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Welfare Impacts of Forest Environmental Resource Commercialization: Empirical Evidence from Endogenous Switching Regression Model.

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Commercialization of Non-Timber Forest Products (NTFPs) have been given a prominent role in many conservation and development projects based on the proposition that supporting the production and trade of NTFPs leads to livelihood improvements without compromising the environment. However, while the "picture" of the significance of natural product trade for livelihoods exists,a key area of debate is whether the trade in natural products can assist in improving livelihoods and income, or alternatively, whether it offers limited options serving only as a last resort, possibly contributing to persistent poverty. Yet most literature on natural product commercialization focuses on international value chains for charismatic products with high levels of external intervention. Moreover, although several studies explored the role of forest commercialization in reducing poverty and inequality, they have some methodological shortcomings. One such limitation is that none of the studies examines the question of whether participants and non-participants have inherent different income potentials, all things being equal. Their method provides a direct and simple measure of how forest income contributes to the total income under the simplifying assumption that the differences in income between households who are participating in forest environmental resource commercialization and those households that did participate in forest commercialization could be due to observed heterogeneity. They therefore shed little light on the important policy issue of who might gain or lose from potential changes in forest policy. To this end, we used a simultaneous equation model with endogenous switching by full information maximum likelihood estimation to account for the endogenieity of the participation in forest environmental resource commercialization using 251 sample households in Ethiopia. For the model to be identified, we use selection instruments such as distance to forest, distance to market and awareness of climate change. We used a particularly rich data set, which contains both households that did and did not participate in forest resource commercialization plus a very large set of control variables. Our results are interesting in a number of respects. First, they show that the choice of methodology can have a significant impact on the estimated impacts and conclusions made about the impact of participation in forest environmental resource commercialization on the welfare of rural households. Second, the estimated heterogeneity revealed that, independent of participation, participant households would have less income on average than non- participants, implying that the group of farm households that are actually participating in forest environmental resource commercialization has systematically different characteristics than the group that did not participate. Third, the treatment effect analysis revealed that participation decreased income for non- participant groups in the counterfactual case that they did participate, while it improved the income of households that actually participated. This suggests that participation in the forest environmental resource commercialization seems to be particularly important for the most vulnerable group of farm households by helping them to fill the income gap with the less vulnerable households in the same locality.