



The determinants and economic impacts of membership in coffee farmer cooperatives: recent evidence from rural Ethiopia



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ABSTRACT

Smallholder farmers in developing countries are often encouraged to get organized into cooperatives mainly to overcome production and marketing constraints that usually hinder the improvement of their livelihoods. However, impact evaluations regarding the contribution of cooperatives are limited; evaluation results are mixed and are not conclusive. The current study contributes to the literature by examining the determinants and economic impacts of cooperative membership using household survey data gathered from coffee farmers in the Jimma Zone of Oromia, Ethiopia. A propensity score matching (PSM) and endogenous switching regression (ESR) models are used to estimate treatment effects by controlling for selection biases. The results are augmented with qualitative data collected through group discussions made with randomly selected farmers in the study area. Findings indicate that the probability of farmers' membership decision increases with age, education level, family size, social networks, land property and accessibility to cooperatives. Both PSM and ESR models show that membership is positively associated with household income and assets. The ESR estimation results further confirm that members economically perform significantly better than if they had not been members and non-members would have even performed better than members if they had joined cooperatives. The results of group discussions also verify overall direct and spill-over effects, though cooperative services to members and non-members are undifferentiated. The results indicate a need for a mechanism to enhance the participation of poorer farm households, and to further improve member benefits as potential areas in making cooperatives more meaningful, attractive and sustainable.

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1. Background

Smallholder farmers in developing countries face several complex production and marketing constraints that hinder the improvement of livelihoods. Some of these problems are related to market imperfections leading to high transaction costs of accessing input and output markets, poor infrastructure and physical dispersion of the smallholders, poor access to credit services, technical incapability of the farmers to cope with modern technologies and changing consumer preferences (e.g., food safety standards), etc. Numerous studies suggest that smallholders could overcome such constraints if organized into collective action

groups, such as cooperatives (Narrod et al., 2009; Bernard et al., 2010; Wanyama et al., 2015).

Consequently, cooperatives have been generally considered as organizations playing significant socioeconomic roles, among others, by reducing transaction costs and improving the bargaining power of individuals in all sectors including agriculture (Staatz, 1987; Bonin et al., 1993; Bernard et al., 2008; Francesconi and Ruben, 2012). In this regard, agricultural cooperatives in particular are recognized as major tools to fight poverty in rural areas where more than 70% of the world's poor live (Deriada, 2005; FAO, 2012). However, inconsistent findings and varying levels of success were reported regarding the performance and benefits of agricultural cooperatives in previous studies in part due to the varying nature of cooperatives and analyses methods used.

Some of the successful cases reported include: specialty coffee cooperatives in Costa Rica where members were seen getting

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higher prices (Wollni and Zeller, 2007), green bean marketing cooperatives in Kenya where members managed to meet a food safety standard that made them remain competitive (Narrod et al., 2009), banana farmer organizations in Kenya where selling through cooperative have brought a higher income to members regardless of modest price premium offered (Fischer and Qaim, 2012). Francesconi and Ruben (2012) also highlighted a positive impact of cooperative membership on milk production and productivity in Ethiopia. Furthermore, some studies on the Ethiopian coffee cooperatives also addressed socioeconomic benefits that members obtained through ensuring fair trade, creating market linkages, or by improving value chains (Kodama, 2007; Emanu, 2009; Getnet and Anullo, 2012). Some studies in other cases highlighted benefits of cooperatives; for instance, Abate et al. (2014) identified improved technical efficiency of members of agricultural cooperatives because of better access to productive inputs and services as compared to non-members, Abebaw and Haile (2013) also showed improved adoption of mineral fertilizers by cooperative members in Ethiopia.

