

**A PROJECT REPORT SUBMITTED TO THE SCHOOL
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**Critical Assessment of Ethiopian
Commodity Exchange (ECX)**

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**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

TITLE: CRITICAL ASSESSMENT OF ETHIOPIA COMMODITY EXCHANGE

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Acknowledgments

In the beginning, I thank my Lord and Saviour Jesus Christ for giving me the strength to accomplish this.

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Abstract

The commodity exchange market is very important because it brings together producers and consumers. However, the currently markets except for coffee have been thin with poor liquidity and have not grown to any significant level.

This has a direct impact on the competitiveness, efficiency and futurity of the exchange. Thus critical assessment of the exchanges practices and forwarding better way outs is necessary.

The Ethiopian Commodity Exchange vision is to become an Exchange of choice in the world. And for competitive advantage in the international level and to provide efficient services tolls like derivatives are essential.

Lack of derivatives, warehouse receipts based settlement; adequate risk managing tools and mainly lack of liquidity are the major impediments of exchanges efficiency.

In this work, Ethiopia Commodity Exchange's trading practices, settlement issues, risk management techniques, liquidity practices are critically analyzed. Relevant country wide information was explored. In addition, experiences of other commodity exchanges were investigated. Finally, proposed way outs are forwarded.

The proposed way outs include introduction of automated trading system, ware house receipt based settlements, commodity derivatives specifically futures, certified warehouses, and effective risk management tools.

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ACRONYMS

ADLI- Agricultural Development Led Industrialization

BDI - Baltic Dry Index

BIFFEX- Baltic International Freight Future Exchange

CWH- Certified Warehouses

CBOT - Chicago Board of Trade

CMEX- Chicago Mercantile Exchange

CWC-Central Warehousing Corporation

CFI- Carriage, Insurance and Freight

ECX- Ethiopian Commodity Exchange

FFA-Forward Freight Agreements

GAICL-Gujarat Agro-Industries Corporation Limited

GSAMB- Gujarat State Agricultural Marketing Board

ICE-Intercontinental Exchange

KBOT-Kansas City Board of Trade (KBOT)

MIBID- Mumbai Inter-Bank mibid rate

MIBOR- Mumbai Inter-Bank offer rate

NMCE- National Multi Commodity Exchange of India (NMCE)

NYMEX- New York Mercantile Exchange

NYBOT- New York Board of Trade (NYBOT)

NAFED- National Agricultural Cooperative Marketing Federation of India

NIAMN- National Institute of Agricultural Marketing

NOL- Neptune Overseas Limited

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Chapter one- Introduction

1.1 Back ground of the study

Agriculture in Ethiopia contributes about 85 percent to livelihood, 50 percent to GDP and 90 percent to the export market of the country (Ministry of Information Ethiopia Report, 2005, p. 1). Coffee, tea, cotton, cereals, oil seeds, fruits, vegetables and livestock products are the major agricultural products used for domestic consumption and export. Coffee alone accounts for up to 60 percent of total exports (Ministry of Information Ethiopia Report, 2005, p. 16).

Furthermore, agriculture is expected to provide food for the population and raw material and capital for the industrialization of the economy. The country's development strategy is based on Agriculture Development Led Industrialization (ADLI) and is heavily dependent on the transformation of this sector. However, Ethiopia's tradition bound agriculture failed not only to feed the growing population but also serve as an engine of industrialization and economic development. The sector faces various challenges. Among others, these include natural endowment, archaic technology and limited resources. (Wolassokumo,2008)

Since recently, the Ethiopian government tried to address one of these challenges by creating a national agricultural commodity exchange system. In line with the trend in many other African countries, Ethiopia has recently set up a national commodity exchange known as Ethiopian Commodity Exchange (ECX). A commodities exchange is

a system where various commodities and derivatives, and contracts based on them are traded. The contracts include spot prices, forwards, futures and options on futures. Commodities exchange play vital role in marketing agricultural outputs and improving the return for the primary producers.

like many developing countries the Ethiopian markets are characterized by Poor market information/intelligence, lack of identifiable/available markets, lack of competition, quality standards not used, poor communication, lack of transparency, no enforceable contracts/dispute resolution mechanism and use very conservative approach. However the establishment of the Ethiopian commodity exchange is expected to bring order, fairness and liquidity to the commodities market. The Ethiopian Commodity Exchange is established to trade in three major groups of agricultural commodities: Coffee, Grains and Pulses. It began its first live exchange of maize and white pea beans on April 24, 2008. Initially, ECX contracts involve spot trading or immediate delivery of physical commodities. However, ECX plans to introduce trading in futures contract in the near future. During the first phase of the operation, 25 agricultural commodities (mainly grain and pulse) were offered for the spot commodity contract. Though the establishment mean much to Ethiopian farmers traders and also consumers, the way is not as such simple (achieving what all optimists expect). There are different challenges which the Ethiopian commodity exchange faces.

This paper will try to look the Ethiopian commodity exchange operation in depth.

1.2 The research problem

The commodity exchange market is very important because it brings together producers and consumers. But not only do we try to bring together buyers and sellers as well as coordinate the demand and supply, but we try to discover the price of commodities within the country. Whatever price prevails in the exchange would be in line with the price of the commodity within the country. And that will help stop the market from being volatile with connected market activities and this facilitates the development of the country as a whole. (Addis Alem Balema, 2008)

While achieving the goal of the commodity exchange there are certain set of challenges faced. Thus this research project explores the extent to which the commodity exchange is achieving its target and the challenges the exchange is facing. Many emerging exchanges in developing countries are facing different challenges in their initial establishment stage and subsequent periods.

The challenges that exchanges face include: strong reluctance to support transparent market, lack of understanding of the exchange concept, moves to undermine the exchange and its operations, lack of support from donor agencies and government, immature and underdeveloped marketing environment.(Mr. Ian Goggin, 2007).

The most attention seeking problem that most developing countries commodity exchanges are facing is lack of liquidity. This problem relates to the inefficiencies in different operational areas of the exchanges including trading and contracts, settlements, spot price discovery, risk management and nature and structure of the exchange itself.

Besides, there are certain set of challenges where commodity exchanges require regulatory amendments to make this market vibrant and some other set of challenges, where commodity exchanges have to take up the initiatives.

These kinds of challenges include: warehouse receipt issues like in fungible nature of warehouse receipts, not serving as collateral and means of financing, not used for settlements, quality of the warehouse and of course the credibility of the goods valuation.

The commodity market is still distant for retail investors who have neither the knowledge nor the ability to take such decisions in the commodity space.

Yet the other set of challenges in front of the exchanges are creating awareness and information dissemination.

Organized commodities trading as a professional service-oriented set-up is a recent phenomenon in almost all developing countries which start it; however, it is growing. In order to match up with this phenomenal growth and pace, there is always going to be a need for passionate, trained commodities professionals.

Is the Ethiopian commodity exchange facing all the above listed challenges currently?

This is all this paper is about.

1.3 Objective of the research

The general objective of this paper is to assess the current practices and challenges of the Ethiopian commodity exchange while giving much attention to the challenges currently faced by the Ethiopian commodity exchange. The specific objectives include:

- Provide an understanding of the economic importance of the commodity exchange market in Ethiopia.
- Support policy amendments which facilitate the operation of the exchange market.

- Identifying the challenges that Ethiopian commodity exchange is facing related to liquidity and measuring their adverse impact on the operation of ECX.
- Assess how the spot price is determined in the exchange.
- Assess the role that retail and small participants are playing in ECX.
- Assess the risk management practices of ECX.
- Address the problems that ECX is facing.

1.4 Research methodology

This part of the project discusses the research design, data collection procedures and data analysis methods.

1.4.1 Research design

This research relies on the analysis of the present situation. That is the research paper analyzes the current situations with regard to ECX operation.

1.4.2 Data collection procedures

Interview is the major collection tool which is used to collect primary data. ECX officers, participants and responsible government officials are the major sources of primary data. Designing a formal questionnaire and analyzing the data by statistical software has not been found appropriate for this work. Instead checklist approach is selected before interviews are conducted checklist was prepared to ensure the required information is in fact collected.

The additional data used in the project are collected through review of different literatures, ECX publications and Ethiopian government published regulations related with this project issue. Internet is used as a source of most of the literature relevant to the issues involved in the study. Other literatures from various institutions are reviewed as well.

1.4.3 Data analysis

Various qualitative data analysis techniques are employed in this research. Analytical induction and logical analysis are the major techniques used to analyze the data gathered.

1.5 Significance of the study

The analysis is believed to provide a chance of broadening the skill of analyzing and interpreting the current operation of commodity exchanges. It also increases the stack of information all have about the performance of commodity exchanges. Finally, it may also be useful for different individuals of different category who want to have an insight about the performance of the Ethiopian commodity exchanges and triggers researchers to conduct further research in the commodity exchanges.

1.6 Scope and Limitations of the study

The study covers only few among several of the challenges of ECX. This was due to lack of sufficient time to cover the wide range of challenges and in availability of data. Besides in this study the experience of other commodity exchanges was reviewed. However, due to time and financial constraint no site visit was made.

1.7 Organization of the Study

This final project report has five chapters. The first chapter discusses issues like significance of the study, objective of the study, limitations and delimitation to the study. The second chapter deals with review of literature. The third chapter focuses on the discussion of problem analysis. The fourth chapter is the conclusion. The last chapter is a recommendation stating the proposed way outs.

Chapter Two- Literature Review

A commodity is defined as “an intermediate good with a standard quality, which can be traded on competitive and liquid global international physical markets” (Clark et al., 2001, p. 3). Some authors include carbon emissions, interest rates or other economic variables in the definition of commodities. However, for the purposes of this paper, only physical commodities with supply constraints, transportation costs and storage costs are considered.

This section starts by giving an historical overview of commodity markets. It then discusses the characteristics of spot commodity markets: responsibility for execution of contracts, market actors, freight and shipping costs, theory of storage, price volatility and transparency. Then it explores the fundamentals of futures markets: the price discovery function, the spot-future price relationship with the convenience yield and market actors. Finally, overview of selected countries commodity exchange experience is done.

2.1 Brief history of commodity markets

Commodity spot markets originated from trading in agricultural products. They have developed from local, medieval fairs into regional – sometimes global – liquid markets. The gradual organization of supply and demand through commodity exchanges has brought several advantages to producers, consumers, and to the world economy in general. First, the prices available on commodity exchanges provided information on fundamental market conditions, informing future decisions about production and

consumption. Moreover, prices quoted on commodity exchanges supplanted prices set by monopolistic producers, which contributed to an increase in the competitiveness of commodity markets. Second, commodity exchanges lowered transaction costs by reducing intermediaries and facilitating the matching of buyers and suppliers. Third, they provided storage facilities and clearing services, thereby further increasing the liquidity and efficiency of commodity cash markets. (Piero Cinquegrana , 2008)

In spite of these advantages, international market integration has allowed producers to increase their market power. The more commodity markets become integrated, the more opportunities for consolidation and market concentration in the industry arise. For example, a handful of players control the world's aluminium market from extraction to semi-finished products. Soft commodities markets such as cocoa and coffee also experience a high level of concentration. (Piero Cinquegrana , 2008)

Price volatility has been an inherent characteristic of commodities for centuries because supply, demand and inventories – the main determinants of spot prices – can be affected by such diverse factors as floods, droughts, war, technology, fluctuations in economic activity and the disruption of distribution or production. Moreover, the seasonality of agricultural products has exacerbated this problem, and only with the advent of storage facilities has the issue been somewhat mitigated. In spite of their long-term decline, real commodity prices have witnessed ample short- and medium-term fluctuations throughout history. In particular, volatility has been rising since the early 1970s driven by the demise of fixed parities and increasingly volatile exchange rates (Cashin & McDermott, 2001). Because commodities are generally priced in dollars, massive swings in real and nominal dollar exchange rates vis-à-vis other currencies affect commodity prices both directly and

indirectly. Directly means that prices move mechanically in light of exchange rate movements; indirectly means that these mechanical changes affect the supply and demand of the commodity (ibid, p. 23).

