

Could weak property rights explain Brazil's deforestation and land conflicts?

By Thiemo Fetzer

Natural resource abundance and weak institutions are believed to breed civil conflict. Weak institutions may also foster the unchecked exploitation and erosion of natural resources.

Insecurity of property rights in the Brazilian Amazon is a major driver behind land-related civil conflict and a contributing factor to deforestation. Creating secure property rights has the potential to dramatically reduce civil conflict, even in the absence of changes in enforcement.

A challenge for policymakers stems from limited understanding of what type of institutional change is required to reduce both civil conflict and unsustainable natural resource exploitation. Our results suggest that secure property rights provide economic benefits and represent an integral function of an effective and peaceful state. ►



WEAK PROPERTY RIGHTS ARE strongly associated with underdevelopment.

The threat of expropriation by government or others leads to inefficiently low investment in productive assets, and inefficiently high investment in guard labour.

In addition, weak property rights may lead to civil conflict. For conflict to be profitable, two conditions must be satisfied. First, there must be something worth taking – the prize must be valuable. Second, it must be possible to take it – the prize must be contestable. For civil conflict, this second condition raises the issue of the state's ability to enforce and protect property rights.

Most conflict research has tended to focus on the value of the prize. As a result – despite a prevailing view that weak institutions and ineffective states set the stage for conflict – we are still only beginning to unpack the roles that specific policies and institutions may play.

In recent research, Samuel Marden and I examine this issue in the context of the Brazilian Amazon, where most of the land does not have well-defined property rights. In fact, the Brazilian constitution encourages contest over land that is not in some form of socially “productive use”. This implies that landowners potentially face the threat of land invasions by squatters, who can make the property “productive” by clearing it; they then can appeal to the government for ownership on legal grounds. This potentially sets the stage for conflict, as people vie for the title to a piece of land, and for the deforestation of that land, because clearing land, represents a “productive use”.

Brazil is not unique in having constitutional provisions that encourage squatting and contest over property rights. The origins of this lie in the colonial past, which resulted in very unequal distribution of land ownership, which in turn led to the adoption of policies and institutions that favour redistribution and land

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reform. As such, Brazil is among the many Latin American countries that experiences significant land-related civil conflict. Between 1997 and 2010, for example, there were at least 280 murders, and many more events that involved lower levels of violence (see figure 1).

Our research shows that insecurity of property rights over land in the Brazilian Amazon is a major driver behind land-related civil conflict, and a contributing factor to deforestation. This implies that the assignment of secure property rights can dramatically reduce civil conflict, even in the absence of changes in enforcement. Indeed, at the local level, we cannot rule out that substantively all violent land-related conflict is a consequence of Brazil's

failure to securely assign property rights over land.

We arrive at these findings by exploring a natural experiment. Over a 13-year period, the proportion of land in the Brazilian Amazon basin covered by some form of ecological or indigenous protection grew from 16 percent of in 1997 to 44 percent in 2010 (see figure 2). Land with protected status automatically fulfils the constitutional “productive use” requirement simply by virtue of being protected. Thus, squatters have no more incentive to invade land in protected areas because they can no longer appeal to the government for the title for having converted the land to “productive use”. Consequently, an increase in the municipal share of land under protection reduces the share of land in that municipality that is contestable.

The causal chain for the argument is simple: if more land is protected in a municipality, less land is available to fight over, which should result in less land-related conflict. We show that this is indeed the case. Our results indicate that weak property rights, and the resulting contestability of land titles, are primary causes of this conflict. We rule out a host of alternative explanations that could generate our results. For example, we find no detectable relationship with non-land related crime (proxied by homicides), economic activity, environmental enforcement or local government expenditure.

Our results also underscore the importance of policies' scope and enforcement.

For example, our findings suggest that local efforts to improve property rights in one area may divert land-related conflict to other municipalities.

Thus, broad national or regional efforts to improve property rights are likely to be more beneficial than piecemeal local reforms.

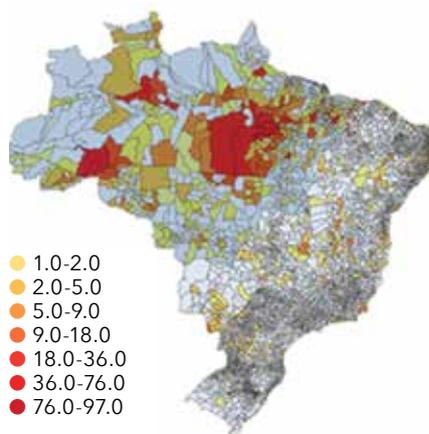
And, while establishing protected status results in a net gain of forested land remaining, not all types of deforestation are affected equally. "Permanent deforestation" of the type necessary to establish a land title claim decreases substantially, but short-run deforestation of the kind associated with illegal logging and temporary pasture actually increases. We interpret this as evidence as evidence of weak overall enforcement of protection laws. Protection status has reduced deforestation, but would likely have more widespread effects if it were better enforced.

Our paper highlights the importance of establishing secure property rights over land, and, more generally, the importance of the role of law in limiting the set of contestable assets and goods, in preventing civil conflict and discouraging environmental degradation. ◀

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Municipality-level counts of escalations



Municipality-level counts of violence

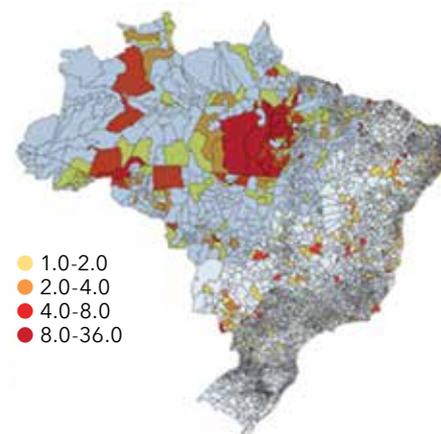


Figure 1: Maps show municipality-level counts of escalations (left) and violence (right) from 1997 to 2010: land-related conflict was concentrated in the Amazon states (shaded).

Protected areas in 1997



Protected areas in 2010



Figure 2: Maps illustrate the expansion of protected areas between 1997 and 2010. The Amazon states are shaded. Forested areas are darkened.

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Publications Details

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