

Milestone 5

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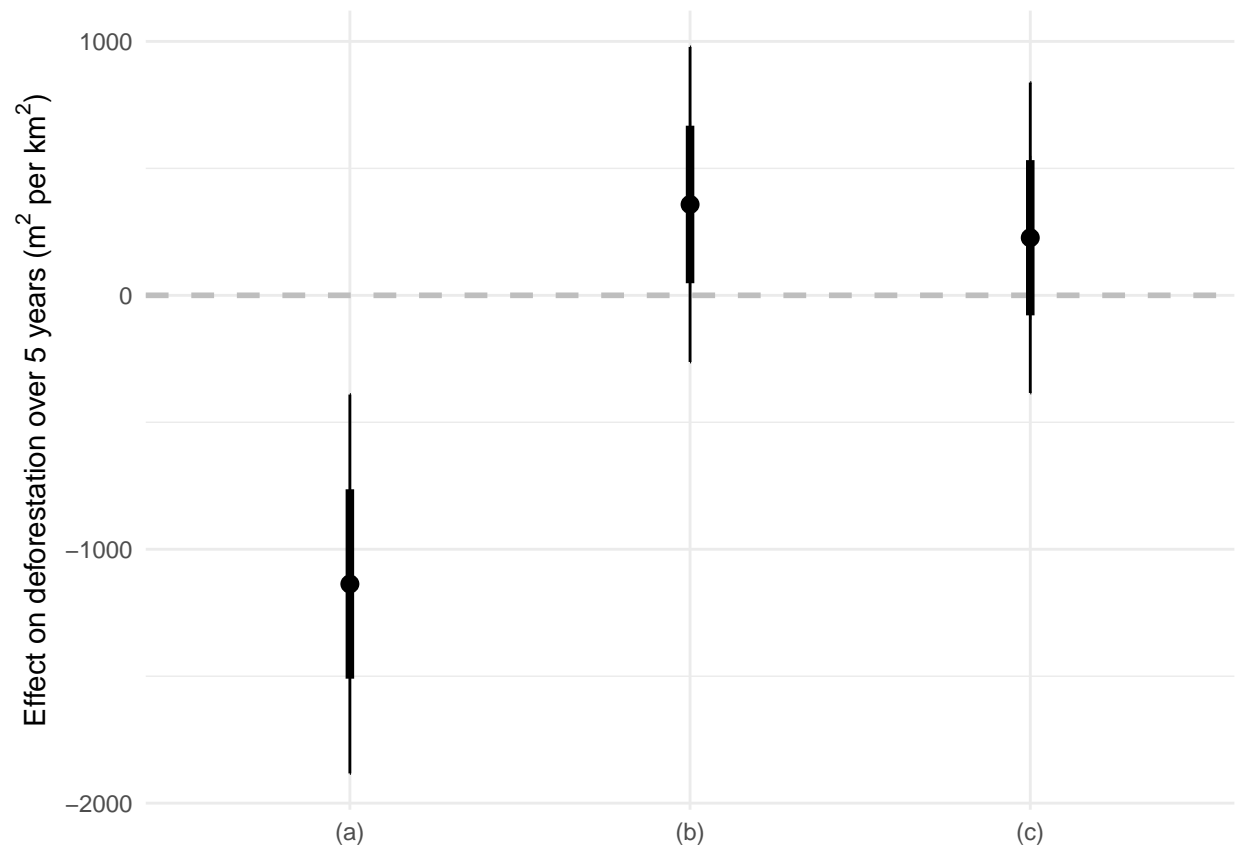
This is my Milestone 5 PDF.¹

A 300 – 500 word overview of your replication paper. What analysis did they run? What did they conclude?

My project’s replication paper is titled “Titling community land to prevent deforestation: An evaluation of a best-case program in Morona-Santiago, Ecuador.” This is an evaluation of the impact of a donor-funded land titling and land management program for indigenous communities in Ecuador. They believe that this is virtually a best-case policy intervention. The data for the model was generated from spatial data on intervention areas and title boundaries provided by USAID and NGOs and publicly available spatial raster data such as population density (Landsat) and forest cover (Global Forest Change (GFC) by Hansen et al). The change in GFC in an area is used as the metric for deforestation. Areas receiving the program treatment were matched with areas that did not receive the treatment using a genetic matching algorithm. The treatment effect over the five years after is then estimated with a difference-in-difference OLS model. They find that treatment does not have a significant effect on deforestation rates.