Risk management tools have emerged to battle against commodity price volatility. Although certain primitive forms of forward markets existed in the pre-Christian and Middle Ages, the modern practice of forward contracting slowly emerged in Japan in the 1700s and in the United States in the mid-1800s. (Piero Cinquegrana , 2008)

Forwards are defined as contracts between two parties to deliver a certain product at a certain date at an agreed price. By selling crops at the time of planting, producers hedged against the risk that the price of the commodity would drop below a threshold under which production became unprofitable. Forward contracts, however, generated new risks for the parties involved in the forms of *transportation* risk, *delivery* risk and *credit* risk. The first category pertains to the deterioration of goods during transportation, unforeseen changes in shipping costs and extraordinary events such as wars, riots or strikes that may prevent the transportation from happening at all. Delivery risk refers to the concern that the quality and the quantity of the good delivered does not correspond to the agreed contract. Credit risk regards the payment of the good delivered. (Piero Cinquegrana, 2008)

The need to counter the risks associated with forwards and the lack of transparency in forwards markets led to the establishment of highly standardized contracts becoming freely exchangeable on the marketplace – futures contracts. *Futures* are similar to forwards, but they are standardized contracts in terms of quality, quantity, date and place of delivery, all of which reduce transportation and delivery risks. Moreover, they are cleared by a clearing-house, drastically reducing the scope of credit risk. From the 1970s

on, the increased liquidity driven by the evolution of commodity derivatives has provided a wide variety of risk management tools to producers and consumers of commodities in the form of options, futures and over-the-counter (OTC) contracts. Finally, the high level of transparency in futures prices provides information about market conditions and expectations of supply and demand. (Piero Cinquegrana, 2008)

2.2 Characteristics of commodity spot markets

Transactions following the stipulation of commodity contracts take place generally with a lag because the goods must be physically delivered. The contract specifies the exact terms of the execution and delivery. At one end of the spectrum, there is Free on Board (FOB) contracts whereby the *buyer* pays for shipping and freight insurance; at the other end of the spectrum, there is a Carriage, Insurance and Freight (CIF) contract whereby the *seller* pays for these costs until the goods arrive at a determined location. Many other types of contract specifications exist, but the explanation of these goes beyond the scope of this paper. In some instances, intermediaries can play a role in the process with a resulting fragmentation of commercial responsibility. (Geman, Héliette, 2005)

The *actors* in commodity markets are very diverse, and players vary according to the commodities being traded. In general, producers (e.g. farmers, oil producers, refiners, electric utilities, mining companies and others) and consumers (e.g. food industry, wholesalers, airline industry, transportation networks operators, shipbuilding industry and others) of commodities are the main actors of commodity spot markets. In some commodities, however, especially agricultural and metals, traders may play an important role in connecting producers and consumers, sometimes accumulating stocks to clear the market at all times. Moreover, in the last decade financial players such as hedge funds

and banks – previously active solely in commodity derivatives – have gradually entered the physical market to gain inside knowledge into the underlying assets. (*Financial Times*, 2008a; *New York Times*, 2007). Finally, other actors are stockists, commodity brokers, warehouse operators, commodity carriers, insurance companies and insurance brokers. These actors do not usually engage in physical trading.

Freight costs are an important part of commodity spot pricing. The freight spot market is opaque and bilateral. The Baltic Exchange in London collects data from international shipbrokers to form several reference prices among which the Baltic Dry Index (BDI) is the most commonly used benchmark. The BDI is a daily index composed of 22 reference prices of key dry bulk routes. In order to provide hedging tools, in 1985 the Baltic Exchange launched the Baltic International Freight Future Exchange (BIFFEX), but the lack of liquidity of the contracts convinced the operator to cease trading in 2001. Because the BIFFEX's settlement price was based on an index composed of substantially different routes, market agents were left with substantial risk even after hedging (Geman, 2005, p. 18).

Today the most common derivative contracts are Forward Freight Agreements (FFA) specifically tailored to certain OTC contracts are direct bilateral financial contracts. This category encompasses forwards, swaps and other complex products such as 'swaptions', swing contracts, caps, floors and spread options. Some OTC contracts are cleared through an exchange, and have similar characteristics to exchange-traded futures – a condition that blurs the distinction between futures and OTC contracts. It is up to the buyer, however, to pay for transportation and freight insurance from the specified location to its own storage facility. However, the International Maritime Exchange (Imarex) in Oslo still

offers BDI-based futures contracts as well as clearing services for FFA. (Jacks, David S. 2007)

Commodity stocks are a fundamental drive in determining prices together with supply and demand. The *theory of storage* was developed in the 1930s and 1940s and aims at explaining why economic agents hold inventories. Stocks are beneficial mainly to meet unexpected demand, to avoid frequent changes in produced quantities, and to minimize disturbances arising from production and distribution disruptions (Geman, 2005, p. 24). In order to understand the importance of stocks in determining prices, it is better to take the example of the sole non-storable commodity: electricity. The electricity market witnesses spikes in spot prices in an order of magnitude of 20 or 30 times the ‘normal’ level. Because of the price inelasticity of demand, prices must rise considerably to secure equilibrium in the electricity cash market in case of supply shortage. Hence, without the buffer provided by inventory, electricity prices tend to vary widely. Deaton and Laroque (1992) find a strong inverse correlation between price volatility and world inventory across 13 different commodities. Put differently, high stocks reduce price volatility. All these elements demonstrate the importance of inventories in determining both prices and price volatility of commodities.

In light of the sheer number of variables involved, commodity *price volatility* is a complex issue to address. Weather events, seasonality and deterioration of agricultural products, storage and transportation costs, inventories, and fluctuations in economic activity are some of the intervening factors already mentioned. However, the list is not exhaustive. Three more issues are worth discussing: reserves, interrelation of prices, and transparency. The arrival of news regarding proven reserves may be a further shock

affecting both the prices and the volatility of commodities, particularly in the case of gas and oil. Because of the exhaustible nature of fossil fuels, the inter-temporal decision to extract today rather than tomorrow depends both on price expectation and proved reserves (Gros, 2008). Moreover, because the price of oil directly impacts freight and electricity costs (fuel prices), commodity prices show a high correlation.

Specifically, the price of oil is the trend-setter in commodity markets. Finally, the lack of transparency in commodity markets affects price volatility, which is amplified by the fast transmission of news through futures markets. Although some markets are more transparent than others, in general complete and reliable information about demand, supply and inventory is hard to come by. This creates uncertainty, and market confidence in pricing mechanisms is generally low, especially in the electricity and gas markets. (Garbade, Kenneth D. and William L. Silber, 1983)

2.3 Characteristics of commodity futures markets

The primary functions of futures markets are hedging and price discovery. As discussed above, forwards markets originated because producers needed to hedge against high volatility in the price of agricultural products. The literature also calls this function *risk transfer* because the risk is transferred from commercial players to those speculators who are willing to assume it.

Forwards evolved into futures markets in order to limit the risks associated with forward contracting. As liquidity increased thanks to the transparency of futures exchanges and the standardization of their contracts, the high number of participants has facilitated the transmission of information about commodities to the marketplace.

To see why this is the case, one must look at both commercial players and speculators. In spite of this theoretical divide, commercial players take some speculative positions, using the inside information about the market to bet on prospective price changes. By assuming some speculative risk in the market, hedgers transmit their information on the direction of prices. The same holds true for speculators striving to predict where prices are heading. Overall, the future price at which the market clears supply and demand is considered a fair price.

Sometimes increased participation in futures markets can heighten volatility insofar as information travels more quickly. Some would argue that the fact that information is transmitted quickly allows for arbitrage opportunities to be quickly spotted and neutralized. The evidence on whether commodity derivatives increase or reduce price volatility is contradictory. In spite of this, futures markets perform a fundamental *price discovery function* coalescing around futures prices all the market information regarding that commodity. Considering that commodity cash markets are professionals' markets in which few actors have good information, futures prices convey actual and expected supply, demand and inventory to a larger audience. When newspapers announce fluctuations in the price of oil, for instance, they generally refer to the price of the West Texas Intermediate (WTI) future contract traded on the New York Mercantile Exchange (NYMEX) rather than mentioning the crude oil spot price, highlighting the importance that futures prices have for the economy.

Suppose that the spot price of wheat today is €180/ton and the 3-month future price is €180/ton.

Futures and spot prices rarely converge, but this example would facilitate understanding. Stocking and opportunity costs of holding inventories are ignored. The wheat future contract is 100 tons and the crop has yielded 500 tons of wheat to the producer. The producer expects the spot price to fall further.

Therefore he sells 10 future contracts with 5 uncovered contracts. He assumes some speculative risk because he believes he has good information.

On the contrary, by researching on data of supply, demand and inventories of wheat, a non-commercial player has come to the conclusion that future spot prices are bound to rise. He will then take on the risk of the commercial player by buying his 10 futures contracts. Let us assume the speculator is right and the spot price rises to €200/ton after 3 months. The producer has locked in the price of wheat and he will receive after 3 months:

$$€180 \times 1,000 = €180,000$$

The producer only holds 500 tons of wheat and he will have to buy another 500 tons in the cash market to meet his obligation at

$$€200 \times 500 = €100,000$$

Thus, he sold his crop of 500 tons for

$$€180,000 - €100,000 = €80,000$$

The crop could have been sold immediately on the spot market when harvested at €180/ton, hence he made a loss

$$(-€180 \times 500) - €80,000 = €10,000$$

The speculator has to pay €180,000 to the producer, but the wheat is now worth

$$€200 \times 1,000 = €200,000$$

Therefore, the speculator receives the wheat and immediately sells it on the spot market, making a profit of

$$€200,000 - €180,000 = €20,000$$

The producer has foregone €20,000 of unrealized profit and made a €10,000 loss on the original crop.

However, he has locked in the price of wheat, hedging against a price decline while assuming some speculative risk.

The *spot-futures price relation* is a critical measure in commodity derivatives. The difference between the spot and future price is called *basis*. The basis represents the cost of carrying a risk less arbitrage between the cash and future markets, including storage, transportation, opportunity and financing cost. If the basis does not vary, it means that spot and futures prices are perfectly correlated and the basis risk is zero. Were that to be true, hedging would be perfect and market actors would be able to completely offset price risk in secondary markets (Geman, 2005, p. 14). However, the basis shows high volatility because of the variability of storage costs and of convenience yields. Storage costs depend directly on the level of stocks: when storage space is scarce because of high inventories, its cost increases (Working, 1934).

The *convenience yield* is the benefit accrued by the holder of a physical stock of a commodity.

The benefits may be speculative – buying or holding the commodity when prices are low and selling it when prices are high – or industrial – meeting unexpected demand and avoiding disruption in distribution or production. The convenience yield is inversely correlated to interest rates, since the cost of capital will determine the opportunity cost of

investing in the commodity; and it is decreased by the cost of storage: the higher the cost of storage, the lower the convenience yield. This stems from the observation that when storage costs are high, the level of stocks is high. Hence, the advantage of holding inventories when stocks are high is low.

When the basis is positive the market is in *contango*; when it is negative the market is in *backwardation*. The basis represents a guide in inventory control, indicating how much the market value holding inventories.

For the futures market to function properly, the underlying commodity has to be homogeneous enough to allow contract standardization. In the case of BIFFEX, for example, the diversity of the routes traders use to ship their goods did not allow for enough contract standardization. This left buyers of BIFFEX futures contracts with substantial risk even after hedging, and the contract's lack of liquidity led to its demise. On the contrary, successful futures contracts' underlying assets are homogenous commodities with easily interchangeable qualities such as crude oil, corn and natural gas.

The spot market for the commodity has to be competitive, that is no single producer, and consumer or trader can offer or demand such a large quantity that its actions affect market prices. If the market structure is not competitive, large players can manipulate spot prices and abuse futures markets to make illicit profits. In turn, this can decrease market confidence in pricing mechanisms and reduces participation.

The *actors* in futures market can be divided in three categories: arbitrageurs, hedgers and speculators. Arbitrageurs connect cash and futures markets by pursuing arbitrages *cash and carry* and between different maturities. In the case of cash and carry, arbitrageurs sell a forward contract, buy the commodity in the cash market by taking out a loan, repay the

storage costs and the loan with the proceeds from the forward, and make a profit. A similar technique is used for arbitrage between maturities. These operations keep cash and futures prices at different maturities in constant interaction and that is why futures prices and spot prices converge at maturity. Hedgers need derivative contracts to transfer the risk in commodity price to another actor. Speculators are the actors willing to assume that risk, providing liquidity to the contracts. Hedgers and arbitrageurs generally operate with contract maturities below one year: commodity derivatives with longer maturity have low open interest.

