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1	Determinants of Farmers' Preference to Coffee Market Outlet in
2	Jimma Zone: The Case of Coffee Potential Districts
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7 Abstract

Background and objective: Choice of a marketing outlet is one of the key ingredients to 8 successful marketing of both agricultural and non-agricultural products. The aim of the study 9 was to show determinants of coffee farmers' preference of coffee market outlet in Southwest 10 Ethiopia/Jimma zone.Methodology: Cross-sectional data was collected from 156 randomly 11 selected rural households of three Districts. Structured questionnaire prepared for household 12 heads were filled by the help of selected and well trained enumerators. The study used 13 multinomial logistic regression model to determine factors determining coffee market outlet 14 preference. 15

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17 Index terms— marketing outlet, cross sectional, multinomial logistic, formal traders, informal buyers, 18 brokers.

¹⁹ also an important source of government revenue through various taxes levied on the crop (ICO/ CFC, 2000). ²⁰ Market volatility and declining terms of trade, systemic poverty; and environmental degradation are threats ²¹ to the sustainability of coffee sector. Emphasis given to efficient management of the markets and efficient ²² management of supply chains are the sustainable remedy for the sustainability of the sector. The natural ²³ interdependence between market and supply chain efficiency suggests that systemic treatment of both aspects at ²⁴ a policy level is imperative to the effective implementation of sustainability in the sector (Potts, 2006).

Though efficient agricultural marketing is a tool to improve farmers income and livelihood, farmers faced barriers such as insufficient and inadequate physical infrastructure, lack of basic education and marketing knowledge, lack of organizational support and institutional barriers in marketing (Kherallah and Kirsten, 2001). This has an implication on the choice of marketing channels that farmers prefer in marketing their produce.

29 Choice of a marketing channel is one of the key ingredients to successful marketing of both agricultural and non-30 agricultural products as different channels are characterized by different magnitude of profit and costs. Market 31 development commonly parallels the development of a region's or a nation's economy.

The most frequently used coffee markets in Jimma zone include informal buyers, formal coffee traders, brokers and farmer groups/cooperatives. Informal coffee buyers include farm gate buyers and consumers while formal coffee traders include village and urban coffee traders who are licensed and officially known in coffee market chain. Although farmers of the zone is prominent coffee producers, literature regarding determinants of farmers' coffee market outlet preference for the study area even for the countries coffee producing zones very scant and

37 limited.

The aim of the study was to show determinants of coffee farmers' preference of coffee market outlet in south west Ethiopia/Jimma zone and the specific objectives of the study are: outlet is one of the key ingredients to successful marketing of both agricultural and non-agricultural products. The aim of the study was to show determinants of coffee farmers' preference of coffee market outlet in Southwest Ethiopia/Jimma zone.

42 Methodology: Cross-sectional data was collected from 156 randomly selected rural households of three 43 Districts. Structured questionnaire prepared for household heads were filled by the help of selected and well 44 trained enumerators. The study used multinomial logistic regression model to determine factors determining 45 coffee market outlet preference.

3 REVIEW OF RELATED LITERATURE

Results: Informal buyers, formal traders, brokers and cooperatives were four main coffee market outlet exist on the study area. Multinomial logistic regression result shows that number of extension visit has positive and significant effect on the preference of formal red coffee markets and transport cost to the main market has negative and significant impact on formal traders preference relative to informal buyers. Distance to cooperatives has negative and significant effect on the preference of farmers for cooperatives and number of visit by extensionists has negative and significant effect on formal dry coffee markets and brokers and positive and significant effect on cooperatives as compared to informal market.

Recommendations: Based on the main findings the study recommended extensionists to aware coffee producers to choose good market outlets such as cooperatives for efficient and profitable marketing of coffee and recommended the government to increase the access of cooperatives and the improvement of the infrastructure to enhance coffee marketing.

57 Keywords: marketing outlet, cross sectional, multinomial logistic, formal traders, informal buyers, brokers.

58 1 I.

