conflict resolution mechanisms. Such ad hoc actions can either rely primarily on mechanisms centered on private action for the protection of property rights, or on mechanisms centered on public action. Four categories of strategies were identified from the analysis of the five cases reviewed:

- i. Dispute resolution between claimants and the company, without rearrangement of property rights, via communication and clarification about land use and property rights involved. Security patrol and community relation team are able to solve many situations caused by misinformation or misinterpretation of rights.
- ii. Dispute resolution between claimants and the company, with rearrangement of property rights, via direct negotiation between the parties. For example, disputes over fences and landmark locations are frequently solved via negotiation, followed by the correction of land titles. Other examples are negotiation of easement of passage, land ownership





- exchange for many reasons, land lending to local inhabitants (usually for developing small-scale agriculture), and even land donation to the community or local government. The re-allocation of land property rights necessarily results in formal agreements since it has legal implications.
- iii. Dispute resolution between claimants and the company via direct negotiation between the parties followed by further stakeholder engagement. In this case, the organization commits, for example, to create employment, support small-scale agriculture, or support other community initiatives.
  - iv. Request property rights protection from the State (via law courts and police power) to maintain or recover possession over the land.

Strategies i, ii, and iii aim to define property rights among the parties involved whenever necessary, at the local level, avoiding conflict escalation when a land claim is legitimate. Responsible forestry operations, whose reputation has a significant impact on share value and maintenance of social and environmental certifications, have put in place alternative means to the use of military power. However, when the environment is not favorable to communication and commitment from both sides, or when the commitment is not reached at the local level, it is important to employ legal measures to clear disputes and enforce the law.

The five companies here analyzed employ resources to adapt their organizational structure and put in place ad hoc actions to prevent and solve land conflicts. On top of that, they also spend resources to regularize land titles, to register the farms at the Ministry of Agriculture's Rural Environmental Cadaster, and monitor their properties through satellite images, which also contributes to the prevention of disputes. However, a stronger institutional environment would certainly reduce the weight of private mechanisms in the definition and enforcement of land rights.

## **7. Conclusion**

The Economic Analysis of Property Rights Theory founded by Barzel (1989, 1997, 2002), and further developed by Zylbersztajn (2010) and Monteiro & Zylbersztajn (2012a, 2012b), is helpful in comprehending how transaction cost affects business strategies in different environments. In this article, the theoretical framework was applied to the study of land conflicts in Brazil and the strategies of five forestry companies.

The analysis of the institutional environment has evidenced fragilities in the definition and enforcement of property rights by the State. The main reasons for this context are the historical tension between de facto and de jure property rights, and the lack of a sound land governance system, which give rise to pathologies that affect forestry organizations.

Three pathologies explored in this article were: allegation of public land occupation by forestry companies; contestation of land titles; and expropriation of private land for the creation or expansion of reserves, group property, and rural settlements. From the academic perspective, these pathologies are equivalent to (temporary) unclear definition of property rights, what creates the conditions for attempted value capture by third parties. The symptoms of such pathologies are the frequent land disputes. The use of private military power is not a response available to responsible businesses, which have instead adopted alternative strategies to prevent and solve contentions over the land.

The review of five cases of forestry companies has evidenced the adoption of two sorts of private strategy to protect land rights responsibly: adaptation of organizational structure, and



selection of ad hoc measures that use communication and negotiation with stakeholders as the preferential way to clear disputes. The ad hoc measures have been grouped in four categories: dispute solving without rearrangement of property rights via communication and clarification about land use and property rights; rearrangement of property rights via direct negotiation between the parties; stakeholder engagement for the promotion of social development; and request of legal protection (via judiciary and police) to maintain or recover land possession.

Both organizational structure and ad hoc measures illustrate what Barzel (1989, 1997, 2002) called transaction cost. The reduction of such deadweight cost is key to preserving Brazil's competitiveness in the global forestry business and to allow the emergence of prosperous relations between companies and their stakeholders.

## 7. References

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative development: an empirical investigation. *The American Economic Review*, 91(5), 1369–1401.

Alston, L. J., Harris, H., & Mueller, B. (2009). De Facto and De Jure Property Rights: Land Settlement and Land Conflict on the Australian, Brazilian and U.S. Frontiers. *SSRN Electronic Journal*, 1. <https://doi.org/10.2139/ssrn.1474025>

Alston, L. J., Libecap, G. D., & Mueller, B. (2000). Land Reform Policies, the Sources of Violent Conflict, and Implications for Deforestation in the Brazilian Amazon. *Journal of Environmental Economics and Management*, 39(2), 162–188. <https://doi.org/10.1006/jeem.1999.1103>

Araujo, C., Bonjean, C. A., Combes, J. L., Combes Motel, P., & Reis, E. J. (2009). Property rights and deforestation in the Brazilian Amazon. *Ecological Economics*, 68(8–9), 2461–2468. <https://doi.org/10.1016/j.ecolecon.2008.12.015>

Barzel, Y. (1989). *Economic Analysis of Property Rights*. Cambridge University Press New York.