As discussed in above, commercial players with an interest in the underlying physical commodity do not fall exclusively under the 'hedger' category. By the same token, financial actors who have entered the physical market may have to 'hedge' their positions. Moreover, some commercial players employ *swap dealers* in order to obtain OTC tailor-made contracts.

Swap dealers are generally financial institutions such as banks that assume commercial players' risk with OTC contracts, offsetting it with exchange-traded derivatives. An example would help to illustrate this point. No futures exchange offers a liquid future contract for jet fuel. Airline Company A is in need of hedging the price risk of jet fuel, but it must use crude oil futures to offset its exposure. However, A is left with substantial risk after hedging, since crude oil and jet fuel prices may diverge and transportation costs from the contract's point of delivery to A's storage facility are not covered. Hence, A buys an OTC contract from swap dealer B, which tailors the contract to A's needs. B's superior expertise in financial markets and greater appetite for risk drives this choice. B is able to hedge the risk associated with the spread between crude oil and jet fuel prices as

well as transportation costs between the exchange's point of delivery and A's storage facility.

One of the most effective ways to manipulate markets in commodities is a technique known as "corner and squeeze." This characteristic is shared by most commodities. There are cases, however, when these two prices do not converge: this may reflect the risk inherent in arbitrage operations.

In sum, in today's markets the boundaries between hedgers, speculators and arbitrageurs are increasingly blurred (CFTC, 2008).

In the last decade, new financial players have entered commodity derivatives markets through commodity index funds, exchange-traded funds (ETFs) and exchange-trade notes (ETNs) for commodities. The underlying assumption of this trend is that commodity prices have been – historically – negatively correlated with stocks and bonds prices, providing portfolio diversification and a hedge against inflation. Moreover, they are said to provide a hedge against 'event risk', i.e. to give returns in case financial assets are underperforming due to financial crises or geopolitical events. However, these assumptions do not take into account that as more and more investors enter commodity markets; the correlation between stocks, bonds and commodities prices is likely to increase. As current financial conditions show, investors do not differentiate between equity, debt securities or alternative investments when they have to service their debt obligations or meet margin calls: herd behavior and de-leveraging can take a toll on commodities as well.

The investment strategy of index funds, ETFs and ETNs is generally to passively follow a commodity index, benefiting from spot returns and roll yields. In the US, this

development raised concerns about the role of index traders in feeding ever-rising commodity prices because of their long-only strategy. According to one oft-cited source, assets allocated to commodity indexes have shot up to \$260 billion in March 2008 from \$13 billion at the end of 2003.¹¹ The CFTC has estimated the notional value of index trading to be lower, placing it at \$200 billions as of 30 June 2008 (CFTC, 2008, p. 21). Of \$200 billions, 24% was held by index funds, 42% was held by pension funds and endowment funds, 9% was held by sovereign wealth funds and 25% was held by retail investors (ibid).

2.4 Commodity and Commodity Derivatives Markets

Commodity markets have greatly different characteristics, resulting from chemical-physical properties of the commodity, market structure, market organization, regulation and the economics of the industry involved. Based on these elements, commodities are divided into three categories: agricultural, metals and energy. This section discusses the first category only for the research scope is limited to that extent.

2.4.1 Agricultural

Worldwide, futures on agricultural commodities as a group have the highest volume of trading. This fact may reflect the origins of futures markets from agricultural products or it may be linked to high price volatility due to meteorological events and seasonality. Another explanation could be that markets have more confidence in the pricing mechanism of underlying assets because of a relatively lower concentration in the industry.

Agricultural products can be further divided into grains (corn, soybean and its derived products, and wheat), soft (cocoa, coffee, cotton, and sugar), citrus fruit (oranges, frozen

orange juice) and livestock (cattle, hogs and pork bellies). This section gives an overview of the market structure, market organization, and physical and derivative markets of agricultural products.

Market structure

Market structure refers to the degree of competitiveness and informational efficiency of cash markets. Each agricultural product corresponds to different market structures, but there is an overall tendency in agricultural markets towards concentration, especially in the industries of seeds, international trading, food-processing and retail supermarkets. International trading in soft commodities, in particular, is dominated by a small number of firms. For instance, the global coffee chain has four international traders and three international roasters controlling 39% and 45% of world's market, respectively. In cocoa, 10 trading houses control the London market – the world's largest where international prices are formed – and the six largest chocolate manufacturers account for 50% of world sales (FAO, 2004). However, it would be a mistake to consider agricultural markets as monopolistic or even cartelized. In effect, markets for livestock, grains and citrus fruits show a lower concentration and the number of producers results in sufficient competition. Moreover, in developed countries, national governments collect statistics about world demand, supply, inventories and trade, and publish periodic reference prices on which cash transactions may take place. Futures prices give a clear indication of market expectations and aid in the transmission of local price changes to international markets. This reduces the scope for price fixing or anticompetitive behaviors.

Market organization and characteristics of physical and financial markets

Agricultural cash markets are decentralized OTC markets with bilateral contracts using either published prices or futures prices +/- a differential. The International Coffee Organization and the International Cocoa Organization in London publish daily prices collected from commitments of brokers across the globe. In other instances, such as livestock and citrus fruits, price dynamics are more regional. Soft commodities are the most heavily-traded because they are produced in tropical regions and then exported to developed countries. For instance, world coffee exports represent over 80% of world production (FAS-USDA, 2008). Grains and citrus fruits are somewhere in between – with some production consumed locally and some exported to international markets – and livestock markets are the least integrated.

Derivatives transactions on agricultural commodities take place mainly on centralized exchanges. The main futures exchanges for agricultural products are the Chicago Board of Trade (CBOT) – owned by the CME Group – with liquid contracts for corn, soybean, soybean oil, soybean meal; the Chicago Mercantile Exchange (CMEX) – also owned by the CME Group – with fairly liquid contracts in lean hogs and live cattle; the New York Board of Trade (NYBOT) – owned by the Intercontinental Exchange (ICE) – with liquid contracts in cocoa, coffee, white sugar, and cotton; Euro next LIFFE with liquid contracts in cocoa, coffee and white sugar; and finally the Kansas City Board of Trade (KBOT) with liquid contracts in wheat.

All contracts are priced in dollars, except futures on cocoa that are priced in sterling. Futures markets in agricultural commodities tend to see a lower presence of banks and other financial institutions with respect to metals and energy: local producers,

agribusiness companies and specialized traders are the most active players (Geman, 2005, p. 163).

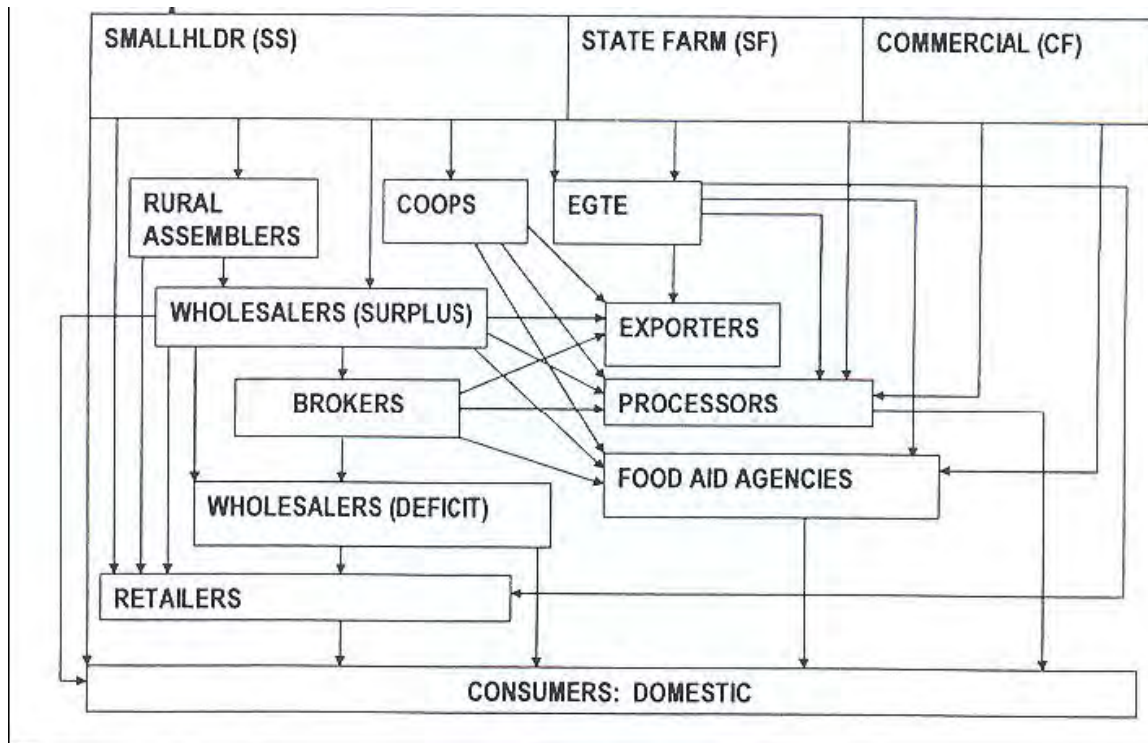
2.5 The Ethiopia Commodity Exchange

Agriculture is the backbone of Ethiopia's economy. To bring millions of Ethiopians out of poverty requires a fundamental change in the way agriculture is done. Substance agriculture should be replaced with technology-driven and market-oriented production.

As Ethiopia is poised to transform its agrarian economy, so too must Ethiopia's marketing system take the country into the new millennium. It is time to enter the modern age of globally connected trading systems, relying on technology and know how, while tailored to Ethiopia's realities and conditions. It is time to forge a new partnership between the private and the public in the new arena created by market liberalization.

Currently, Ethiopia's marketing system is traditional and backward (See *Figure 1*). It is mainly characterized by high costs and high risks of transacting, forcing much of Ethiopia into global isolation. The vision driving the Ethiopia Commodity Exchange is to revolutionize Ethiopian agriculture through a dynamic, efficient, and orderly marketing system that serves all.

Figure 1 - Current Grain Market Structure

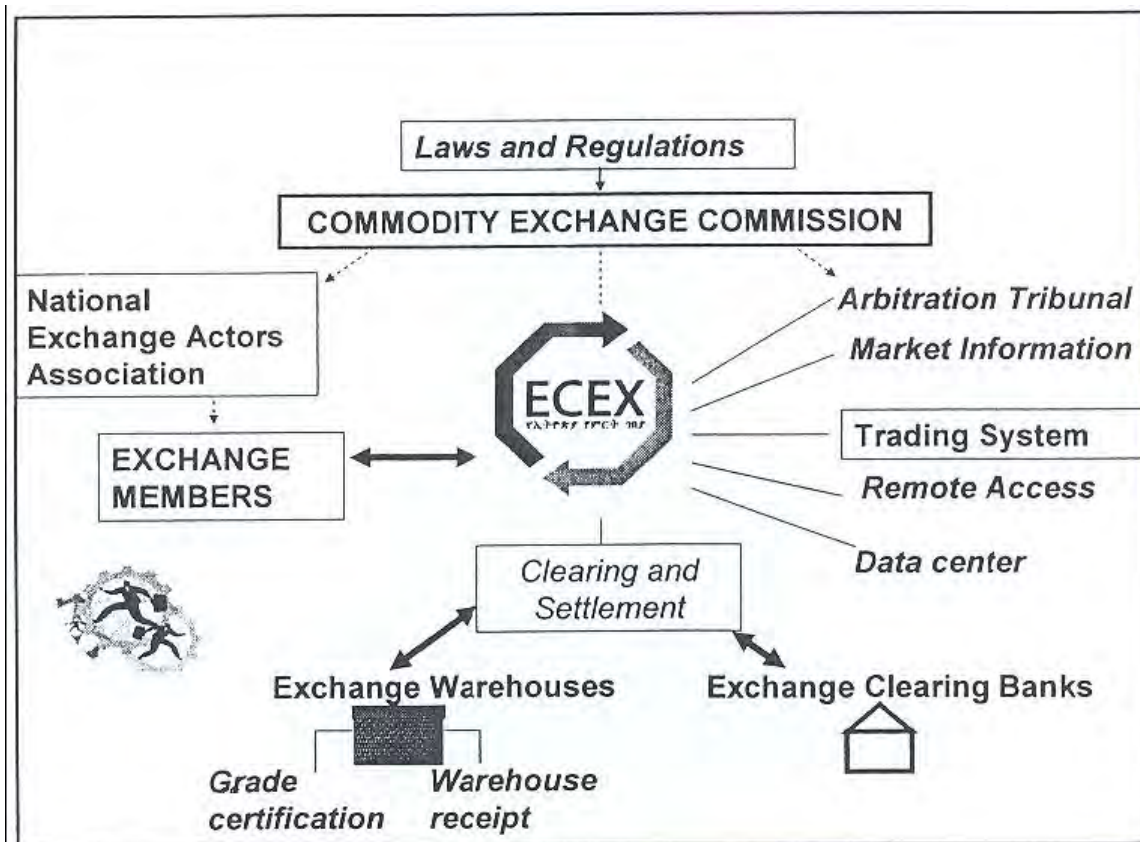


Source: Ethiopia Commodity Exchange

Ethiopia Commodity Exchange also provides standardized commodity based contracts. The contract specifies the grade, delivery location, lot size, and other contract terms. The contracts will be either for immediate delivery or at a pre-specified date in the future. Currently the Ethiopia Commodity Exchange offers contract for immediate delivery.

