Determinants of Coffee Farmers Market Outlet Choice: The Case of Bench Maji Zone, Ethiopia

Dejen Debeb Asmare

Debretabor University, Faculty of Business and Economics Department of Accounting and Finance

Abstract
Access to market in the form of different channels for coffee farmers is crucial for exploiting the potential of coffee production to contribute to increased cash income of rural households. Identifying factors affecting market channel decision is therefore important. This paper reports on the findings of a study to investigate determinant factors that influence these choices among coffee farmers in general and member and nonmember coffee growers in particular in Bench Maji Zone South Western Ethiopia. Using stratified random sampling 132 smallholder coffee farmers were selected across purposively selected 16 coffee cooperatives in Bench Maji Zone of South Western Ethiopia. Farmers sell their produce through different but limited market channels. The study found out that the main marketing channels existing in the area were coffee marketing cooperatives, private traders, neighboring cooperatives, and informal traders. Coffee farmers can choose to sell all, a proportion or nothing of their coffee cooperatives through any of these channels. One would expect that member coffee farmers deliver their coffee to their own cooperatives and nonmember farmers expected to deliver their coffee to private traders. However this is not the case in the study. Rather the study revealed that 42% of member coffee farmers sell their coffee to private traders and in opposite direction a 46% of nonmember coffee growers deliver their coffee to coffee cooperatives. The question why is this happening and what determines their selling decisions of coffee farmers? Tobit regression is made and the regression results for member farmers revealed that factors such as education, proportion of land allocated to coffee, proportion of off farm income to total income, cooperatives performance, satisfaction on cooperatives performance, and second payment affected market outlet choice while age of the household head, proportion of off farm income and access to training has positively influenced nonmember coffee growers’ buyer selection decision. Finally the study confirmed the continued viability of coffee marketing cooperatives as suppliers of coffee to coffee buyers in the study area. The results have important implications for the management and future of cooperatives, as well as for the assessment of their development impacts.

Introduction
Agriculture remains the backbone of the economy of most developing countries. Typically, it is the largest source of employment; often two-thirds or more of the population are dependent for its livelihood on farming. The labor-intensive character of the sector reduces its contribution to the gross domestic product, but its contribution nevertheless ranges between 20 and 60 percent in most developing countries. Agricultural exports are the principal sources of foreign exchange earnings (Warren C. and Strokes M., 1985).

World trade in agricultural products has been growing especially in the 1990s. In 2001, the total nominal value of world agricultural trade was US$412 billion, compared with US$326 billion in 1990 and US$234 billion in 1980. In addition, there is a breakdown between developed and developing countries. Developed countries account for approximately 70% of the agricultural trade although the share has been falling over the past decade (JICA, 2005).

Ethiopia is an agrarian country and agriculture accounts for 54 percent of the domestic product (GDP) and agriculture employs about 80 percent of the population and accounts for about 90 percent of the exports (CSA, 2000). The total population country is estimated to be about 7507 million (CSA, 2006) and with a per capita gross national income (GNI) in 2004 of US$110 (World Bank, 2006). Coffee has remained the main export of the country; however, other agricultural products are currently being introduced on the international market. Despite secular decline in the international coffee price, coffee still remains the country’s dominant export commodity.

According to Villanger (2006), the major export products from Ethiopia in 2004/05 were coffee (41%), oil seeds (13%), Khat (12%), leather and leather products (8%), Gold (6%) and pulses (4%).

Although agriculture is the chief economic activity, most Ethiopian farm households struggle to produce just enough food for the subsistence of their families. The main crops produced include teff, wheat, corn, sorghum and other grains. Many farmers in the southwest grow coffee plants. Oilseeds and sugarcane are other crops grown for sale. Improvements in farming equipment and methods, marketing, and transportation are needed to increase agricultural output (The World Book Encyclopedia, 1993).