Background of the Study offee sub sector is continues to be the pillar for Ethiopian economic development as 59 it accounts over 35% of agricultural foreign exchange earnings and about 4% of agricultural gross domestic 60 product. It also provides income to over 15 million people in the country through provision of jobs for farmers, 61 local traders, processors, transporters, exporters and bankers (Ministry of Trade, 2012). It is ? To identify 62 coffee market outlets exist on the study area and proportion of coffee supplied to those market outlets. ? To 63 analyze factors determines coffee market outlet preference among the small holder farmers. The rest of this study 64 is organized in to four sections. Section two embraces some theoretical and empirical literature on marketing 65 channels or outlets. Section three included data collection and data analysis methods and section four discussed 66 the result and its interpretation and finally section five concluded and gave policy recommendation based on the 67 core findings. 68

69 **2** II.

70 3 Review of Related Literature

Market is a particular group of people, an institution, a mechanism for facilitating exchange (Solomon, 2002) and marketing is a societal process by which individuals and groups obtain what they need and want through creating, offering, and freely exchanging products and services and value with others (Kotler, 2003).

Marketing outlets or channels are sets of interdependent organizations involved in the process of making a product or services available for use or consumption. The sequence of intermediaries and markets through which goods pass from producer to consumer is known as marketing channel. Marketing channel decisions are among the most critical decisions facing management (Kotler, 2003).

78 The importance of the distribution function in marketing is apparent when one considers the magnitude of goods and services that are transported and sold at millions of locations throughout the world. Many experts 79 80 believe that the distribution decision is the most important marketing decision a company can make. The design of an organization's distribution system is a key factor in creating customer value and in differentiating one 81 company's offering from that of another (Anderson and Vincze, 2000). They noted that the field of distribution 82 is made up of two distinct branches: channels of distribution and physical distribution. Channels of distribution 83 consist of a network of intermediaries that manages a flow of goods and services from the producer to the final 84 consumer. The success of this network depends on relationships among manufacturers or producers, wholesalers, 85 86 retailers, sales representatives, and others.

87 As products move from one intermediary to the next, exchange takes place exchange of physical goods, intangible services, and value added dimensions. Physical distribution activities include the actual movement of 88 goods and services, with a focus on transporting and warehousing them. Thus far, a number of channels were 89 tested and used throughout generations by farmers, and the most important ones were selected from the point 90 of view of their use for particular commodity and their individual advantages and disadvantages (Barker, 1989). 91 Limited empirical studies exist regarding factors affecting farmers channel choice decision. Agarwal and 92 Ramaswami, (1992) have identified factors related to price, production scale and size, farm household 93 characteristic, behavioral aspects such as (trust, risk, and experience), and market context (distance and purchase 94 condition) affect producer market outlet choice. Furthermore, Zuniga-Arias (2007) found out that factors such as 95 price attributes, production system, farm household characteristic, and market context could affect market outlet 96 97 decision of farmers in mango supply chain in Costarica. Hobbs, (1997) also found out that age, education, farm 98 profit and transaction cost are some factors that influence farmers channel choice decision in livestock marketing. 99 The study also indicated that the mode of payment, long standing relationship with the buyer, and the price 100 received as the most important reasons for selling to a particular buyer in the livestock sector. Magogo et al., (2015) on their study on the market outlet preference for African indigenous vegetables using multinomial logistic 101 regression model found that education level negatively affects farmers preference to sell their the vegetables for 102 farm gate buyers and quantity of the vegetable to be sold, marketing cost and level of value addition positively 103 and significantly affects the preference of the farmers for farm gate market. On other hand, household size, 104 extension visit and off farm income affects the preference of local open market negatively and market cost and 105

level of value addition affects the preference of local open market positively. The finding also witnessed the
positive relation between education level and marketing cost with the preference of farmers to sell for brokers
and negative relation between agricultural market distance and the preference of brokers.