Ethiopia Commodity Exchange implements two types of trading system at the physical trading floor located in Addis Ababa. Buyers and seller can participate in “open outcry” bidding for commodities or they can use one of the electronic remote access trading system.

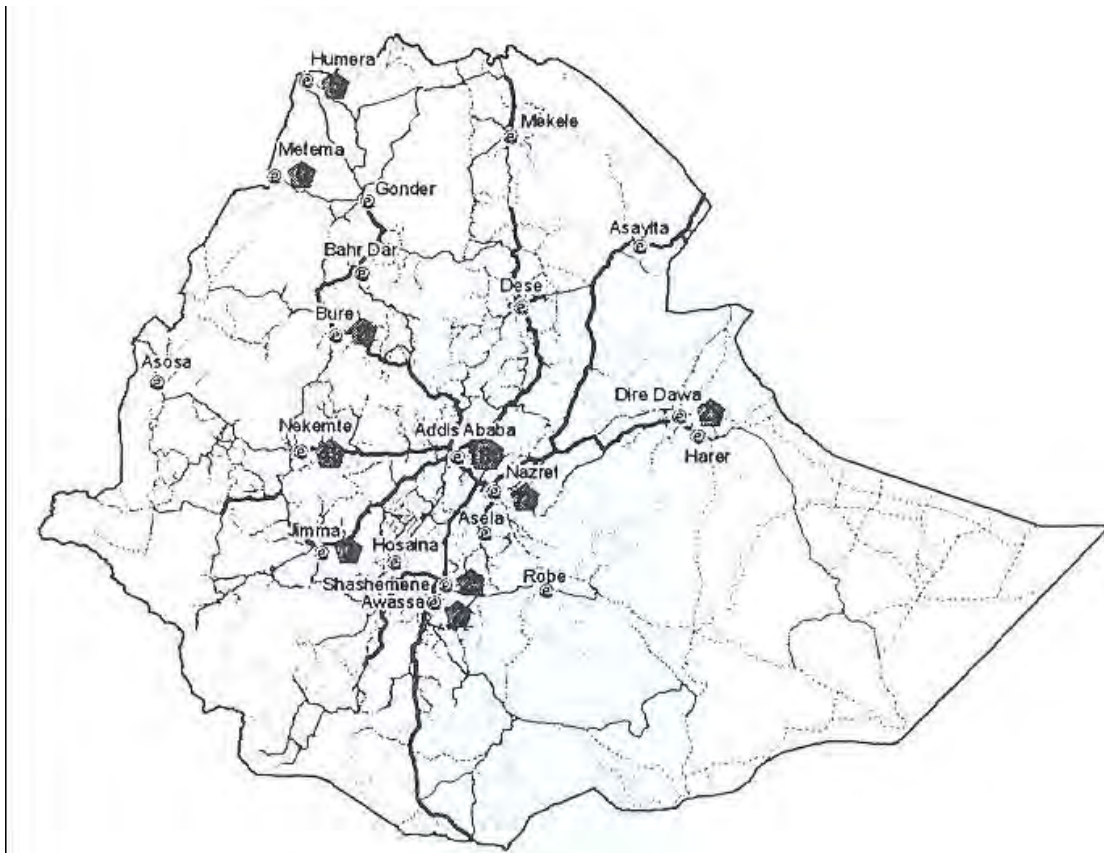
Figure 2 shows the general organization of Ethiopia Commodity Exchange.



Source: Ethiopia Commodity Exchange

Besides, Ethiopia Commodity Exchange has 20 remote electronic trading centers in different parts of the country (See *Figure3*), namely, Addis Ababa, Bure, Metema, umera, Nazareth, Awassa, Dire Dawa, Jimma, Nekempte, Shashemene, Bahir Dar, Gondar, Mekele, Dessie, Hosaina, Bale Robe, Harar, Assela, Asayita, Arba Minch, and Asosa. These centers will be equipped with computers and high speed Internet connection. Via the Internet farmers/traders can get access to live market information.

Figure 3 - Ethiopia Commodity Exchange Electronic Trading Sites



Source: Ethiopia Commodity Exchange

2.6.1 Risks Faced by an Exchange

As the business world is dynamic and is uncertain, there are risks that are to be managed by the business participants. As one part of the business exchanges too face different type of risks in their operation these includes: operational risks and market risks.

2.6.1 Operational Risks

Operational Risk is risk of loss resulting from inadequate or failed internal processes, systems or people. (ECX, 2001) An operational risk is a risk arising from execution of a company's business functions. As such, it is a very broad concept including e.g. fraud

risks, legal risks, physical or environmental risks, etc. The term operational risk is most commonly found in risk management programs of financial institutions that must organize their risk management program according to Basel II. In Basel II, risk management is divided into credit, market and operational risk management. In many cases, credit and market risks are handled through a company's financial department, whereas operational risk management is perhaps coordinated centrally but most commonly implemented in different operational units (e.g. the IT department takes care of information risks, the HR department takes care of personnel risks, etc) More specifically, Basel II defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. Although the risks apply to any organization in business, this particular way of framing risk management is of particular relevance to the banking regime where regulators are responsible for establishing safeguards to protect against systemic failure of the banking system and the economy. (Wikipedia, October, 2007)

Operational Risks- Warehousing

The operational risks related to warehousing include physical storage risks, Deterioration/Degradation, Infestation, Theft, Sampling, Grading and Inventory Management. (ECX, 2001)

Operational Risks- Trading

The operational risks related to trading include System Security, Order Entry, Telecommunications, Processes and System Failures. (ECX, 2001)

Operational Risk Identification

The operational risk identification method involves: Operational audits of all ECX units to identify current and potential risks, Operational performance reports and Strategy, design and market analysis. (ECX, 2001)

2.6.2 Market Risks

Market Risks are Risks to the integrity of the market due to foul play or negligence by participants or poor market design. (ECX, 2001)

ECX Market Risks encompasses Trading Practice Violations, Market Manipulation, Fraud, Contract Design, and Member Settlement Default. (ECX, 2001)

The basic market risk identification method in use is Market Surveillance. The specific things done during market surveillance are floor surveillance, trade activity report analysis, video surveillance, price movement monitoring, member audits and market analysis. (ECX, 2001)

Risk mitigation

Risk Mitigation at ECX is through Membership Standards, position limits, daily price limits, rules, Audits System Validations, role Based Application Security, insurance, system/Process Redundancies, training. (ECX, 2001)

2.7 Review of Relevant Government Policies

The establishment of the Ethiopia Commodity Exchange is in line with the formulation of the government's Rural Development Policy. The government of Ethiopia has set as its primary economic development objective the rapid and sustainable transformation of rural areas. The set of policies formulated by the government are based on the frame work known as "Agriculture Development Led Industrialization" or ADLI (Government of FDRE, 1989).

It is believed that ADLI offers Ethiopia better solutions to its social and economic development needs. ADLI as a policy framework is derived from a thorough analysis of the structural distortions of the economy resulting in the declining and so fast economic growth and the review of the best international practices in bringing swift economic development.

Even though ADLI stressed the rapid transformation of the agricultural sector, it also provides for the needed linkage and subsequent qualitative change of the industrial sector (Government of FDRE, 1989).

ADLI as a policy framework and economic development strategy is adopted by the government due to four major reasons:-

- 1- In the current Ethiopian economic context it allows to register rapid and sustainable economic growth.
- 2- It helps benefit the overwhelming majority from achieved economic development – because ADLI targets more than 85% rural population of the country.
- 3- ADLI as a strategy ensures the country to get rid of foreign relief assistance and hunger in the shortest possible time.
- 4- It facilitates the advent of a strong and developed market economy (Government of FDRE, 1989)

Thus, the country's rural development policy that was formulated in the year 2001 is founded on the ADLI framework. The agricultural sector has been given in the mentioned policy document a fundamental role and is a key player in the implementation of the rural development policy (Government of FDRE, 1989).

One of the tasks outlined in the rural development policy of the Government is the creation and consolidation of an efficient agricultural marketing system. Furthermore, the policy document makes clear that such a system should have thrust in two core areas, namely,

- a) Establishment of a quality and standards system for agricultural products
- b) Improving the market information delivery system in the economy (Government of FDRE, 1989)

Hence, the establishment of the Ethiopia Commodity Exchange having a strong agricultural Market Information System is a major policy issue for the government of Ethiopia and has been given a strong emphasis in the rural development policy document (Government of FDRE, 1989).

2.8 Experiences of Commodity Exchanges of India, Nigeria, and South Africa

2.8.1 The National Multi Commodity Exchange of India (NMCE)

In response to the Press Note issued by the Government of India during May'1999, first state-of-the-art demutualised multi-commodity Exchange, National Multi Commodity Exchange of India Ltd. (NMCE) was promoted by commodity-relevant public institutions, viz., Central Warehousing Corporation (CWC), National Agricultural Cooperative Marketing Federation of India (NAFED), Gujarat Agro-Industries Corporation Limited (GAICL), Gujarat State Agricultural Marketing Board (GSAMB), National Institute of Agricultural Marketing (NIAM), and Neptune Overseas Limited (NOL). While various integral aspects of commodity economy, viz., warehousing, cooperatives, private and public sector marketing of agricultural commodities, research and training were adequately addressed in structuring the Exchange, finance was still a

vital missing link. Punjab National Bank (PNB) took equity of the Exchange to establish that linkage. Even today, NMCE is the only Exchange in India to have such investment and technical support from the commodity relevant institutions. These institutions are represented on the Board of Directors of the Exchange and also on various committees set up by the Exchange to ensure good corporate governance.

NMCE is a zero-debt company; following widely accepted prudent accounting and auditing practices. It has robust delivery mechanism making it the most suitable for the participants in the physical commodity markets. The exchange does not compromise on its delivery provisions to attract speculative volume. Public interest rather than commercial interest guide the functioning of the Exchange. It has also established fair and transparent rule-based procedures and demonstrated total commitment towards eliminating any conflicts of interest. It is the only Commodity Exchange in the world to have received ISO 9001:2000 certification from British Standard Institutions (BSI).

NMCE commenced futures trading in 24 commodities on 26th November, 2002 on a national scale and the basket of commodities has grown substantially since then to include cash crops, food grains, plantations, spices, oil seeds, metals & bullion among others. Research Desk of NMCE is constantly in the process of identifying the hedging needs of the commodity economy and the basket of products is likely to grow even further. NMCE has also made immense contribution in raising awareness about and catalyzing implementation of policy reforms in the commodity sector. NMCE was the first Exchange to take up the issue of differential treatment of speculative loss. It was also the first Exchange to enroll participation of high net-worth corporate securities brokers in commodity derivatives market. It was the Exchange, which showed a way to introduce

warehouse receipt system within existing legal and regulatory framework. It was the first Exchange to complete the contractual groundwork for dematerialization of the warehouse receipts. Innovation is the way of life at NMCE.

A close look at NMCE

NMCE facilitates electronic derivatives trading through robust and tested trading platform, Derivative Trading Settlement System (DTSS), provided by CMC.