In rural areas, smallholders are often geographically dispersed; roads and communications are poor, and the volume of business is insufficient to encourage private service provision. In other words, there are high probabilities of market failure. Inefficient and underdeveloped markets, results in low and variable prices thereby reducing the profitability of new technologies for farmers, discouraging business people from investing in processing activities, retailers and transporters from investing in improved market and transport services (Mulat...
business management. Viaene (1977) cited in Barker (1989) identifies three new trends in the marketing of coffee producers in the South-Western and Western Zones is smuggled via Sudan. In Ethiopia, the livelihoods of coffee growers are estimated to number around 1 million (Amisulu, and Tadele, 2001).

In this regard, Kaddar (1975) cited in Barker (1989) claims that only a few farmers understand the necessity of producing to meet the market and of finding a market for their produce. The solution to this dilemma is to encourage the growth of cooperatives to undertake the marketing responsibilities. This suggests that most farmers are basically, production oriented, and may experience very little application of marketing principles in their business management. Viaene (1977) cited in Barker (1989) identifies three new trends in the marketing of agricultural products by farmers; these are: (1). Direct marketing to the consumer, bypassing the middlemen and reducing cost, (2). Contract production, which benefits both producers and buyers; the farmer receives guarantees on finance and prices, thus reducing risks, and the buyer is assured of quality, quantity, and time of delivery and (3). Marketing through cooperatives, by farmers tends to improve their bargaining power. Intervention to reduce uncertainty and other marketing problems and to bring the peasant households into profit maximizing category may be realized through establishment of rural institutions, such as cooperatives.

In Ethiopia, the formation of modern cooperative societies was started soon after the Italian invasion. However, it was only in 1960s that a cooperative was legally enacted. During the reign of Haile Selassie, the cooperative legislation No 241/1966 was proclaimed and about 154 different types of cooperatives were organized. During the Derg regime, cooperatives that were organized earlier were considered unnecessary and discarded. The newly organized cooperatives under the regime have purposefully made instruments of political power. Their organizational procedures were not based on internationally accepted cooperative principles.

New era in cooperative development was then started in 1998 when new cooperative legislation No 147/1998 was enacted. Since then, cooperatives have been playing significant role in the rural Ethiopia, especially in the areas of input supply, saving and credit, coffee and grain marketing (FCC, 2004). The establishment of cooperative unions in coffee and grain growing areas is a new experience for the country.

Statement of the problem
Coffee production is one of the mainstays of the Ethiopian economy and Ethiopia is one of the major producers and exporters of coffee in the world. Although the contribution of coffee to Ethiopia’s foreign exchange has declined over the past decade, it still represents more than one-third of total export revenue (World Bank, 2007). Approximately one-third of the rural population and more than a quarter of the total population are estimated to be engaged in the production of coffee and coffee growers are estimated to number around 1 million (Amsalu, 2009). The main producers of coffee are small farmers, most of who work on less than half a hectare of land. Small-scale farmers produce more than 90% of the total coffee output and purchased inputs are very rarely used (ibid). The producers of these coffee beans are often small-scale farmers who are reliant on faceless consumers, large corporations and an ebbing market for their income and resources.

In order to overcome market failures and to cope with changes in the market environment many developing countries, including Ethiopia, are returning to agricultural cooperatives (Nicola, 2009). This is due to the fact that cooperatives can reduce transaction costs and improve the bargaining power of smallholder farmers’ visa-a-vis increasingly integrated markets (as sited by Nicola, 2009). In line with this, agricultural cooperatives particularly marketing cooperatives are advocated by the Government of Ethiopia as the main pillars of development and key market institutions in its Agricultural Development Led Industrialization Strategy. This plan aims to unlock Ethiopia’s agricultural growth potential by providing a better institutional environment for integrating smallholder farmers into international market (FDRE, 2001).

The starting and leveraging points for Ethiopian coffee sector development is the market. A comprehensive cooperative sector development approach to global marketing is an excellent framework to direct business development and smallholder farmers’ market linkages.

