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The Role of Household Wealth Status on Agricultural Technology Adoption among Smallholder Farmers in Ethiopia

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Abstract

The adoption of agricultural technologies in developing countries is mostly connected to farmers' economic ability to access new technologies and to potential risks associated to them. Empirical evidence shows that household wealth and technology adoption are non-linearly related and that households react differently towards technology adoption based on their level of wealth. However, in the context of Ethiopian smallholder farmers, the impact of household wealth status has not been adequately covered in the literature, especially those on adopting agricultural innovations. Therefore, this study addresses this knowledge gap by assessing the role of households' wealth on the adoption of agricultural technologies in Ethiopia. The study's approach to addressing the adoption-wealth relationship considers Ethiopian farmers living in different agro-ecological zones and possesses different levels of wealth. Primary data covering 400 households were collected within a 2014 technology adoption survey is base of this study's analysis besides secondary data collected from various relevant sources. Principal Component Analysis (PCA) is employed to generate a wealth index based on the International Wealth Index (IWI), which is an indicator measuring wealth based on consumer durables, housing characteristics and access to public utilities. The index allows categorising the sample into different wealth groups for which the technology adoption behaviours are investigated. Further, Probit and Tobit models are employed to identify the determinants and intensity of technology adoption among the farmers in the study area. While the adoption decision is expected to be significantly and positively affected by land endowment, access to credit, access to extension service and wealth; it is expected to be significantly and negatively affected by the cost of the technology and the associated risks. Based on the research findings, the study attempts to draw conclusions and provide recommendations on specific policies and programs that may increase farmers' motivation to adopt productivity enhancing new technologies.

Keywords: Ethiopia, smallholders., technology adoption, wealth