When an order is placed on the exchange, the server at NMCE scans through the orders posted on it from all its trading terminals. It then locates and matches the best counter-offers/bids by maintaining anonymity of the counter-parties. Anonymity helps in eliminating formation of cartels and other unfair practices, thereby protecting the efficiency of price-discovery at the Exchange. NMCE was the first commodity exchange to provide trading facility through internet, through Virtual Private Network (VPN).

NMCE follows best international risk management practices. The contracts are marked to market on daily basis. The system of upfront margining based on Value at Risk is followed to ensure financial security of the market. In the event of high volatility in the prices, special intra-day clearing and settlement is held. NMCE has also set up a Trade Guarantee Fund. Well-capitalized in-house clearinghouse assumes counter-party risk of settlement. NMCE was the first to initiate process of dematerialization and electronic transfer of warehoused commodity stocks. The unique strength of NMCE is its settlements via a Delivery Backed System, an imperative in the commodity trading business. These deliveries are executed through a sound and reliable Warehouse Receipt.

2.8.2 The Abuja Securities and Commodity Exchange

Nigeria is an agrarian society having over 70% of its estimated population engaged in agricultural sector. However, Nigerian agricultural sector is characterized by low output, low access to financing, poor quality of agricultural products and lack of efficient market. In order to address these problems government intervened through the establishment of Abuja Securities and Commodity Exchange. ASCE was originally incorporated in 1998 as a stock exchange. Later it was converted to a commodity exchange by the federal government of Nigeria. ASCE mainly uses email based information dissemination and has certified warehouses to issue warehouse receipts (Nigeriabusinessinfo.com, 2001).

2.8.3 Agricultural Commodity Derivatives Market of South Africa

The agricultural commodity derivatives market in South Africa was established in 1995 as a separate division of the South African Future Exchange. The primary reason for the establishment of the market was the emergence or recognition of agricultural price risk within the sector. Around 20% of commercial farmers are actively involved in the market. Indeed, the price discovery role of the exchange is such that the price is used throughout South Africa as reference price. Warehouse receipts are used as collateral. This enhances strong participation from the market players; apart from fraud there is a view that the certificate is reliable; legally not protected, but still accepted by everyone in the market; banks have established credit limits for each participant who is warehousing. And only certain approved silos (warehouses) can issue the certificate. (SAFEX, 2005)

Chapter Three- Problem analysis

3.1 Liquidity Drivers

The mere setting up of a commodity exchange does not result in a vibrant and liquid commodities market. There are a host of issues which need to be addressed along with the setting up of a commodity exchange in order to develop the markets. The key to success is liquidity and the challenge is to create this liquidity?

In this context it may be worthwhile to go back to first principles. Who are the players that drive any commodities markets? Typically they are hedgers, arbitrageurs and speculators. In the absence of these categories of players, especially the latter, it is unlikely that any derivatives market will be very liquid. So do these categories of players exist in ECX?

A cursory examination of these markets and interview results shows that there are limited arbitrageurs scattered across the various markets. No hedgers and no speculators since in the beginning there is no open and favorable field that let these bodies to participate in the exchange and create the desired level of liquidity. Beside there is no professional body of arbitrageurs participating in commodity markets; the lack of well developed organized spot markets and price discovery mechanism is a major impediment to arbitraging. Typically there are traders and trade bodies in the distribution chain that take advantage of lack of price discovery and arbitrage the same.

However these are restricted to small set of traders and are not wide enough to drive liquidity especially to the commodities traded on the exchange other than coffee.

Arbitraging with the spot market is done to a limited extent. Wider participation by arbitrageurs and speculators is ruled out as there are too many impediments and it is not attractive enough.

The other key constituent is the hedger. Today the scope to hedge positions in a commodity is non existent because there is no mechanism to do so. Smaller and retail level participation is not possible because of the closed door nature of existing exchanges. The exchange suggests that the minimum quantity that can be traded is 50 quintal which is more than what the majority of the Ethiopian society could afford even when organized as a group.

3.2 Spot Price Conundrum

The other important issue arising from the above is the state of the spot market and spot price discovery process. It is difficult to develop a good commodities market without adequate spot price discovery. This also becomes extremely important in the context of physical settlement of commodities.

Currently the spot price in ECX is determined by the market in an open outcry. This method is chosen by the exchange for it is thought that it is on the trading floor where true demand and supply meet and as a result true price is determined.

There is no problem as to using demand and supply in the exchange floor in determining the true price of the commodity if the market is very liquid for that specific commodity traded.

The problem is spot markets are scattered throughout the country and exist close to production centers. They are quite unorganized. Also there is little transparency in trading and pricing along subsequent distribution channels. Currently the commodity market of Ethiopia is regulated in a manner which directly impact spot prices for example by way of setting, minimum and maximum price bands for specific commodities, quotas and reservations, procurement through disaster prevention and control commission of Ethiopia etc. As 'agriculture' is a state subject, the extent and variety of instruments used to intervene in the agriculture sector also vary from state to state.

Besides, the existence of three basic preconditions is necessary for establishing commodities derivatives market. One is the existence of large market in which there are many sellers and buyers composed from different categories of traders which results a very liquid market. The second one is competitive market or exchange in which diversified products are offered, highly traded commodities are traded and high quality of service is offered at relatively good cost. And the last one is transparent spot market in which the price discovery process is participatory and clear. Unfortunately, the existing cash markets for most commodities fail to satisfy this precondition. The thing is the exchange lacks liquidity in commodities other than coffee and thus, spot price which is determined with this scenario does not show the real price of the commodity.

When the NMCE case is taken; NMCE is actively participating in the process of information collection and dissemination and has set up spot markets or tied up with spot exchanges as they emerge. In addition, NMCE takes some reference price by using the officially announced price such as by APMC.

The other point is Polling market participants for prices is fraught with the risk of misreporting and manipulation. It may be possible to still evolve some reference rate based on polling methodology.

A good case in point is the MIBID/MIBOR rate announced by the National Stock Exchange (NSE) which has today found wide acceptance in Indian exchanges. In contrast, ECX uses the Mesalemia's, the largest traditional and manipulated market for commodities, as a reference rate not for setting prices but for checking. These create problems one problem is the risk of determining spot prices by using only pooling methodology and the other is the risk of using inappropriate bench mark for determining daily efficiency.

3.3 Other Key Issues

What are the other key issues faced by ECX? If the ECX is to attract participation by a larger body of investors and arbitrageurs it has to ensure that the safety and integrity of the market. Unless and until participants are convinced that the exchange provides fairness, transparency and efficiency they will not be drawn into the market. This has several elements – the structure and management of the exchange itself, the trading facility and distribution, efficiency of settlements, risk management.

3.3.1 Exchange Structure

The starting point is the exchange itself. Exchanges have been traditionally set up as associations of traders/trade bodies to the benefit of its member brokers. However there is now a growing recognition globally that a demutualised corporate structure may be more desirable. This is especially so in the world of stock exchanges where a number of exchanges have or are in the process of demutualising their structures. This arises from

the understanding that exchanges are required to cater the interest of not just intermediaries (brokers) but also to other constituencies – issuers/producers and investors/consumers. Indeed in the stock exchange world there is now a trend to merge the cash and derivatives markets under one umbrella in the interest of market efficiency.

Under such a structure the ownership of the exchange is separated from trading rights as a broker. This removes potential conflict of interest between managing the exchange and market integrity versus trading interests as a broker. In the current context this becomes even more important if the market is to be expanded to draw larger participation from across the country. And since ECX has already a demutualized corporate structure it is exploiting all the benefits discussed above, which are related with having a demutualized corporate structure.

The other desirable and necessary feature related with the exchanges is a tax paying corporate structure. A corporate structure imposes certain discipline on the exchange. Any exchange should be a commercially viable proposition and should not have to depend upon subsidies and tax shelters to survive in a competitive environment. This requires professional management of the exchange. NMCE is also set up as a tax paying company where management is in the hands of professionals.

Currently ECX is almost being fully financed by the Ethiopian government where in all profits are reinvested to strength the exchange. Also the exchange does not pay taxes. Thus these things are hindering the exchange from seeing the commercial viability of its service. Additionally the experience with stock exchanges suggests that the organization must be so structured as to bring about transparency in decision making. Typically rules

and procedures to deal with all exceptions should be clearly enunciated and made transparent to the market and discretionary elements must be minimized.

3.3.2 Trading and Contracts

Though ECX's back office activities are automated, the basic ingredient of the exchange that is trading is not automated. Besides currently ECX does not introduced futures. Lack of automated trading and commodity futures create incompetence in the work of the exchange. Because as a nation-wide exchange it must provide equal access from across the country and this in itself eliminates a trading floor and suggests an automated trading mechanism. Typically such systems provide matching on price-time priority.

In addition, since ECX did not offer automated trading and futures to the exchange, there is no order book that is visible to the market. Thus there is no dissemination of prices on real time basis. Not only price dissemination advantage is lost in ECX but also that arbitrageurs and hedgers are not there and did not take a good position to be fully advantaged in the price discovery process. Besides since there is no as such transparent price discovery process users/consumers are not too encouraged to participate with a higher degree of confidence – thus an essential element if the market has to be expanded and bring in greater retail participation is lost.

To cite the experience of India here in automated trading system, such trading systems are relatively straightforward to implement and have been successfully demonstrated by stock exchanges in India.

In the context of trading it may be mentioned that contract design will have a significant impact on liquidity.

ECX's contract design starts with determining the liquidity. Then to determine the liquidity of the contract the basic determining factors taken in to account is production that is the marketable surplus and for most commodities traded usually marketable surplus is 35% and for others most of times less than 35% since the Ethiopian producers consume most of their produce. In addition to production the other factors accounted are grades and standards and the market players' structure. However, the ECX practice suggests that there is no an independent product committee to advice on contracts for products traded in the exchange. Since there is no an independent department, which is devoted to continually identifying the contracts that are need to be offered to the market, it can be said that proper attention is not given to contract designing.

Also the factors taken in to account are limited for designing a contract that is liquid. This is because the factors considered by the ECX do not allow to fully assess the liquidity of the contract; for such factors like seasonality, product life, extent of international markets, size of contract etc are not considered.

Though an automated trading system in itself is no guarantee of a successful exchange it is one of the necessary preconditions for a successful exchange.

3.4 Settlements

Efficient settlements are an absolute essential for a successful exchange. It is not enough to provide efficient trading platforms. Efficiency of settlement processes has a direct bearing on the ability of participants to effectively use commodity exchanges.

Commodity settlement represents one of biggest challenges to NMCE. (T.S.Jagadharini & Raghavan Putran)

How is the commodity settlement going in ECX?

The rest of the problem analysis part is mainly devoted to raising some of the key issues regarding the same.

Final settlement can either be (a) cash settled or (b) settled through physical delivery if commodity derivatives have been used. But since ECX uses only spot trading there is only physical settlement.

3.4.1 Physical Settlement

The issues faced in physical settlements are enormous. The quality of warehouses leaves much to be desired and the process of taking physical delivery is very cumbersome. This in itself is a major impediment to enhanced liquidity in the commodities markets as the link between an under developed spot price discovery mechanism and futures prices becomes even more tenuous preventing effective arbitrage in the future when commodity futures are introduced.

The process flows in the event of physical settlement of commodities are different from that of other underlying. It may therefore be worth outlining the process flow.

3.4.1.1 Delivery Notice Period

The process starts when the exchange gives a delivery notice. The 'delivery notice period' (DNP) is ten days.

Typically as in all commodity exchanges, delivery notice is required to be supported by a warehouse receipt. The warehouse receipt is the proof for the quantity and quality of commodities being delivered.

Some of exchanges have certified laboratories for verifying the quality of goods. In these exchanges the seller has to produce a verification report from these laboratories along with delivery notice. However currently in ECX sellers are not required to produce a

verification report from independent laboratories. Besides, other necessary supportive documents which can add value to the settlement are not used.

Exchanges like BMF–Brazil have independent grading and classification agency to verify the quality. In the case of BMF–Brazil a seller typically has to submit following additional documents

- A declaration, verifying that the asset is free of any and all charges, including fiscal debts related to the stored goods.
- A provisional delivery order of the goods to BM&F (Brazil), issued by the warehouse
- A warehouse certificate showing storage and regular insurance have been paid, covering a 15 day period counted as from the delivery notice issuance date.