Ethiopia is the origin of coffee Arabica, and it grows wide variety of exemplary coffee, highly differentiated, most of which are shade-grown by small farmers without chemical inputs (Dempsey 2006). Ethiopia is the largest producer of coffee and ranks fifth in the world and first in Africa by annual coffee production. For the past three to four decades, coffee has been and remains the leading cash crop and major export commodity of the country. Coffee accounts on average for about 10% of total agricultural production, 5% of Gross Domestic Product, and constitutes about 41% of total export earnings of the country (Worako 2008).

The number of coffee growers has been estimated in about one million smallholder farmers. Most of them hold less than half a hectare of land, and grow 95 per cent of the coffee output (Oxfam, 2008). Total annual coffee production is of approximately 280,000 metric tons (Dempsey 2006). According to Kidane (1999), the average yield per hectare is between 340 and 490 kg. Less than 40% of total national production of coffee is directed to official export markets (Worako, 2008). The same study (Worako 2008) indicated that, annual domestic coffee consumption per household in the country is 24.5 kg and the per capita consumption is 4.5 kg. About 15% of coffee produced in the South-Western and Western Zones is smuggled via Sudan. In Ethiopia, the livelihoods of approximately one quarter of the population depend on the coffee sub-sector (Petit, 2007). However, small holder coffee growers in Ethiopia face high transaction cost, lack of market information, poor infrastructure, and weak
The coffee value chain in Ethiopia is also composed of a large number of actors. It includes coffee farmers, collectors, different buyers, processors, primary cooperatives, cooperative unions, exporters and various government institutions (Gemetch and Struthers, 2007). Ethiopian coffee is sold both at local level and at the international market, the latter mainly through the newly established commodity exchange market and directly to international buyers through specialty market channels by coffee cooperative unions. Normally, all Ethiopian coffee should pass through Commodity Exchange Market. Since 2001, however, cooperatives have been granted permission to by-pass coffee auction opening the way for direct export sales (Dempsey 2006).

In order to overcome market failures and to cope with changes in the market environment many developing countries, including Ethiopia, are returning to agricultural cooperatives (Nicola, 2009). This is due to the fact that cooperatives can reduce transaction costs and improve the bargaining power of smallholder farmers’ visa-a-vis increasingly integrated markets (as sited by Nicola, 2009). In line with this, agricultural cooperatives particularly marketing cooperatives are advocated by the Government of Ethiopia as the main pillars of development and key market institutions in its Agricultural Development Led Industrialization Strategy. This plan aims to unlock Ethiopia’s agricultural growth potential by providing a better institutional environment for integrating smallholder farmers into international market (FDRE, 2001).

Despite the negative experience of farmers with cooperatives during the socialist regime in the country, recently a new generation of cooperatives is emerging. With the aim of securing better price in coffee market and entering into export marketing, Ethiopian government promulgated proclamation no 147/1998. The proclamation outlines the layered organizational structure of the cooperatives, which was not permitted by the previous regimes. According to this proclamation an organization can have four layers, i.e., primary cooperatives, unions, federations, and cooperative leagues, although only primary and union levels have been formed to date in the country (Dorsey & Tesfaye, 2005: 9, 20). Cooperative union is defined as an organization composed of more than one primary cooperative society that has similar objective.

Since primary coffee cooperatives lack required human resources and logistical capacity the Ethiopian government took the initiative to establish Coffee Farmers Cooperative Unions to manage coffee export business on behalf of primary coffee marketing cooperatives. Coffee Marketing Cooperatives (CMC) is among the most known and largest cooperatives in the country. Currently there are six Farmers Coffee Marketing Cooperative Unions in the country, housing around 227 primary coffee marketing cooperatives with a total number of 275,485 members (FAC 2008). Bench Maji coffee farmers cooperative union is one of the six coffee marketing cooperative unions established in the country comprising 65 primary farmer coffee cooperatives.