Barzel, Y. (1997). *Economic Analysis of Property Rights* (2a. edição). Nova York: Cambridge University Press.

Barzel, Y. (2002). *The theory of the state Economic rights, legal rights and the scope of the state*. Nova York: Cambridge University Press.

Brasil. (1988). *Constituição da República Federativa do Brasil de 1988*. Retrieved February 27, 2017, from [http://www.planalto.gov.br/ccivil\\_03/constituicao/constituicao.htm](http://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm)

Claro, P. B. O. (2007). *Direito de propriedade, atividades econômicas e contexto institucional no vale do Jari*. Universidade Federal de Lavras. Retrieved from <http://repositorio.ufla.br/>

Comissão Pastoral da Terra. (2016). *Conflitos no Campo Brasil*. Retrieved February 20, 2017, from <https://www.cptnacional.org.br/index.php/publicacoes-2/destaque/3175-conflitos-no-campo-brasil-2015>

Conselho Indigenista Missionário. (2011). *Conselho Indigenista Missionário*. Retrieved May 24, 2016, from <http://cimi.org.br/site/pt-br/?system=news&action=read&id=1494>

Dataluta. (2015). *Relatório Brasil 2014.*, 69. Retrieved from [http://www2.fct.unesp.br/nera/projetos/dataluta\\_brasil\\_2014.pdf](http://www2.fct.unesp.br/nera/projetos/dataluta_brasil_2014.pdf)

de Soto, H. (2000). *The Mystery of capital: why capitalism triumphs in the west and fails everywhere*. Nova York: Basic Books.



Deininger, K., & Jin, S. (2007). Securing property rights in transition: lessons from implementation of China's rural land contracting law (No. 4447). Policy research working paper (Vol. 70). <https://doi.org/10.1016/j.jebo.2009.01.001>

Dixit, A. K. (2004). *Lawlessness and Economics Alternative Modes of Governance*. Princeton: Princeton University Press.

Elkington, J. (1994). Towards the sustainable corporation: win-win-win business strategies for sustainable development. *California Management Review*, 36(2), 90–100. <https://doi.org/https://doi.org/10.2307/41165746>

Fibria. (2014a). Posicionamento sobre terras devolutas. Retrieved from <http://www.fibria.com.br/institucional/posicionamentos/>

Fibria. (2014b). Relatório de 2013. São Paulo. Retrieved from <http://www.fibria.com.br/relatorio2013/>

Fibria. (2015). Novo olhar para o futuro - Relatório 2014. São Paulo. Retrieved from <http://www.fibria.com.br/r2014/>

Fibria. (2017). Relatório Fibria 2016 Um novo horizonte para todos. Retrieved from <http://www.fibria.com.br/midia/publicacoes/>

Fibria - Relatório 2014. (n.d.). Retrieved October 7, 2015, from <http://www.fibria.com.br/r2014/>

Fibria Celulose. (2010). Relatório de Sustentabilidade 2009. São Paulo. Retrieved from <http://www.fibria.com.br/rs2009/pt/>

Graça, C. T., Reydon, B. P., Postal, A. M., Bueno, A. P. S., & Moreira, G. L. (2017). Fragilidade dos direitos de propriedade no Brasil: diagnóstico e estimativa de alguns custos para o setor florestal. In B. P. Reydon, V. B. Fernandes, A. P. S. Bueno, & G. P. Siqueira (Eds.), *Governança de terras: da teoria à realidade brasileira* (p. 405). Brasília: Organização das Nações Unidas para Alimentação e Agricultura.

Indústria Brasileira de Árvores. (2016). Relatório Anual. Relatório Anual. São Paulo. Retrieved from [http://iba.org/images/shared/Biblioteca/IBA\\_RelatorioAnual2016\\_.pdf](http://iba.org/images/shared/Biblioteca/IBA_RelatorioAnual2016_.pdf)

Instituto Nacional de Colonização e Reforma Agrária. (2014). Maranhão tem 15 áreas decretadas para fins de reforma agrária. Retrieved June 16, 2016, from <http://www.incra.gov.br/maranhao-tem-15-areas-decretadas-para-fins-de-reforma-agraria>

Malina, L. L. (2013). A territorialização do monopólio no setor celulístico-papeleiro: a atuação da Veracel Celulose no Extremo Sul da Bahia. University of São Paulo.

