WET COFFEE MARKETING OF COOPERATIVE MEMBERS AND FINANCIAL PERFORMANCE OF PRIMARY COOPERATIVES IN BOJI CHOKORSA WOREDA, WEST WOLEGA ZONE, OROMIA NATIONAL REGIONAL STATE, ETHIOPIA

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By

Daniel Abera

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DEDICATION

This Thesis is dedicated to my wife Elfinesh Nemera, my daughter Borket Daniel and my son Kenbon Daniel for their patience during my study.

STATEMENT OF THE AUTHOR

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in this or any other university and that all sources of materials used for the thesis have been fully acknowledged.

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Date of submission: 08/05/17

BIOGRAPHY

The author was born in West Wolega Zone of Oromia Regional State in 1979. He completed his primary, junior and secondary education in Bila Primary School, Bila Junior School and Boji High School respectively. After passing the Ethiopian School Leaving Certificate Examination (ESLCE), he joined then Ambo College of Agriculture in September 2000 and graduated with Diploma in General Agriculture in July 2002. Starting from December 2003 up to September 2011 he served in Boji Dermeji Woreda of Oromia Regional State in agricultural office as an expert. The author joined Haramaya University for his BSc degree in summer in-service program and graduated in September 2011 with BSc degree in Agricultural Economics. From June 2011 to June 2013 he worked in Boji Chokorsa Woreda as district trade and market development coordinator. From July 2013 until he joined Jimma University for his MSc study he was working as head of Cooperative Promotion Office in Boji Dermeji Woreda.

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LIST OF ABBREVIATIONS AND ACRONYMS

APM	Active Participant Members'
CSA	Central Statistical Agency
ECX	Ethiopian Commodity Exchange
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Statistics
FDRE	Federal Democratic Republic of Ethiopia
GDP	Growth Domestic Product
GMMP	Gross Marketing Margin
IAS	International Accounting Standard
ICA	International Cooperative Alliance
MOARD	Ministry of Agriculture and Rural Development
MT	Metric Tone
NGO	Non-Governmental Organization
TGMM	Total Gross Marketing Margin
TLU	Tropical Lives Stock Unit
UN	United Nations
UNDP	United Nations Development Program
USDA	United States Department of Agriculture

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Wet Coffee Marketing of Cooperative Members and Financial Performance of Primary cooperatives in Boji Chokorsa Woreda, West Wolega Zone, Oromia National Regional State, Ethiopia

ABSTRACT

This study was carried out to identify factors affecting the intensity of cooperative member farmers' wet coffee supply to their cooperatives, determine and compare marketing margins along cooperatives and traders 'channels and evaluate financial performance of wet coffee marketing primary cooperatives. The study was based on the secondary data obtained from annual audit reports of the cooperatives and primary data collected from sampled cooperative member households. A random sample of 120 members was taken to collect the primary data. Financial ratios such as efficiency ratios, current ratios and profitability ratios were calculated as performance indicators. A tobit regression model was applied to identify factors affecting intensity of wet coffee supplied to cooperatives by their members. The tobit model results indicated that age of the household head, educational level, frequency of extension contact, coffee farm size, price paid by cooperatives and distance of members' residence from cooperatives milling station were the variables affecting intensity of wet coffee supply to cooperatives by their members significantly. The result of marketing margin analysis showed that 20% of the total gross marketing margin was added to wet coffee price when it reached cooperatives. The results of, the liquidity ratios, activity ratios and profitability ratios showed the financial performance of the cooperatives under study were below the recommended figure and almost all of the wet coffee processing and marketing cooperatives in the study area were performing their business poorly. Based on the study result, interventions like strong and sustainable cooperative extension and promotion for members to reverse the bad image of members towards cooperatives because of the past regime, providing adult education, provision of regular extension service, accessible cooperative market center, providing better price, and cooperatives plan on agricultural input supply based on the members need are recommended. Moreover, Woreda coop promotion office, Zonal cooperative promotion office, Unions and NGOs' should provide sustainable technical training for cooperatives technical staffs on financial planning, financial management and inventory handling issues.

Keywords: *Performance, Financial Ratios, Tobit, Wet coffee, Marketing & Primary Cooperatives.*

1. INTRODUCTION

1.1 Background

Smallholder agriculture is claimed to be vital for economic development and poverty reduction in developing countries. However, its development is challenged by the need for institutional innovations to overcome market failures (World Bank,2008; Hazell *et al*., 2010). Poverty and lack of aspirations are highly correlated and aspiration failure is the consequence of poverty rather than the cause (Anadi *et al*. 2010, Bernard *et al*. 2012). Poverty reduction undeniably needs increased opportunity sets for the poor and the poor are expected to grasp the opportunities and make decisions and investments that optimize their revenues. Still poverty prevalence exists in Ethiopia, though the efforts were made (ODI,2014).

Having the conviction that poverty is driven by constraints the poor face, government and nongovernmental organizations have been struggling to improve individuals' livelihoods by trying to build up their assets through supplying improved agricultural technologies and skills, improved health, education, micro-finance, or by trying to give solution for market failures (Decron *et al*. 2014). Furthermore, many institutional and organizational changes have been recommended to revert the poverty conditions, among which is the establishment of farmer organizations such as cooperatives that may meet all dimensions of poverty (Wanyama et al. 2008).Consequently, cooperatives are increasingly being presented as one of institutions important for a successful initiative against poverty and exclusion (Birchall, 2003; ILO, 2005).Through cooperatives, individual households and communities can bring opportunities for themselves, discover a productive work that not only facilitate their wellbeing and stability but also give them the support they require to improve their lives and remain active in civil rights and political arenas (Haile, 2007).

 Cooperatives have the advantages of identifying economic opportunities. For instance, cooperatives empower the disadvantaged group and offer security to the poor by allowing them to convert individual risks into collective risks. Many development actors such

as UNDP came to consensus that the cooperative enterprise is one of the new forms of organization that meet all dimensions in the reduction of poverty. The United Nations that declares the role of cooperatives in social development recognizes the contribution and potential of cooperatives in social development and encourages members' situation to create an environment conducive to their development (UN, 2009).

There is a renewed interest in cooperative producer organizations from donors, governments and researchers as an institutional vehicle to improve smallholder agricultural performance, particularly through improved market participation (Bernard and Spielman, 2009; Fisher and Qaim, 2012). During the pre-structural- adjustment cooperatives in developing and centrally-planned economies have largely confirmed to be incompetent and unsustainable (Deininger, 1995; Swinnen and Maertens, 2007), but, modern producer cooperative organizations are argued to be different from their predecessors and to benefit smallholder farmers by reducing transaction costs, input and output markets and improving bargaining power in respect of buyers (Markelova *et al.,* 2009; Bernard and Taffesse, 2011).

Cooperatives in Ethiopia have a long history mainly in the form of traditional collective action organizations, such as work groups (jiges, wonfels, debos), rotating savings and credit associations (iqubs), and burial societies (idirs). These associations are still very much existing in different areas of the country (Bernard *et al.,* 2010). Till the early 1950s the formal cooperative movement was not prevailing in the country, and in 1961 did the imperial government introduce the first formal proclamation on cooperatives that helped the institution in its modern sense (Kodama, 2007).

Coffee is one of the world's most traded commodities, in the world economy, among most agricultural commodities traded in international markets, both in terms of volume and value and ranks next to oils. Furthermore, coffee consumption continues to grow progressively, growing fastest in rising markets, such as those in Eastern Europe and Asia, and in coffee producing countries like Brazil (ECX, 2008). In the more developed markets of Europe and the United States, in contrast, there is an increasing attention towards quality, origin plus economic, social and environmental issues of coffee production and processing (Yeabsira, 2016).

Ethiopia is the birthplace of coffee Arabica; more genetically varied strains of C. Arabica exist in Ethiopia than anywhere else in the world, which initiated botanists and scientists to approve that Ethiopia is the center for origin, diversification and dissemination of the coffee plant. The high genetic diversity of Ethiopian coffee considered of great value both nationally and worldwide, since it represents a pool to develop improved breeds of coffee (Mekuria, *et al.,* 2004).

About 4 million of smallholder farmers produce 95 % of Ethiopia's coffee (Tefera and Tefera, 2013), that is produced under several types of production systems, including forest, semi-forest, garden, and plantation coffee (Girma*, et al*., 2008). Forest coffee is grown in the wild under natural forest cover and is gathered by farmers from trees with minor tree maintenance whereas Semi-forest coffee is also grown in forest conditions, but there is some limited maintenance by farmers, typically annual weeding. This type of coffee has clearly delineated boundaries of ownership, although the trees usually are located away from agricultural plots. Garden coffee is defined as coffee trees planted by farmers in area of their residences. It is often intercropped with other crops or trees. Plantation coffee is grown on large commercial farms, private as well as state farms. Modern production practices − such as irrigation, modern input use, mulching, stumping, and pruning - are often applied in plantation coffee. While reliable recent statistics do not exist, it is estimated that these different production systems make up about 10%, 35%, 50%, and 5 %, respectively, of total coffee production in the country (Kufa, 2012).

Ethiopia's coffee production is the fastest growing in the world. Annual average growth rate is estimated by 12 %, compared to 7%, 5% and 3 % for Brazil, Vietnam and Colombia, respectively (Bekele, 2011). Ethiopia's annual average coffee production was approximately 275,000 tons over the year 2005-2010 periods. Total coffee production in the country has been improving gradually during the past twenty years, with a 110 % increase between 1993 and 2011. Due to adverse weather condition that damaged coffee and lack of appropriate extension services, the volume of coffee produced after the climax production of 325, 00tonsin 2007dropped sharply, though the level of area cultivated continued to increase. The yields have therefore strongly diminished. Additional clarification on why production slowed down after 2007 is that the introduction of new marketing system by the Ethiopian government.

The Ethiopian Commodity Exchange (ECX), prompting wholesalers to hold on their supplies to see if the system would work, and wait for better prices. Likewise, exports were strike in 2008 for various reasons, which possibly trickled down to the offer side, i.e. production. In 2011, coffee production again rose sharply, increasing from 270,000 tons to 376,823 tons (Promar Consulting, 2011).

Agricultural markets in Ethiopia before 2008 had been characterized by small scale producers (95%), high costs and risks of transacting and little access to market information ECX (2011). The weak performance of the agricultural markets in Ethiopia has been recognized in various studies as the major inhibitions to the growth of the agricultural sector and the overall economy (FAO, 2011). Without an efficient marketing system, the surplus resulting from increased production benefits neither the producer nor the country (Jema, 2008).

Co-operation has been and continues to be a tradition in finding the solution to the socio-economic problems of the people in Ethiopia. Such cooperation can be found everywhere as mutual aid institutions such as Equb, Eddir, Wonfel or Jigii, and many others. The traditional cooperation among the rural community was a ground to the flourishing of modern cooperation in early 1960s, realizing that these traditional institutions failed to meet the requirements of credit services and equipment needed for productive purposes in full. In all circumstances, the program for cooperative development was, therefore, formulated and had been included in the second Five-year Development plan (1962-67) of the country (Zerihun, 1998).

The Derge regime established an extensive network of socialist agricultural cooperatives throughout Ethiopia by organizing the peasants. There was virtually no member participation. Instead, party agents and political activists largely ran these cooperative systems (Dessalegn, 1994). Corruption and mismanagement were so prevalent in the service cooperatives, which handled the purchase of consumer goods for rural communities, which basic goods such as soap, salt, sugar and paraffin oil were generally in desperately short supply in the co-operative shops.

The existing government abolished the command economy and introduced economic and political liberalization, including steps to promote the development of democratically governed,

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market oriented, member owned cooperatives; and professionalism in the management of cooperatives. In addition, the government has placed a high priority on food security and self-sufficiency. Cooperatives are promoted as part of Ethiopian rural and agricultural development strategies, within the national macroeconomic policy framework of agricultural development led industrialization (ADLI).

Having the above context, cooperative promotion offices have been established at regional and Federal level to launch the extension of on-going cooperative development effort to benefit small scale farmers and to promote the spirit of self-help community organization. Consequently, several agricultural cooperatives have been established in many parts of the country, not only to benefit members, but also benefit rural communities.

Having these realities, the study attempted to analyze constraints hindering cooperative member farmers to supply wet coffee to their cooperatives, margin share of member farmers through cooperatives and traders channel. Besides, in the research, an attempt was made to analyze the financial position of cooperatives using financial ratios from cooperatives three years audit report.

1.2. Statement of the Problem

To help cooperative member farmers get better prices for their coffee, government and NGOs are encouraging coffee farmers to supply quality coffee to the international market by establishing wet mill machines. This is by processing wet coffee and adding value which brings higher premium prices for farmers. However, some cooperative member farmers in the study area have not yet adopted this practice. Since enough quantity of wet coffee is not supplied to the coffee washing machines in the area, cooperative members are not in a position of getting premium price from quality coffee. The coffee washing machines in the area are processing below their capacity and often stay idle that causes a debt burden to cooperatives.

Different studies showed that financial performances of primary agricultural cooperatives are not at satisfactory level and members' participation is recognized least in many cooperative organizations in Ethiopia (Rao and Tesfay, 2014). Every member has a responsibility of be-

ing involved on issues of cooperatives through different methods. Members can control co-operative activities through participation and there is no cooperative without members' participation.

Agricultural cooperatives in Ethiopia are not functioning with their full potential. This is not only due to poor capacity building and inefficient capacities of cooperatives managers to facilitate input and credit supply but also, the financing system does not sustainably enable their members to access the variety of financial services required (MOA and ATA,2012). Challenges such as, limited access to credit, inability to scale up their activity and inability to penetrate markets are permanent questions surrounding the financial feasibility of primary agricultural cooperatives.

Cooperatives on behalf of their members are strong negotiators than individual farmers in the global market (Kodama, 2007). Coffee cooperatives are efficient in case of marketing services while reducing transaction costs that can stand by their members (Tanguy *et al*., 2007). Performance of coffee marketing cooperatives should be evaluated based on cooperatives principles and values from time to time and the degree of members' satisfaction on the services provided by their cooperatives should be critically considered (Nigusie, 2013). The success of any organization depends on many factors, such as proper planning, effective implementation of activities, suitable evaluation process and adoption of appropriate control measures. Most of the cooperative societies in Ethiopia are managed by people, who are either incompetent or influenced by other dominant people. Thus, the financial performance of cooperative societies is being affected and facing many difficulties (Tsegay, 2008). Financial management has a significant impact on the effectiveness of accompany, a firm or an enterprise. For cooperatives to satisfy their members and to be competent in global market, sound financial planning and management is a prerequisite.

To maintain the possibility of bringing high quality coffee to the international market, the Techno Serve Ethiopia has provided financial and technical assistance to the 3 Boji Chokorsa Woreda primary cooperatives since 2012. In addition, the organization has established coffee washing station and a coffee milling factory. The activities of the cooperatives are from the purchase of red coffee cherry to the exportation of the fully washed coffee through Oromia

coffee farmers' Cooperatives Union. So far, no scientific studies of wet coffee processing and marketing cooperatives have been done in Ethiopia, specifically in the study area. This study therefore, attempted to identify factors affecting the intensity of cooperative member farmers' wet coffee supply to their cooperatives, to determine and compare marketing margins along cooperatives and traders' channel, evaluate financial performance of wet coffee marketing primary cooperatives.