Normally coffee marketing cooperatives offer various advantages such as better price, economies of scale, long-term relationships with foreign buyers, bargaining power, and provision of certification premium, training and other services to its member. Furthermore they also provide market information and facilitate the entrance to niche markets by their members. They generally guarantee a market for their members’ coffee. Due to this coffee marketing cooperative member farmers are expected to sell their produce to their own coffee marketing cooperative in the study area. However, this is not automatically the case in our survey result. Rather significant number of member coffee growers sell their coffee to private traders and a number of non-member coffee growers sell their coffee to coffee marketing coops through their relatives or friends. Reasons of this situation and factors affecting selling decision of both member and non-member coffee growers is not studied. Due to this there is no empirical evidence regarding selling decision of coffee farmers. A better understanding of farmers selling decision is therefore is important to produce empirical evidence for cooperative leaders and for policy makers to design appropriate policies and strategies that can contribute to increased income of coffee farmers.

This research therefore, attempted to empirically investigate the above issues and help to bridge the existing information gap by generating empirical evidences. The aim of this paper is to investigate why member farmers sell their coffee to private buyers and nonmember to coffee marketing coops and what factors affect market outlet choice of coffee farmers in the study area. The following are the specific objectives:

- To identify various marketing channels available for coffee marketing;
- To characterize coffee farmers involved in various outlet channels;
- To compare both member and non-member market channel selection preference; and
- To determine factors affecting market outlet choice of coffee farmers.

Limited empirical studies exist regarding factors affecting farmers channel choice decision. Agarwal and Ramaswami 1992; Williamson, 2002 and Brewer 2001 have identified factors related to price, production scale and size, farm household characteristic, behavioral aspects such as (trust, risk, and experience), and market context (distance and purchase condition) affect producer market outlet choice. Furthermore, Zuniga-Arias (2007) found out that factors such as price attributes, production system, farm household characteristic, and market context could affect market outlet decision of farmers in mango supply chain in Costarica. Hobbs (1997) found out that age, education, farm profit and transaction cost are some factors that influence farmers channel choice decision in livestock marketing. The same study also indicated that the mode of payment, long standing relationship with the
buyer, and the price received as the most important reasons for selling to a particular buyer in the livestock sector. A study conducted by Sourgiannis (2008) found out that farm and farm characteristics, volume of milk production, farm income, debt, sales price, speed of payment and loyalty have a significant effect on market channel choice of sheep and goat farmers in the region of east Macedonia in Greece.

Misra (1993) found out that factors related to price and non-price factors affecting selection decision of milk producer farmers. According to Royer (1995) risks that agricultural producers face are linked with decisions about the prices, quantity, quality, and the timing of delivery. It also aims to explore the association between the factors that influence the farmers to adopt a particular marketing strategy and their selection of a particular distribution channel. According to Gong (2007) there are significant relationships between economic and social variables and marketing channel selection for cattle distribution in China. They argued that transaction cost has a significant impact on marketing channel selection.

Generally, however, limited studies exist about determinants that affect market outlet choice of farmers in general. Even existing studies were done mainly on livestock sector in developed countries with few exceptions. To the best of my knowledge there is no study on coffee farmers (member and non-member) market channel selection decision. Factors affecting the market outlet choice of coffee growers have never been explored in the Ethiopian context. It is therefore necessary to undertake empirical study to fill existing information gap by identifying determinant factors affecting market outlet choice of coffee farmers in the study area.

**Hypotheses tested**

- Coffee marketing cooperative members sell their coffee to their own cooperatives.
- Nonmember coffee growers prefer to deliver their coffee to private buyers.
- It is hypothesize that coffee growers using multiple outlet channel earn more income through diversifying risk.
- Young coffee farmers, with better education, high proportion of off farm income to total income, and increased proportion of land allocated to coffee prefer to sell more of their produce to private traders.
- Member coffee farmers from poor performing cooperatives prefer to sell more coffee to private traders.
- It is expected that member coffee farmers with lower income deliver their coffee to cooperatives due to limited access to market information.
- It is expected that coffee farmers earning high income deliver their coffee to private traders due to more access to market search.

