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2.7: Why such a tremendous expansion of cattle ranching in the Amazon ? Discussion from a new research methodology

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Deforestation in the Brazilian Amazon is strongly linked to the expansion of cattle ranching: according to national inventories, the creation of pasture for cattle ranching accounts for about 80 percent of the deforested areas. Several studies, based on traditional farming systems surveys and analysis, pointed out that this activity has one of the lowest rate of return and is not suited for small scale agriculture, therefore questioning the true underlying factors of such a tremendous investment in this sector from both large and small landholders. During a research project financed by the National Science Foundation, a new methodology has been developed to try to better understand the whole determinants of livestock expansion in several agricultural frontiers of the Amazon (tree cases studies in Brazil, one in Ecuador and in Peru). This paper will present the methodology as well as the results for the Eastern Brazilian Amazon case. The methodology is based on the identification of key-informants and qualitative open surveys led by multidisciplinary groups. Results allow to better rank the main determinants of livestock expansion in the Eastern Brazilian Amazon as drawn from the actors themselves. Policies implications will be discussed as well as methodological limitations.

2.8: Landscape Fragmentation and Conservation in Rondônia: The Role of Settlers, Loggers, and Forest Peoples

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An understanding of changes in Amazonian landscapes depends on documentation about alterations in land cover. This paper addresses studies in areas of rural settlement in Rondônia, where distinct actors have altered the pristine environment during the last twenty years. Two situations were compared in terms of their biophysical and institutional aspects. Remote sensing and fieldwork were used to map land-use/land-cover (LULC) changes. Settlers, loggers, forest peoples, and other local actors were interviewed about their production systems and land-use history. Spatial metrics were calculated to analyze changes in landscape composition and configuration. The results indicate that the combination of private lots with communal reserves, managed by local populations, produces positive outcomes in maintaining larger patches of forest. The research is intended to serve as a contribution to analyses and syntheses about LULC change processes, subsidizing public policies that incorporate social and environmental dimensions. Current trends within the region are also addressed.

2.9: Agents of Deforestation

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Using some traditional and some more recent econometric results for model evaluation in panel data and a comprehensive data set on land use in the Brazilian Amazon, we revisit the question of whether the size composition of agricultural establishments in the Amazon region plays a role in determining the rate of deforestation. Fearnside (1993) has presented evidence that, contrary to some official Brazilian claims, small land holders account for a relatively small proportion of deforestation in the Amazon. States in which large establishments are relatively abundant are also those which tend to have the greatest percentage of deforested land, although small land holders deforest land more intensively.

We use census tract level data and a large array of variables to control for the natural vegetation, climate and economic environment to examine whether the size composition of establishments plays a significant causal role in land use decisions and deforestation. In addition we employ dynamic econometric modelling techniques rather than relying exclusively on contemporaneous correlation to study how these relationships have evolved over time and across space

2.10: Transportation Logistics and Endogenous Development in the Amazon

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Brazil is a continent, and was historically forged according to the frontier economy paradigm. From the sixties on, huge roads have been built in the Amazon aiming, first, to national integration, and then to exports, mainly of soy. Meanwhile, intraregional connectivity was neglected. There is, therefore, a conflict between: a) Soy competitiveness on external markets, which depends on lower costs based on a powerful logistics that is being developed by corporations; b) Local and regional endogenous development based on diversified production mainly for local markets, that lack adequate infrastructure to support their activities. In other words, there is a conflict between two, very different time-spaces, that demand different strategies for their existence.

It is well known the perverse social and environmental impacts of road building in the Amazon. Nevertheless, although with different motivations, all regional actors today ask for transportation. The central question, therefore, is how to solve the conflict between such different time-spaces associated to divergent interest and forces. The paper discusses alternatives at the political, territorial, scientific and technological levels.