Multinomial regression model was also used by Berhanu et al., (2013) on their study on the determinants 109 of milk market outlet preference. The result indicated compared to accessing individual consumer milk market 110 outlet, the likelihood of accessing cooperative milk market outlet was lower among households who owned large 111 number of cows, who considered price offered by cooperative lower than other market outlets and who wanted 112 payment other than cash mode. The likelihood of accessing cooperative milk market outlet was higher for 113 households who were cooperative members, who owned large landholding size, who had been in dairy farming 114 for many years and who received better dairy extension services. Compared to accessing individual consumer 115 milk market outlet, the likelihood of accessing hotel/restaurant milk market outlet was lower among households 116 who were at far away from the nearest distance to the nearest urban center and higher among Tobit model was 117 used by Anteneh et al., (2011) to identify factors determine choice of coffee market channel. Accordingly, level of 118 education, proportion off farm income to total income, proportion of land allocated to coffee cultivation, index of 119 cooperative performance, amount of the second payment (dividend) and satisfaction on cooperatives performance 120 had significantly influenced the market out-let choice of member coffee farmers in the study area. Except land 121 122 allocated to coffee production, all other variables do have a negative relationship with the proportion of coffee 123 sold to private traders by members. On other hands, they identified 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 124 non-members, while access to training has a positive relationship. They also indicated that age of the household 125 head, education, proportion of off-farm income to total income, and coffee productivity positively influence the 126 proportion of coffee sold to private trader by members and respondents' age and proportion of off-farm income 127 to total income negatively influence the proportion of coffee sold to cooperatives by members. 128

The base for market outlet choice is the theory of rational choice which assumes that farmers are rational 129 and will rank alternative marketing outlets in order of utility. The choice of the marketing outlet was based on 130 farmers' socio-economic characteristics and relevant factors influencing the choice entrenched in each outlet. A 131 farmer's marketing outlet choice was conceptualized using the random utility model. Random utility model is 132 particularly appropriate for modeling discrete choice decisions such as between marketing outlets because it is 133 an indirect utility function where an individual with specific characteristics associates an average utility level 134 with each alternative marketing outlet in a choice set. The smallholder farmers of Jimma zone used farm gate, 135 brokers, formal local markets and cooperatives to sell their coffee. Therefore they was able to choose from a set 136 of alternatives (j = 1, 2, 3, 4) which provided a certain level of utility U ij from each alternatives. 137

This model was based on the principle that the farmer will choose the outlet that will maximize his/her utility. The farmer will make a comparison on marginal benefit and cost based on the utility that will be gained by selling to a particular marketing outlet. However, it is not possible to directly observe the utilities but the choice made by the farmer revealed which marketing outlet provides the greater utility (Greene, 2002). Hence, the utility was decomposed into deterministic (V ij) and random (? ij) parts.

Since it was not possible to observe ?ij and predict exactly the choice of marketing outlet, the probability of any particular outlet choice was used in which a farmer selected a marketing outlet j = 1 if:

Where U ik represents a random utility associated with the market outlet j=k, V ij represents an index function denoting the decision maker's average utility associated with this alternative and ? ij represents the random error.

147 **4 III.**

¹⁴⁸ 5 Methodology of the Study a) Study area

The study was conducted in Jimma zone which is located 335 km to the Southwest of Addis Ababa. The zone is 149 characterized by a tropical highland climate with heavy rainfall, warm temperatures and a long wet period. The 150 mean annual rainfall ranges between 1,200mm and 2,500mm. Coffee is produced in 13 of 18 districts of Jimma 151 zone. Meaning coffee is the major contributor to the socio economic wellbeing of the zone as well as for Ethiopia. 152 Limu kosa, Gomma and Manna districts of Jimma zone are randomly selected from the coffee potential districts 153 for this specific study. Gomma district is located 397 km to southwest of capital Addis Ababa and 50 km away 154 from Jimma town. The annual rainfall varies between 800-2000 mm. The agro climate of the district is high 155 land (highland), intermediate high land (88%) and low land (4%). Manna is one of the major coffee producing 156 districts in Jimma zone, which is located at 368 km southwest of Addis Ababa and 20 km west of Jimma town. 157 The district is constitutes 12% is highland, 65% intermediate highland and 23% lowland with altitude ranges 158 between 1470-2610 m.a.s.l. Limmu kosa is another major coffee generating districts in Jimma zone, which is 159 located at 421 km from the capital Addis Ababa and 20 km from north of Jimma town. The agro climate of 160 the district is intermediate highland (65%), highland (25%) and lowland (10%) (Respective district agricultural 161 office, 2014). 162

