Property Rights and Private Investment: Evidence from a Planned Settlement in Rural Tanzania

September 2016

Effective regime of property rights is central to economic development, particularly in developing countries (Besley and Ghatak, 2010). Often, lack of clearly defined property has been used to explain low private investment in developing countries, especially in agriculture (Jacoby et al., 2002; Galiani and Schargrodsky, 2010; Goldstein et al., 2015). In most parts of the developing world, and especially in Sub-Saharan Africa, land is often commonly owned. Communal land ownership limits transferability rights and prevents the emergence of an active land market which in turn undermines land enhancing investments and farm productivity. In contrast, private land property rights can induce individuals and firms to make productive land investment and efficient resource use (Deininger and Jin, 2006). Convincingly identifying the effects of improved property rights on economic outcomes, however, faces at least two challenges. First, improving economic outcomes can affect property rights, leading to reverse causality. Second, a third set of factors (e.g. increased market openness) can influence both property rights and economic outcomes, leading to omitted variable bias.

In this paper, we exploit a land redistribution undertaken in Tanzania in the early 1970s to estimate the causal effects of improved property rights on farm level investments. The resettlement program, usually referred to as the villagisation operation or *ujamaa*, consisted in removing about eleven million peasants from their old villages to new settlements. One of the officially stated goal was to improve the efficiency of the provision of public services in these new and larger villages. Farmers who were resettled received their "own land", with an official land record (Mwapachu, 1976). This type of individual land ownership was a significant shift from the communal ownership described above. We hypothesize that the shift from communal to private land rights would have led to increased farm investments, a more active land market and increased farm productivity in the new settlements.

For the empirical implementation, we use farm level and village level surveys from Tanzania, collected in 2008, 2010 and 2012. We use the village level data and administrative data to map and identify villages that were part of the villagisation operation (treatment villages) and villages that were not part of the operation (comparison villages). Matching the treatment and comparison villages with the farm level surveys, allows us to test and identify the effects of the resettlement on the outcomes of interest. We first establish the link between the villagisation operation and the occurrence of private land ownership, and then test the extent to which improved land tenure regime has affect land market, farm investments and productivity.

Institutions are established to regulate life of a community. Property rights or an individual rights to freely use his asset are therefore essential to the institutional structure of an economy. There is a sizable literature that examines the effect of property rights on economic outcomes and highlights its key importance for development (Abdullah, 1976; Feder and Feeny, 1991; Roth et al., 1994; Gavian and Fafchamps, 1996; Brasselle et al., 2002; Holden et al., 2011). The issue is of importance as even an intermediate level of property right enforcement in a dysfunctional economy allows a socially optimal allocation (Acemoglu and Verdier, 1998). Oligarchic societies where property rights are on the hands of few could experience high growth rates and greater efficiency. However, barriers to entry eventually harm efficiency and become extremely prohibitive to development causing these economies to fall behind democratic systems (Acemoglu, 2008).

Those without property rights face a higher risk of expropriation and are often unable to make sensible change in their land. Thus, in a system with a dominant agricultural tenancy a change or reform in property right should in theory bring more efficiency (Banerjee et al., 2002). With a formal and individual ownership, a farmer is provided with incentives to make land enhancing and productive investments. The body of empirical research, however, has generated mixed results on the direct impact on efficiency[1].

This paper is related to a body of literature that link property rights and investment incentives on land. In Argentina, for instance, a study uses a natural experiment in which legal owners were offered the option to transfer their land after several unsuccessful attempts to evict squatters on their property (Di Tella et al., 2007). Some landowners surrendered their land whereas others did not. The examination of parcels of land affected by the expropriation law reform revealed important differences in future expectations between squatters with and without secure property right. Another empirical study compares districts in India under different land revenue liability systems (Banerjee and Iyer, 2005). Districts where land revenue collection was taken over by the colonial British administration had a single cultivator responsible for the tax. In other districts, however, the revenue liability fell either under a landlord system or a village body system. Notable differences were found not only in agricultural production but also in public investments, education, and health in districts under non-landlord land revenue system.

Jeon and Kim (2000) assess the impact of an agricultural land reform in Korea on the country economic outcomes. The government implemented a large scale operation in which land that belonged to the ruling class was purchased by the state. The objective was to later redistribute land to tenants by giving them the opportunity to make payment in kind. The intervention was successful in reducing transaction costs, increasing agricultural production, and favoring income redistribution from landlords to tenants. Deininger and Jin (2006) investigate in Ethiopia the link between farm production and land investments such as tree planting and terracing. A new land reform that recognized the right of the landless farmer to own land was anchored in the country's constitution. By contrast, the previous regime had land tenure under the authority of peasants association and transferability rights strictly

[1] The net effect would in fact be negative in case the tenant no longer subject to the threat of eviction under tenure security chooses to make less efforts on his land (e.g., Place, 2009; Place and Hazell, 1993; Besley and Burgess, 2000).

limited. Findings of this study indicate that land rights impact on investment incentives was mostly dependent of the type of investment. In other words, the farmer's efforts on his land were not necessarily rewarded with tenure security.

The review above indicates that land policy interventions are not the panacea (see, Hanstad et al., 2008). Some studies has reached the conclusion that establishing formal land registration government can generate more state capacity and help households lower the private cost of defending their property rights (e.g., Deininger and Feder, 2009). In general, individuals with better social network and political influence are more likely to maintain the ownership over their land in case of dispute (Goldstein and Udry, 2008).

In Tanzania, the idea of *ujamaa* villages was initiated in the years that follow the country's access to independence. At the beginning of the reform, the process depended on voluntariness and acceptance of peasants to the socialist idea of communal living. However, the lack of spontaneity to move to the new clustered villages prompted the government to make the resettlement compulsory (Nyerere, 1977). As argued in Hyden (1975) not much choice was left to the people as the policy represented the decision made by few individuals within the narrow circle of policy-makers. Farmers were expropriated and forced to move from their villages into new communities. Most villagers had to move up to five miles from their homes (Mwapachu, 1976). The magnitude of land redistribution was such that "there were no comparable policies developed in such larger scale in an effort to bring agriculture development" (McHenry, 1981). It directly affected the lives of as many individuals as the entire rural population. At the beginning of the year 1977 the official number of registered "planned villages" counted about thirteen million people (Coulson, 1982).

This paper is part of the broad research body on land ownership. We have the particularity of working on a unique case in which villagers were forced to move to new settlements and were allocated a land to start farming. We compare recent outcomes in terms of land rights and differences in agricultural investments. Our empirical estimation suggests that villages formed after the *ujamaa* operation had a significant higher land tenure security than other villages. Using our preferred specification, landowners are 9.94 percentage points more likely to be able to sell their land or use it as a collateral. Our data suggest that more households in *ujamaa* relative to other villages (4.02 percentage points increase) benefit from better rural financing options or access to a credit instrument. We also find that land rights for women is 3.69 percentage points higher in *ujamaa* villages. There is no substantial difference on farm yields between the treatment and comparison villages. However, we detect a correction in market imperfections in the *ujamaas*.

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