As outlined above involving other supportive documents is essential for the exchange. This is because that as the size and the volume of trading increases it is through those supportive documents that the exchange can create risk free settlement mechanisms. Though, warehouse receipts are ideally expected to represent without any problem the real quality and quantity of the commodities specified, it is necessary to involve other supportive documents for making settlements free of any risk of quantity and quality of goods delivered. This judgment is based up on the fact that though the exchange is one of the modern the participants needed to bring to that level and till then without supportive documents one will not be able to be fully entrusted on the receipts.

The gap between last notice day and last trading day will be driven by possible duration to inspect and take physical delivery. These factors need to be considered while deciding the settlement mechanism.

The gap between last notice day and last trading day will be driven by possible duration to inspect and take physical delivery. These factors need to be considered while deciding the settlement mechanism.

3.4.1.2 Assignment

Whenever delivery notices are given by the seller, the clearing house of the exchange identifies the buyer to whom this notice may be assigned. This is the case in exchanges where futures are involved and delivery notices can be given by the seller. This mechanism has its own advantage to the participants that is both to the buyer and the seller. Currently in ECX the practice is it is only the exchange that can give the delivery notice to the buyer. This practice in the exchange has its own advantages and disadvantages and its better to see the disadvantages. The disadvantages are related with that the exchange does not provide wide variety of choices to the participants to close positions at the end of the day since futures trading is not there. In addition because futures contracts are not placed there is again no assignment process. Since ECX vision is to become an exchange of choice in the world it has to provide competitive services, at least competitive services compared with those of developing countries exchanges like NMCE. However with out futures and with out giving a chance for the sellers to give delivery notice, letting buyer bid for taking delivery and add a new feature to the exchange, and playing a role in assignment process it is difficult though not impossible to achieve its vision.

When practices of BMF, CBOT, CME is taken; the delivery notice is displayed and buyers wishing to take delivery are allowed to bid for taking delivery.

Beside the thing that miss in ECX with relation to assignment is: any seller/buyer who has given intention to deliver/ been assigned a delivery has not an option to square off positions till the market close of the day of delivery notice and the buyer has no option to give his preference for delivery location since the assignment process is not there in the beginning.

3.4.1.3 Delivery

After the deliver notice, clearing house/exchange issues a delivery order to the buyer.

Exchange also informs the respective warehouse about the identity of the buyer. The buyer is required to deposit a certain percentage of the contract amount with the clearing house as margin against the warehouse receipt.

The period available for the buyer to take physical delivery is stipulated by the exchange. Buyer or his authorized representative in presence of seller or his representative takes the physical stocks against the delivery order. Proof of physical delivery having been effected is forwarded by the seller to the clearing house and the invoice amount is credited to the seller's account.

In the case of commodities the actual physical settlement dates is different for different commodities and there is no effort to harmonize them. This process of physical settlement also makes it difficult for professional arbitrageurs to fully participate.

3.4.2 Warehousing System

ECX implemented a settlement which has electronic links with designated clearing banks for efficient funds movements. Typically the exchange will require its members to open designated accounts with specified clearing banks. Such accounts will be used only for

the purpose of settlements. The exchange will have the right to debit/credit such accounts directly through electronic interface with the clearing banks.

For the purpose of commodity settlements ECX entered into an arrangement with designated warehouses to handle settlements. If a physical settlement system is to be in operation it is better to have all open positions at the end of the contract to be settled through delivery.

The ability to settle commodities efficiently, of course, depends to a great extent upon the warehousing systems available. The effectiveness of ECX is dependent on how effectively the system of warehousing and warehouse receipts work.

The first requirement in this direction is to have good standards and quality assurance/certification procedures. A good system of grading allows commodities to be traded by specification.

Currently there are neither any various agencies that are responsible/specify grades for commodities nor any system of designated surveyors to inspect and certify delivery. Besides, there is no a central notification agency for standards and grades including sampling and testing techniques for agricultural commodities. This is an area where much work is required to be done to improve both standards and testing/certification methods. .

The Indian case shows that for example, the Bureau of Indian Standards (BIS) under Ministry of Consumer Affairs specifies standards for processed agricultural commodities whereas AGMARK under the department of rural development under Ministry of Agriculture is responsible for promulgating standards for basic agricultural commodities. Apart from these, there are other agencies like EIA which specify standards for export oriented commodities.

Lack of such a centralized standard specifying agencies for agricultural commodities including those exported create a hole in the grading and standardizing of commodities.

If such a system was implemented, all instructions for physical delivery will be then required a quality certificate from approved surveyors. Which will in turn creates additional good feature to ECX.

Alternately, certified warehouses can issue quality certificates either using in-house labs or professionally licensed graders. Some exchanges like NYBOT use this method.

Most international commodity exchanges used certified warehouses (CWH) for the purpose of handling physical settlements. Such CWH are required to provide storage facilities for participants in the commodities markets and to certify the quantity and quality of the underlying commodity. Such a system has many benefits. The most significant benefit is that a warehouse receipt becomes good collateral, not just for settlement of exchange trades but for other purposes too.

But currently there are no certified warehouses. Therefore, the warehousing system is not adequate to meet the above mentioned requirement. Central and state government controlled warehouses are the major providers of agri-produce storage facilities. Apart from these, there is no private warehousing being maintained. Besides, there is no clear regulatory oversight of warehousing services. Contrast this with depositories, banks and custodians in the capital market world which are governed by explicit statutes. There is a lack of minimum standards in procedures, design and management of the warehouses.

Reliability and efficiency of the current set of warehouses are still to be established. Ideally it would be desirable that warehouses provide a performance guarantee assuring that the quantity/quality of goods on the receipts matches with those in the warehouse. If

this is done the comfort level of participants to give/take delivery will increase significantly.

Even there are better warehouses in Ethiopia, not all locations are equal. There are some warehouse branches which are of much better quality than others. Some are minimal in their setup and quite clearly cannot meet the minimum requirements for exchange settlements. As a result ECX with out having designated branches of certified warehouse which are acceptable can not achieve its target. Moreover, in a nation-wide trading it is very difficult for a broker who is acting as a seller to arrange for delivery at designated warehouse branches. The tendency therefore will be to close out positions/cash settle the same when futures are introduced with out performing these preliminary issues.

Third party pre-shipment verification services may also be used to ensure that the physical commodities settled are of the desired grade/specifications. While this will add to the overall cost of operations it will help significantly reduce potential post settlement disputes/differences. However this is not the practice in ECX that is there is no a third party pre shipment verification. Thus one significant practice is missing in ECX.

3.4.3 Warehouse Receipt Based Settlements

ECX currently uses only physical settlement. Warehouse based settlements are not implemented. Thus now settlements can only take place by a physical delivery, which means that settlements can not take place through exchange of warehouse receipts. With the world of dynamism the exchange should have offered such a settlement mechanism to cope up with the changes. Now a days almost all exchanges in India and neighborhood countries use such a settlement mechanism for it enhances efficiency of settlement. But Ethiopia still did not though the exchange has months of age. Besides, the electronic ware

house receipts are not fungible in that a buyer should be able to take delivery at any branch of a warehouse at a cost.

The advantage of reliable warehouse receipts which are unambiguous in their legal status is that these can then be directly used for settlements. This would mean that the cumbersome process of having to separately take physical delivery can be obviated and the same receipt can be re-tendered for delivery without necessarily having to take physical possession of the goods. This would result in much greater churning and liquidity in the market.

It would also be useful if the holder of a warehouse receipt could take physical delivery from the nearest warehouse branch irrespective of where the commodity was originally warehoused. This may be possible for widely distributed commodities and for reasonably small quantities. The benefit of this would be a much wider dispersal of warehouse receipt holdings and participation at retail levels. For large quantities or specialized commodities the CWH may offer this facility at a cost which will include cost of transportation.

In order to manage all of this efficiently and without facing problems of fake receipts etc. it would require the CWH to connect all branches electronically and to hold warehouse receipts in electronic form. This will require appropriate changes in the legal framework governing warehouses and negotiability of receipts.

3.5 Risk Management

A key element of settlement and safety of the market is guaranteed settlements. This eliminates counterparty risk as exchange/clearing house becomes counterparty to transactions. The exchange/clearing house, besides providing clearing and settlement services, manages market risk and guarantees completion of settlements. This encourages wider participation by all sections of investors and traders.

This requires effective risk management systems and a legal framework which supports the same.

Currently ECX uses different tools to manage operational and market risks. To manage the market risks the main tools which are in use by the exchange are settlement guarantee fund, member audit, market analysis. But currently, the method which is mainly used is market surveillance. This method enables the exchange manage its risk by identifying whether two specific parties are engaged in buying and selling only among themselves or are offering only specific prices that can manipulate the market.

The current risk management of ECX did not cover adequately the scope and importance of the commodity price risk problem. Besides the risk management techniques(specially the mainly used market surveillance) fails to provide ways for assessing, monitoring, and managing the price risks faced by individual producers, producer groups, banks, trading companies, and other firms operating in commodity markets.

It is clearly known that as in most developing countries in Ethiopia too, production and marketing of primary commodities play a dominant role in the country's economies and unpredictable fluctuations in commodity prices cause various problems for actors throughout the supply chain.

Clearly participants in the commodity supply chain are subject to financial risk due to both price risks and physical risks to harvest quantity and quality. A variety of strategies exist for managing price risk. Physical strategies such as open position monitoring, marking to market, and back-to-back trading, can provide simple and effective reductions in risk exposure. Even there are no forward contracts that can provide a flexible approach to managing price risk by offsetting an organization's open positions. Contract farming is a current trend in agricultural commodity production that reduces the price risks for both producers and processors. But for all these issues surrounding commodity risk and management solutions the ECX practice is silent.

The other perspective is the role of government in market-based price risk management. Currently the government of Ethiopia is doing nothing to alleviate the existing barrier to effective hedging; that is there is still lack of mechanisms to hedge an open position since futures, options, swaps and other derivatives are not allowed to be in place. Finally the government is not helping participants in the commodity supply chain implement hedging strategies by reducing key barriers related to lack of knowledge, scale of production, access to credit, basis risk, and legal and regulatory standards.

3.6 Warehouse receipts and commodity Futures issues

The warehouse receipts currently in use are not used for lending. Thus the benefits lost are many because the receipts can not be used for lending and borrowing purposes. In the following sections the benefits that could have been exploited if warehouse receipts could be used as collateral by various sectors is discussed.

Farmers:

At the time of harvesting, farmers usually sell a substantial quantity of produce at lower prices. Since prices rise as the season progresses farmers should be benefited from the risen price. But unfortunately farmers do not have any warehouses that can store their produce until price advantage is perceived and they do not have any mechanism to accomplish their short term finance need to cover their living cost. Thus with these circumstances they will be obliged to sell their produce at lesser prices though they know that prices will rise soon.

The situation is, even when farmers want to store their produce they store it in their traditional stores commonly known as “gotera”. The stored commodity in “gotera” faces a quality or generally value deterioration since this storage does not have quality. Thus farmers fearing that the worst will happen to them, that is they will sell below the price offered at time of production, since for sure their stored production will be exposed to quality deterioration if they let it to stay with them until price rises sell their surplus at lower prices and get disadvantaged.

Corporates

There are many corporates who are in the business of procurement of agri-commodity on large scale. These corporates are blocking their capital at the time of procurement. Commodities kept by them in warehouse could have been taken as collateral and loan given to them.

Commodity Futures

The legally binding agreements, futures contract, are agreements to buy or sell a commodity which are standardized according to the quality, quantity, and delivery time and delivery location for each commodity. These standardized commodity derivatives are not present in the ECX. This situation creates in efficiency on the services delivered by the exchange. Besides the exchange fails to perform the main economic functions of price risk management and price discovery efficiently since the exchange does not have futures.

Moreover, since commodity futures are not there in ECX the two important participants of exchanges hedgers and speculators are not present to play their invaluable role in creating liquidity to the market.

Futures markets exist primarily for *hedging*, but since there are no futures there is not any way available for participants to hedge price risks inherent in the ownership and transaction of commodities. This implies that there is no way to counterbalance investment involving a position in the futures market that is opposite one's position in the cash market. Since the cash market price and futures market price of a commodity tend to move up and down together, any loss or gain in the cash market will be roughly offset or counter-balanced in the futures market.