¹⁶³ 6 b) Data type and method of data collection

164 Cross-sectional data was collected from 156 randomly selected rural households of respective districts. All 165 attitudinal, institutional, demographic, and socioeconomic factors related to the farmers were collected through personal interviews. Structured questionnaire prepared for household heads were filled by the help of selected and well trained enumerators. Some secondary data such as socio economic data of the study areas was also gathered from zonal and ... district bureaus of rural development offices to supplement the primary data.ij ij ij V U? + = ij ik U U >

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¹⁷² 7 c) Data analysis technique

The Statistical Package for the Social Sciences (SPSS version 20) was used for data entry while STATA 12.1 was used for data cleaning and analysis of factors influencing the choice of coffee marketing outlets. Descriptive statistics and econometric models were used to analyze the data collected from households. Multinomial logistic regression model was used to determine factors determining coffee market outlet used by coffee farmers.

Variables of physical capital (farm size, coffee land size and distance to market), human capital (sex, age,
education level, farm experience, household size and extension visits) and financial capital (farm income, off-farm
income, credit access and marketing costs) are expected to influence coffee market outlet choice of coffee producers.
However, not all of those variables are included in the econometric model due to specification problems. The
empirical model used to assess the significance of the independent variables is given as:

Where SEX is household head sex, AGE is household head age, FAMSIZE is family size of the head, FEXP is 182 farming experience of the head, DFORMRT is the distance to formal market, DCOOP is distance to cooperatives, 183 VEXT is the number of visit of the extensionists, OFFINC is off farm income of the head, TCOFLAND is total 184 coffee land, TLAND is total land and TRCOSTFORMRT is the transport cost to the formal market. Market 185 outlet preference: This is categorical dependent variable which represents the market channel preference of the 186 farmer to sell his/her coffee (dry/red cherry). Four main coffee market outlets such as informal buyers, formal 187 traders, cooperatives and brokers exist on the study area. Informal local coffee buyers include farm gate markets 188 and consumers while formal local markets include urban and rural coffee traders. Thus, category (1) represents 189 the base market outlet which is informal buyers, category (2) represents formal traders, category (3) represents 190 brokers and (4) represents cooperative. Thus the model assessed the effects of various independent variables on 191 the odds of three coffee market outlets versus informal local markets. Sex of the household (SEX): Sex of the 192 household is dummy independent variable where (1) represent for male and (2) represents for female. Due to 193 resource constraint and labor for transporting to the distant market like main market, female household heads 194 do not prefer formal markets and cooperatives. Therefore being male headed household is hypothesized to affect 195 formal market and cooperatives positively relative to the informal markets. Age of the household (AGE): This 196 is a continuous independent variable that is measured in years. As age of the household increases, the likelihood 197 of selling the product to the distant market such as formal markets decline. Therefore, being old aged household 198 199 head is hypothesized to affect the preference of formal market outlet and cooperative negatively as compared to 200 informal local markets.

Family size (FAMSIZE): This is a continuous independent variable that is measured in the number of members

in the household. Household size increases the labor force to transport the coffee to the market. Therefore, family size is hypothesized to affect the preference of farmers for formal market and cooperatives positively relative to

204 informal coffee market outlet.

²⁰⁵ 8 Farm experience (FEXP):

This is a continuous independent variable measured in the number of years a household has been engaged in coffee farming. Households who have been in coffee production for many years are expected to have rich experiences regarding opportunities and challenges of coffee production and marketing. Therefore, the variable is hypothesized to affect the preference of formal market and cooperatives positively as compared informal local markets.

²¹⁰ 9 Distance to formal market (DFORMRT):

211 This is also continuous variables measured in the kilometer. The long the distance to formal markets, the less

the preference of the farmers to sell to those markets. Thus, they opts to sell to markets such as brokers and

213 informal local market. Hence, distance to formal markets are hypothesized to affect the preference of formal

214 market negatively and cooperatives and brokers positively as compared informal markets.