Conversely, many cases of poor performance (and consequently low impact) of agricultural cooperatives have also been reported from developing countries. For instance, Nkhoma and Conforte (2011) indicated the difficulty that cooperatives in Malawi face to build a sustainable marketing position mainly due to weak governance, management and market access that subsequently discouraged members. Bernard et al. (2008) also showed unsuccessful cases of grain marketing cooperatives in increasing commercialization in Ethiopia, while offering higher prices to their members. In some occasions, member commitment and participation in cooperatives (crucial for cooperative sustainability and performance) were identified to be extremely low. For instance, Anteneh et al. (2011) reported that only 42% of members sell their coffee to their respective cooperatives due to several reasons such as the inability of cooperatives to provide credits and to pay cash to farmers on the spot upon coffee delivery. They further noted that most private traders provide advance payment as a loan for farmers during off-season (when farmers are in critical need of cash), and make upfront payment when farmers deliver coffee, which make most smallholder farmers to prefer private traders to cooperatives. In other studies, Fischer and Qaim (2012) indicated that about 40% of the members of banana marketing cooperatives in Kenya failed to participate in collective marketing, i.e., they sell their banana individually. More recent evidence from Ethiopia shows that most farm households sell their crops to local traders, other farmers, or directly to consumers, rather than through cooperatives (Bernard et al., 2013). The same study also identified that being coffee producer is negatively correlated with cooperative participation though often praised as the most effective agricultural cooperatives in Ethiopia. These various studies are unanimous in stressing the fact that not only cooperative membership, but also the levels of participation to benefit from cooperatives do matter.

In summary, the studies show: (i) cooperatives cannot simply be generalized as if they are benefiting all their members at all locations. Their performance and impacts vary across countries and regions even within the same sector across commodities as indicated by Bernard et al. (2013); (ii) administrative and skill competence of the managers, and varying levels of member participation also determine the success and impact of cooperatives; (iii) free rider problems, which might have been emerging due to weaknesses in cooperative management, a gap in regulations, or low benefits of cooperatives, seems a widespread issue as observed in some marketing cooperatives where members sell their product not to their cooperatives; and (iv) evolutions are going on regarding the benefits and participations of members as in

the case of coffee cooperatives that once were praised as outstanding performers, yet low participation of members is recently seen (Bernard et al., 2013).

Therefore, we find it plausible to analyze and generate more evidence regarding the determinants and economic impacts of cooperatives by closely examining, through employing different methods, the specific case of coffee farmer cooperatives in the Jimma Zone of Oromia regional state, Ethiopia. Thus, the hypotheses of this article are: (1) socioeconomic and demographic factors affect the households' membership decision in a cooperative, and (2) membership in a cooperative has a positive impact on the income and assets of the members. Unlike previous studies, the analysis is based on a household survey augmented with group discussions that help address issues that are difficult to capture quantitatively. Face-to-face interviews of 305 coffee farmers and four group discussions were conducted. A propensity score matching (PSM) and endogenous switching regression (ESR) models are used to estimate treatment effects by controlling for selection biases. We believe that the findings of this study will contribute to efforts in designing effective policy instruments in developing sustainable cooperatives tailored towards improving agricultural productivity and hence welfare in rural Ethiopia and beyond.

The remainder of this article is organized as follows. Section 2 briefly recounts the notion of Ethiopian cooperative development and coffee cooperatives. Section 3 presents research methods including sampling and data collection as well as analytical procedures, and the penultimate section describes and discusses the findings. Finally, Section 5 concludes the article.

2. Coffee and other agricultural cooperatives in Ethiopia

Agricultural cooperatives (specifically those based on coffee and other cash crops) were introduced to Ethiopia in the early 1960s, i.e., during the imperial regime (1932–1974; Bernard et al., 2010). Although the subsequent military *Derg* regime (1974–1991) was also in favor of cooperatives, it abolished almost all former cooperatives and established new ones (Kodama, 2007). Being influenced by the governments' varying political ideologies, cooperatives at that time did not develop well. The imperial regime was a monarchy system and the prime purpose of establishing cooperatives was not to benefit farmers; membership consisted of farmers with large landholdings, which tended to exclude smallholders. The *Derg* regime was following the socialist ideology and its cooperatives were based on Marxist principles aiming at ending the exploitation of the peasantry by the feudal system (Kodama, 2007; Bernard et al., 2010). However, the regime used cooperatives as a tool for political and economic control of rural communities. In either case, the cooperatives of that time were not based on the conventional cooperative principles¹ and values.

Unlike the past two regimes, the current Ethiopian government (1991–present) has favored free markets, adopted the international cooperative principles and values, and established enabling legal frameworks based on which different cooperative societies have been willingly re-initiated after 1994 (Holmberg,

¹ According to the International Cooperative Alliance (ICA, 2014), a cooperative is guided by seven internationally recognized cooperative principles: voluntary and open membership; democratic member control; member economic participation; autonomy and independence; provision of education, training and information; cooperation among cooperatives; and concern for the community. Following the arguments that cooperatives cannot implement all these principles, usually three principles: user-owned, user-controlled and user-benefiting principles are adopted by cooperatives as the basic ones (Ortmann and King, 2007).

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