In Sub-Saharan countries, like Ethiopia, where the small-scale farming dominates the overall national economy, agricultural production and productivity is very poor. The factors attributing for poor productivity are recurrent droughts, environmental degradation, poor infrastructure in quality and quantity, and backward cultural practices. Considerable loss also occurs to the produce due to poor practices of post-harvest handling and limited use of appropriate post-harvest technologies (MoFED, 2005). Moreover, due to the weakness of markets, characterized by high transaction costs, high risk, and inadequate communications and transport infrastructure, people living in food deficit areas continue to face famine and food insecurity while producers in surplus regions endure unattractively low producer prices (Eleni *et al.*, 2004).

Cooperative is an autonomous association of people with mutual interest to solve their individual problems through common efforts and ultimately attaining economic and social empowerment to the group members and the community. The prime objective of cooperatives is to solve problems that individuals unable to address independently. Accordingly, cooperatives are involving in input/output marketing activities, credit provision and providing other services to the members.

1.3. Research Questions

This research has tried to answer the following research questions.
1. What are the constraints hindering members' wet coffee supply to cooperatives?
2. How is the marketing margin of member farmers along the cooperatives and traders' channel?
3. How is the financial performance of wet coffee processing and marketing primary cooperatives in the area?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study was to assess wet coffee marketing and evaluate the performance of wet coffee processing and marketing primary cooperatives in Boji Chokorsa Woreda.

1.4.2. Specific Objectives

- ➢ To identify factors affecting intensity of cooperative members' wet coffee supply to their cooperatives in the study area.
- ➢ To determine and compare marketing margins along cooperatives and traders' channels
- ➢ To analyze the financial performance of wet coffee processing and marketing primary cooperatives in Bojji Chokorsa Woreda.

1.5. Scope and Limitations of the Study

The study was concentrated on West Wolega Zone Boji Chokorsa Woreda Wet Coffee Marketing Primary Cooperatives. Therefore, this study focused on evaluating factors affecting intensity of cooperative members' wet coffee supply, assessing the marketing margin along cooperatives and traders' channels, investigating financial performance of wet coffee marketing cooperatives. Since the cooperative members are large in number, the sample size was limited to 120 from a total of 3666 members. The financial tools used in this study does not give all the information related to the financial position of the cooperatives, but they give some useful information such as the cooperatives ability to meet their current obligations, how the cooperatives efficiently using their assets and the profitability of cooperatives. However other factors which could affect the financial performance of wet coffee processing and marketing cooperatives did not consider. On the other hand, because of time and resource limitations households who are non-cooperative members were not included in the study.

1.6. Significance of the Study

The global market which needs high quality coffee made the cooperatives to change their marketing style and this in turn create new way of competition. Thus, the result of this study will help the wet coffee marketing cooperatives in the study area to adjust themselves to the dynamic global market price and helps the farmers to fetch the premium price from the quality coffee, for the development planners and police makers to focus on the weak performance of the organization and make appropriate improvements. Moreover, the study will hopefully initiate the target groups or the coops members to supply their coffee produce to their cooperatives regularly.

1.7. Organization of the Thesis

The study consists of five chapters. The first chapter deals with introduction of the study. The second chapter comprises relevant literature reviews. The third chapter describes methodology, which include sampling technique and data analysis procedures. Chapter four comprises results and discussion. In the results and discussion section demographic characteristic of household respondents, factors affecting intensity of wet coffee marketed by members to cooperatives, the difference in marketing margin of cooperatives channel and traders channel and financial ratio analysis were considered. Summaries of findings and recommendations were treated in chapter five.

2. LITERATURE REVIEW

2.1. Concepts and Definitions of Cooperatives

The definitions of cooperatives are many and varied. The International Cooperatives Alliance (ICA) defines a cooperative as "An autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise". This specifies cooperatives are, first and foremost, voluntary business organizations formed by people of limited income through contribution of share capital that forms the basis of sharing out the profits that accrue from the business. Further, based on the decision of members, the income created from the enterprise can also be used to meet other social and cultural needs and aspirations (Wanyama *et al*, 2008).

Different countries tend to define a cooperative, usually in their relevant legislation, in ways that reflect the national contribution the cooperatives are making. Similarly, Ethiopian cooperative societies Proclamation No. 147/1998, defined cooperative society as "a society established by individuals on voluntary basis to collectively solve their economic and social problems and to democratically manage the same" This definition partly explains why the management of a cooperative should be democratic; this is to give members the opportunity to decide how the proceeds of the enterprise can be utilized. Obviously, the other explanation for this form of management is that the association is open and voluntary, that means, a member is free to join and also allowed to stop to be a member at his/her judgment. Cooperatives emerge under different objective and subjective situations to achieve different ends. Therefore, it is difficult to find a definition that embraces the valid use of the concept "cooperative" in different economic situations. What is common however is, the organizations' main aim is geared towards the fulfillment of the needs of its members (Federal Negarit Gazeta cooperative societies Proclamation No. 147/1998).

Cooperative societies may, according to their nature, be established at different levels from primary up to the federal level (Ethiopian Federal Negarit Gazeta cooperative societies Proclamation No. 147/1998). Cooperative societies at primary level consists individual persons as members, while cooperative unions are formed at the secondary level with primary coopera-

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tive societies as the members. Thus, in the latter case, primary cooperative societies in the same sector within a specific geographical region could join together to form a cooperative union for a purpose of mobilizing capital to invest in a bigger business venture that is beyond the reach of a primary cooperative society. The same logic is used by cooperative unions to form cooperative federations and ultimately an apex organization at the international level to represent all cooperatives in the country (Wanyama *et al*, 2008).

2.2. Historical Development of Agricultural Cooperatives in Ethiopia

In Africa, cooperative movement started during colonization period to control the resource of Africa by pulling up colonizer strength and to supply European and Asian markets by African agricultural products through strengthen cooperative organization. After colony, the governments of Africa used cooperative as the instrument of increasing town development and to spread political and social ideology in rural people. In the present time in different country of Africa, cooperatives are being used as an instrument of increasing economic performance by reducing cost of production and to solve the problem of supplying producers and consumers' goods (OCPA, 2011).

The spirit of self-help and cooperation is a long history of the Ethiopian farming community. There have been mutual help organizations when communities face problems; they devise ways of addressing these problems based on their values, culture and beliefs. In Ethiopia, various self-help cooperatives still exist. They are local level institutions with an organizational base that are indigenous, such as Debo, Mahiber, Iddir, and Iqub (Alema, 2008). These traditional forms of cooperatives played a decisive role in the development of the people social, political and economic development as well as religious tolerance and base for formal cooperatives. The number of cooperatives in Ethiopia, as well as the size of membership, indicates that majority of the population and areas have not been able to explore and utilize the potential services of cooperatives (PMS Rao and TG hiwetEntehabu, 2014).

2.3. Cooperative Movement during Imperial Government of Ethiopia

Cooperatives became a legal institution in Ethiopia after decree No. 44 of 1960. It was during the imperial rule of Ethiopia that was declared in order to form the modern "Farm Workers

Co-operatives". The main objectives needed to endorse this decree were to accelerate the developments of the agricultural economy of the country, to provide market and transportation service, to provide agricultural farm tools, disseminates modern agricultural extension, technology and disseminate cooperative ideas (Tadesse, 2012). Five types of cooperatives were established through this proclamation. Multi-purpose, thrift and credit, consumers, artisans and farm workers cooperative societies were established and 700 peoples enrolled as a member of these societies and contributed about birr 25,000 towards purchase of share (Alemayehu, 2002).

It was also attempted to re-establish cooperative societies by disseminating proclamation No. 241 of 1966". The main objective of this proclamation was improving the standard of living of the farmers, better business performance and improving methods of production. But the attempt was unsuccessful as it never brought about change of luck for the poor farmers. The reason behind was all the necessary pre-requisites for the formation of cooperatives were absent. The whole process was simply a change in form rather than in substance. Because, members of the cooperatives were not the determinant but any interested persons or institutions who wanted to procure profit. This implies that cooperatives were not basically designed to bring any economic change for the peasants as individuals or persons who were not/could not actually participate in the real activities of the cooperative were allowed to become a member which is basically against the essence of cooperatives. What is unique about the 1966 proclamation is that prominent persons were allowed to become nominal members. This is basically meant to enhance the reputation and good will of cooperatives by letting merchants and prestigious personalities become members. As a result, government agencies or ministries could become a member so as to enable the society utilize government facilities and personnel (Dagnachew and Addissie, 2009).

2.4. Cooperative Movement during the Derge Regime (1974-1991)

In 1974, the Military régime overthrown Emperor Haileselasie government and established a socialist type of government. The government proclaimed cooperative organization proclamation in 1978: proclamation number 138/1978. During this era, great efforts were done to promote agricultural service cooperatives as well as producers cooperative societies. However-

er, cooperatives' movement used to suffer from a loss of credibility in the eyes of their members and the public in general because of the political ideology of the existing government. Up to 1990 there were 10,524 different types of cooperatives with 4,529,259 members and capital of Birr 465,467,428 throughout the country. From these cooperatives 80 percent were rural cooperatives. At that time the then existing government gave due attention for the cooperatives (Zerihun, 1998).

The legal ground for the establishment and development of agricultural cooperatives was first provided by the proclamation 71/1975. Later on in 1978 the regime demanded the establishment of different cooperative societies to combat exploitation of workers and peasants by enabling them secure services, safeguard the economic, political and social rights of peasants by securing goods and services and ensuring the participation of the broad mass. The objectives of the cooperative societies at that time were to develop self-reliance and promote the interest of the members, to put the means of production under the control of the cooperative, to increase production, to expand industries, to conduct political initiation, and to eliminate reactionary culture and customs (Wegenie, 1989).

The Derge regime violated some of the internationally recognized basic principles and values of cooperatives and it made cooperatives a platform for conducting political agitation, rather ignoring their political neutrality. It also violated the very basic principles of cooperatives (open and voluntary membership). In some places farmers were forced to be the member of the cooperative through external pressure especially in the farmers' producers' cooperatives. Cooperatives were administered by the government cadres and untrained manpower. There were corruptive practices in the cooperatives. In general, the regime misused cooperatives for its political ends violating the underlying principles of cooperatives. As a result, similarly as the previous government, cooperative movements during the regime had a life equal to the government in power (Subramai, 2005). During this time, cooperatives were forced to operate in line with socialist principles, which means the production and marketing of produce were done collectively. Membership to cooperatives was also compulsory, which violates the basic cooperative principle of voluntarily participation. They were instruments for implementing government policies; leaders loyal to government. Violation of cooperative princi-

ples proved to destabilize cooperative movements in Ethiopia as most of the cooperatives were dismantled following the downfall of the socialist system (Bezabeh, 2012).

2.5. Cooperative Movement Since 1991

The FDRE expressed renewed interest in collective action to promote greater market participation by smallholders. This was later confirmed in the Sustainable Development and Poverty Reduction Program (FDRE, 2002) and Plan for Accelerated and Sustained Development to End Poverty. Cooperative proclamations No 147/1998 and 402/2004 were the basis of the cooperatives strength in which cooperatives are given a central role in the country's rural development strategy in particular, the government strongly promoted agricultural cooperatives to encourage smallholders" participation in the market (FDRE, 2005; Bernard *et al.,* 2008).

The cooperative movement was paralyzed, until the new Ethiopian People Revolutionary Democratic Front (EPRDF). Beginning from 1991, cooperatives began to see change in fortunes as their roles in economic development were understood better and given due emphasis for the development of the sector and necessary legislative actions have been taken. The government after coming to power worked on cooperatives led by ICA principles. To this effect, the government has enacted the legality of cooperatives is duly acknowledged by Federal Democratic Republic of Ethiopia (FDRE) constitution and they become part and parcel of the country's agriculture and rural development strategy (MoFED, 2006; Getnet and Tsegaye, 2012).

The present government has also shown its commitment for farmer's co-operative promotion since it came in to power in 1991. Initially the Government enacted agricultural co-operative proclamation incorporating the internationally accepted principles. The intension was both to reorganize and organization of farmer's co-operatives, which can work in the free market economy. The government continued its effort to promote various types of co-operatives throughout the country and introduced co-operatives proclamation No. 147/1998. Since then different agricultural and non-agricultural co-operatives have been organized and established (FCA, 2005).

2.6. Coffee Production and Marketing in Ethiopia

It is estimated that, approximately 600,000 hectares of the land area in Ethiopia is enclosed by coffee plantation (McMillan et al, 2003). Of this, more than half is semi-forest/forest, semi-wild/wild land. Coffee production increased by 0.3 % over the past years. Ethiopia remains the largest producer of coffee in Africa and is the fifth largest coffee producer in the world next to Brazil, Vietnam, Colombia, and Indonesia respectively, contributing about 4.2 % of total world coffee production. Coffee production is vital to the Ethiopian economy with about 15 million people of the country directly or indirectly deriving their livelihoods from it. Small holder farmers produce 95% of Ethiopia's coffee (Tefera and Tefera, 2013). Ethiopia has a good potential to increase coffee production and productivity as it is endowed with suitable elevation, temperature, soil fertility and sufficient rainfall in coffee growing belts of the country. However, the average yield per hectare remains very low stagnating at 0.7-0.8 MT per hectare (Abu Tefera and Teddy Tefera,2013).

Coffee is the most important cash crop with higher quality and organic in nature, representing the huge potential of fetching high premium price in both domestic and the global markets (FAOSTAT, 2011). Over millions of the farming households and about 25% of the total population of the country are dependent on the production, processing, distribution and export of coffee. Coffee also accounts for more than 25 % of GDP absorbs around 25% of employment opportunity for both rural and urban residents and 10% of the total government revenue is from Coffee product (CSA, 2008).

2.7. Coffee Processing
2.7.1 Wet Processing

In the wet or washed coffee processing, the ripe fruit is squeezed in pulping, which is the key operation and difference from the dry process in which the soft pulpy part of the cherry together with the skin is 'turn off' as soon as possible (Clark, 1985). The machine removes most of the soft outer pulp or fibrous fruit flesh, leaving a slippery exposed layer of mucilage.

Since the layer of mucilage cannot be readily dispersed in water, one of several methods leaving the clean parchment layer removes it. And the product is called washed coffee, because the mucilage is finally removed by washing with water (Sivetz and Desrosier, 1979). The parchment can finally be hulled to provide the dry green been (Clark, 1985).

2.7.2. Dry processing

This is a natural process and is the simplest and the harvested cherries classified then are dried in their entirety, most usually in the sun (Clark, 1985) or the fruit is allowed to remain on the tree past the full ripe stage and is partially dried before harvesting (Sivetz and Des rosier, 1979). The dried coffee cherry when at about 12 percent moisture is then subjected to a milling operation (or 'hulling' or rather 'de husking') to separate out the green bean (Clark, 1985).