²¹⁵ 10 Distance to cooperatives (DCOOP):

Distance to cooperatives is also a continuous variable measured in the kilometer. It is hypothesized to affect the preference of brokers, informal market and formal market positively and affect the preference of farmers for cooperatives negatively as compared to informal local coffee markets. Off farm income of the household (OFFINC): Off farm income of the household is continuous variable measured in Ethiopian Birr. Farmers with large off farm income did not want to sell their coffee for brokers or informal buyers even for formal markets since

 $_{221}$ the income might serve them as a source of livelihood. Thus, the variable is hypothesized to have negative effect

on brokers and have positive effect on the preference of formal market and cooperatives as compared to informal

223 local markets.

²²⁴ 11 Number of extension visit (VEXT):

Total coffee landholding (TCOFLAND) and total land (TLAND): They are variables related to the wealth of the household and measured in hectares. Farmer with large coffee land is expected to produce more coffee and he/she prefer to sell this coffee to the cooperative or formal market. Thus, total coffee land size is expected to have positive effect on cooperatives and formal market as compared to informal markets which is also true for total land holding.

²³⁰ 12 Transport cost to formal market (TRCOSTFORMRT):

Transport cost is cost related to sell of coffee which is measured in single trip cost to the market in Ethiopian Birr. It is expected to affect the preference of farmers for brokers and cooperatives positively and affect formal market preference negatively as compared to informal markets since the farmer opts to sell at the market with low or nil transport cost.

234 IOW OI 235 IV.

236 13 Result and Discussion

²³⁷ 14 a) Characteristics of survey respondents

The data was collected from three districts of Jimma Zone, Nine kebeles and sixty eight villages of the kebeles. A total of 156 farmers were randomly selected randomly from the three districts. The result shows that 144 (92.3%) respondents were male headed respondent and only 12 (7.7%) of respondents were female headed households.

The demographic and socioeconomic characteristics of the study area as shown in Institutional accessibility

of respondents' shows average distance of respondents to formal village market is 3.19 km, which is high at Gomma district (5.26 km) and low at Manna district (1.6km). On the other hand, the average distance to formal

main market is 53.95 km, which is high at Manna district and low at Gomma district. The average distance to

cooperative and extension service is 5.5 km and 7.85 km respectively. See the detail on the table below (Table 2).

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Volume XVI Issue IV Version I Year () Regarding the opinion of farmers on the trustfulness of the markets, only
30% of respondents trust buyers and 70% of coffee suppliers did not trust the markets. Farmers of the study area
sell their coffee in two different ways: Red cherry and Dry coffee.

²⁵¹ 16 Red cherry coffee marketing:

The result shows only 4% of red cherry coffee was sold by women and 22.5% of coffee was sold by men. However, 252 253 more than 73% of the coffee was sold by men and women indifferently. October to December was peak period when marketing of red cherry coffee was undertaken which accounts 80% of coffee sold. The rest 20% of red 254 cherry coffee is sold in January and February. Donkey is the main mode of transport for more than 74% of 255 respondents though back (head) load, public transport and cart are other mode of transportation used reach 256 red cherry coffee to the market. Four main coffee market outlet exist in the study area for red cherry coffee. 257 However, 48% of red cherry coffee was sold to cooperatives and 30%, 15% and 5% of red cherry coffee was sold to 258 formal traders, informal buyers and brokers or assemblers respectively, which shows existence of non-formal coffee 259 market. (See the summary below on figure 1). Dry coffee market: The result of the survey also shows only 3% of 260 dry coffee was sold by women; 51% of dry coffee was sold by men and 46% of the coffee was sold by both men and 261 262 women. More than 69% of dry coffee was sold from December to January and the rest 31% is sold in all months through the year except on August, September and October depending on the economic status of the farmer. 263 The mode of transport transport for dry coffee used on the study area are truck, public transport, donkey, cart 264 and back (head) load. However, more than 70% of respondents used donkey as a mode of transport for dry coffee. 265 Regarding the market outlet preference, 73% of respondents used formal coffee trader and 15%, 9% and 3% of 266 respondents used informal buyers, cooperatives and brokers respectively as summarized on (figure 2). Market 267 information is one of the main inputs for farmers to sell their produces for optimum price. The survey shows 268 98% of farmers got market information and only 2% of respondents sold their coffee without any information. 269 Own observation, discussion with friends and neighbors, telephone and extensionists are the main source of 270 market information for the study areas. However discussion was the main source of information for 48 percent 271 272 of respondents. Telephone, observation and extensionists were also information mode for 30%, 15% and 7% of 273 respondents respectively. On the other hand, a negative value shows how less likely a household will consider the 274 alternative (Gujarati, 1992; Pundo and Fraser, 2006). The significance values (p-values) show whether a change 275 in the independent variable significantly influences the Logit at a given level and the marginal effects are the probabilities of observing a particular outcome which indicates the extent of the effect on the dependent variable 276 caused by the predictor variables. The value of the marginal effects is obtained by differentiating the coefficients 277 at their mean. A marginal effects value greater than one implies greater probability of variable influence on the 278 Logit and a value less than one indicates that the variable is less likely to influence the Logit. The results revealed 279 that households had four coffee market outlets and combinations thereof. However, due to mutually inclusiveness 280