**Methodology**

The household data used in this study was collected from small-scale coffee growers through a face-to-face questionnaire. The survey was conducted from June 2014 to January 2015 in 3 districts of the Case of Bench Maji Zone, Ethiopia, which is one of the 13 Zones in the Southern Nations, Nationalities and Peoples’ Region (SNNPR) of Ethiopia. More specifically, the study area is located 561 km south west from the capital, Addis Ababa. Both member and nonmember coffee farmers of primary coffee cooperatives were included as a target population of the research. Bench Maji Zone Coffee farmers Cooperative Union is one of the coffee cooperative unions established in Ethiopia and it comprises 64 primary cooperatives. Out of them, the researcher selected purposively 16 primary cooperatives. Ten of them are considered as high-performing and six low-performing, according to the indicator of performance. Such indicator is based on the average net profit of the previous three years. Performance indicator is calculated using secondary data from local cooperative offices (to which primary cooperatives have to report their accounts). The survey is mainly focused on socio-economic characteristics and perceptions of small coffee farmers (members & non-members) and primary coffee cooperative performance. In order to complement quantitative data with qualitative information, informal discussions were held with various relevant cooperative stakeholders at district, zonal level, as well as with surveyed coffee farmers.

The members sample was drawn randomly from the registration lists of the cooperatives. To select nonmembers randomly used the lists of coffee farmers gathered by the rural district cooperative offices in the area. To select a sample, multi-stage and stratified random sampling methods were used. The resulting sample includes 132 farm households (66 members and 66 non-members).

Two similar survey instruments were used (one for members and another for non-members). As far as inferential statistical methods are concerned, the researcher used ANOVA for comparing different typologies of small scale coffee farmers, according to their marketing strategies, and a Tobit model to determine determinant factors influencing market outlet choice. STATA version 16 was used for data processing and analysis.

**Results**

**Socio economic characteristics of coffee farmers**

In the first part of this section, we show the characteristics of the coffee farmers that participated in our sample, their socio-demographic attributes, and their choices of market outlets, using simple descriptive statistics. The aim
is to give an overall picture of coffee farmers in the selected study area.

Statistics of ANOVA result

<table>
<thead>
<tr>
<th>Variables</th>
<th>Those delivering coffee only to coops</th>
<th>Those delivering coffee only to private traders</th>
<th>Those delivering coffee only to multiple channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, Years</td>
<td>Mean 4.00  S.D 2.19</td>
<td>Mean 4.00  S.D 1.40</td>
<td>Mean 1.40  S.D 0.40</td>
</tr>
<tr>
<td>Education, 0=illiterate, 1=iterate, 2=elementary, 3=junior, 4 secondary, 5 high school 6=above high school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience in coffee farming, Years</td>
<td>Mean 21.68  S.D 14.05</td>
<td>Mean 19.92  S.D 15.72</td>
<td>Mean 21.05  S.D 12.50</td>
</tr>
<tr>
<td>Total income, Birr</td>
<td>Mean 4920.23  S.D 5274.68</td>
<td>Mean 4742.41  S.D 6903.90</td>
<td>Mean 6776.25  S.D 7411.92</td>
</tr>
<tr>
<td>Proportion of land allocated for coffee, Ratio</td>
<td>Mean 0.15  S.D 0.27</td>
<td>Mean 0.27  S.D 0.33</td>
<td>Mean 0.16  S.D 0.25</td>
</tr>
<tr>
<td>Productivity of coffee, Kg/ha</td>
<td>Mean 3946.61  S.D 10361.59</td>
<td>Mean 4502.56  S.D 10760.28</td>
<td>Mean 5364.18  S.D 7609.41</td>
</tr>
<tr>
<td>Total land size, Ha</td>
<td>Mean 0.71  S.D 0.58</td>
<td>Mean 0.58  S.D 0.70</td>
<td>Mean 0.72  S.D 0.66</td>
</tr>
<tr>
<td>Access to credit, 0=No, 1=Yes</td>
<td>Mean 0.02  S.D 0.15</td>
<td>Mean 0.02  S.D 0.16</td>
<td>Mean 0.02  S.D 0.15</td>
</tr>
<tr>
<td>Access to training, 0=No, 1=Yes</td>
<td>Mean 0.34  S.D 0.47</td>
<td>Mean 0.31  S.D 0.46</td>
<td>Mean 0.34  S.D 0.48</td>
</tr>
<tr>
<td>Average price, Birr/kg</td>
<td>Mean 4.05  S.D 0.88</td>
<td>Mean 3.57  S.D 0.88</td>
<td>Mean 3.85  S.D 0.85</td>
</tr>
<tr>
<td>Income from sold coffee</td>
<td>Mean 2509.04  S.D 2988.29</td>
<td>Mean 2160.37  S.D 3288.37</td>
<td>Mean 4444.63  S.D 5432.25</td>
</tr>
</tbody>
</table>