In general, washed coffee carefully prepared and handled, is clean in flavor and free from undesirable element. Wet processed Arabica is aromatic with fine acidity and some astringency, while dry processed Arabica is less aromatic but with 17greater body. The use of 'under water fermentation as opposed to 'dry' accentuates the formation of acids. Natural coffee, since it is always dried in contact with its mucilage, has a better body as due to this fact under ideal condition natural coffee may be of excellent quality, clean testing and full bodied and, while different, fully a desirable as washed coffee(Sivetz and Desrosier, 1979; Clifford, 1985; Clark, 1985).

2.8. Basic Concepts and Definition of Agricultural Marketing

Marketing: Even though there is no universally accepted definition, most frequently there is no problem in defining marketing which is assumed to include all activities involved in the production, and flow of goods and services from point of production to consumers. Marketing encompasses all activities of exchange conducted by producers and middlemen in commerce for the purpose of satisfying consumer demand. Kotler defines marketing as the set of human activities directed at facilitating and consummating exchanges (Kotler, 2003). American Marketing Association defines marketing as the performance of business activities.

Agricultural Marketing: Agricultural marketing is the performance of all business activities involved in the flow of food products and services from the point of initial agricultural production until they are in the hands of consumers. Agricultural marketing also includes the selling to farmers of supplies needed for production Farm marketing is the connecting link between farm producers and consumers. This link involves physical distribution and economic exchanges.

Marketing Channels: are sets of interdependent organizations involved in the process of making a product or services available for use or consumption. Marketing channel decisions are among the most critical decisions facing management (Kotler, 2003).

2.9. Marketing Performance

Market performance can be defined as how well the agricultural marketing system performs what the society and the market participants expect of it (Handy, 1985). Evaluating marketing performance raises the question of "What do we expect of the agricultural marketing?" The marketing systems have abundant and often conflicting goals, where compromises and trade-offs will be necessary if the various participants such as consumers, farmers and the society in the marketing system are to be satisfied. Market performance refers to how successfully the firm's aims are being accomplished, which shows the assessment of how well the process of marketing is carried out, is produce assembling and delivering on time and without wastage? Is it well packed and accessible attractively? Is its quality consistent and terms of contract observed? Is the consumption of the products increasing and sales in competitive market growing? There are such practical pointers of how well a certain marketing system is performing (Kwast *et al,* 1979).

As a method for analysis the structure conduct performance paradigm postulates that the relationship exists between the three levels notable. One can imagine a causal relation starting from the structure, which determine the conduct, which jointly determine the performance (technological progressiveness, growth orientation of marketing firms, efficiency of resource use, and product improvement and maximum market services at the least possible cost) of agricultural marketing system in developing countries (Meijer, 1994). One way to start the study of agricultural marketing performance is to list some common concerns about the in-

dustry. For instance, consumers frequently complain about high and fluctuating food prices, misleading labels and advertising, Producers voice other complaints such as declining number of farm product buyers, reduced competition for supplies, control over price of agricultural products by buyers, the failure of the retail and farm gate prices to move together, excessive marketing costs and prices, and below cost prices. The society on the other hand, might be more concerned with such issues such as the agricultural marketing sector's contribution to employment, investment, and economic growth; the standard of living and quality of life; resource use and conservation; and overall health and prosperity of the rural society (Kohl and Uhl ,1985).

Assessment of market performance requires specific measures. Trends in retail prices, share of consumers' income spent on food, the farm retail price spreads and the farmers' share of the consumers' food dollar are popular measures of market performance. Margins, profits and trends in food marketing costs also indicate something of the marketing performance. However, each of these has some value and limitations in the measurement of agricultural marketing performance, and no single one tells the whole story. Market performance is a complex notion, and using a single market characteristic in its evaluation may lead to misleading conclusion and recommendations. Therefore, care must be taken in their use and interpretation, and also compromises must be made in public policies that are designed to improve agricultural marketing practice. A balance need to be strike between the demands and dissatisfactions of each group in the marketing channel. Balance of these criteria is frequently disturbed by a new technology, a new marketing procedure, a change in markets, or a change in political power, thus, making the analysis of agricultural marketing performance an ever-changing and dynamic area (Rhodes, 1983).

2.9.1. Methods of Evaluating Marketing Performance

Market performance can be assessed by analyzing the costs and margins of the marketing participants in different channels. Margin can be suitable descriptive statistic if it is used to show how the consumer's price is divided among actors at different levels of marketing system (Beshargo, 2002).

2.9.2. Marketing Margin

It is usually used to measure the performance of a marketing system (Abbot and Makeham, 1981). It is defined as the difference between the price the consumer pays and the price that is gained by producers, or as the price of a collection of marketing services, which is the outcome of the demand for and supply of such services (Cramers and Jensen, 1982; William and Robinson, 1990 and Holt, 1993). The scope of market margins is largely dependent upon a combination of the quality and quantity of marketing services, the cost of providing such services, and the efficiency with which they are undertaken and priced. For instance, a big margin may result in little or no profit or even a loss for the seller involved depending upon the marketing contribution under competitive market conditions. The size of market margins would be the outcome of the supply and demand for marketing services, and this would be equal to the minimum costs of service provision plus "normal" profit. Therefore, analyzing market margins is an important means of assessing the efficiency of price formation in and transmission through the system. There are three methods generally used in estimating marketing margin: (1) detailed analyses of the accounts of trading firms at each stage of the marketing channel (time lag method); (2) computations of share of the consumer's price obtained as well as on the selling and buying prices (Mendoza, 1995); and (3) concurrent method: comparison of prices at different levels of marketing over the same period of time (Mendoza, 1995; Scarborough and Kydd, 1992).

2.9.3. Marketing Costs

 It refers to those costs which are incurred to perform various marketing activities in the transportation of goods from producers to consumers. Marketing costs include handling cost, costs of searching for customer with whom to exchange, screening potential trading partners to find out their trustworthiness, bargaining with potential trading partners to reach an agreement, transferring the product, monitoring the agreement to see that its conditions are being fulfilled, and enforcing the exchange agreement (Holloway and Ehui,2002). Marketing cost includes: Handling costs (packing and unpacking, loading and unloading, putting in coast and taking out again), transport cost, product loss (particularly for perishable fruits and

vegetables), storage costs, processing cost, and capital cost (interest on loan), market fees, commission and unofficial payments (Heltberg and Tarp, 2001).

All marketing activities generate costs. These costs vary widely across agricultural commodities, depending for example on the extent of processing or the distance between production areas and consumption centers. Agricultural marketing costs are costs incurred between the moment an agricultural product leaves the farm and the instant it is purchased by end users or consumers. These include market research and promotion, product preparation, packaging, handling, transport, product losses, storage, processing, and fees and unofficial payments (Wandschneider and Yen, 2006).

2.10. Financial Performance Analysis

Financial performance analysis identifies the financial strengths and weaknesses of the cooperatives by properly establishing financial statement (Meigs, 1978). Balance sheet and income statement are basic financial statements employed to measure financial ratios. Financial statements give information about cooperatives assets; liabilities; equity, income and expenses, cash flows, including gains and losses that are essential to a wide range in making economic decisions. Balance sheet is a statement of financial position which provides information about cooperative assets, liabilities and equity and their relationships to each other at a time where the equity equals the difference between total assets and total liabilities (Mongiello, 2009). Income statement is a financial statement that lists and categorizes the various revenues and expenses that result from operations during a given financial period. An accrual statement provides a better measure of the cooperatives performance because it considers changes in inventories, rather than cash transactions. The difference between revenues and expenses represents a cooperatives net income or net loss. The amounts shown in the income statement are the amounts recorded for the given period, a year, a quarter or a month (IAS, 2011).

2.10.1. Significance of Financial Analysis

Financial analysis can be undertaken by management of the firm or by parties outside the firm. Owners, trade creditors, lenders, investors, unions, analysts and others can take finan-

cial analysis. The nature of analysis will differ depending on the purpose of the analyst (Jagels, *et al*., 2004).

2.10.1.1. Approaches to measure financial performance

The end products of the accounting process are balance sheet, income statement, and statement of cash flows. They are supplemented by detailed explanation in the Director's Report, annex, and schedules. The information exists in the financial statements are arranged in a manner that helps analyst to make inferences about the working and financial health of the enterprise. The numbers given in the financial statements are not of much use to the decision maker, unless otherwise the numbers are to be analyzed over a period of time or in relation to other numbers so that significant conclusions could be drawn regarding the strengths and weaknesses of a business enterprise. The tools of financial analysis help in this regard. A number of approaches can be employed for the purpose of analysis of financial statements. These are also named as techniques or tools of financial analysis. Among the tools, an enterprise or a firm can choose those techniques, which are appropriate to its requirements. The major techniques of financial analysis are the following (Gitman, 2004).

Ratio Analysis

Financial ratios are important indicators of a firm's performance and financial situation. This is the reason why accounting numbers do not explain any phenomenon by their own. However, when a relationship is established between two numbers figuring in the three financial statements, i.e., balance sheet, income statement, and cash flow statement, one can make an assessment regarding the phenomenon. Ratio analysis involves calculation and interpretation of financial numbers by relating them in a logical manner to assess the strengths and weaknesses underlying the performance of cooperatives. We calculate ratios as in this way we get a comparison that may prove more useful. To comment on the quality of a ratio one should make a comparison with some standards or benchmarks (Fabozzi, *et al*., 2003).

Liquidity Ratios

Liquidity ratios measure the ability of a firm to meet current financial obligations. Liquidity is important for the firm to avoid defaulting on its financial obligations and, thus, to avoid experiencing financial distress (Ross, *et al*., 2005). These ratios measure the ability of the firm to meet its short-term obligations, maintain cash position, and collect receivables. In general, the higher liquidity ratios the larger the enterprise margin of safety and ability to cover its short-term obligations. Because saving accounts and transaction deposits can be withdrawn at any time, there is high liquidity risk for both the banks and other depository institutions. Banks can get into liquidity problem especially when withdrawals exceed new deposit significantly over a short period of time (Samad and Hassan 1999).

Efficiency Ratios

The occurrence of inefficiency is considered as an inherent feature of banking. According to Turati (2003), "banks are regarded as firms that emerge as a result of some sort of market imperfections; hence they bring about a certain degree of inefficiency with respect to perfect competitive outcome". Banking efficiency is important at both micro and macro levels. To allocate resources effectively, banks should be financially sound and efficient (Hussein 2000).

Efficiency in banking can be well-known between allocative and technical efficiency. Allocative efficiency is the extent to which resources are being allocated to the use with the highest expected value. A firm is said to be technically efficient if it produces a given set of outputs using the smallest possible amount of inputs (Falkena *et al,* 2004). Outputs could be loans or total balance of deposits, while inputs include labor, capital and other operating costs. A firm is also said to be cost efficient if it is both allocative and technically efficient (Mester, 1997). A study on X-inefficiency, which is a measure of the loss of allocative and technical efficiency, has been carried out particularly globally. The results showed that X-inefficiency is between 20-30% of total banking costs in the US (Berger and Mester, 1997).

According to Falkena et al (2004) "the notion of X-inefficiency suggests that comfortable incumbents may not be produced in the most efficient method. If a few players dominate the market, they may be protected from competitive forces and may use rule-of-thumb rather than best practice methods. These ratios measure how effectively and efficiently the firm is managing and controlling its assets. These ratios indicate the overall effectiveness of a firm in utilizing its assets to generate sales, quality of receivables and weather the firm is successful in its collections, the promptness of payment to suppliers by the firm, effectiveness of the inventory management practices, and efficiency of firm in controlling its expenses. Higher value of these ratios is taken as good indicator, which means firm is acting well. Ratios used to measure efficiency of a firm are Asset Utilization, Income to Expense Ratio, and Operating efficiency (Hasan, 2005).

Profitability Ratios

Profitability is a measure that attempts to answer the question are cooperatives making enough money for the effort? Two cooperatives may show the same profits but may not be equally profitable. This could be a result of the way cooperatives use their resources. A business may generate profits, and can be profitable, but an important question to be asked is whether the business is efficient or not. A cooperative that is efficiently running its business is more likely to be profitable than cooperatives that are not efficiently running their business. Efficiency is the careful use of the resources available to the cooperatives (Kahan, 2013).

2.10.2. Empirical Studies on Performance of Cooperatives

According to Sexton and Iskow (1993) there are two categories of empirical studies regarding the efficiency of cooperatives; those involving financial ratios and those based on concepts of economic efficiency. Financial analysis of cooperatives performance should rely on the use of both financial ratios and economic efficiency. Among the economic efficiency studies, Porter and Scully (1987), utilized a production function approach to study comparative financial performance between dairy cooperatives and investor owned firm and concluded that dairy cooperatives were less efficient than investor owned firm (Saisset, *et al*. 2011).

Gari (2002)evaluated the financial performance of small-scale and large-scale dry coffee processing firms in West Walega Zone of Oromia National Regional State. Financial performance of the firms was measured by solvency, liquidity and net worth to determine business profitability measures. The result revealed both groups of firms had good ratios, larger firms were slightly better in maintaining solvency of their business and their financial position. However, the rate of return to investment was extremely low, much lower than the interest rate, in both groups of firms, but higher for large-sized firms.

According to Ahmedin (2008) coffee farmers marketing cooperatives in Yirga Cheffee and Wonago Woredas, SNNPRS were in efficient in operating ratios, profitability ratios and return on equity and he recommended that emphasis need to be given for the satisfaction of members, the management bodies and the stuff members of the cooperatives need to obtain capacity building regarding business planning, development and marketing management. Further, experience sharing is supreme regarding with those cooperatives having better performance.

Hardesty and Salgia (2004) conducted studies on the comparative financial performance of agricultural cooperatives and investor-owned firms in California using financial performance analysis tools such as profitability, leverage, liquidity and asset efficiency for the year 1991 to 2002. Return on Equity, Return on Assets, Debt-Equity Ratio, Current Assets, Current Liabilities, Operating Margin and Asset Turnover Ratio were the tools used during the analysis. The authors found that cooperatives in all four sectors were less leveraged.

Demeke (2007) found out that Coffee marketing cooperative in Dale District, SNNPRS were in poor position in reference to calculated efficiency ratios, income ratios and creditworthiness ratios. He recommended that farmers should be owners, users and controllers of their cooperatives.

Klien *et al*. (1997) using tobit model analyzed the amount of business conducted through cooperatives with different types of cooperatives. The result of their finding was, relatively larger sized farms did a great proportion of grain marketing through the cooperatives and bought more of their fuel from the cooperatives. Older farmers patronized all types of coop-

eratives more than younger farmers except for farm chemical. At the highest level of off-farm income, grain farmers used the cooperatives more intensively.

Mckee *et al.* (2009) studied financial performance of North Dakota farm supply and grain handling cooperatives. Financial performances were analyzed using liquidity, solvency, financial efficiency and profitability ratios for each cooperative based on annual financial reports. The result revealed that most of North Dakota agricultural input supply and grain marketing cooperatives were profitable. Larger cooperatives in terms of sales had positive returns on assets. Relatively small cooperatives had negative returns on their assets.