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of outlets, fewer representation and similar collection and operation practices, only households who had access to cooperative, formal market, informal local markets and brokers were considered in the regression. For estimation purpose, the base category used was informal market preference; thus the model assessed the effects of various independent variables on the odds of three coffee market outlets versus informal coffee market outlet.

Multinomial logistic regression model used sex of the household, age of the household, farm experience, family size, distance to formal coffee market, distance to cooperatives, total coffee land, total land, and transport cost to formal market as an independent variables of both red cherry and dry coffee market outlet preference. i

²⁸⁹ 17 . Factors affect red cherry market outlet

The regression used sex of the household, age of the household, farm experience, family size, distance to formal market, distance to cooperatives, number of visit of extensionists, total coffee land, total land, total annual off farm income and transport cost to formal market as an independent variables.

Age of the household has negative and significant effect on the preference of farmers for formal markets and brokers as compared to informal local markets meaning increase in age of the household declines the preference of formal market and brokers as they opted to use informal markets which do corroborate with the hypothesized sign.

Farm experience of the household has positive and significant effect on the preference of the farmer for formal market and brokers as compared to informal markets, which is consistent with the hypothesized sign. As farm experience increases, the households opted to use formal markets as compared to the informal one.

Distance to formal coffee market has positive and significant effect on the preference of the farmer to cooperatives and brokers and has negative and significant effect on formal markets preference as compared to informal markets. The sign found on both formal market and cooperatives is consistent with the hypothesized sign.

The marginal effect of distance to cooperative on formal markets preference is negative and statistically significant and the result shows that a one

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Volume XVI Issue IV Version I Year () kilometer increase in distance to cooperatives decreases the preference of farmers to use formal markets by 2.9%. Unlike to distance to cooperative, however, the number of extension visit the farmer received from the extensionists has positive and statistically significant effect on the preference of formal markets relative to informal markets, which is consistent with the hypothesized sign. The marginal effect shows that a single visit by extensionists will increase the preference of formal markets by 1.19% relative to the informal one.

On the other hand, the regression results indicate that the effect of off farm income of the household on formal 313 314 market preference is positive and statistically significant, which is inconsistent with the hypothesized expected sign. Total coffee land of the household has positive and significant effect on the preference of farmers for formal 315 markets and brokers and has negative and significant effect on the preference farmers for cooperatives as compared 316 to informal markets. The signs on broker and cooperative are not consistent with the hypothesized sign. Total 317 land of the household has positive and significant effect on cooperatives as compared to that of the informal one 318 which corroborates with the hypothesized sign. The implication is that farmers with large land size opt to use 319 cooperative market to sell their red cherry coffee. The possible reason is farmers with large land size produces 320 321 relatively large agricultural produces. Thus they are not obligated to sell their coffee to informal markets and choose to sell to cooperatives or formal markets. 322

Transport cost to the main market has negative and significant impact on formal traders preference of farmers relative to informal buyers which is consistent with the hypothesized sign. The marginal effect of transport cost to cooperatives was also positively and statistically significant; meaning as transport cost increases by one Birr, the preference for cooperative increases by 2.4 % as compared to informal markets. ii. Factors affecting dry coffee market outlet The coefficient of age of the household has negative and significant effects on the preference for farmers for formal markets as compared to informal markets, which is consistent with the hypothesized sign. The possible reason could be inability of old household to reach his/her coffee to formal markets and cooperatives.

