

A Forest Call: Impact Evaluation of the Colombian Peace Agreement of 2016 on Deforestation

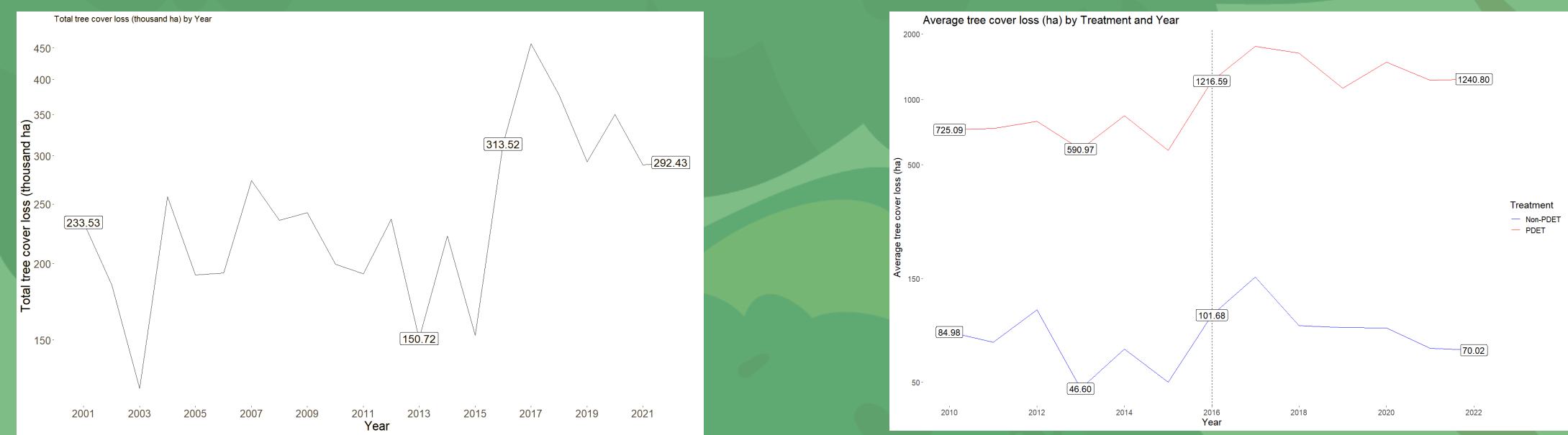


BACKGROUND

The Colombian Peace Agreement from 2016, between the Colombian State and the Revolutionary Armed Forces of Colombia (FARC) laid the foundations to start the peacebuilding process, having as goal the transformation of the persistent conflictive conditions of the country into conditions that guarantee a sustainable development. Government interventions are focused in actions for the agricultural frontier delimitation and areas of environmental interest protection, in addition to the effect of the cessation of hostilities.



Tree cover loss trends during the 21st Century



The aim of this thesis is to evaluate the impact of the Final Agreement on deforestation through a quasi-experimental design, considering the 170 municipalities prioritized by the PDET as the treatment group, and comparable municipalities as the control group.

METHODOLOGY

The analysis implemented multiple **Difference-in-Differences** models that add refinement **matching methods** (Propensity Score Matching and Propensity Score Weighting) using the prioritization variables that were chosen to define the PDET municipalities. By using such refinement methods, it was possible to prove the existence of **parallel trends** in the pre-treatment between the **treatment (PDET municipalities)** and the **control (non-PDET municipalities)** groups.

After implementing the matching methods, 160 treatment and 677 control municipalities were included in the analysis for a time span between 2011 and 2021. The following variables were used for a more robust match:

POVERTY

CONFLICT INDEX

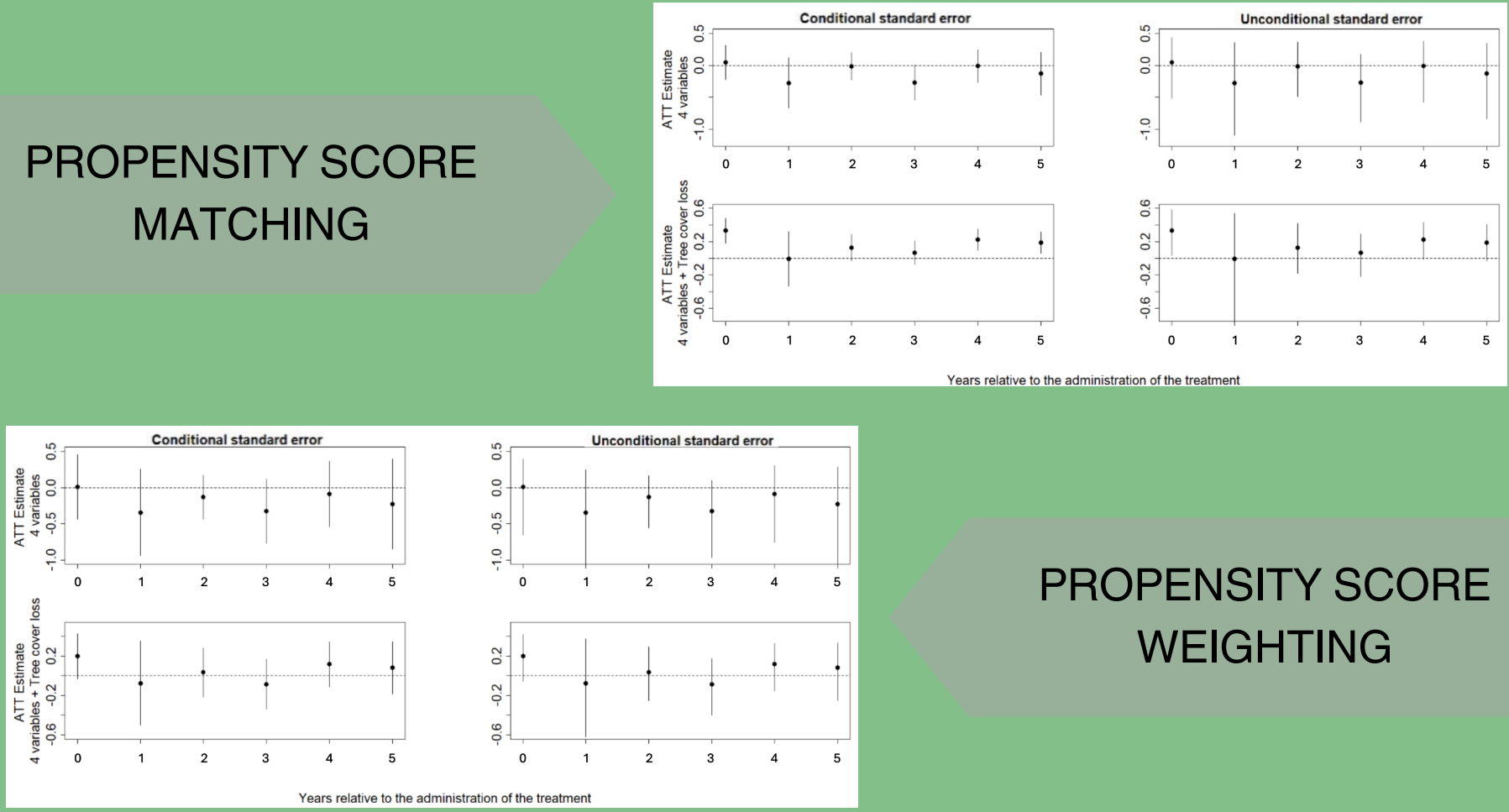
FISCAL PERFORMANCE

ILLICIT CROPS

RESULTS

Although some of the simplest models implemented in the analysis led to significant results, the most robust and unbiased **ATT estimates** (Average Treatment Effect on the Treated) considering the 4 variables for the treatment selection (with and without the lags of tree cover loss) led, in general, to non-significant ATT estimates for all the post-treatment years, both using conditional and unconditional standard errors.

PROPENSITY SCORE MATCHING



PROPENSITY SCORE WEIGHTING

These results would mean that **the classification of PDET municipalities has not led to significant changes in tree cover loss**, neither positive nor negative ones.

LITERATURE REVIEW

Consensus about the need for a nuanced understanding of the specific features of conflict and post conflict, and its impact on deforestation because the direction of this relationship cannot be generalized.

Specific studies in the Colombian Peace Agreement have reported a rise in deforestation in different areas, primarily in the Andes-Amazon Transition Belt. However, there is not a clear consensus on the direction of the relationship between conflict and deforestation, mainly explained by the FARC erratic approach applied to defend the environment.