Though speculators help facilitate hedging by providing liquidity, or the ability to enter and exit the market quickly, easily, and efficiently; they are not present in the ECX due to there is no in the beginning an environment letting them exist.

Thus since currently there is no commodity futures the buyers and sellers in ECX can not utilize financial leverage and liquidity.

Chapter Four- Conclusions

Basically it is mandatory to enhance scope, efficiency and transparency of the commodities market to bring wider participation and liquidity. With liquidity in the exchange buyers and sellers can enter and exit easily. This benefits farmers and other participants to find a counter party in trade with out incurring additional costs.

It is clear that all participants need liquid market which is the sum total of effective settlement system, efficient warehousing and adequate management of risk in general. However the problem is to create the desired liquidity and make the market vibrant.

Commodity exchanges are vital to Ethiopia in order to support the farmers exploit their advantage; therefore, enhancing the effectiveness of the exchange's practices is crucial.

At the beginning of this project, Ethiopia Commodity Exchange's existing liquidity, settlement and risk management practices were collected and studied. Relevant country wide information was explored. In addition, the experience of other commodity exchanges was investigated.

During the critical assessment of ECX problems related to liquidity that is due to lack of:

- Small and retail participation because of the closed door nature, not encouraging, of the exchange's structure that is a nature that requires minimum quantity of 50 quintals and lack of automated trading,
- Major liquidity driver participants that are hedgers, speculators and arbitrageurs because of inexistence of favourable legal and structural environment and
- Commodity derivatives were identified.

In settlement mechanism the major exchange success impediments identified in this project include: lack of a central notification agency for standards and grades including sampling and

testing techniques for agricultural commodities, different physical settlement dates for different commodities discouraging large professional arbitrageurs' participation.

Besides, ECX without having designated branches of certified warehouse which are acceptable cannot achieve its target. This is because in a nation-wide trading it is very difficult for a broker who is acting as a seller to arrange for delivery at designated warehouse branches. The tendency therefore will be to close out positions/cash settle the same when futures are introduced without performing these preliminary issues.

The electronic warehouse receipts are not fungible in that a buyer should be able to take delivery at any branch of a warehouse at a cost. And since warehouse based settlements are not implemented settlements are only taking place by a physical delivery that is cumbersome process is created and participants are not encouraged to trade in ECX.

The current risk management of ECX did not cover adequately the scope and importance of the commodity price risk problem. Besides the risk management techniques(specially the mainly used market surveillance) fails to provide ways for assessing, monitoring, and managing the price risks faced by individual producers, producer groups, banks, trading companies, and other firms operating in commodity markets.

The proposed way outs for the problems identified include: using a nation-wide automated trading to bring small and retail participation, introducing commodity derivatives, work to strengthen related market structures such as spot market and info dissemination, quality standards and assurances, certified warehouses, work towards replacing physical settlements with warehouse receipts based settlement systems. And finally using physical strategies such as open position monitoring, marking to market, and back-to-back trading, which can provide simple and effective reductions in risk exposures in addition to forward contracts and contract farming which provide flexible risk management choice are essential.

Chapter Five- Proposed Way Out

In order to bring liquidity to the commodities market, resolve the spot price puzzle, settlement related problems and risk management inefficiency the following proposed way outs which led many exchanges in to success are forwarded.

5.1 Bringing Liquidity

The first and the foremost thing that ECX should do to enhance participation and bring liquidity are enhancing the scope, efficiency and transparency of the commodities markets.

To do these some of the key issues that will need to be addressed relate to:-

- A- putting in place appropriate and efficient market structures such as a nation-wide automated trading system.
- B- work to strengthen related market structures such as spot market and info dissemination, quality standards and assurances, certified warehouses
- C- work towards replacing physical settlements with warehouse receipts based settlement systems and
- D- mainly putting in place commodities derivatives market in the exchange.

Many of these are outside the purview of an exchange and require significant changes in infrastructure and legal framework. And each of the issues will be discussed in this chapter in detail in appropriate places.

5.1.1 Automated Trading system

To attract liquidity in ECX, making the commodities trading automated is one of the ingredients. This helps by introducing a nation-wide distribution network that will be able to bring all the fragmented pools into a large order book resulting in enhanced liquidity. Besides, ECX can avert the closed door approach by widening the market through a nation wide network. That is automated trading is one of the key factors to enhance small and retail participants who are a part in deriving liquidity.

5.1.2 Commodity Derivatives

A vibrant and liquid commodity exchange could not be thought with out employing commodity derivatives trading. This is as a result of major liquidity driver participants exist in such an exchange, in which commodity derivatives are in place. Thus to increase the liquidity of ECX for the commodities traded in the exchange, the exchange should offer simple commodity derivative at this initial stage. Specifically the exchange should provide commodity futures. If so the major liquidity drivers like hedgers, speculators and arbitrageurs will take their place to play their respective role in providing liquidity.

Introduction of futures introduces hedgers in ECX. Also hedgers can include farmers, livestock producers, food processors, feed manufacturers, exporters, or importers, all of whom are seeking protection against price fluctuations in the market. Thus the exchange can attract wider participation from all categories of traders since almost all want to hedge their respective open positions. And this definitely leads to a vibrant and liquid market since it calls speculators to take their place in turn.

Other market participants that will present in ECX if ECX introduces futures are speculators. Speculators will facilitate hedging by providing liquidity, or the ability to enter and exit the market quickly, easily, and efficiently. These speculators can be a part of the general public or a member of the exchange operating in one of the trading pits. They are attracted by the opportunity to realize a profit if they prove to be correct in anticipating the direction and

timing of price changes. Besides, because of this a seller can, at almost any time, find a buyer at or near the most recently quoted price. Similarly, buyers can find willing sellers without having to significantly bid up the price. And these roles of speculators that will come up with introduction of futures increase the liquidity of ECX if ECX introduces commodity futures.

Besides, if ECX is to attract participation by a larger body of investors and arbitrageurs it has to ensure that the safety and integrity of the market. Unless and until participants are convinced that the exchange provides fairness, transparency and efficiency they will not be drawn into the market. This has several elements – the structure and management of the exchange itself, the trading facility and distribution, efficiency of settlements, risk management.

Finally, the current small number of arbitrageurs existing in ECX can increase in number and will be more involved and encouraged if commodity futures will be introduced.

5.2 Addressing Spot Price Conundrum

To strengthen the spot market it is necessary to create a transparent market which works for all. To do this it is important to for spot markets to be involved especially in the collection and dissemination of spot prices (domestic and international) on on–line basis and organised trading in spot contracts wherever possible. Besides, removing some structural and regulatory issues that can affect spot price discovery is essential.

Thus ECX should more actively participate in the process of information collection and dissemination. In addition to avoid risk of misreporting and manipulation when pooling market participants for prices ECX should evolve some reference rate based polling methodology.

5.3 Exchange Structure

As to the structure of ECX; a tax paying corporate structure is recommended. This is because a corporate structure imposes certain discipline on the exchange. Any exchange should be a

commercially viable proposition and should not have to depend upon subsidies and tax shelters to survive in a competitive environment. This requires professional management of the exchange. Thus ECX should therefore be set up as a tax paying company where management is in the hands of professionals¹.

5.4 Efficient Settlements

Efficient settlements are an absolute essential for a successful exchange. Thus it is not only enough for ECX to provide efficient trading platforms but also since efficiency of settlement processes have a direct bearing on the ability of participants to effectively participate in ECX it is worthwhile to enhance efficiency of the settlement process.

To remove problems related with physical settlement it is better if ECX gives attention in enhancing efficiency in the physical settlement process flows.

ECX's delivery notice is supported by the ware house receipt only but its is necessary if the warehouse receipt is accompanied by additional documents like documents verifying all the insurance is paid covering the delivery notice period of 10 days, to remove the difficulties that may arise during shipment date.

Besides efforts need to harmonize the actual physical settlement dates of different commodities, to increase the participation of professional arbitrageurs.

To enhance the warehousing system of ECX there is a need for a central notification agency for standards and grades including sampling and testing techniques for agricultural commodities. It is also important that the standards developed must be closely aligned to commercial practice.

Most international commodity exchanges used certified warehouses (CWH) for the purpose of handling physical settlements. Such CWH are required to provide storage facilities for participants in the commodities markets and to certify the quantity and quality of the

¹ Since this paper scope does not cover analysis of the quality of ECX professionals; this recommendation is given based on the structure of ECX specifically based on its non taxpaying structure

underlying commodity. If ECX also uses certified warehouses it gets many benefits. The most significant benefit is that a warehouse receipt becomes good collateral, not just for settlement of exchange trades but for other purposes too.

To reduce the potential post shipment disputes or differences it is necessary for ECX to be get prepared by facilitating third party pre shipment verification service.

Besides, making the electronic ware house receipts fungible in that a buyer should be able to take delivery at any branch of a warehouse at a cost and using warehouse receipt based settlement will result much greater churning and liquidity in the market.

5.5 Effective Risk Management

A variety of strategies exist for managing price risk. Physical strategies such as open position monitoring, marking to market, and back-to-back trading, can provide simple and effective reductions in risk exposure. Even placing forward contracts that can provide a flexible approach to managing price risk by offsetting an organization's open positions can be used. Contract farming is also a current trend in agricultural commodity production that reduces the price risks for both producers and processors.

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Interview Questions

1. Do professional hedgers, arbitrageurs and speculators exist currently at ECX?
If yes what is their role in the exchange.....
If no, why.....
2. Do you think that ECX is a liquid commodity market?
3. If yes/ no is your answer to the above question, what is the base you used to measure the liquidity?
4. Is the exchange open for smaller and retail level participation?
If yes what are the opportunistic situations available to this categories?
5. How is the spot price determined in the exchange?
6. What is a demutualized corporate structure?
7. Is ECX a demutualized exchange?
8. Is ECX a tax paying exchange?
9. Which trading mechanism that ECX uses on the trading floor or the automated trading system?
10. Is the order book visible to the market?
11. Does ECX has an independent department which constantly tries to identify the hedging need of commodity economy and to continually design appropriate contracts to the market?
12. What factors are taken in to account in designing a contract?
13. How do you judge the ECX's trading system role in increasing liquidity to the market?
14. Are contracts marked to market on daily basis?
15. Which final settlement mechanism is used at the expiry of the contract?
a- cash settlement b- physical settlement c- both cash and physical settlement
16. What is the process flows in the event of physical settlement of commodities?

17. Does ECX require a proof other than warehouse receipt to verify as to the quantity and quality of goods delivered by the seller?
18. What are the practices of assignment process that ECX follows?
20. What is the delivery order rate?
21. How is the delivery order rate determined?
22. How delivery process is taken place in the exchange?
23. What is the measure taken by the exchange if the seller does not give delivery notice until the expiry date of the contract?
24. Are there any agencies that are responsible for specifying grades for commodities?
25. Are there certified warehouses that handle physical settlements?
26. Can one use the existing warehouse receipts as collateral, not in the exchanges but for other purposes?
27. Are there any clear regulatory oversight of warehousing services, as to the minimum standards of procedures, design and management of warehouses?
28. Do warehouses provide a performance guarantee assuring that the quantity/quality of goods on the receipts matches with those in the warehouse?
29. Is there a third party pre-shipment verification services that may be used to ensure that the physical commodities settled are of the desired grade/specifications?
30. Does ECX use warehouse receipt based settlements?
31. Can the holder of a warehouse receipt take physical delivery from the nearest warehouse branch irrespective of where the commodity was originally warehoused?

If no why.....

32. What is the method used for setting the initial margins?

Declaration

I, Bethlehem Girma, declare that the study entitled “Critical Assessment of Ethiopian Commodity Exchange (ECX)” is the result of my own effort in project undertaking.

The study has not been submitted to any Degree or Diploma in any college or university. It is submitted as a partial fulfilment of the requirement for the Degree of Master of Science in Accounting and Finance.

A STUDY ON THE DIVIDEND PRACTICE OF PRIVATE BANKS IN ETHIOPIA

Chapter One

1. Introduction

This chapter deals with the back ground of the project, rationale of conducting the project, and the corresponding objectives, significance of the project, scope and limitations of the project and, it deals with how it is organized and presented. The chapter also shows the method of data selection and collection together with the respective methodology used to analyze the data collected.