The coefficient of farming experience has positive and significant effect on the preference of farmers for formal 330 331 markets as compared to informal markets which is consistent with the hypothesized sign. The marginal effect of 332 farm experience was also positively and significantly related to formal market preference. This means an increase 333 in one year farm sign. The reason could be farmers with large family size have large labor force to reach their 334 coffee even if the cooperative is distant from their locality. Distance to cooperatives has negative and significant effect on the preference of farmers for cooperatives and has positive and significant impact on preference of 335 farmers for brokers as compared to informal market which is also consistent with the hypothesized sign. The 336 marginal effect of distance to cooperatives is also significant with positive sign on farmers preference for brokers. 337 Number of visit by extensionists has negative and significant effect on formal markets and brokers and 338 positive and significant effect on cooperatives as compared to informal markets which all are consistent with 339

the hypothesized sign. The reason behind this could be extensionists advice farmers to sell their coffee to 340 cooperatives rather than local traders. 341

Annual off farm income the household has negative and significant effect on the preference of the farmers 342 for brokers as compared to informal markets which is consistent with hypothesized result. The reason might 343 be farmers with large off farm income are expected use attractive market outlet when the coffee price becomes 344 345 attractive.

Total coffee land of the household has negative and significant effect on the preference of formal markets 346 relative informal markets which is inconsistent with the hypothesized sign. 347

Total land holding of the household has positive and significant effect on the preference of formal market outlet 348 as compared to informal markets which is consistent with the hypothesized sign. 349

The coefficient of transport cost to the formal market is not statistically significant. However the marginal 350 effects of transport cost to formal market were statistically significant with negative sign. The implication is that 351

and a one Birr increase in transport cost to the formal market decreases the likelihood to use formal market by 352

1% as compared to informal markets. V. Conclusions and Recommendations 353

a) Conclusions 19 354

The study was undertaken with the objective of assessing factors affecting coffee market outlet choices on Jimma 355 Zone, Ethiopia. The data was collected from 156 coffee smallholder farmers. Multinomial Logit model was used 356 to analyze factors that determines dry and red cherry coffee market outlet. 357

The result shows that, 48% of red cherry coffee was sold to cooperatives and 30%, 15% and 5% of red cherry 358 coffee was sold to formal traders, informal buyers and brokers or assemblers respectively and 73% of respondents 359 used formal coffee trader and 15%, 9% and 3% of respondents used informal buyers, cooperatives and brokers 360 respectively for dry coffee. 361

Farmers were raising different reasons of preference of market outlet they sold for. The criteria of The study 362 identified factors that affects red coffee market outlet and resulted that age of the household has negative and 363 significant effect on the preference of farmers for formal markets and brokers and farm experience of the household 364

has positive and significant effect on the preference of the farmer for formal market and brokers as compared to 365 informal markets. Distance to formal coffee market has positive and significant effect on the preference of the 366

farmer to cooperatives and brokers and it has negative and significant effect on formal markets preference. The 367 result also shows number of extension visit the farmer received from the extensionists has positive and significant 368

effect on the preference of formal markets and transport cost to the main market has negative and significant 369 impact on formal traders preference of farmers relative to informal buyers as compared to informal markets. 370

The dry coffee market preference result also shows that age of the household has negative and significant 371 effects on the preference for farmers for formal markets and the coefficient of farming experience has positive 372 373 and significant effect on the preference of farmers for formal markets as compared to informal markets. Family 374 size of the household head is positively and significantly related to farmer's preference for cooperatives and 375 distance to cooperatives has negative and significant effect on the preference of farmers for cooperatives and has positive and significant impact on preference of farmers for brokers. Number of visit by extensionists has negative 376 and significant effect on formal markets and brokers and positive and significant effect on cooperatives and the 377 marginal effects of transport cost to formal market were statistically significant with negative sign. 378