Summary of significance level and differences between groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Difference CC-PC</th>
<th>Difference CC-MC</th>
<th>Difference PC-MC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, Years</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Coffee farming experience, Years</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Education, 0=illiterate, 1=iterate, 2=elementary, 3=junior, 4 secondary, 5 high school 6=above high school</td>
<td>None</td>
<td>**(-)</td>
<td>*(-)</td>
</tr>
<tr>
<td>Total income, Birr</td>
<td>None</td>
<td>***(-)</td>
<td>***(-)</td>
</tr>
<tr>
<td>Total land size, Ha</td>
<td>*(+)</td>
<td>*(+)</td>
<td>*(+)</td>
</tr>
<tr>
<td>Proportion of land allocated to coffee, Ha</td>
<td>None</td>
<td>*(+)</td>
<td>*(+)</td>
</tr>
<tr>
<td>Productivity, Kg/ha</td>
<td>None</td>
<td>*(+)</td>
<td>*(+)</td>
</tr>
<tr>
<td>Access to credit, 0=No, 1=Yes</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Access to training, 0=No, 1=Yes</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Proportion of off-farm income to total income, Birr</td>
<td>***(+)</td>
<td>None</td>
<td>***(+)</td>
</tr>
<tr>
<td>Type of house, 1=Modern, 2=Traditional, 3=Both</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Income from sold coffee</td>
<td>None</td>
<td>***(-)</td>
<td>***(-)</td>
</tr>
<tr>
<td>Average price</td>
<td>***(+)</td>
<td>***(+)</td>
<td>***(+)</td>
</tr>
</tbody>
</table>

Significant at *** (1%) ** (5%) * (10%)

(+)= positive relationship; (-)= negative relationship

It is not found significant differences in age of the household head, experience in coffee farming, access to training, access to credit, and type of house (as an indicator of wealth) among the three groups. We found nevertheless significant differences in the level of farmers’ education. Farmers that prefer multiple channels show a higher level of education, as compared to those delivering their coffee exclusively to either coops or private traders. There exist also significant differences in total income between the farmers delivering their coffee to multiple channels and the other two groups. The former having a higher level of income. Differences in the proportion off-farm income to total income is also significant between groups. Such proportion is highest among farmers delivering exclusively to private traders. Coffee productivity is significantly higher among the group of farmers using multiple channels and the price received by farmers is considerably higher among those delivering exclusively to cooperatives, followed by the group using multiple marketing channels and those selling exclusively to traders. Differences in the price received by these three groups are statistically significant. As well, income from coffee is significantly higher in the group using multiple channels, followed by the group of farmers delivering their coffee to private traders.

In summary, one of the main results derived from the ANOVA analysis is that better performing coffee
farmers (a combination of more education; higher income; more productivity and a higher proportion of land allocated to coffee) tend to use multiple outlet channels.

