

The Effect of Land Tenure Renewals on Sugar Production in Fiji: A Study using Administrative Data in Fiji

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Abstract

Although general studies in Fiji conclude tenure insecurity as the cause of the decline in sugarcane production, there is still a need to use appropriate datasets for a more precise estimation. A reliable and consistent dataset over a longer duration is required for a more accurate justification. This study uses an administrative dataset to examine and answer the research question whether land tenure type affects sugarcane production/productivities. Given the Agriculture Landlord Tenant Act (ALTA) as a policy intervention on the agricultural land tenure renewal application, the difference in differences empirical analysis uses 23 years of sugar production data to examine the relevant causal effect. The estimation also uses sugarcane production as the main dependent variable and land tenure as the independent variable. Despite having the least portion in land ownership, private owned tenure (Freehold) is taken as the most suitable control whereas native (I Taukei) lease tenure is used as treatment group.

The study restricts the dataset to native (I Taukei) lease tenure and private owned tenure (Freehold) and uses the difference in differences regression estimation to compare the changes in sugar production values over time. The year used for the analysis include before and after 2000 which is taken as the year of policy intervention. The production variables for years 2001 to 2004 are not included given that these years are in transition of the policy. The other dependent variables include sugarcane productivity, area of sugarcane harvested, and the expenditure per hectare on the area of sugarcane harvested.

The validity of the dataset used was confirmed by overlaying the Fiji Sugar Cooperation administrative dataset on the published sugarcane production figures from the Food and

Agricultural Organisation, Fiji Bureau of Statistics Agriculture Fisheries and Forests report 2018 and Fiji Sugar Cooperation Annual reports. The common check trend is also carried out for the private owned (freehold) and native (I Taukei) lease tenure to confirm the consistency of production trends before the policy intervention.

It is obvious that there is a general decline in sugarcane production figures and the active number of farmers participating in sugarcane farming. However, it is noted that the average trends of production are similar for all land tenure. The empirical analysis generally shows statistical significance and a negative coefficient on the interaction term for all sugarcane production variables. Corresponding summary statistics are gathered to confirm the nature of sugarcane production observations before and after policy intervention.

The inclusion of fixed effect and outliers does not have much impact in the estimation results. The relationship between sugarcane production, area of sugarcane harvested, productivity and expenditure of farmers per hectare with the interaction term consistently declines and remains statistically significant.

Keywords: Fiji, Freehold Tenure, Native (I Taukei) leased land, Sugarcane, Agriculture Landlord Tenant Act (ALTA)