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## Communal Land and Agricultural Productivity

by Jan Grobovsek

In most countries, labor productivity is lower in agriculture than in the non-agricultural sector. This agricultural productivity gap (APG), moreover, is substantially larger in developing countries, as can be observed from Figure 1. For example, the average APG in the poorest decile of countries is 7.8 higher than in the richest decile of countries. This enormous difference is a key piece in the development puzzle given that farming accounts for 73% of employment in the poorest economies. Is their low agricultural productivity the result of any particular policies? And, if yes, do these policies account for a major loss in aggregate output?

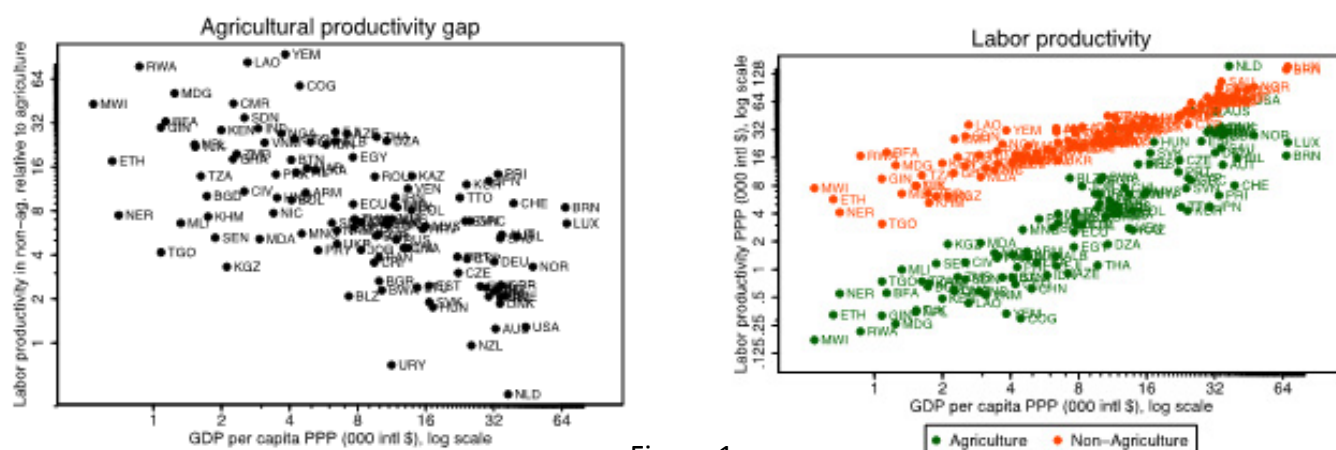


Figure 1

In our working paper *Communal Land and Agricultural Productivity* we evaluate one policy institution that is widespread around the developing world: communal agricultural land tenure. Its defining characteristic is that individual land property rights are not complete because the allocative control over land is vested in either the community or the state. Specifically, communal land tenure is often characterized by the principle of “use it or lose it.” It implies that land rights are claimed through the use of land while its commercialization – whether through sales or rentals – is restricted. In most of Sub-Saharan Africa, communal land

regimes are the norm and typically governed by informal customary rules. They are also found in other parts of the world such as China, Mexico, and Vietnam.

### MODEL MECHANISM

Our framework consists of a simple model where individuals choose their occupation: they are either employed in non-agriculture or else operate an own farm in agriculture. Individuals differ in occupation-specific skills as well as in the size of their communal land holding, which they can either operate or rent out. The policy environment has two components. First, rented-out land is subject to an expropriation

risk. Second, any expropriated land is reallocated exclusively to farmers, preferably to those who are land-poor.

The policy produces the following effects. First, it leads to operational misallocation within agriculture. Land-rich but unskilled farmers operate excessively large farms in order to lower their risk of expropriation. This limits the amount of land available to land-poor but skilled farmers. Agricultural productivity, as a result, declines. Second, the policy generates occupational misallocation across sectors. The prospect of gaining and preserving land holdings motivates some individuals with a comparative skill advantage in non-agriculture to work in farming. With aggregate land being in fixed

supply, the additional farmers exert downward pressure on agricultural productivity. Third, the policy distorts selection. The additional individuals who are drawn into agriculture are predominantly those with low skills in both sectors. This reduces average productivity in agriculture while raising it in non-agriculture.

