

Ghisolfi, S. 2022. “Market Access and Quality Upgrading: Evidence from Four Field Experiments”, forthcoming in *American Economic Review*.

Smallholder farming in many developing countries is characterized by low productivity and low quality output. Low quality limits the price farmers can command and their potential income. We conduct a series of experiments among maize farmers in Uganda to shed light on the barriers to quality upgrading and to study its potential. First, we document that quality is indeed low but partly observable with easy and quick procedures by the buyers, therefore it would be possible to reward farmers based on the quality of their produce. Second, we experimentally vary the quality of the maize produced and show that in the existing market the causal return to quality is zero, suggesting that the market for quality maize is effectively missing. Third, to understand if farmers would be willing and able to produce high quality maize when rewarded, we contract with a Ugandan vertically integrated agro trader to generate experimental variation in access to a market for premium quality maize. Following 200 farmers in 20 villages for 7 seasons (i.e. 3.5 years), we document that access to a market for high quality maize, combined with training on agricultural best-practices, produces large increases in maize quality (+60%) and in both farm productivity and income, increasing yields by 15% and mean profits by \$63-\$98 per season or 36%-81%. While the intervention also increased prices for lower quality maize in the treatment villages, the evidence suggests that the increase in output in the treatment group can fully be accounted for by the subgroup of farmers selling premium quality maize to the high quality buyer. Fourth, in a separate trial following 170 farmers for 6 seasons, we investigate the impact of the training program alone and find no evidence that farmers changed their farm practices, productivity or profits. Our findings reveal the importance of demand-side constraints in limiting rural income and productivity growth.