

The Social Science Journal >

Volume 55, 2018 - [Issue 2](#)

279 | 20 | 0
Views | CrossRef citations to date | Altmetric

Original Article

The United States Agency for International Development and forest loss: A cross-national analysis of environmental aid

Michael Restivo , John M. Shandra & Jamie M. Sommer

Pages 170-181 | Received 12 Feb 2017, Accepted 02 Sep 2017, Published online: 09 Dec 2019

 Cite this article  <https://doi.org/10.1016/j.soscij.2017.09.001>



Sample our
Economics, Finance,
Business & Industry Journals
>> [Sign in here](#) to start your access
to the latest two volumes for 14 days

 Full Article  Figures & data  References  Citations  Metrics

 Reprints & Permissions

[Read this article](#)

[Share](#)

Abstract

Among scholars of international development, there is a debate regarding the effectiveness of bilateral aid to improve the natural environment. Here we focus on evaluating whether United States Agency for International Development's (USAID) aid in the environmental sector reduces forest loss. Little empirical evidence exists on this question, partly because of the challenge of modeling such a relationship, given the problem of endogeneity whereby the same social, political, or economic processes that affect forest loss may also be correlated with a nation receiving aid from international donors. We contribute to this debate by utilizing a two-stage instrumental variable regression model to analyze cross-national data for a sample of 74 low and middle income nations. After controlling for potential endogeneity, we find that higher levels of USAID's aid for environmental protection correspond with lower rates of forest loss. We

also find that a forest's proximity to infrastructure, agricultural and forestry exports, agricultural land area, and tropical climate are related to increased forest loss.

Keywords:

Forest loss

United States Agency for International Development

Cross-national

Environmental protection

Notes

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. The authors are listed alphabetically.

1 We analyze forest loss in low and middle income nations as classified by [World Bank \(2016\)](#) because high income nations are not eligible for aid from USAID. They include: Albania, Argentina, Armenia, Azerbaijan, Bangladesh, Belarus, Benin, Bolivia, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, China, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Ethiopia, Gabon, Georgia, Ghana, Guatemala, Guinea, Guyana, Honduras, Hungary, India, Indonesia, Jamaica, Kazakhstan, Kenya, Kyrgyz Republic, Lesotho, Macedonia, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mexico, Moldova, Mongolia, Mozambique, Namibia, Nepal, Nicaragua, Nigeria, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Romania, Senegal, South Africa, Sri Lanka, Sudan, Suriname, Tajikistan, Tanzania, Thailand, Togo, Turkmenistan, Uganda, Ukraine, Venezuela, Vietnam, Zambia, and Zimbabwe.

2 We tried the circular distance from Washington D.C. to each nation's capital as an instrument. It violated the valid instrument assumption. The diagnostic statistics also indicated it was a weak instrument.

3 We replicate the models using a limited information maximum likelihood estimator, which often performs better with small samples ([Baum, 2006](#)). The results are similar to the findings presented.

4 We test other variables as instruments in the first stage of the models. They include internal conflict, land area, foreign direct investment, domestic investment, and other regions of the world. They do not perform well as instruments based on diagnostics discussed.

- 5 Following [Hermanrud and de Soysa \(2017\)](#) and [Bare et al. \(2015\)](#), we include interaction terms to determine if the effect of USAID aid varies at different levels of corruption. The coefficients for the interaction term do not reach a level of significance.
- 6 We included percentage of protected forest area in the models. The coefficients do not reach a level of statistical significance.
- 7 We include dummy variables for the region of the world in the forest loss models. The results are similar.
- 8 We included the total amount of forest area within a nation as a control in the models. The coefficients do not reach a level of statistical significance.
- 9 We included the non-dependent population growth rate with the total population growth rate. The coefficients for both variables fail to reach a level of statistical significance. This is most likely the case because of the high bivariate correlation between the variables. We repeat this for the rural and urban population growth models. The results are similar to the findings reported.
- 10 We included the percentage of forest area owned by the government. It may well be that higher amounts of public forest area may correspond with increased forest loss because it can be obtained cheaply via lease or theft for extractive activities. The data come from the [United Nations Global Forest Resources Assessment \(2010\)](#). The coefficients do not reach a level of statistical significance. It important to note that including this variable reduces our sample size to 58 nations.
- 11 We replicated the models including a square of gross domestic product per capita to test for the presence of an inverted, u-shaped relationship with forest loss. The coefficients for the squared term do not reach a level of statistical significance.

Related Research Data

[Effects of Rural and Urban Population Dynamics and National Development on Deforestation in Less-Developed Countries, 1990-2000*](#)

Source: Sociological Inquiry

[The Impact of Corruption on Deforestation: A Cross-Country Evidence](#)

Source: The Journal of Developing Areas

Soybean Exports and Deforestation from A World-Systems Perspective: A Cross-National Investigation of Comparative Disadvantage

Source: Sociological Quarterly

Gender Equality and State Environmentalism

Source: Gender & Society

Organising principles for international advocacy associations

Source: VOLUNTAS International Journal of Voluntary and Nonprofit Organizations

Lazy thinking, lazy giving? Examining the effects of Norwegian aid on forests in developing countries

Related research

People also read

Recommended articles

Cited by
20

The Role of Government in Protecting the Environment: Quality of Government and the Translation of Normative Views about Government Responsibility into Spending... >

Joakim Kulin et al.

International Journal of Sociology

Published online: 2 May 2019



Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

Help and information

[Help and contact](#)

[Newsroom](#)

[All journals](#)

[Books](#)

Keep up to date

Register to receive personalised research and resources by email



Sign me up



Copyright © 2026 Informa UK Limited [Privacy policy](#)

[Cookies](#) [Terms & conditions](#) [Accessibility](#)

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG



Taylor & Francis
by informa