Muhabie (2015) studied performance of coffee marketing cooperatives in Yirga Cheffe Woreda using financial performance measurements. Coffee cooperatives in the area showed progress as far as their financial position and the service they give to their member concerned, but the cooperatives were still challenged by different problems.

Sikuka (2010) conducted a study on comparative performance of selected agri-business companies and cooperatives in the Western Cape of South Africa. Financial performances were measured based on financial ratios obtained from balance sheets and income statements. The results showed that, companies had the strongest relative performance in most of the financial ratios mainly profit margin, return on equity, current ratio, debt to asset ratio, asset turnover ratio, asset growth, revenue growth and economic value addition and their relative performance was improved. Cooperatives only showed an advantage on return to assets and sometimes return to equity. The author concluded that, the performance of cooperatives was slightly lower, with less significant difference from companies.

Misra *et al.* (1993) used the ordered probit model to analyze factors affecting satisfaction of members with the overall performance of milk marketing cooperatives. The result showed that dairy farmers perceived the cooperatives ability to manage operating and marketing costs, to provide higher prices, competent field services and the assurance of a market for their milk is important attributes of dairy marketing cooperatives.

Muthyalu (2013) studied the performance of four multi-purpose primary cooperatives and participation of cooperative members in the agricultural input and output marketing in Adwa

Woreda, Tigray. He used Logit econometrics model to identify determinants of members' participation in input and output marketing through cooperatives. House hold education status, shareholding of members, land owned, distance from cooperatives to farmers' home, total livestock owned were explanatory variables significantly influenced level of members' participation in agricultural input and output marketing.

Almaz (2008) used Tobit model to assess the determinants of dairy cooperatives performance in Astbie Womerta, Alamata and Enderta Woreda, of Tigray Region. The result revealed that among the significant explanatory variables; age, access to credit, members' training, members' participation and gender had significantly influenced the performance of cooperatives in the study area.

Suri and Shilpi (2013) conducted studies on comparative analysis of financial performance of Indian farmers' fertilizer cooperatives; financial analysis was mainly used to compare the growth, profitability and financial soundness of the cooperatives. The results showed that, operating profit, turnover ratios, debt to equity ratios, current ratios, were at a good position. However, return on capital employed, profit before tax were not at desirable position.

Hind (1994) examined the Performance of 31 agricultural cooperatives and 82 non-cooperatives in agribusinesses in United Kingdom. He used the linear multiple regression model to compare the significant relationships between the performance indicators and business form. The findings of the study revealed that cooperatives did not perform differently from non-cooperatives, regardless of being required to balance member's needs with the attainment of their goals.

Ayele *et al.* (2006) analyzed the performance of primary agricultural cooperatives and factors determining members' decision to use cooperatives as marketing agent in Adaa Liben and Lume Woredas. The authors used audit reports of the cooperatives to study the financial performance indicators. Financial performances were analyzed by financial ratio such as liquidity analysis, debt ratios and profitability ratios. The result showed, the cooperatives under study were below the satisfactory rate since current ratio was less than 2.00. More of their total asset was financed by funds from their creditors. The authors also used tobit econometric model to identify factors affecting the marketing of teff through the cooperative channel

in the two districts. According to his finding, district, farmers position in the cooperative, farm size, yield of teff, patronage dividend, cooperative price offer, distance of the district market from the farmers' home were the variables found to influence the marketing of teff and its intensity through the cooperatives positively.

Tekeste *et al*. (2014) used financial analysis tools to study the financial position of multipurpose cooperative unions in Tigray region and came up with the conclusion that the financial position of the unions was unsatisfactory due to the liquidity ratios of the unions being under the recommended standard.

Arayesh (2011) in Iran conducted a study to identify factors affecting the participation of agricultural cooperative members' in Iran. Correlation coefficients and stepwise multiple regression analysis were adopted for the analysis. The correlation coefficient results show that there is significant relationship between level of participation and the variables like age, background history of membership in cooperatives, the members' agricultural land areas, annual income of the members, socio-cultural features, economical features, educational-extensional features, managerial factors, psychological features, political factors and communicational-informational factors. The multiple regression analysis results showed that variables like political, economic, managerial and social factors have positive effect on the dependent variable of agricultural cooperatives members' participation.

Haji (2008) examined the role of cooperatives in agricultural input output marketing in Eastern Tigray Zone. Ratios were analyzed by taking the five years' financial audit report of the cooperatives to analyze the performance. The result of liquidity analysis, financial leverage and profitability ratio showed the general performance of cooperatives under the study were weak and below the norm. He also used tobit econometric model to identify factors affecting the level of members' participation. The result showed that, probability of participation was significantly and positively influenced by education status of household, sex, number of share capital paid, off farm income, livestock owned, access to input credit, membership status, access to alternative marketing and members' satisfaction towards cooperatives. Age, off-farm income and access to alternative market had inverse relationship and significant to determine participation level.

Alema (2008) conducted his study on 10 primary agricultural multipurpose cooperatives to analyze role of agricultural multipurpose cooperatives in Tigray Region. Financial ratios were conducted to analyze financial performance of cooperatives based on two years' audit report and adopted Probit model to identify the factors influencing the participation of cooperative members in input and output marketing. Financial ratios results showed that, the cooperatives under investigation had a current ratio of less than 2:1 and the profitability ratios were not satisfactory. The econometrics results revealed that, own land, shareholding, distance from the cooperatives, output price, membership in other cooperatives and seed price were significantly and positively affected the participation of cooperative members in the agricultural input and output marketing.

Masfin (2008) conducted her study on performance of dairy cooperative in input and output marketing in Tigray Region. The result showed that, age, members' training, availability of credit, members' participation and gender had positive impact on the performance of cooperatives while access to roads had negative influence. Tsegay (2008) used ratio analysis to analyze the financial performance of cooperatives in Ederta Woreda. He found that the financial position of the cooperatives under study was not encouraging and the three years' period liquidity ratio was fluctuating and below the standard.

2.11. Conceptual Framework of the Study

The conceptual framework in Figure1 below outlines the conceptualized interrelationships in the study, the key independent variables involved and how they are related with the dependent variable. The reason is that some cooperative members will decide to supply wet coffee to cooperatives while others will not. The decision to sell is influenced by a number of Socio economic characteristics of members discussed as follows. Cooperative members who have longer age for example can supply more wet coffee to cooperatives than members with less farm experience. Household with larger family size has more labor and then more production and can supply more wet coffee to cooperatives. The higher the educational level, the better would be the members' awareness towards cooperatives and can affect wet coffee marketed positively. Members having longer years of membership have better know how about the benefits of cooperatives than members with shorter years of membership. This variable can

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influence the intensity of wet coffee marketed to cooperatives positively. The closeness of cooperatives milling station to the farmers' residence also can affect the intensity of wet coffee marketed. Extension workers disseminate market information as well as the advantage to market the produce to cooperatives. Therefore, this variable can influence the quantity of wet coffee marketed positively.
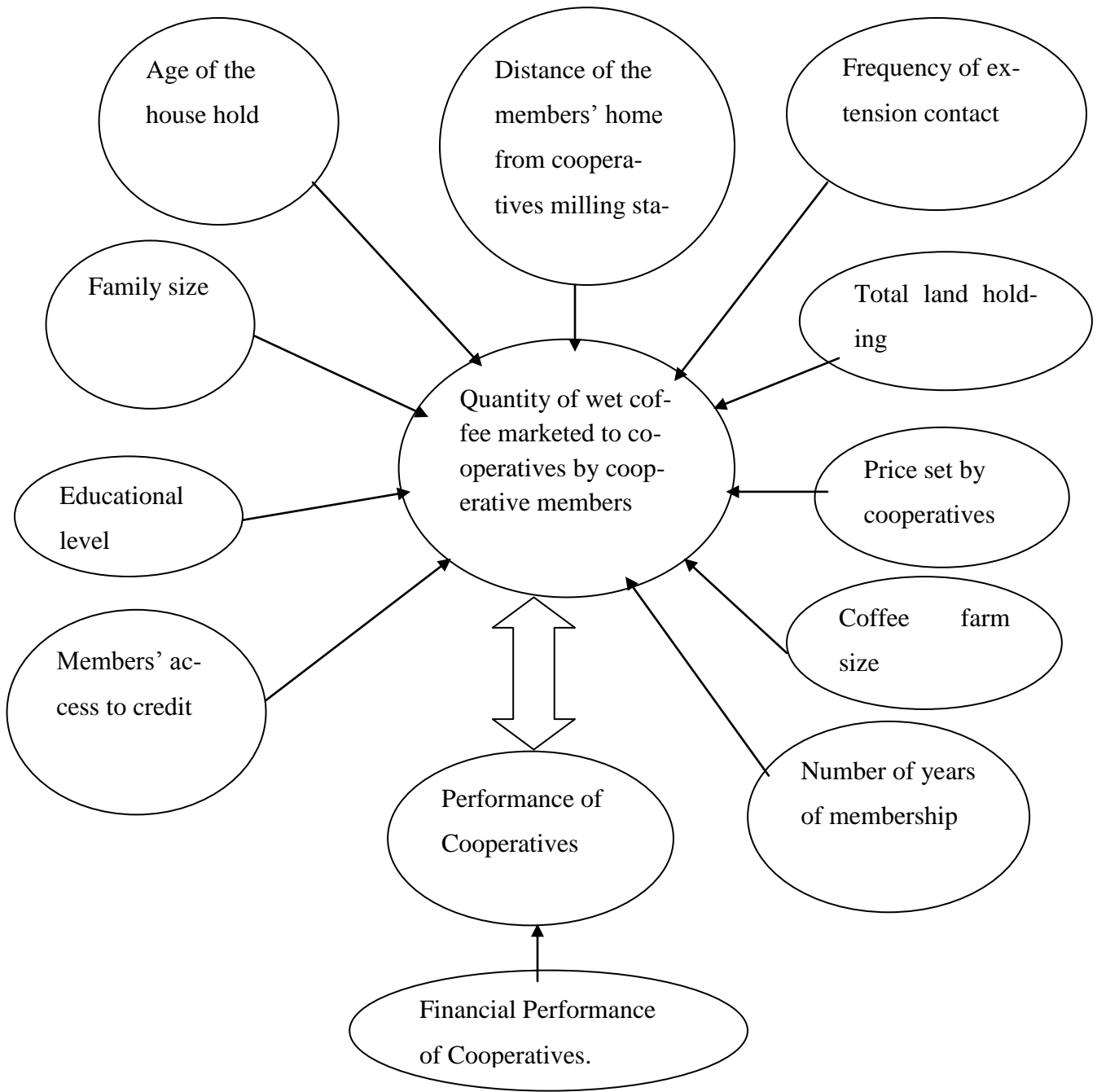
Figure 1: Conceptual frame work of the study

3. RESEARCH METHODOLOGY

3.1. Description of the Study Area

This chapter presents the research methodology used during the study including location and description of the study area, sampling procedure and sample size determination, type of data and methods of data collection and analysis.

The study was conducted in West Wollega Zone Boji Chokorsa Woreda Oromia National Regional state. Boji Chokorsa Woreda is one of the 19 *Woredas* existing in West Wollega Zone which is among the Zones in Oromia National Regional State. West Wollega zone is located in the western part of the country at a distance of 441 kilometers away from Addis Ababa, the capital city of the country. Boji Chokorsa Woreda has 21rural *Kebeles* and 2 urban administrations.

Figure 2: Map of the study area

The Woreda is located at 524 Km from the capital city Addis Ababa and 83 km away from Gimbi (Zonal capital city) and bounded by in North Boji Dermeji, in South Guliso, in Eastern Lalo Asabi and Western Najo and Jarso Woredas respectively.

Boji Chokorsa Woreda has a total land area of 34343 hek. Out of this land71.3% is cultivated land, 4.3% is grazing land, 8% is uncultivated, 5.8% is settlement area and 10.6% is the area covered by forest. Agro climatically, the area is largely Woineadega constituting 96% and the rest 4% is Dega type. The maximum, average and minimum temperature of the Woreda is 24^0c, 21^0c and 18^0c respectively. It has an average of 7 Months of rainfall lasting from April to November. The Woreda has an average rainfall of 1900 mm, with actual distribution ranging from 1800 to 2000 mm. The dominant agricultural practice in the area is mixed type of farming; crop production, livestock rearing, coffee production and honey production are among the production potential of the Woreda.

In Boji Chokorsa Woreda there are 21 primary cooperatives with three of them namely Boji Muklami, Lalisa Ebicha and Figa Kobara are engaged in wet coffee processing and marketing with a total member of 3666.

3.1.1. Population Characteristics

According to the secondary data obtained from agricultural development at zonal and district level and based on the population census of 2007, the total population of the study area in the year 2007 was 77,046 from this 42,256 were male and the rest 34790 were female. In the area, there are about 8223 total agricultural households of which 7144(86.8%) are male headed and the rest 1076 (13.2%) are female headed.

3.1.2. Farming System and land Use

In the study area about 11646.04 hector (38.835% of the total agricultural land) is used for the production of coffee product, 11005 hector which is 36.697% of the total agricultural land used for the production of Maize, sorghum and other cereal crops. 700 hector 2.334% of the total land is used to produce oil crops,1008 hector (3.36% of the total land) used for pulse crops,1988 hector (6.629% of the total land) and 3643.84 hector (12.151% of the total land) are left with settlement, forest, pastoral land and others respectively.

Table 1: Coffee Production and Coffee Product Marketing in the Study Area (2013-2015).

Year	Coffee Production in the Area(Qt)	Coffee Marketed in the Area		Coffee Product Marketed by Coops	
		Dry	Wet	Dry	Wet
2013	8118	4110	2790	1028	113
2014	9880	5878	2520	2057	427
2015	12678	7721	3309	2316	527

Source: Woreda Agricultural Office

3.2. Data type, Sources and Methods of Collection

Both primary and secondary data were gathered to meet the objectives of the study. The primary data for this study were collected from the wet coffee marketing cooperative member farmers' by means of questionnaires and interviewing. Secondary data were collected from district agricultural office, district and zonal cooperative promotion office, Zonal cooperative unions, district trade and market development office and from different published and unpublished sources. Data were collected on variables which included age of the household, educational level, number of years of membership, family size, frequency of extension contact, total land holding, coffee farm size, access to credit, distance of household home from cooperatives milling station and price set by cooperatives. The data collected from cooperatives three years' audit reports were used to analyze the financial performance of cooperatives using financial ratios.