Monteiro, G. F. A. (2010). Direitos de Propriedade, Estratégia e Ambiente Institucional. Universidade de São Paulo. Retrieved from <http://www.teses.usp.br/teses/disponiveis/12/12139/tde-20102010-175412/>

Monteiro, G. F. A., & Zylbersztajn, D. (2011). *Economic Analysis of Law Review*, 2(1), 95–114.

Monteiro, G. F. A., & Zylbersztajn, D. (2012a). A property rights approach to strategy. *Strategic Organization*, 10(4), 366–383. <https://doi.org/10.1177/1476127012457982>

Monteiro, G. F. A., & Zylbersztajn, D. (2012b). The Institutional Foundations of Property Rights Strategies. In Annual Conference of the International Society for New Institutional Economics. Los Angeles. Retrieved from <http://papers.sioe.org/losangeles.html>

MST, M. dos T. S. T. (2009a). MST denuncia grilagem de terras públicas pela Veracel. Retrieved November 12, 2015, from <http://antigo.mst.org.br/node/6785>

MST, M. dos T. S. T. (2009b). MST ocupa área da Veracel no sul da Bahia. Retrieved November 12, 2015, from <http://antigo.mst.org.br/node/1089>



North, D. C. (1990). *Institutions, institutional change, and economic performance*. New York: Cambridge University Press.

Reydon, B. P. (2011a). A questão agrária brasileira requer solução no século XXI. In *As questões agrária e da infraestrutura de transporte para o agronegócio* (pp. 3–48). Viçosa: Universidade Federal de Viçosa.

Reydon, B. P. (2011b). O desmatamento da floresta amazônica: causas e soluções. *Política Ambiental/Conservação Internacional*, 8, 143–155. Retrieved from [http://www.conservation.org/global/brasil/publicacoes/Documents/politica\\_ambiental\\_08\\_portugues.pdf#page=143](http://www.conservation.org/global/brasil/publicacoes/Documents/politica_ambiental_08_portugues.pdf#page=143)

Reydon, B. P. (2014). Governança de terras e a questão agrária no Brasil. In A. M. Buainain, E. Alves, J. M. Silveira, & Z. Navarro (Eds.), *O mundo rural no Brasil do século 21, a formação de um novo padrão agrário e agrícola* (p. 1182). Brasília: Embrapa.

Reydon, B. P., Fernandes, V. B., & Telles, T. S. (2015). Land tenure in Brazil: The question of regulation and governance. *Land Use Policy*, 42, 509–516. <https://doi.org/10.1016/j.landusepol.2014.09.007>

Reydon, B. P., Graça, C., Postal, A. M., Bueno, A. P. S., & Leardine, G. (2016). Costs of fragile property rights in Brazilian forest sector: diagnosis and some propositions based on concrete experiences. In *Land and Poverty 2016*. Washington DC: The World Bank. Retrieved from [https://www.conftool.com/landandpoverty2016/index.php?page=browseSessions&form\\_session=208#paperID644](https://www.conftool.com/landandpoverty2016/index.php?page=browseSessions&form_session=208#paperID644)

Robinson, B. E., Holland, M. B., & Naughton-Treves, L. (2014). Does secure land tenure save forests? A meta-analysis of the relationship between land tenure and tropical deforestation. *Global Environmental Change*, 29(November), 281–293. <https://doi.org/10.1016/j.gloenvcha.2013.05.012>

Silva, L. O. (1997). As Leis agrárias e o latifúndio improdutivo. *São Paulo Em Perspectiva*, 11(2), 15–25.

Veracel. (2015). *Relatório de Sustentabilidade Ano Base 2014*. Eunápolis. Retrieved from <http://www.veracel.com.br/sobre-a-veracel/relatorio-de-sustentabilidade/>

Veracel. (2016). *Relatório de sustentabilidade 2015 ano base 2015*. Retrieved from <http://www.veracel.com.br/sobre-a-veracel/relatorio-de-sustentabilidade/>

World Bank. (2014). *Avaliação da Governança Fundiária no Brasil*. Retrieved from [http://siteresources.worldbank.org/INTLGA/Resources/Brazil\\_land\\_governance\\_assessment\\_final\\_Portuguese.pdf](http://siteresources.worldbank.org/INTLGA/Resources/Brazil_land_governance_assessment_final_Portuguese.pdf)

Zylbersztajn, D. (2010). Fragile Social Norms : ( Un ) Sustainable Exploration of Forest Products. *International Journal on Food System Dynamics*, 1(March), 46–55.