

Determinants of the allocation of resources and their efficiency implications

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Dissertation Abstract

The purpose of this dissertation is to identify the determinants of the allocation of resources in a less developed country (LDC) and assess their efficiency implications. Alfaro et al. (2008) and Restuccia and Rogerson (2008) have shown that the impact of distortions on the allocation of resources may explain part of the cross-country variation in per capita output. Given that LDCs typically exhibit too few medium firms compared to developed economies it is thus of interest to isolate the specific distortions which drive the misallocation of resources in these countries and examine the ensuing consequences.

The objective of the first chapter is to identify among competing explanations the driving force behind the size distribution of firms in Uganda. Using firm-level data, I identify a mechanism whereby a distortion from the tax environment affects the allocation of resources through the optimal decisions of entrepreneurs. I observe that the probability of being audited increases significantly around thirty employees. A consequence of this is a break in the density of firm size at that size threshold. I also find evidence that capital-labour ratios and tax savings per bribe are significantly higher for firms below the size threshold and that these firms exhibit lower growth rates than larger firms. I interpret these findings as evidence that Ugandan entrepreneurs on the verge of having a medium firm hide below the size threshold to avoid a rise in regulation costs (de Soto, 1989; Gauthier and Gersovitz, 1997). These entrepreneurs then substitute capital for labour to scale-up production and wait for a productivity shock that will offset the cost of growing. Other explanations such as a differential in technology or in factor prices do not reconcile the patterns observed in the data.

In the second chapter, I develop a theoretical model based on the empirical evidence from the first chapter. I amend Hopenhayn's (1992) growth model with entry and exit of heterogeneous firms to include capital accumulation and distortions from the tax environment and credit constraints. Under some simplifying assumptions I solve the model analytically and derive comparative statics for the parameters of interest.

In the third chapter, I examine and compare the efficiency implications of the distortions due to the tax environment and credit constraints. I calibrate the full-version of the model from the second chapter using a simulation-based method called Indirect Inference (Gouriéroux et al., 1993; Smith, 1993). The calibration strategy consists in choosing a set of structural parameters such that the model generates endogenous patterns in capital-labour ratios similar to the data. The fit of the model is tested using a set of over-identifying restrictions. I show that the model does a reasonable job at explaining the data along several dimensions and that the distortion from the tax environment generates the observed patterns in capital-labour ratios, not credit constraints. Finally, I conduct two policy experiments. First, I show that efficiency gains may be achieved with a flat distribution of audit probabilities. Second, I argue that bribing serves as a second-best mechanism in that it buys entrepreneurs a tax rebate. However, offering tax officials a reservation wage allows for greater efficiency improvements than corruption.