3.3. Sample Size and Sampling Techniques

In the study Woreda, there are three primary cooperatives practicing wet coffee processing and marketing. All of the cooperatives were included in the study as their size was manageable. The primary data used to evaluate factors that affect the intensity of members' wet coffee supply to primary cooperatives was collected on the basis of random sampling of individual member farm households. Individual members of the cooperatives were selected on the basis of proportionate to size of the population of which cooperatives are organized. The sample

size for this study was determined by a simplified formula suggested by Yamane as follows (1967).

$$n=\frac{N}{1+N(e)^2}$$

Where n is the sample size, N is wet coffee marketing coops members' population size which is 3666, and e is the level of precision which is ±9%.

$$n=\frac{3666}{1+3666(0.09)^2}=120$$

Table 2: Distribution of sample size in sampling units

Name of Cooperatives	Number of Members			Sample
	Male	Female	Total	
Boji Muklami	1209	166	1375	45
Figa Kobara	1158	308	1466	48
Lalisa Ebicha	579	246	825	27
Total	2946	720	3666	120

Source: Own sampling design

3.4. Methods of Data Analysis

3.4.1. Descriptive statistics

The data collected were analyzed using descriptive statistics and econometric model. Descriptive statistics such as arithmetic means, percentages and ratios were computed to compare different categories of sample units with respect to the desired characteristics. Financial ratios used to measure liquidity, activity and profitability were computed from audit report of wet coffee processing and marketing cooperatives from 2013-2015 production year.

3.4.2. Specification of the Tobit Model

This study analyzed whether cooperative members use their cooperatives as their market outlets and to what extent members market their wet coffee through cooperatives. A strictly di-

chotomous variable is often not sufficient for examining the intensity of usage for such problems. Tobin (1958) proposed a limited dependent variable model, later called Tobit model to handle dependent variables which are combination of these cases. This model enables one to estimate the likelihood of and extents (intensity) of events. Tobit model is therefore employed to identify factors that affect the probability and intensity of wet coffee market supply to cooperatives.

$$Y = x\beta + \varepsilon_\iota$$

$$\begin{cases} Y_i = Y *, if Y_i > 0 \\ 0 \quad if Y_i \leq 0 \end{cases}$$

Where Y= Y*, if Y* > 0, Y = 0 if Y* ≤0 and Y= max (Y*, 0)

Y the marketed surplus of wet coffee cherry (in quintals) supplied by household i to its cooperative, x is a vector of explanatory variables determining probability and intensity of market supply of wet coffee cherry, β is a vector of parameters to be estimated, and εi is the error term assumed to be independently and normally distributed. The model parameters were estimated by maximizing the Tobit likelihood function of the following form;

$$\mathcal{L} = \pi\frac{1}{\delta}f\frac{(Y-\beta_i xi)}{\delta}\pi F(\frac{-\beta_i x_i}{\delta})$$

Where f and F are respectively, the density function and cumulative distribution function of Y_{i*}, Π_{yi*}>0 means the product over those i for which y_{i*}>0, and Πy_{i*}≤0 means the product over those i for which y_{i*}≤0.

1.The marginal effect of an explanatory variable on the expected value of the dependent variable is:

$$\frac{\alpha E(Yi)}{\alpha x_i} = f(Z)\beta_i$$

2. The Change in the probability of participating in wet coffee marketing to cooperatives as independent variable Xi changes is:

$$\frac{\alpha F(Z)}{\alpha x_i} = f(Z)\frac{\beta_i}{\delta}$$

3. The change in intensity of wet coffee marketing participation with respect to a change in an explanatory variable among active participants is:

$$\frac{\alpha E(^{Y_i}/_{Y_i > 0})}{\alpha x_i} = \beta_i[1 - Z\frac{f(Z)}{F(Z)} - (\frac{f(Z)^2}{F(Z)}$$

Where, F (z) is the Cumulative Normal Distribution of z, f (z) is the value of the derivative of the normal curve at a given point (i.e., unit normal density), z is the Z score for the area under normal curve, βi is a vector of Tobit Maximum Likelihood estimates and σ is the standard error.

3.4.3. Marketing Agents and Margins

The analysis of marketing channels was intended to provide a systematic knowledge of the flow of the goods and services from their origin (producer) to their final destination (consumer) (TGMM) (Ghorbani, 2008). Taking the cooperatives and traders' marketing channels as links in wet coffee marketing channels, effort was made to compute total gross marketing margin of the cooperatives as compared to that of the traders. This is the difference between the prices paid to the first seller and that paid by consumers.

TGMM = $\frac{\text{End buyer price – producer}}{\text{seller price}}$ X 100.It is somehow useful to determine the share of the price paid by the consumer that goes to the producers. The producers' margin is calculated as:

GMMP = $\frac{\text{Price paid by end buyer–Marketing gross margin}}{\text{End buyer price}}$

3.4.4. Ratio Analysis

Ratio analysis is one method of calculating and interpreting financial ratios to assess the performance of a firm.

Liquidity Ratio: Liquidity ratio is one way of financial ratios measurement which measures the ability of the cooperatives to meet financial obligations as they come due in the ordinary course of business, without disturbing the normal operations of the business, since; day-to-day operations are directly affected by the cooperatives degree of liquidity. A cooperative aim to remain feasible business entity must have enough cash on hand to pay its debts as they come billed. In other words, the cooperatives must remain liquid. Liquidity ratios are quick measure of cooperatives ability to provide enough cash to conduct business over the next few

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months. There are various methods to measure liquidity ratios such as: current ratio, liquid ratio, and working capital. One of the most commonly used liquidity ratio is the current ratio that is computed by dividing current assets by current liabilities (Nevue 1985; Bringham and Houston, 1998; William et al., 2003).

Current Ratio: It is the ratio of current assets to current liabilities. It indicates the company's ability to satisfy its current liability with its current assets. The larger the current ratio, the better will be the ability of the cooperatives to satisfy their obligations. It is a useful indicator of cash flow in the near future.

Current ratio $= \frac{\text{Current asset}}{\text{Current liabilities}}$ Rule of thumb: current ratio=2.The idea behind doubled the current assets as compared to current liabilities is to provide for the delays and losses in the realization of current assets (Gittinger, 1982).

Quick Ratio (acid-test): It is the ratio of quick assets (generally current assets less inventory) to current liability. Indicates that the company's ability to satisfy its current liability with its liquid assets. A more rigorous liquidity test that indicates if a firm has enough short term assets (without selling inventory) to cover its immediate liabilities. This is often referred to as the "acid test" because it only looks at the company's most liquid assets only (excludes inventory) that can be quickly converted to cash.

Quick ratio $= \frac{\text{Cash + marketable securities + accounts receivable}}{\text{Current liabilities}}$

$= \frac{\text{Current assets – Inventory}}{\text{Current liability}}$

The rule of thumb for quick ratio is 1which means the firm can pay its short-term obligations without having to sell inventory.

Net Working Capital: Net working capital = Current assets − current liabilities. Working capital is a measure of cash flow and should always be a positive number. It measures the amount of capital invested in resources that are subject to quick turnover. Too large a number does not necessarily imply a "good" performance measure for comparing among firms, because, it depends on Nature of activities and Size of operation. A large number of current assets relative to current liabilities provide assurance that the company will be able to satisfy its immediate obligation. However, if there are more current assets than the company need to

provide this assurance, the company may be investing too heavily in these low earning assets and therefore not putting the assets to the most productive use.

Activity Ratios: Turnover /Activity ratios provide the basis to evaluate how the firm is efficiently or intensively using its assets to generate sales. The most part of these ratios are turn over ratios which can be used to judge the benefit created by specific assets such as inventory turnover or account receivable to evaluate the benefits produced by all the company's assets collectively (Nigusie, 2013).The most common turn over ratios are the following:

Inventory Turnover: It is the ratio of cost of goods sold to inventory. This ratio indicates the number of times a firm turn inventory over into sales during the year or how many days it takes to sell inventory. Inventory Turnover $= \frac{\text{cost of goods sold}}{\text{Inventory}}$

Total Asset Turnover: It is the ratio of sales to total assets. This ratio indicates how efficiently the business generates sales on each birr of assets. Total asset turnover $= \frac{\text{Sales}}{\text{Total asset}}$

Fixed Asset Turnover: The ratio of sales to fixed asset. The ratio indicates that the ability of the cooperatives management to put the fixed assets to work to generate sales. An increasing ratio indicates the firm is using its assets more productively.
Fixed Asset Turnover $= \frac{\text{Sales}}{\text{Fixed asset}}$

Profitability Ratios: They are profit margin ratios which compare components of income with sales. They give an idea of what makes up a wet coffee processing and marketing cooperatives income and are usually expressed as apportion of each birr of sales.

Gross Profit Margin: It measures how much profit is earned on the products without considering indirect costs or implicit costs. Gross Profit Margin$= \frac{\text{Gross Profit}}{\text{Total sales}}$

Net profit Margin: It measures how much money the firm is making per every 1 birr of sales. This ratio indicates the company's ability to cover all operating costs including indirect costs.
Net profit Margin$= \frac{\text{Net Profit}}{\text{Average Total assets}}$

3.5. Definition of Variables and Hypotheses

In this study, the total quantity of wet coffee (in quintals) marketed by individual cooperative member household through the cooperatives was taken as the dependent variable. Marketed supply of members through their cooperatives was hypothesized to be influenced by a combined effect of various factors, such as household socioeconomic and other institutional characteristics.

Age of the member (MEMAGE): This variable is a continuous explanatory variable and refers age of the members which is considered as proxy of experience in farming and measured in years. The longer the farmer stay in the cooperative acquires experience and knowledge in participating and the intensity of participation in wet coffee marketed to cooperatives. Therefore, the variable is expected to influence positively.

Family size of member(MEMFASI): This variable is a continuous explanatory variable and refers to the total members in the family the household has in terms of adult equivalent (AE). It is assumed that member with larger family size can have more labor for his farming activities. Therefore, the variable is expected to have a positive correlation with the probability and intensity of wet coffee cherry marketed supply to cooperatives.

Educational level of the member (MEDUl): This represents the level of formal schooling the household head attended. It is a discrete variable where "0" represents illiterates, "1" represent read and write "2" represents 1-8th grade, "3" represent 9-12th grade and "4" represent above 12th grade. The higher the education level, the better would be the knowledge of the farmer towards the cooperative and acquire news and education about the associated benefits of the cooperative (Kraenzle, 1989). Hence, the farmers with higher education are in a better position to know the benefit of cooperatives and are likely to increase the volume of wet coffee marketed to cooperatives. Therefore, in this study this variable is expected to have positive coefficient.

Number of years of membership(MEMBERSHIP): This variable is a continuous variable and it refers to number of years since the farmer has been member of the cooperative. Farmers having longer years of membership are in a better position to know the benefits of the co-

operative than farmers with shorter years of membership (Cain et al., 1989). In this study, this variable is hypothesized to influence the probability and intensity of wet coffee marketed to cooperatives positively.

Distance of member's home from cooperatives milling station(DMHFCMS): It is a continuous variable measured in walking hours. It refers to the distance of the cooperatives milling station from the member house. The closeness of the cooperatives milling station for the farmer house reduces the cost of time and labor that the farmer spent in searching for a buyer for his wet coffee. The other advantage is that as the farmer is close (near) to the cooperatives, they will have more knowledge about the cooperative and its benefits. Therefore, in this study the distance of the cooperatives milling station from the farmer house is expected to influence the probability and intensity of wet coffee marketed to cooperatives negatively (Bishop and McConnen, 1999).

Frequency of extension contact (FREC): The objective of the extension service is introducing farmers to improved agricultural inputs and to better methods of production and marketing. In this regard, frequency of extension contact is supposed to have positive contribution to the probability and intensity of wet coffee marketed to cooperatives. It is a continuous variable and measured in number of days' farmers have contact with extension agents in a year.

Total land holding of the member (TLHM): This variable is a continuous variable and it refers to the total area of farmland in hectare that a member possesses. The practice of using cooperative as marketing agent requires considerable economic resources of which land is the principal one (Klein et al.1997). It is assumed that the larger the total area of the farmland the farmer owns the higher coffee yield. This implies that farmers who have larger land holding may hold up the cooperative's output marketing in a better way. Therefore, it is expected that this variable may take positive coefficient.

Members' coffee farm size (MCFS): It is a continuous variable and it represents the land allocated to coffee production in hectare. As the land of household for coffee increases, the yield proportionally may increase, so that the amount of wet coffee sold to the cooperatives increases. There for this variable is expected to influence the probability and intensity of wet coffee marketed positively.

Members' access to credit (MATCR): This is a dummy variable which takes a value 1 if the member has access to credit from rural financing institutions operating in the area, 0 otherwise. Access to credit would improve the financial capacity of the farmer to purchase the necessary inputs. Therefore, it is hypothesized that access to credit would have positive influence on market participation and volume of sale. It also helps in renting land and purchasing other inputs that increase coffee production. Therefore, in this study access to credit is expected to have positive coefficients (Mussema, 2006).

Price Set by cooperatives (PSBC): This is a dummy variable taking a value of 1 if price of the cooperatives is better and 0 otherwise. If the cooperatives announce better price than traders, the members will be pleased both with the price received and future dividend paid, if the cooperatives would get profit. Therefore, cooperatives price for wet coffee hypothesized to influence the probability and intensity of wet coffee marketed to cooperatives positively.

4. RESULTS AND DISCUSSIONS

This chapter gives details on the results of both descriptive statistics and econometric model on wet coffee marketing and performance of primary cooperatives in Boji Chokorsa Woreda, Oromia Regional State. First, results of descriptive statistics for members of wet coffee processing and marketing cooperatives were discussed. Secondly results of econometric analysis on factors affecting the probability and intensity of farmers (cooperative member farmers') wet coffee marketed supply through cooperatives have been discussed and then results of total gross marketing margins along traders and cooperatives marketing channels were calculated and compared. Finally financial performance analysis of the cooperatives has been stated based on the three years' audit report of cooperatives.

4.1. Cooperative Members' Characteristics

4.1.1. Socioeconomic and Demographic characteristics of sample cooperative members

Demographic characteristics of sampled members in terms of family size, age, sex, religion, marital status, educational level, Position of household in cooperatives, Years of membership and Distance of members' home from coops milling station has been reported in the Tables given below. The survey result showed that, the mean family size for wet coffee supplier cooperative members household was 5.8 persons whereas 6.3 for no suppliers. The independent sample t-test used to compare the difference in mean family size between the two groups showed statistically insignificant. There was significant mean difference in sex between participant and nonparticipant cooperative members'. The Chi-square test shows sex was statistically significant. The result shows the participation of females in wet coffee market participation is low.

The average age of wet coffee sell participant member household was 38 while of nonparticipant members was 45. The t-test for the two groups showed statistically significant. This indicates that the younger member households are supposed to participate more in wet coffee sell than the elder member households.

Table 3: Mean comparison test of demographic characteristics by participation status

Variables	participant	Non participant	T-/ ($\chi 2$) value
Family Size	5.8	6.3	0.406
Age	38	45	0 .065[**]
Sex	0.84	0.85	0.093[**]
Religion	1.00	1.1	0.154
Marital status	2.26	2.46	0.183
Education Level	1.85	1.55	0.892
Years of membership	10.79	13.92	0.563
Distance to milling station	0.772	1.30	0.000[**]
TLU	5.83	3.35	4.33
Total land holding (ha)	1.014	0.91	0.33
Number of Share owned	1.00	1.00	0.12
Coffee farm size	0.224	0.23	0.004[**]
Position of households in coops	2.12	2	0.362
Frequency of extension contact	4.45	4.23	0.000[**]

As far as education level is concerned for both wet coffee sells participants and non-participants cooperative members', the mean difference between the two groups showed 1.85 for participant household heads and 1.55 for non-participant households and the t-test is statistically insignificant.