- Illegal economies
- Encampments in protected areas
- Other actions related to the hostilities

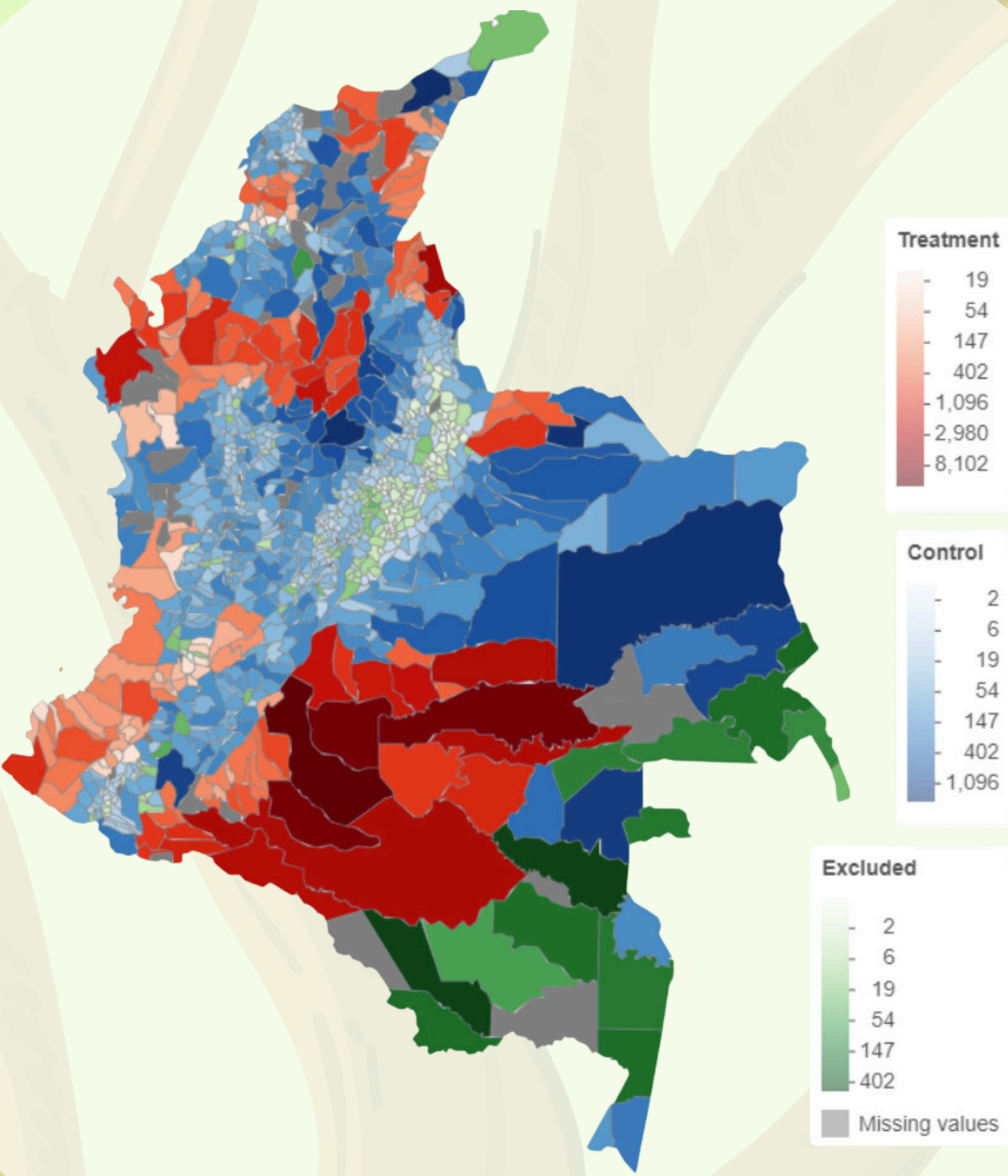


- FARC as environmental authority in some specific areas

PDET

The Development Programs with Territorial Approach (PDET, for its Spanish abbreviation), prioritize 170 municipalities for integral governmental interventions. Those municipalities are the most affected by the armed conflict, poverty, illicit crops and institutional weaknesses.

Average tree cover loss (ha) by group between 2001 and 2022



POLICY RECOMMENDATIONS

1

Policies focused on tree cover loss need to be strengthened despite reforestation efforts.

2

The current and future governments need to address conflict issues related to new armed groups that can threaten Final Agreement's purposes.

3

More research is needed to balance environmental protection with post-conflict recovery for peacebuilding.

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