## QUANTIFICATION

The model is calibrated to Ethiopia, an ideal benchmark economy. It is a large country and representative of poorer economies in Sub-Saharan Africa in its GDP per worker, its agricultural employment share, and its relative sectoral productivity. Moreover, the above stylized features of communal land tenure are legally codified and enforced, allowing for a clean mapping from the data to the model.

We then use the model to measure the impact of several policy reforms. One of them is to vary the share of aggregate communal land, as depicted in Figure 2. We focus on the result of passing from an economy such as Ethiopia's where all land is communal to its counterfactual where all land is fully transferable. Such a reform raises agricultural productivity by 27%, lowers non-agricultural productivity by 24%,

and thus leads to a combined drop in the APG of 40%. The share of agricultural employment declines from 72% to 59%. The associated GDP gain amounts to 7%.

## LESSONS

We draw several lessons. First, communal land policies that restrict land transferability can explain a sizeable fraction of the large agricultural productivity gap observed in the developing world. Thinking of Ethiopia as a representative economy of the poorest decile of countries, the elimination of land transfer restrictions reduces the APG factor difference vis-à-vis the richest countries from 7.9 to 4.7.

Second, communal land slows down structural transformation by holding an excessive 13 percentage points of employment in the agricultural sector. Relative prices turn out to play a key role. Holding prices constant, the liberalization reform would in fact induce an even larger sectoral employment shift of 28 percentage points. According to the model, more than a third of Ethiopia's current farmers would prefer to abandon agriculture if they could rent out their holdings at no risk. Relative to would-be-stayers they are unskilled (69% lower agricultural skills) and land-rich (24% higher holdings). This

finding rationalizes perhaps the reluctance of many policymakers to grant complete land rights for fear of inducing massive migratory pressures to urban areas. Our message, however, is that the ultimate expected equilibrium employment shift resulting from liberalization is less dramatic. It is softened by simultaneous price adjustments that are favorable to agriculture, namely an increase in the relative price of agriculture output and a steep fall in the cost of renting land.

Third, while a GDP loss of 7% caused by communal land is significant, it is far from the order of magnitude distinguishing Sub-Saharan Africa from rich countries. In other words, explaining the APG puzzle in developing countries may not help much in explaining their low aggregate productivity. Communal land simply magnifies an occupational selection pattern that makes agriculture appear highly unproductive relative to non-agriculture. Consider the model's prediction on the farmers who actually switch from agriculture into non-agriculture following land liberalization. On average they have 67% lower agricultural skills than the remaining farmers, and 72% lower non-agricultural skills than the incumbent non-farmers. Although the communal regime does distort the occupational and operational choices of many individuals, these individuals are not sufficiently productive in any sector to cause a major loss to aggregate output.

Finally, we stress that our analysis is not normative. By assumption, the framework does not allow for any potential benefits arising from land transferability restrictions. These may include, amongst others, a desire to redistribute resources, prevent urban congestion, or protect farmers against their own myopic behavior. We leave a proper welfare analysis and the associated trade-offs linked to communal land tenure to future research.

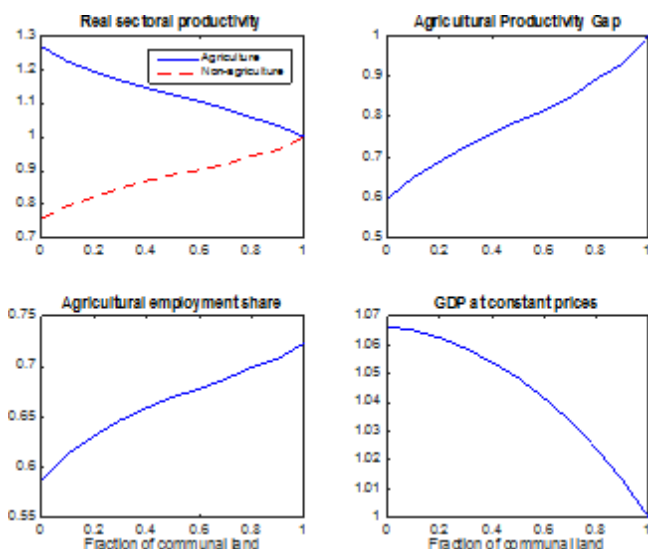


Figure 2