The mean difference for distance of the household home from cooperatives milling station was 0.772 for participant members and 1.30 for nonparticipant members'. The t-test for the two groups shows statistically significant. This indicates members who are more close to the coffee factory better participate in wet coffee marketing to cooperatives than members far from the factory. In addition, regarding the position of members in cooperatives, 0.93%, 86.11% and 12.96% of the participant members were chairman, ordinary member and board members respectively. Of the non-participants, 100% of the households were ordinary members.

The independent sample t-test result revealed that there was mean difference in land allocated for coffee production between wet coffee sell participant and non-participants at 5% significant level. This shows households who allocated more land for coffee production participated more in wet coffee sell than households allocated less land for coffee production.

4.3. Determinants of Wet Coffee Marketing to Cooperatives and Marginal Effects of Change in Explanatory Variables

Qualitative response models represent one of the most important developments in econometrics (Amemiya, 1981) and are the most commonly used models in static household adoption studies. The most frequently used models are the linear probability models, the logit and the probit models. For either model to be used, the dependent variable should take on two discrete values, e.g whether or not someone does a certain practice or not. The logit and probit are also sufficient if the probability to adopt a technology is the inquiry of interest as they are adequate tools for addressing probability questions. However, in this study the dependent variable, Y (quantity of wet coffee marketed) is mixed in a sense that those who don't sell wet coffee would have a value of 0 for Y, while those who adopt selling wet coffee would have a continuous outcome defined by the proportion of wet coffee marketed. The study also was interested in the intensity of adoption that neither the logit or probit could handle this. What is needed is a model hybrid between Ordinary Least Squares (OLS) regression and logit or probit. The Tobit model is such a hybrid (Nkonya, 1999) and was therefore preferred for this study.

 The parameter estimates of the variables expected to determine the probability of wet coffee marketed to cooperatives and the effect of change of these variables on the dependent variable are discussed below.

Table 4: Determinants of Wet Coffee Marketing to Cooperatives and Marginal Effects of Change in Explanatory Variables

Variable	Estimated Coefficient	Std. Err	Change in probability $\frac{\alpha F(Z)}{\alpha x_i} = f(Z)\frac{\beta_i}{\delta}$	Change among APM $\frac{\alpha E(^{Y_i}/_{Y_i > 0})}{\alpha x_i}$	Marginal Effect Among the Whole $\frac{\alpha E(Yi)}{\alpha x_i} = f(Z)\beta_i$
MEMAGE	-2.140***	0.003	0.005	-0.078	-0.662
MEMFASI	1.462	0.020	0.965	4.34	6.014
MEDU 1	16.486*	0.043	0.008	0.085	0.066
MEMBERSHIP	-0.191	0.005	0.846	-0.931	-1.291
TLHM	19.708	0.294	0.331	-1.391	-1.926
MATCR	3.843	3.207	0.771	0.771	11.235
FREC	8.49***	0.029	0.009	0.311	0.124
MCFS	25.943***	0.147	0.010	0.373	0.685
PSBC	18.30*	0.038	0.092	0.341	0.433
DMHFCMS	-22.080**	0.050	0.045	-0.455	-0.217

Left-censored observations	13
Uncensored observations	107

Note: ***, **and*represent level of significance at 1%, 5% and 10% respectively.

Source: Computed from own survey data.

Out of 10 variables, 6 were found to significantly affecting the probability and intensity of wet coffee supplied to cooperatives by their members'. Accordingly age of the house hold, Educational level, distance of house hold from cooperatives milling station, frequency of extension contact, Coffee farm size and price set by cooperatives were the variables significantly affected the probability and intensity of wet coffee market supply by members to their cooperatives.

Age: This variable had negatively influenced the probability and intensity of members' wet coffee supply to cooperatives at 1% level of significance. This means an increase in the age of member by one year decreases the probability of members' wet coffee supply by 5% and

the intensity of wet coffee supply by 0.078 Qt among participant members. Further, it decreases the intensity among the whole sample respondents by 0.662 Qt. Farmers who are cooperative members beginning from the past regime have bad attitude towards cooperatives and are less active in the participation of cooperatives affair. This is because cooperatives had been organized without the society's personal voluntary which violates basic coops principle saying open and voluntary membership. As a result, the older the farmers the less likely to supply wet coffee to their cooperatives, rather they dry and sell the dried coffee to the local collectors or Woreda level traders. This is consistent with Ahmedin (2008) who found, as the age of farmers increases by one year the satisfaction of members to their cooperatives decreases and members are not benefited.

Educational level: This variable is hypothesized to influence the probability and intensity of wet coffee market supply to cooperatives positively. Accordingly, it has influenced the probability and intensity of wet coffee supply to cooperatives positively at 10% significance level. As the educational level of the household increases by one level, the likelihood of wet coffee supply by members to their cooperatives increases by 0.8% and the intensity of wet coffee marketed to cooperatives increases by 0.085 Qt among participant members. Furthermore, this variable increases the intensity of wet coffee marketed among the whole sampled respondents by 0.066 Qt. The implication is a farmer with higher education level can adopt better practices that would increase wet coffee marketed to cooperatives. This result is consistent with Jemal (2008) who found; the more members are educated the more they can have access to share others' experiences of cooperation and as a result, improves the probability of their participation in cooperatives.

Frequency of extension contact: This variable influenced the probability of wet coffee marketed to cooperatives positively at 1% level of significance. The implication is that the probability of wet coffee market supply to cooperatives increases by 0.9 % and the intensity by 0.311 Qt among participant members for those households having frequent extension contact than those having less extension contact. In addition, the intensity of wet coffee marketed to cooperatives increases among the total respondents by 0.124 Qt. This is because, Members' accesses to frequent extension service have increased information about the importance of their cooperatives as well as the premium price gained from quality coffee.

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Distance to cooperatives milling station: The regression results show that the distance from the cooperative members' home to the coffee factory negatively affects the probability of wet coffee sold by 4.5% and the intensity by 0.455 Qt APM. Further, this variable decreases the intensity of wet coffee marketed to cooperatives among the whole respondents by 0.217 Qt. This is because, when distance increases, the transport costs also increase, which reduces the farmers profit margins. As a result, members will sell more dry coffee at their farm gate rather than selling wet coffee to avoid the transport costs and time consumed. This finding is in line with Mugabekazi (2014) who found the probability of being a member of coffee cooperatives was negatively affected by the distance to the cooperatives washing station.

Coffee farm size: The result also shows the proportion of land allocated for coffee affected the probability and intensity of wet coffee sold to cooperatives significantly at 1% significant level. As the land for coffee increases by one hectare, so the yield increases, and the probability of wet coffee sold to cooperatives increases by 1% and the intensity of wet coffee market increases by 0.373 Qt APM. In addition, the variable affects the intensity among the total respondents by 0.685 Qt. As the land for coffee increases by one hectare, so the yield increases and the probability and intensity of wet coffee market to cooperatives increases accordingly.

Price set by cooperatives: The results in Table 7 above show a positive and significant relationship between the price and probability of wet coffee sold to cooperatives. When the price of wet coffee announced by cooperatives is attractive, the probability of wet coffee sold to cooperatives increases by 9.2% and the intensity increases by 0.341 Qt APM. Moreover, the variable increases the intensity of wet coffee marketed by cooperative members to cooperatives among the total respondents by 0.433 Qt. The better price announced by cooperatives, the more quantity of wet coffee sold to cooperatives. This is in line with Mathias (2009), who argues that as the price of hulled coffee received by farmers' increases by ten shillings, the proportion of hulled coffee sold increases by 1%.

4.5. Marketing Channels and margins

4.5.1. Marketing Channels

In the study area there were two main marketing channels through which wet processed coffee is passing from producers to end consumers. The first channel is passing coffee from producers via coffee marketing primary cooperatives to export through Oromia coffee farmers' cooperatives Union. In the second channel producers sell wet coffee to wholesalers and wholesalers to export via exporters through ECX respectively. The wet coffee marketing channels of the area may be sketched like below:

Producers ⟶ Wet coffee Marketing Primary Coops ⟶ Oromia Coffee Farmers Cooperatives Union ⟶ Exports

Producers ⟶ Wholesalers ⟶ ECX ⟶ Exports
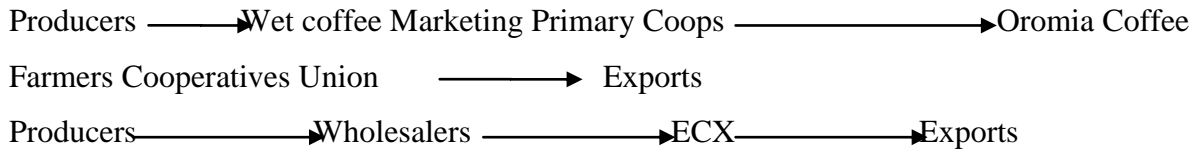
Source: Own observation

4.5.2. Marketing Margins of Wet Processed Coffee Market Participants.

Marketing margin or price spread is often used to measure the performance of a marketing system (Abbott and Makeham, 1990). It is a useful descriptive statistic if used to show how the consumers' price is divided among market participants at different levels of the marketing channel. It is defined as the difference between the price paid by consumers and the price that goes to producers. Taking the cooperatives and traders' marketing channel as channels in wet processed coffee marketing, it was tried to compute total gross marketing margin of the cooperatives as compared to that of the traders.

Table 5: Cooperatives ' and Traders average costs and profitability of wet processed coffee marketed in 2014/15 production year.

Cost items	Cooperatives Marketing Channel	Traders Marketing Channel
Purchase price/kg	40	35
Loading and unloading cost	20	20
Transport cost	50	20
Storage cost	10	15
Processing cost	750	845
Administrative cost	795	750
Miscellaneous expense	720	574.7
Total marketing cost	2385	2259.7
Cost/60kg	39.75	21.67
Selling price/60kg	50.03	48.5

A. Traders' Total Gross Marketing Margin =(48.5birr-35/48.5)100 = 27.84 %

B. Cooperatives' Total Gross Marketing Margin = (50.03-40/50.03) *100 = 20.05%.

Producers gross marketing margin of traders= (48.5-27.84/48.5) *100=42.6%

Producers gross marketing margin of coops= (50.03-20.05/50.03) *100=44.35

The above result implies the cooperatives could perform effective marketing activity in controlling the operational costs that could enable the producers to earn large market price share than traders marketing channels. Therefore, large portion of the consumers' price goes to the producers through the cooperatives marketing channel.

4.6. Performance of Wet Coffee Marketing Cooperatives

4.6.1. Liquidity Ratio

4.6.1.1. Current Ratio

Current Ratio is one of the best-known measures of financial strength and weakness of a business. It is the ratio of current assets to current liability. It indicates the wet coffee processing and marketing cooperatives ability to meet their short-term obligations using short

term assets and determine evaluating the proportion of current assets to current liabilities. The higher the ratio the faster creditors can expect payment.

As indicated in table 9below, the Current ratio of the cooperatives during the study period was 1.79 in year 2013, 1.98 in year 2014, 1.65 in year 2015 for Figa Kobara, 1.78 in year 2013, 1.54 in year 2014, and 1.72 in year 2015 for Boji Muklami and 1.74, 1.84 and 1.55 in the year 2013, 2014, 2015 for Lalisa Ebicha respectively. On average the three years' current ratio of the cooperatives was 1.73. This shows that the cooperatives had birr 1.73 current assets for each birr 1 of current liability. However, the generally accepted ratio is 2 to 1. The small ratio below the standard indicates that the wet coffee marketing cooperatives were in danger to pay the current obligation of creditors'. This failure of cooperatives to pay their current obligations limited them to get loan.

4.6.1.2. Quick Ratio (acid-test)

It is the ratio of quick assets (generally current assets less inventory) to current liability QR= Current assets - Inventories / Current liabilities. Indicates that the company's ability to satisfy its most current liability without selling its inventory only with its liquid assets. Purpose: Measures a firm's ability to pay its current liabilities without relying on the sale of its inventory.

The quick ratio of wet Coffee processing and Marketing cooperatives during the study period was 0.459 in year 2013, 0.256 in year 2014, 0.179 in year 2015 for Figa Kobara, 0.184 in year 2013, 0.191 in year 2014, 0.295 in year 2015 for Boji Muklami and 0.179 in year 2013, 0.083 in year 2014, 0.382 in year 2015 for Lalisa Ebicha respectively. On average, for the last three years the quick ratio of the Cooperatives under investigation was 0.196. This result shows the cooperatives had birr 0.196 available in current assets to meet each birr 1 of current liability obligations. However, the rule of thumb is 1 to 1. This indicates there was mismanagement of cooperatives management body in the form of cash or receivables.

4.6.1.3. Net Working Capital

Net working capital usually refers to the difference of current assets and current liability. Working capital is a measure of cash flow and should always be a positive number. It measures the amount of capital invested in resources that are subject to quick turnover. Lenders often use this number to evaluate the firm's ability to withstand hard times.

The net working capital of wet coffee processing and marketing cooperatives for the study period was 224,756.2 birr in year 2013,255,887.4 birr in year 2014 and 395,107.7 birr in year 2015 for Figa Kobara, 334,732.04 birr in year 2013, 291,396.8 birr in year 2014 and 100,428.72 birr in year 2015 for Boji Muklami and 214,276.1 birr in year 2013,190,396.4 birr in year 2014 and 244,930.63 birr in year 2015 for Lalisa Ebicha respectively. It shows that the working capital of the cooperatives under study fluctuate from year to year. Except Figa Kobara the two cooperatives showed a decreasing trend of working capital.
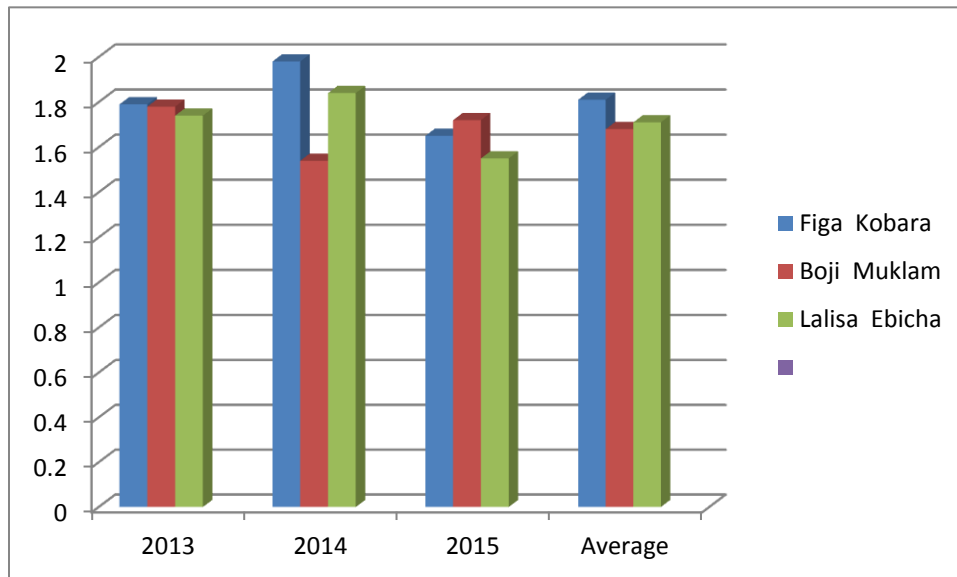

Figure 3: **Liquidity Analysis of cooperatives**

Source: Own computation from financial statement of cooperatives

4.6.2. Activity Ratios

Show the intensity with which the cooperatives use their assets in generating sales or it shows how efficiently wet coffee processing and marketing cooperatives utilizing their assets and managing their liabilities? These ratios indicate whether the wet coffee processing and marketing cooperatives investment in current and long-term assets is too large, too small, or just right. If too large, funds may be tied up in assets that could be used more productively. If too small, the cooperatives may be providing poor service to members or inefficiently processing wet coffee. These ratios are called turnover ratios because they show the speed with which assets are being converted into sales.