20b) Recommendations 379

Finally the study recommends the government to increase the access of cooperatives among coffee producing 380 areas which increases coffee farmers' income from fair market and coffee supplied to national and international 381 market and reduces marketing cost and distribution of informal coffee sell, market and traders. The study also 382 point to the need for improvement of the extension services to aware farmers to choose formal markets such 383 as cooperatives for efficient and profitable marketing of coffee through redesigning or reforming implementation 384 strategies or improving/strengthening existing policy. Long distance to the agricultural produce markets and 385 poor infrastructure was also an hindrance in marketing of coffee and this study recommends the improvement of the infrastructure to enhance coffee marketing $\frac{1}{2} \frac{2}{3}$ 386

the infrastructure to enhance coffee marketing. 387

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Figure 1: 1 Global



Figure 2: 2 Global



Figure 3: Figure 1 :







Figure 5: Figure 3 :

? j? k

Figure 6:

\ln	?	?	p p ik	????	= ?	+ 1 ?	SE	X + '	? 2	AGE	+	?	3	FAMSIZE	+	?	4	F
	??	•	ij															
			?	VEXT 7		+	?	OFFIN	C 8	+ ?	TCOFI	AN	ID 9) +	ΤL	AN	D	10



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below indicates that among the three districts farmers in Manna district have relatively high mean age (47 years), large farming experience (26.1 years), and large average family size (4.9) but low land ownership (2.24 hectare). On average farmers in Limu kosa district have large land ownership (3.63 hectares) and coffee land (2.07 hectare) compared to only 2.04 and 1.8 for farmers in Manna district as well as 2.63 and 1.51 hectares for farmers in Gomma district. But farmers in Limu kosa have small average family size (3.98) and farming experience (23.09).

Figure 8: Table 1

 $\mathbf{1}$

	Manna		Gomma		Limu Kosa		Overall	
Variables	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Age of respondent	47.00	9.33	45.42	12.45	40.50	7.58	44.30	9.78
Farming experience	26.10	8.610	23.19	11.24	23.09	6.33	24.12	8.72
(years)								
Family size	4.900	1.630	4.61	1.90	3.98	1.70	4.49	1.74
Coffee land (Hect)	1.800	1.490	1.51	0.88	2.07	1.34	1.79	1.23
Land ownership (Hect)	2.240	1.730	2.63	1.56	3.63	2.43	2.83	1.91
					Source: Own co	mputati	ion, 2015	

Figure 9: Table 1 :

	Manna		Gomma		Limu	Kosa	Overa	.11
Variables	Mean S.I)	Mean	S.D Mean S.D	Mean	S.D		
Distance to formal village market (KM)	1.60	1.450	5.26	1.669	2.73	1.81	3.19	1.64
Distance to formal main mar- ket (KM)	90.3 8	80.84	20.0	13.57 51.55 20	.6 53.9	5 38.33		
Distance to cooperatives (KM)	3.20 8	8.170	8.96	5.46	4.35	1.91	5.50	5.18
Distance to extension services (KM)	5.60 4	4.540	10.68	4.41	7.28	7.65	7.85	5.53
			Source: Own con	nputation from	survey	data ((201)5	

Figure 10: Table 2 :

3

Multinomial logistic regression	Number of $obs = 156$	
	LR chi 2 (36)	= 95.21
	Prob > chi 2	= 0.0000 ***
Log likelihood = -123.94	Pseudo R 2	= 0.3195

Figure 11: Table 3 :

$\mathbf{2}$

Variables Cooperatives Coefficient dy/dx

HHSEX HHAGE HHFEXP FAMSIZE DFOMRT DCOOP VEXT OFINC TCLAND TLAND TCOSTFMR

 $\mathbf{4}$

Multinomial logistic regression	Number of $obs = 156$	
	LR $chi2(30)$	= 43.55
	Prob > chi 2	= 0.012 **
Log likelihood = -64.59	Pseudo R 2	= 0.2775

Figure 12:

Figure 13: Table 4 :

respondents inc**hnde**ket the trustfulness of the 2016 Year 10Volume XVI Variables Cooperatives Issue IV Version I E () Global Coefficient 1.802 0.076 -0.363 0.402 * 0.097 -1.541 ** 0.413 ** 0.000 -3.542 3.062 0.260 -5.384 () \times Journal ofManagement and Business Research

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Figure 14:

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