Here is a beautiful graphic based on figure 4 from the paper. Difference in differences over five years for PSUR plots with legalization plan (PML) and title versus non-PSUR plots with no plan or title, 2002–2012. Notes: Figure shows treatment effect of tenure status for models as follows: (a) covariates, no pre-matching; (b) no covariates, pre-matching; (c) covariates, pre-matching.

¹* All analysis and data for this paper is available here



References

- Agrawal, A. 2001. "Common Property Institutions and Sustainable Governance of Resources." *World Development*, no. 29: 1649–1672.
- E.Y. Arima, S.G. Perz, R.T. Walker. 2005. "Loggers and Forest Fragmentation: Behavioral Models of Road Building in the Amazon Basin." *Annals of the Association of American Geographers*, no. 95: 525–41.
- K.S. Andam, A. Pfaff, P.J. Ferraro. 2008. "Measuring the Effectiveness of Protected Area Networks in Reducing Deforestation." *Proceedings of the National Academy of Sciences*, no. 105: 16089–94.
- L.J. Alston, R. Schneider, G.D. Libecap. 1996. "The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier." *Journal of Law, Economics, & Organization*, no. 12: 25–61.
- M.T. Buntaine, M. Millones, S.E. Hamilton. 2015. "Titling Community Land to Prevent Deforestation: An Evaluation of a Best-Case Program in Morona-Santiago, Ecuador." *Global Environmental Change*, no. 33: 32–43.

Appendix

An Appendix which include a replication of at least one of the tables from your paper. (It can be a simple summary table.) Also, take a screen shot of the original table and include that image in your Appendix. We want to see how closely your results match the original paper's.

The table that this follows is from page 6 of the Supporting Information document, which can be found in the repo:

Table B1. Pre- and post-matching balance summaries for covariates

	PML-only Analysis	PMI Analysis
Forest Loss within 5 km ² (m ² at $t-1$)	m-t: 4261 pre-m-c: 21794 post-m-c: 3218	m-t: 9089 pre-m-c: 21794 post-m-c: 8450
Forest Cover Percent (m ² at $t-1$)	m-t: 823861 pre-m-c: 802232 post-m-c: 826594	m-t: 840682 pre-m-c: 802232 post-m-c: 841722
Distance to Major Roads (m)	m-t: 17988 pre-m-c: 7403 post-m-c: 17473	m-t: 4064 pre-m-c: 7403 post-m-c: 4288
Distance to Electric Grid (m)	m-t: 14893 pre-m-c: 19766 post-m-c: 16322	m-t: 15209 pre-m-c: 19766 post-m-c: 14627
Distance to River (m)	m-t: 3856 pre-m-c: 3041 post-m-c: 3470	m-t: 3177 pre-m-c: 3041 post-m-c: 3121
Distance to Disturbed Land Classification (m at $t-1$)	m-t: 11464 pre-m-c: 13141 post-m-c: 10197	m-t: 16854 pre-m-c: 13141 post-m-c: 16333
Indigenous Shuar Land (binary)	m-t: 0.98 pre-m-c: 0.44 post-m-c: 0.98	m-t: 0.73 pre-m-c: 0.44 post-m-c: 0.68
Protected Area Status (binary)	m-t: 0.00 pre-m-c: 0.31 post-m-c: 0.00	m-t: 0.57 pre-m-c: 0.31 post-m-c: 0.57
Elevation (m)	m-t: 1251 pre-m-c: 1216 post-m-c: 1337	m-t: 715 pre-m-c: 1216 post-m-c: 708
Slope (degrees)	m-t: 16.7 pre-m-c: 11.6 post-m-c: 15.7	m-t: 13.1 pre-m-c: 11.6 post-m-c: 13.0
Population Density within 5 km ² (persons/km ² at $t-1$)	m-t: 6.41 pre-m-c: 4.33 post-m-c: 5.73	m-t: 0.89 pre-m-c: 4.33 post-m-c: 0.92

Notes: m-t is mean of the treated group; pre-m-c is mean of the control group before matching; post-m-c is mean of the control group after matching. All unit measures are contained in column 1.

Figure 1: alt text here