4.6.2.1. Inventory Turnover Ratio

It is the ratio of cost of goods sold to inventory. In accounting, the inventory turnover is a measure of the number of times inventory is sold or used in a time period such as a year. The higher the ratio, the greater the merchandising inventory capacity of the cooperatives;

A ratio too low may indicate too much capital was tied up in inventory. A ratio too high may mean that sales were being lost because the cooperatives were often out of stock (there is under stocking). The efficiency of each cooperative has been computed by their inventory turnover (cost of goods sold/inventory), total asset turnover and fixed asset turnover based on their audit report in the year 2013,2014 and 2015 production years.

The inventory turnover of Figa Kobara cooperative was 38.14 in year 2013, 51.42 in year 2014 and 62.24 in year 2015. This shows there was under investment in inventory in case of Figa Kobara. But the inventory turnover of Boji Muklami wet coffee processing and marketing primary cooperative was 4.24 in year 2013, 3.32 in year 2014 and 2.01 in year 2015. This shows high inventory cost was recorded in the case of Boji Muklami due to fertilizer inventory dumped. In the case of Lalisa Ebicha the inventory turnover showed the fastest inventory turnover (66.36,52.64, and 37.85in year 2013, 2014 and 2015 respectively). This is too high inventory turnover and shows sales were being lost or the cooperative was often out of stock.

4.6.2.2. Total Asset Turnover (sales/total asset).

It shows how efficiently cooperatives generate sales on each birr of assets. An increasing ratio indicates the organizations are using their assets more productively. The three successive years' total asset turnover ratios were 0.28, 2.22, 0.51 for Figa Kobara, 0.20, 0.27 and 0.16 for Boji Muklami and 0.87, 0.64 and 0.91 for Lalisa Ebicha respectively. This means that Figa Kobara wet coffee processing and marketing primary cooperative was producing 0.28 sales for one birr of capital engaged in total assets in the year 2013, 2.22 sales for one birr of capital in 2014 and 0.51 sales for one birr of capital in 2015. Accordingly, Boji Muklami was producing 0.20, 0.27 and 0.16 sales for one birr capital employed in the year 2013, 2014 and 2015 respectively. Further, Lalisa Ebicha was producing 0.87, 0.64 and 0.91 sales for one birr capital employed for the three successive years. It can be seen that the total asset turnover of the cooperatives was low indicating the cooperatives were not able to generate sufficient value of sales for the size of investment in assets.

4.6.2.3. Fixed Asset Turnover

The fixed asset turnover measures the efficiency with which the cooperatives have been using their fixed assets to generate sales. This ratio specifies the efficiency of the management in managing fixed assets. Fixed asset turnover of the cooperatives was 2.35, 1.91, and 1.92 for Figa Kobara, 1.96, 1.29 and 1.55 for Boji Muklami and 1.17, 1.94, and 1.45 for Lalisa Ebicha with respect to the 3years audit report. The fixed asset turnover ratios of the cooperatives showed less. It implies the cooperatives were not able to utilize their fixed asset properly or underutilization of fixed assets and less sales. This is due to the cooperative members' not supplying enough quantity of wet coffee and the wet mill machines have been processing below their capacity and staying idle.
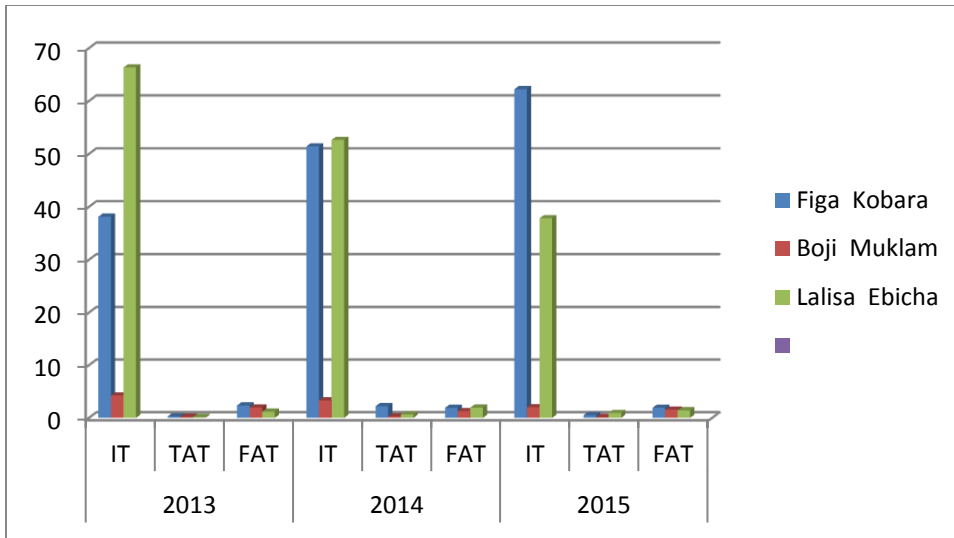
Figure 4: Efficiency Ratios of Wet Coffee Processing and Marketing Primary Cooperatives (2013-2015).

Source: Own computation from financial statement of cooperatives

4.6.3. Profitability Ratios

Profitability ratios (also referred to as profit margin ratios) compare components of income with sales. They give us an idea of what makes up the cooperatives income and are usually expressed as a portion of each dollar of sales. Poor performance indicates a failure that, if not corrected, would probably result in the cooperatives going out of business. It is the ratio of gross profit to sales. This ratio indicates that how much of each birr of sales is left over after deducting of costs of goods sold and ending inventory.

4.6.3.1. Gross Profit Margin

Measures how much profit is earned on cooperatives products without considering indirect costs or how much of every dollar of sales is left after costs of goods sold? It also indicates the cooperatives ability to meet operating costs and to assure savings for members. There-fore, it measures how effectively cooperatives management can adjust operations to annual changes.

The Gross Profit Margin of wet coffee processing and marketing cooperatives was evaluated by comparing the three years' gross income generated by the cooperatives to the sales ac-

complished with in the same operation years. Thus, the gross profit margin ratios for the co-operatives for the three consecutive years were 0.08, 0.04 and 0.174 for Figa Kobara, 0.03, 0.026 and 0.05 birr for Boji Muklami and 0.06, 0.09 and 0.087 birr for Lalisa Ebicha respectively. The cooperatives were left with less birr after all the costs were deducted. This show there was a problem in the managements' body effectiveness in generating sales and controlling cost of sales.

4.6.3.2. Net Profit Margin Ratio

It indicates the wet coffee processing and marketing cooperatives performance in generating the high net income in relation to the total sales achieved in each financial year (how much of each birr of sales is left over after all expenses). The net profit margin ratio of the cooperatives in the year 2013, 2014 and 2015, was 0.031, 0.026 and 0.042 for Figa Kobara,0.017, 0.035 and 0.024 For Boji Muklami,0.044,0.023 and 0.025 for Lalisa Ebicha respectively. Even though the net profit margin of the cooperatives showed positive the amount was too less. This show the managements activities in generating profit for each unit of sales was poor.
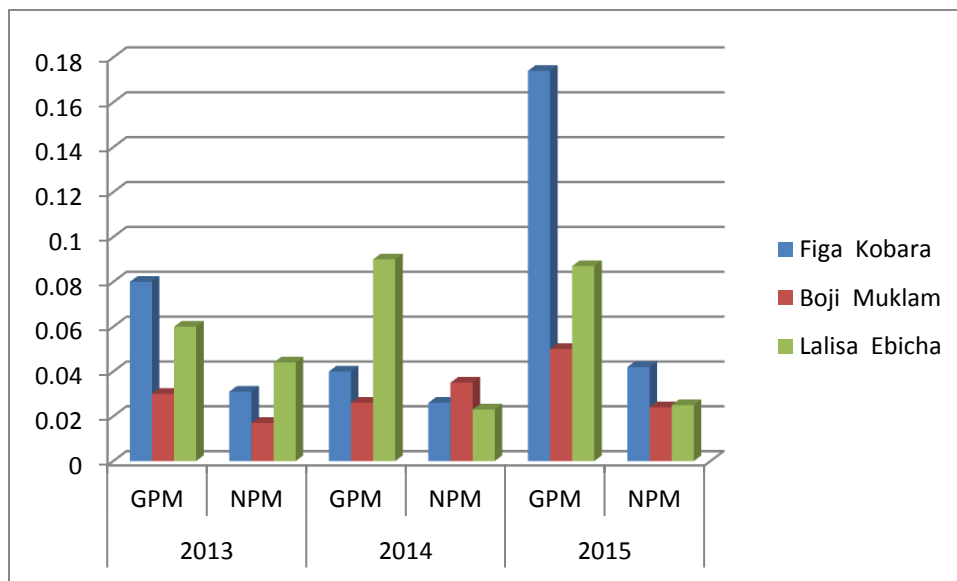

Figure 5: Profitability Ratios

Source: Own computation from financial statement of cooperatives

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary

The main objective of this study was to assess wet coffee marketing and evaluating the performance of wet coffee processing and marketing primary cooperatives in Boji Chokorsa Woreda, Western Wolega Zone, Oromia National Regional State. The specific Objectives are: to identify factors affecting intensity of cooperative members' wet coffee supply to their cooperatives, to determine and compare the marketing margin along primary wet coffee processing and marketing cooperatives channel and traders' channel, to analyze the financial performance of Wet Coffee Processing and Marketing Cooperatives in Boji Chokorsa Woreda. Tobit model was used to analyze factors affecting intensity of wet coffee supply. SPSS and STATA software were employed to analyze the data. All the selected sampled households have been interviewed, 45members'from Boji Muklami, 48 members from Figa Kobara primary cooperative and 27 members from Lalisa Ebicha. A total of 120 coffee producer cooperative members from the Woreda have been interviewed using structured and semi-structured questionnaires. The necessary secondary data were also collected from district and zonal agricultural and cooperative promotion office and cooperative Unions as well as form different published and unpublished sources.

According to the regression result, age of the household, educational level, frequency of extension contact, coffee farm size, price announced by cooperatives, and distance of the farmers' home from cooperatives milling station were the significant variables affecting the probability and intensity of wet coffee marketed to cooperatives.

It was attempted to compute total gross marketing margin (TGMM) by taking the cooperatives and individual traders as marketing agents. Regarding to total gross marketing margin the result in trader's marketing channel was 27.84 % while in the coffee marketing cooperatives channel was 20.05 %.It implies the cooperatives could perform effective marketing activity in controlling the operational costs that could enable the farmers to earn large consumer price share than traders marketing channels.

Ratio analysis was used to calculate and interpret financial ratios of Boji Chokorsa wet coffee processing and marketing primary cooperatives. Accordingly, regarding liquidity ratios, the current ratios of the cooperatives in the year 2013, 2014, and 2015 was 1.73 on average. However, the rule of thumb for this ratio is 2 to 1. This shows the wet coffee processing and marketing cooperatives were faced shortage in paying their short-term obligations. Hence the current ratios of wet coffee processing and marketing primary cooperatives of Boji Chokorsa Woreda was below the minimal level or industry standard indicating the cooperatives were incapable to pay the current obligation from their creditors'. In addition, on average the quick ratio of the three consecutive years of the cooperatives under investigation was 0.196. However, the rule of thumb is1. Therefore, the cooperatives in the study area were under risk to pay their current obligations without relying on their inventory.

The net working capital of the cooperatives under investigation showed fluctuating from year to year. Except Figa Kobara, the two cooperatives net working capital showed a decreasing trend. This is because the bulk agricultural inputs inventory dumped by cooperatives. The cooperatives were dumping and distributing the agricultural inputs supply that was not based on the members need assessment which resulted to pay the compound interest rate for the creditors.

Regarding efficiency ratios, inventory turnover ratios of Figa Kobara wet coffee processing and marketing cooperatives over the past three years showed high turnover. The inventory turnover ratio of Boji Muklami cooperative during the last three years showed too low. Inventory turnover of Lalisa Ebicha cooperative was the highest inventory turnover of the three cooperatives indicating the cooperative was often out of stock and sale was being lost. The 3 consecutive years' total asset turnover ratios of the cooperatives were not sufficient enough to generate sales for the size of investment in assets.

The fixed asset turnover ratios of wet coffee processing and marketing primary cooperatives were low. It implies the cooperatives were not able to utilize their fixed asset properly or the fixed assets were performing below their capacity and often idle. This is due to the cooperative members not supplying enough quantity of wet coffee and the wet mill machines have been processing below their capacity.

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The gross profit margin ratios for the cooperatives for the three consecutive years showed less. This show there was a problem in the managements' body effectiveness in generating sales and controlling cost of sales and other expenditures.

The net profit margin ratio of cooperatives in the year 2013 was 0.031, 0.026 and 0.042 for Figa Kobara, 0.017, 0.035 and 0.024 for Boji Muklami and 0.044,0.023 and 0.025 for Lalisa Ebicha, respectively. This show the net profit margin of the cooperatives was law contributing small birr to profit. This is because; the managements were inefficient in generating profit for each unit of sales for profit.

5.2. Conclusions

From the econometric model analysis, it was observed that age of the member households, educational level, frequency of extension contact, distance of the household residence form cooperatives milling station, coffee farm size and price set by the cooperatives were the variables significantly affecting probability and intensity of wet coffee marketed to their cooperatives. These factors hindered the milling machines to process with full potential.

Based on the result of financial performance analysis employed the financial position of the cooperatives has not kept satisfactory level; since the liquidity ratio of the cooperatives is not enough under the study period.

From the financial analysis made the current and quick ratios of the cooperatives were below the recommended figure. This is because of the bulk agricultural input supply dumped from year to year.

Even though the working capital of the cooperatives showed positive figure, except Figa Kobara wet coffee processing and marketing primary cooperative the net working capital of the two cooperatives showed a decreasing trend from year to year. This is still because of the bulk agricultural input inventory.

