Julio 2020

ART6_A1_2020_1
N° de serie

Artículo Científico

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Conocimiento Global para el Desarrollo

ALIANZAEFI
Economía Formal e Inclusiva

Journal of Development Economics 146 (2020) 102525

Contents lists available at ScienceDirect

Journal of Development Economics

journal homepage: www.elsevier.com/locate/devec

Regular Article

Land division: A lab-in-the-field bargaining experiment☆

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ARTICLE INFO

JEL classification:
C78
C90
O13
Q15

Keywords:
Land division
Non-cooperative bargaining
Cooperative bargaining
Efficiency

ABSTRACT

We design a framed bargaining experiment to explore how farmers allocate inherited land. In the experiment, two players with heterogeneous productivity inherit a land plot yielding a risky production, and some tokens to bargain over a land allocation. We conduct this experiment in Colombia with 256 participants from rural municipalities and 120 undergraduate students. Although the efficient, the non-cooperative, and the cooperative solutions of this game predict that the most productive player accrues most of the land, we find that 75% of the bargaining interactions yield egalitarian but inefficient land divisions. We implemented a treatment variation in which a costly disagreement is the only outcome leading to land equality. The single disagreement observed in this treatment weakens the support for preferences for egalitarian outcomes as the driver of inefficient allocations. We discuss alternative explanations based on the salience of equality heuristics, over-valuation of land, and sequential cooperative bargaining.

1. Introduction

Failures to allocate land to its more productive use contribute to the persistence of low levels of agricultural productivity in developing countries (Adamopoulos and Restuccia, 2014; Restuccia and Santaeulalia-Llopis, 2017). In these countries, weak contract enforcement, insecure property rights, incomplete credit and insurance markets, and policies and institutions that restrict land transactions hinder the development of land sales and rental markets (Besley and Ghatak, 2010; Deininger, 2003; Macours et al., 2010; Adamopoulos and Restuccia, 2014). In this context, non-market transactions of land, such as inheritances, become an important mechanism of land allocation. Despite its importance, we know little about the extent to which these non-market transactions lead to an efficient allocation of land.

We designed and conducted a framed field experiment to explore how farmers allocate inherited land and to assess the efficiency of these allocations. In our experiment, two players, *H* and *L*, bargain over the allocation of nine land tiles that integrate a plot that they inherit. Each land tile grants to its owner a die roll dictating agricultural production. We introduce an efficiency-equality trade-off in land allocations through two mechanisms. First, Player *H*'s agricultural yield dominates state-wise the yields of Player *L*. Thus, aggregate production is maximized when Player *H* accrues the entire land plot. Second, land divisions are costly. In particular, we discount from payoffs a fee for setting boundaries in the land plot. Each player is endowed with 10 tokens, which they can use to bargain over an allocation of land tiles. Players face a stage of oral, unstructured bargaining in which they can discuss non-binding agreements. Then, they proceed to a phase of structured bargaining in which Player *H* makes an offer involving a land allocation and a token transfer. If this offer is rejected, Player *L* makes a take-it or leave-it counter-offer that, if rejected, leads to a disagreement outcome in which one land tile is lost, and each player receives four tiles and keeps her token endowment.

☆ We gratefully acknowledge research assistance by Leonel Criado, Steffanny Romero, Paola Poveda, Cristhian Contreras, and Natalia Moreno, as well as the fieldwork coordination of Julián Pico and fieldwork assistance by Felipe Coy, Natalia Delgado, Brayan Díaz, Lukas Muñoz and Jacqueline Santos. We are also very grateful to Jhon Díaz and Luis Palacio, who kindly hosted the workshop for the preparation of enumerators and helped us with the logistic for pilot sessions. Comments from our two anonymous referees, Andrzej Baranski, Juan Camilo Cárdenas, Josepa Miquel-Florensa, Leeat Yariv, and from attendants to the BEEC and ASFEE Conferences, BEBES Seminar and IAST Alumni meetings were of invaluable help. Financial Support from the program "Inclusión productiva y social: programas y políticas para la promoción de una economía formal, código 60185, que conforma la Alianza EFI, bajo el Contrato de Recuperación Contingente No. FP44842-220-2018." is gratefully acknowledged.

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https://doi.org/10.1016/j.jdeveco.2020.102525
Received 2 September 2019; Received in revised form 3 March 2020; Accepted 22 June 2020
Available online 16 July 2020