**Determinant Factors determining market outlet choice decision of member and nonmember coffee farmers**

<table>
<thead>
<tr>
<th>Group</th>
<th>Members</th>
<th>Non members</th>
<th>Members</th>
<th>Non members</th>
<th>Members</th>
<th>Non members</th>
<th>Members</th>
<th>Non members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variable</td>
<td>Proportion sold to traders</td>
<td>Proportion sold to cooperatives</td>
<td>Proportion sold to traders</td>
<td>Proportion sold to cooperatives</td>
<td>Proportion sold to traders</td>
<td>Proportion sold to cooperatives</td>
<td>Proportion sold to traders</td>
<td>Proportion sold to cooperatives</td>
</tr>
<tr>
<td>Education, 0=illiterate, 1=literate, 2=elementary, 3=junior, 4=secondary, 5=high school</td>
<td>.0014079</td>
<td>.016332</td>
<td>.0202077</td>
<td>.002978</td>
<td>.68</td>
<td>- .45</td>
<td>.497</td>
<td>.000***</td>
</tr>
<tr>
<td>Proportion of land allocated to coffee</td>
<td>.058392</td>
<td>.0102432</td>
<td>.0220025</td>
<td>.0191752</td>
<td>2.65</td>
<td>- .53</td>
<td>.008**</td>
<td>.593</td>
</tr>
<tr>
<td>Proportion of land allocated to coffee</td>
<td>.2745086</td>
<td>.1360267</td>
<td>.1293235</td>
<td>.128399</td>
<td>2.12</td>
<td>1.10</td>
<td>.034*</td>
<td>.272</td>
</tr>
<tr>
<td>Proportion of off farm income to total income</td>
<td>-.2012341</td>
<td>-.254523</td>
<td>.1191571</td>
<td>.074646</td>
<td>-1.69</td>
<td>-3.40</td>
<td>.092*</td>
<td>.004**</td>
</tr>
<tr>
<td>Coffee productivity, Kg/ha</td>
<td>.6406</td>
<td>-.23086</td>
<td>2.3306</td>
<td>2.6006</td>
<td>1.29</td>
<td>-.88</td>
<td>.199</td>
<td>.377</td>
</tr>
<tr>
<td>Total land size, Ha</td>
<td>.0140508</td>
<td>.240816</td>
<td>.036438</td>
<td>.0469378</td>
<td>0.39</td>
<td>0.51</td>
<td>0.700</td>
<td>0.609</td>
</tr>
<tr>
<td>Access to credit, 0=No, 1=Yes</td>
<td>.0384334</td>
<td>.0108223</td>
<td>.1456818</td>
<td>.1758362</td>
<td>0.26</td>
<td>0.06</td>
<td>0.792</td>
<td>0.951</td>
</tr>
<tr>
<td>Access to training, 0=No, 1=Yes</td>
<td>-.032206</td>
<td>.1552432</td>
<td>.0514291</td>
<td>.0493010</td>
<td>-0.63</td>
<td>3.15</td>
<td>0.531</td>
<td>0.002**</td>
</tr>
<tr>
<td>Index of cooperative performance, Ratio</td>
<td>-.0002238</td>
<td>.0001258</td>
<td>-.78</td>
<td>.076*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction on cooperative performance, 0=No, 1=Yes</td>
<td>.4448821</td>
<td>.0548825</td>
<td>.811</td>
<td>.000***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second payment, Birr</td>
<td>-.0001805</td>
<td>-.0001002</td>
<td>-.180</td>
<td>.072*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of house, 1=Modern, 2=Traditional, 3=both</td>
<td>.0007493</td>
<td>.0512722</td>
<td>.0347094</td>
<td>.0367211</td>
<td>0.02</td>
<td>1.39</td>
<td>0.983</td>
<td>0.164</td>
</tr>
<tr>
<td>Con</td>
<td>.0175387</td>
<td>.8090974</td>
<td>1.588402</td>
<td>1.34844</td>
<td>0.11</td>
<td>6.00</td>
<td>0.912</td>
<td>.000***</td>
</tr>
</tbody>
</table>