With regard to efficiency ratio analysis it was observed that, the cooperatives were inefficient in their activities. This is because the cooperatives were incapable to manage the inventory

and generate sales. The financial analysis result also revealed that, the profit margin of the cooperatives was too low. This is due to the managements incapability to generate profits using the cooperatives resources and unable to control expenses.

5.3. Recommendations

Based on the findings of the study the following recommendations are given:

Woreda cooperative promotion office, unions and NGOs' should have to make movement to alter the bad attitude of members towards cooperative organization because of the past regime through strong and sustainable cooperative extension for members which eventually brings the active participation of members in cooperatives affairs.

Government officials and NGOs need to work hard on extension service to aware farmers the advantage of quality coffee, so that the washing machines will process with their full capacity.

Regarding to distance from cooperatives washing station as much as possible cooperatives are required to establish accessible assembling centers so that farmers can access it without consuming much time and cost of transportation to supply their wet coffee product.

Price offered by Cooperatives to their members influenced the probability and intensity of wet coffee marketed through cooperatives positively. The more the cooperative price is attractive the more will be the members supply wet coffee to cooperatives rather than storing and selling dry coffee or marketing to another agent. Therefore, cooperatives are required to provide better price to insure the washing machines work with their full potentials.

Educational level of the household heads determines the willingness to accept new ideas and innovations, and easy to aware supply, demand and price information and this enhances farmers' motivation to produce more and increase volume of wet coffee sales to cooperatives. Therefore, this requires local administrations to facilitate the adult education program for farmers as per the government plan.

The frequency of extension contact also affected the intensity of wet coffee supply to cooperatives positively. Therefore, Government and Techno Serve Ethiopia need to provide regular

extension service as this improves production and productivity of farmers and has considerable impact on the quantity of market supply to cooperatives.

The study also found that large portion of the consumers' price goes to the producers through the cooperatives marketing channel. Therefore, Woreda cooperative promotion office and NGOs should encourage farmers to sell enough quantity of wet coffee through cooperatives marketing channel.

To improve the financial performance and then the liquidity position of the cooperatives, the cooperatives should plan the agricultural input supply based on the farmers need by conducting need assessment prior to supply.

The cooperatives need to decrease administrative and other operating expenses which finally lead to maximize profits for each sale.

Woreda cooperative promotion office, Zonal cooperative promotion office, Unions and NGOs' should provide sustainable technical training for cooperatives technical staffs on financial planning, financial management and inventory handling issues.

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7. APPENDICES

Appendix 1. Summary of last three years balance sheet of Boji Chokorsa Wet Coffee Processing and Marketing Cooperatives (2013-2015)

Description	2013		2014		2015	
A. Assets	Dr	Cr	Dr	Cr	Dr	Cr
1. Current Asset						
Cash In Hand						
Cash In Bank						
Inventories						
Investment						
A/Receivable						
Total Curr/ Asset						
2. Fixed Assets						
Vehicles						
Building						
Generator/Motors						
Depreciation						
Total Plant Asset						
Total Asset						
B. Liabilities						
1.C/ Liabilities						
Loan Payable						
Dividend Payable						
Others liabilities						
Interest payable						
C. Capital						
Share Capital						
Reserve Fund						
Retained earning						
Donation						
Work Expansion						
Total Capital						

Source: Boji Chokorsa Wet coffee processing and marketing Primary cooperatives 3Years Audit report.

Appendix 2: Summary of Income Statement of Boji Chokorsa Wet Coffee Processing and Marketing Cooperatives for the past three years (2013-2015).

Description	2013		2014		2015	
Sales						
Beginning Inventory						
Purchase						
Total Purchase						
Freight In						
Goods Available						
Ending Inventory						
Cost Of Goods Sold						
Gross Profit						
Operating Expense						
Other Income						
Net Income						

Source: Boji Chokorsa Wet coffee processing and marketing Primary cooperatives 3Years Audit report.

Appendix 3: Conversion factors used to compute tropical livestock unit (TLU)

Livestock Type	TLU (Tropical Livestock Unit)
Calf	0.2
Heifer	0.75
Cows/Oxen	1
Horse/Mule	1.1
Donkey	0.7
Donkey (Young)	0.35
Sheep/Goat	0.13
Sheep/Goat (Young)	0.06
Chicken	0.013

Appendix 4: Variance Inflation Factor for explanatory Variables

Variables	VIF	1/VIF
Age of the Household	1.52	0.656
Family size	1.67	0.597
Educational level of household head	1.63	0.614
Number of years of membership	1.75	0.572
Distance from Cooperatives milling stations	1.28	0.782
Frequency of extension contact	1.15	0.867
Total Land holding	1.93	0.519
Coffee farm size	1.41	0.708
Access to credit	1.09	0.916
Price Set by cooperatives	1.08	0.93
Mean	1.49	

Appendix 5: Cooperatives average costs and profitability of wet coffee marketing in 2014/15

Cost items	Cost per quintal in birr	Percent from total cost
Purchase price/kg		
Loading and unloading cost		
Transport cost		
Storage cost		
Processing cost		
Administrative cost		
Miscellaneous expense		
Total marketing cost		
Total cost/Qt		
Selling price/Qt		
Gross profit(Loss)/Qt		

Appendix 6: Traders average costs and profitability of wet coffee marketing in 2014/15

Cost items	Cost per quintal in birr	Percent from total cost
Purchase price/kg		
Loading and unloading cost		
Transport cost		
Storage cost		
Processing cost		
Administrative cost		
Miscellaneous expense		
Total marketing cost		
Total cost/Qt		
Selling price/Qt		
Gross profit(Loss)/Qt		

Appendix 5: Survey Questionnaire

Household Survey on Performance of wet coffee marketing through Cooperatives: General information

1.   Name of the District

2.   Name of the Cooperative:

3. Kebele: _____. Village name_____

4. Date of Interview: _____

5. Interview started at _____

6. Name of the enumerator: _____

B. Household information

1. Name of household head _____

2. Sex of household head 1= Male 0= Female

3. Age of household head in years_____

4. Religion of the household head

1 = Muslim 2= orthodox Christian

3= protestant 4= catholic 5= if other specify _____

5. Marital status of the household head

1= single 2= married 3= divorced 4= widowed

6. Literacy status of household head

1=literate 0= illiterate

7. If the household head is literate, what was the level of his/her formal education?

1. Illiterate (o)

2. Read and write (1)

3. Grade 1-8 (2)

4. Grade 9-12 (3)

5. above grade 12

8. Family size

S.N	AGE	No of Families
1.	Dependent (<15 years)	
2.	Adult (15-65 years)	
3.	Dependent (> 65 years)	
	Total	

9. When did you start farming for your own? (Year)_____

10. How long have you been member of this cooperative in Years?_____

11. What was your position in the cooperative in the last two years?

1.   1= chairman 2= ordinary member

2.   3= Board member 4= if others specify _____

12. How many shares do you owned from your cooperative in number?_____

13. What is the per value of share in Birr?_____

14. did you/your household member involved in any off/non-farm activities in 2014/15?

    1= yes 0 = no

15. If yes, in what type of activity?

1= Petty trade (poultry, sheep, goat and cattle & marketing)

2= casual work 3= handicraft 4= if others specify_____

16. What was the estimated amount of income from nonfarm activities for the year 2014/15 in Birr? _____.

Livestock ownership and tenure

1. Livestock ownership, sale and income from livestock and livestock products

Livestock type	No. Currently owned	Current market value of currently owned	Approximate no/quantity sold in the last 12 months	Total Price sold for/value of rent	No. Purchased in the last 12 months	Purchase price
Cows						
Income from sale of milk						
Income from sale of yogurt						
Income from sale of butter						
Oxen						
Income from rent						
Hides/skin						
Bull						
Heifer						
Calves						
Goats(young)						
Goats(adult)						
Sheep (young)						
Sheep (adult)						

Donkey(youg)					
Donkey(adult)					
Horses					
Mules					
Others					

2.   Total land holding _____In sanga/chameda/ hectare.

Production

Land allocation, cost and crop income in the last cropping season (2014/15)

Note: 1 "C' stands for the main corps the household is producing

2 Please write the names of major crops that the household produced in 2014/15 cropping year

Input/output	C-1	C-2	C-3	C-4	C-5	C-6
Land allocated in sanga/chameda/Hectare						
Quantity of seed used /Quintal or KG						
Value of seed used (in Birr)						
Quantity of fertilizer used (in Quintal-DAP)						
Value of fertilizer used (in Birr-DAP)						
Quantity of fertilizer used (in Quintal-UREA)						
Value of fertilizer used (in Birr-UREA)						
Quantity of herbicides used (in litters						
Value of herbicides used (in Birr						

Quantity of Pesticides used (in litter)						
Value of pesticides used (in Birr)						
Capital cost/interest paid (in Birr)						
Size of land rented –in (hectare)						
Value of land rented-in (in Birr)						
Oxen rent-in (Value in Birr)						
Opportunity cost of own land (value in Birr)						
Labor cost employed (value in Birr)						
Opportunity cost of family labor(value in Birr						
Total Cost (A) -in Birr						
Harvest (in KG or Quintal)						
Sold Harvest(in KG or Quintal)						
Value of sold harvest (in Birr)						
Consumed from harvest (in KG or Quintal)						
Value of consumed crop (in Birr)						
Crop at store(in KG or Quintal						
Value of crop at store(in Birr)						
Land rent/for land rented out/-Value in Birr						
Sell of hay (Value in Birr)						
Total Revenue (B)-in Birr						
Profit=B-A						

E. Access to Services

1. Did you have extension contact in relation to coffee production? 1= yes 0 =no

   1.1. If yes, how often the extension agent contacted you?

   1= weekly 2= once in two week 3= twice in a week 4= once in a month

   1.2. What was the extension advice on?

   1= coffee management 3= post-harvest handling 5= time of harvest

  2= stumping 4= weeding 6= marketing 7=all

2. Is there any rural credit institution in your locality? 1= yes 0 =no

   2.1. If yes to Q2 above, what is the name of the institution?

  1= Oromia credit and Saving Share Company

  2= Rural Saving and Credit Cooperatives 3= If other specify_____

2.2. Did you take credit in 2014/15 production year from these rural credit institutions?

  1 =yes 0=no

2.3. If yes to Q2.2 above, how much credit did you take?----------Birr

2.4. For what purpose, did you take the credit?

   1= to buy agricultural input 3= to pay tax

  2 = to rent in land for crop production 4= to purchase livestock

  5 = to purchase food grain

  6 = If other specify_____

2.5. From which credit institution, did you get loan?

  1= Oromia credit and Saving Share Company 2= Rural Saving and Credit

  Cooperatives 3= If other specify_____

2.6. If no to Q2.2 above, what was the reason behind not to take credit?

   1= I didn't face cash shortage 2= lack of collateral

   3= rural credit institution is distant from my residence

   4= interest rate is high 5= credit with interest is not allowed by my religion

   6= small loan size

3. Do you have information communication equipments (Radio, TV, mobile etc)? 1=Yes, 0=No

4. If yes to Q3 above, which of the following information communication equipments do you have?

  1=Radio 3=Television 5=Home telephone 7=1 & 4

  2=Tape recorder 4= Mobile 6=3 & 4

F. Marketing aspect

1. What is your source of coffee seed for coffee production?

   1=market, 2=District agriculture office, 3=District Cooperative office, 4=Seed producer cooperatives.

2. What do you say about organizational strength of your cooperatives in playing a good role in seed production and marketing? 1= strong 2= week 3= if other specify

3. If your response to Q2 above is "week, "what do you think the reason behind its weakness?

    1= non autonomous (interference from external body) 2= corruption

   3= lack of trained manpower 4= reluctance of the executive committee

   5= if other specify_____

4. Did you sell wet coffee to cooperatives in 2014/15 production year? 1= yes 0= no

5. If yes to Q4 above, how much quantity you sold in kilogram with in the year?

_____.What was the selling price per Kg in Birr?_____

6. When did you get the money after you sale your coffee to Cooperatives?

  1= as soon as you sold 3= other days after sale

  2= after some hours 4= if other specify -----------

7. If no to Q4 above, what was the reason behind not to sell your wet coffee to your   Cooperative?

  1= low price offer 2= inaccessibility 3= lack of information 4= poor service

  5= not pay in cash base 6= the cooperative was not ready to buy the product during pick time

  7= the commission charged by cooperative was discouraging (high)

  8= if other specify_____

8. How did you sale red coffee to your cooperatives?

   1= directly without any middlemen 3= through commission man

2= through brokers 4= other /specify ---------------

9. Who set selling price to your coffee when you sell to cooperatives?

   1= yourself 3= set by market force 5= if others specify_____

   2= Cooperatives 4= negotiations

10. If your answer for Q9 above is Cooperative, what do you say about the price set by cooperative? 1= very attractive 2= attractive 3= non attractive

11. Did you sell red coffee to other marketing agent(s) other than cooperatives? 1= yes 0= no

12. If yes to Q11 above to which agent(s) you sold?

   1= local assemblers (local market, main road)

   2= local farmers

   3=traders in the district market

   4= if other specify_____

13. Where could (did) you get them (other marketing agents)?

   1= at the farm level 3= at the district market

   2= at the local market 4=others/ specify_____

14. When did you get the money after you sale wet coffee to other marketing agents?

   1= as soon as you sold 3= other days after sale

   2= after some hours 4= if other specify -----------

15. How many kg of wet coffee did you sale in 2014/15 to other marketing agents?

_____ in kg?

16. How did you sale wet coffee to other marketing agents

   1=directly 3=through brokers

   2=through commission man 4=other/specify

17. Did you face difficulty in marketing your wet coffee before you join cooperative? 1=Yes 0=No

18. If yes to Q 17, is it due to:

   1= inaccessibility of market 3= lack of information

   2= low price offer 4= other (specify)

19. Did you face difficulty in marketing (selling) your red coffee after you became a member of this cooperative? 1= yes 0= No

20. If yes to Q 19, is it due to:

1= inaccessibility of market 3= lack of information

2= low price offer 4= other (specify) -----------

21. Who set selling price to your coffee when you sell to other marketing agents?

1= yourself 3= set by market force 5= if others specify_____

2= Brokers 4= negotiations

22. How did you transport coffee from home to wet mill station?

1= head/back loading 3= vehicle 5= if other specify -----------

2= animal's cart 4= pack animal

23. Distance to cooperatives and traders milling machine

1. The time takes from your home to cooperatives milling machine _____ in Hours

2. The time takes from your home to traders milling machine _____ in Hours

G. Surplus appropriation

1. Did your cooperative appropriate surplus to the members in the last two years?

1= yes 0=no

2. If yes, did you get money as patronage refund/ dividend from your cooperative?

1= yes 0=no

3. If yes, how much it was in Birr? _____

4. If No, do you know the possible reasons?

1= I didn't market wet coffee through cooperative.

2= the general meeting decided to be reinvested in the cooperative.

3= the cooperative didn't make surplus

4= the cooperative didn't purchase wet coffee.

5= if others specify_____

Interview ended at_____

Thank you for your cooperation