Significant at *** (1%) ** (5%) * (10%)

According to the results of the first model, six factors (level of education, proportion of off-farm income to total income, proportion of land allocated to coffee cultivation, index of cooperative performance, amount of the second payment (dividend) and satisfaction on coops performance) have significantly influenced the market outlet choice of member coffee farmers in the study area. Except land allocated to coffee production, all other variables do have a negative relationship with the proportion of coffee sold to private traders by members. It is worth noting that only 15.4% of the surveyed members have reported to have received dividends. Dividends are paid to members mainly by good performing coops, such as Fero and Telamo. Most of the cooperatives are heavily indebted, which forces them to allocate the benefits to re-pay debts.

In the second model, age of the respondent and proportion of off-farm income to total income have a negative relationship with the proportion of coffee sold to cooperatives by non-members, while access to training has a positive relationship. The results of the third model indicate that only four variables i.e., age of the household head, education, proportion of off-farm income to total income, and coffee productivity positively influence the proportion of coffee sold to private trader by members. According to the results of the fourth model, respondents’ age and proportion of off-farm income to total income influence negatively the proportion of coffee sold to cooperatives by members. Furthermore, the index of cooperative performance, member satisfaction about cooperative performance and the dividends paid to members do have a positive relationship with the proportion of coffee sold to cooperatives by members.

In summary, the results presented above suggest that among members, younger coffee farmers, with better education, higher proportion of off-farm income to total income, and higher proportion of land allocated to coffee tend to diversify their market choices by selling to traders. Farmer delivering exclusively to the cooperatives seems to be the older ones, with a relative lower individual performance. Among non-members however, younger farmers with lower proportion of off-farm income are ones using the cooperative outlet channel through their friends or relatives. The results have important implications for the management and future of cooperatives, as well as for the assessment of their development impacts.

**Conclusion and recommendation**

Coffee farm households use combination of outlets to sell their coffee although amount of coffee sold and reasons of selling for each outlet differs. According to this study four main marketing outlets (cooperatives, private traders, neighboring cooperatives and informal traders) that the coffee farmers utilize in the study area were identified from the survey result. Coffee farmers can choose to sell all, proportion or none of their coffee through any one of these outlets.

From the existing market channels, delivering through coffee cooperative is the most patronized outlet in the study area. Many factors may have contributed to this scenario; some of coops pay second payment during winter time when farmers severely lack cash. Many farmers who stayed several years as a member may have adopted this
channel because of their long-term attachment to the cooperative in the area so that they have developed trust on them. According to the study the second outlet often patronized by coffee farmers is delivering through the private buyers.

As one would expect members deliver their coffee to their cooperative and non-members to private traders. However, in our survey this is not automatically the case. The study found out that only 42% of member farmers deliver to the private traders. The reason might be due to inability of cooperatives to give credit and in most cases they do not pay cash at the spot during coffee delivery. Similarly there are also 46% non-members deliver to cooperative without being a member. This is because without being a member they can deliver their coffee and receive the second payment through the names of their father or mother or brother who was already members of coops. Therefore in the study area cooperative membership and delivering coffee is not always related. According Tobit model estimation result six variables (age, household’s level of education, proportion off farm income to total income, coffee productivity, and proportion of land allocated to coffee cultivation, index of cooperative performance, second payment and satisfaction on cooperatives performance) have significantly influenced the market outlet choice decision of coffee farmers in the study area. The finding of this study is in line with previous literatures. Finally if coffee cooperatives are supported and well managed still smallholder member coffee farmers continue to prefer them as their main outlet choices. It is therefore necessary to improve coffee cooperatives performance by introducing business process reengineering both at organizational and institutional level to improve their efficiency. Finally conducting further detailed performance study at cooperative level might help to improve the situation.

References