1.1. Background of the study

The dividend policy of a firm is a significant aspect of corporate financial management, for it has potential implications for share prices (and hence returns to investors), the financing of internal growth (through retentions), the size of the equity base within the firm (again through retentions) and hence it's gearing (leverage) ratio (M. Omran & J. Pointon, 2004).

The topic of dividend policy is one of the most enduring issues in modern corporate finance (Al-Malkawi 2007). This has led to the emergence of a number of competing theoretical explanations for dividend policy. No consensus has emerged about the rival theoretical approaches to dividend policy despite several decades of research.

A range of firm and market characteristics have been proposed as potentially important in determining dividend policy. The attempt to test these competing models and refine them has resulted in a vast empirical literature.

The empirical work on dividend policy has, however, generally been focused on companies operating in countries where there is developed stock markets (Al-Malkawi, 2007).

The examination of dividend policy of companies operating in an environment with no stock markets, until recently has been much more limited. Yet the sorts of firm and market characteristics that may influence dividend policy may in fact be more likely to be present in these companies in an exaggerated fashion than in others. This has provided a central motivation for the present study.

This study seeks to add to that literature by providing a detailed analysis of dividend practice of private banks, share companies, operating in Ethiopia, where there is no stock market.

1.2. Problem Statement

The dividend payment decision is regarded as one of the most important decisions to be taken from a strategic point of view. Dividend payments affect the level of equity retained in a firm. If the payments are not replaced by issuing new equity securities, the decision also influences the financial structure of the company. The payment of dividend therefore has implications for both investment decisions and financing decisions that are taken. The more cash that a company pays out in the form of dividends, the less funds it has available to finance future attractive investment opportunities and the greater the probability that it will have to issue new shares to raise more capital.

The very reason for the existence of dividend payment is still debatable across researchers in the world of academia. In the world of perfect markets, dividend policy of firms is irrelevant (Miller & Modigliani, 1961). On the other hand, Gordon and Lintner believe stockholders prefer current dividends and that this causes a positive relationship between dividends and market value of firms.

But, in countries like Ethiopia, where there is no capital market, in which investors can sell their share and convert in to cash, at all, the importance of dividend payments by share companies is unquestionable. It is the only and most important means through which investors can realize returns from their investments made with no or at a lower cost.

Having the above points in mind, this project has tried to assess the dividend practice and determinant factors of dividend payments of private banks in Ethiopia.

1.3. Hypothesis Development

The following three hypotheses are developed to be tested, given the absence of stock market in Ethiopia.

Hypothesis 1. The amount of dividend of private banks is positively associated with the amount of profit of the respective banks.

The decision to pay dividend starts from the profit of the business. Therefore, it is logical to consider profitability as a threshold factor, and the level of profitability as one of the most important factors that may influence firms' dividend decisions. In his study, Lintner (1956) found that a firm's net earnings are the critical determinant of dividend changes. As written by Al-Malkawi (2007), the pecking order hypothesis may provide an explanation for the relationship between profitability and dividends. That is, taking into account the costs of issuing debt and equity financing, less profitable firms will not find it optimal to pay dividends, *ceteris paribus*. On the other hand, highly profitable firms are more able to pay dividends and to generate internal funds (retained earnings) to finance investments. Fama and French (2001) interpreted their results of the positive relationship between profitability and dividends as consistent with the pecking order hypothesis.

Hypothesis 2. The amount of dividend of banks is positively related with the liquidity of the banks.

Under normal circumstances, the amount of dividend is expected to tend to increase as the liquidity of the firm increases. Other things being equal, the amount of dividend of banks is expected to increase as the liquidity (measured by the excess of liquid assets over legal reserve requirement) increases, and the reverse is also expected to be true.

Hypothesis 3. The amount of dividend of the banks is negatively related with the amount of debt of the banks.

It is logical to assume that as the risk associated with high degrees of financial leverage increases the amount of dividend to be paid out will decrease because firms need to maintain their internal cash flow to pay their obligations rather than distributing the cash to the share holders. The risk associated with high degrees of financial leverage may therefore result in low dividend payments because firms need to maintain their internal cash flow to pay their obligations rather than distributing the cash to shareholders. Moreover, Rozeff (1982) points out that firms with high financial leverage tend to have low payouts ratios to reduce the transaction costs associated with external financing. Therefore, other things being equal, an inverse relationship between financial leverage ratio, defined as the ratio of total short-term and long-term debt to total shareholders' equity (DER), and dividend is expected (Al-Malkawi, 2007).

1.4. Objective of the Paper

This proposed study, laid its ground on the dividend practice of private banks, has tried to address and fulfill the following general and specific objectives after undergoing a detailed investigation.

- ✚ The broad objective of this project was to thoroughly assess the dividend payment practice of private banks in Ethiopia.

The above broad objective can be broken-down in to the following more specific and focused ones. Specifically; the purpose of this project was to achieve the following ends:

- To have a detailed analysis of the dividend payment trend of the private banks
- To clearly identify the determinant factors of dividend payments of the private banks, given the absence of stock market in the country.
- To assess the interrelationship between some selected determinant factors and amount of dividend.
- To know about the dividend policy of the private banks.
- To summarize main findings of the study and forward some suggestions (recommendations) based on the findings, if any.

1.5. Significance of the Paper

The emergency of a number of share companies in different sectors with huge amount of capital raised from institutional and individual investors is the recent phenomenon of businesses in Ethiopia. Investors require returns from these investments. Under the existing situation, the only way for investors to realize returns at a lower or no cost is through the distribution of earnings by the management of share companies. This is because of the absence of capital market in which investors can realize returns in the form of capital gains.

Knowing the dividend payment trend of share companies in the banking industry would be a good insight for the investors and management in all sectors in general, and for the existing and potential investors and management of the banking industry in particular. Moreover, the study could be taken as a reference to take in to account the different determinant factors while having decisions on dividends for the managers of banks and other businesses as well.

Because, to some extent, dividend payment practice in banks may share some important similarities with other sectors, the findings of such a detailed dividend payment practice of private banking industry could form the basis of future comparative research into other sectors in the country.

1.6. Methodology and Sample Selection

1.6.1. Sample Selection

As the title of the project indicates, it is to study the dividend payment practice of private banks; as a result, the sample is confined to the private banks. Even though there are about ten private banks established and start operation following the change in economic policy of the country (1996), the sample is limited to those banks which have paid dividends to share holders at least for five years during their operation. This is because the objectives of the study includes trend analysis and to see the extent to which dividend is influenced by certain financial determinants like profits, liquidity and debt.

1.6.2. Method of Data collection

To achieve the objectives set, both primary and secondary data were employed. Unstructured interviews were conducted with Finance Managers and managers of the share department of the banks.

The data employed in this study were also derived from annual publications and other unpublished materials of the private banks. Brushers, journals and other printed materials of the banks under study were also used as data in this project.

1.6.3. Method of Data Analysis

The paper has used descriptive research methodology and describes the dividend payment trend of the banks over time. Statistical tools like Linear Regression model were also employed to see the association of amount of dividend payment with some of the financial factors, based on which, the hypothesis developed above are accepted or rejected. Furthermore, the trend of dividend payment is presented and described using tables and graphical formats.

1.7. Scope and limitation of the Project

The scope of the project is limited to the analysis and assessment of the dividend payment practice of private banks. The conclusions derived would not be applicable to other share companies in Ethiopia. The findings of the project would have been more important and valuable if some other share companies were included, but due to certain limitations like time, cost, availability of data, etc, dividend paying companies from other sectors are left out.

The project has classified the determinant factors of dividend payment as key financial factors and other determinant factors. Due to the absence of capital market, the influence of some sound financial variables, like price of shares, on dividend were not incorporated in the empirical analysis.

The study is limited to nine years only. Generally twenty years data is ideal to form trend analysis, but I was able to collect nine years annual reports of the six banks under study. This is because the private sector is still at its enfant stage. That is why analysis has been made for nine years only.

1.8. Organization of the Paper

The paper is organized and presented in five chapters. Chapter one is the introductory part and contains the rationale behind having the study, objectives & significance and the methodology used in the paper. Chapter two is all about the discussion on the previous researches in the area. Development and background of the banking industry in general and the private banking sector in particular are highlighted in chapter three of the paper. Detail data presentation, analysis and interpretation are made in chapter four. Chapter five concludes and suggests recommendations based on the findings of the analysis and conclusions derived from the analysis.

Chapter Two

2. Literature Review

In this chapter, important documents necessary for the study were consulted in order to assess what has been done so far in line with the topic. Besides, this chapter serves as a theoretical framework for data analysis and interpretation.

2.1. Overview

Financial and business historians have shown that dividend policy has been bound with the historical development of the corporation. In its modern form, however, dividend policy theory is closely tied to the work of Miller and Modigliani (1961), and their dividend policy irrelevance theory. Miller and Modigliani demonstrate that under certain assumptions including rational investors and a perfect capital market, the market value of a firm is independent of its dividend policy. In actual market practices however, it has been found that dividend policy does seem to matter, and relaxing one or more of Miller Modigliani's perfect capital market assumptions has often formed the basis for the emergence of rival theories of dividend policy. Most financial practitioners and many academics greeted the conclusion of Miller & Modigliani with surprise because the conventional wisdom at the time suggested that a properly managed dividend policy had an impact on share prices and shareholder wealth (Anil & Kapoor, 2008).

Researchers have tried to explain the importance of dividends by looking for the imperfections that can undermine dividend irrelevance proposition. Lintner's (1956) classical study on dividend policy suggests that dividends represent the primary and active decision variable in most situations. He analyzed as to how firms set dividends and concluded that firms have four important concerns. Firstly, firms have long-run target dividend payout ratios. The payout ratio is high in case of mature companies with stable earnings and low in case of growth companies. Secondly, the dividends change follows shift in long-term sustainable earnings (Healy and Palepu, 1988). The managers are more concerned with dividend changes than on absolute level. Finally, managers do not intend to reverse the change in dividends. Fama and Babiak (1968) tests of Lintner's model suggest that it provides a good explanation of how companies decide on dividends rate.

2.2. Theories of Dividend Policy

Since the M& M (1961) study, other researchers have relaxed the assumption of perfect capital markets and offered theories about how dividend affects the firm value and how managers should formulate dividend policy decisions. Over time, the number of factors identified in the literature as being important to be considered in making dividend decisions increased substantially. Thus, extensive studies were done to find out various factors affecting dividend payout ratio of a firm. The setting of corporate dividend policy remains a controversial issue and involves ocean deep judgment by decision makers. There has been emerging consensus that there is no single explanation of dividends. As Nikolaos Eriotis (2005) discussed in his study, a number of empirical and theoretical works have been conducted concerning the different theories of dividend. He summarized all these works, as there are three dominating views. The first one suggests that an increase in dividend payout affects positively the market value of the firm (Gordon 1963, and Lintner1962). The second argues that a positive change in the dividend decreases the firm's value (Lintzenberger and Ramaswamy, 1979). Finally, the third one claims that dividend policy does not affect the market value of the firm Miller and Modigliani (1961). However, the empirical evidence on the determinants of corporate dividend policy is, unfortunately, very mixed (Frankfurter and Wood, Jr. 2002).

2.2.1. The Signaling (information content) Theory of Dividend

This theory is based on the information content of dividends paid by firms to potential and existing investors, and to other stake holders as well. Frank and Wood (2002) explained the theory as, within the framework of problems of asymmetry of information

existing in the heart of the company, the theory of signals defines dividend policy as a signaling mechanism through which internal shareholders, within management, reveal their incentives and private information to external shareholders. This information may modify the value of shares if the announcement of dividends contains relevant information concerning the company's expectations which has not already been discounted by the market. External shareholders reflect in the price of shares the value they attribute to the new information available and express through these variations their degree of conformity with the company's financial policy and the behavior of management (John and Williams, 1985). With better information about the value of their firms than outside investors, managers are likely to face circumstances when they would like to communicate this information to the market, although there are many potentially effective signaling devices to convey such information, a change in dividend choices is a notable candidate (A. Kanwer, 2003). As written by Al-Malkawi (2007), despite the tax penalty on dividends relative to capital gains, firms may pay dividends to signal their future prospects. The intuition underlying this argument is based on the information asymmetry between managers (insiders) and outside investors, where managers have private information about the current performance and future fortunes of the firm that is not available to outsiders. Ross, *et al*, (1999) wrote as it has been empirically evidenced that the price of a firm's stock generally rises when its current dividend is increased.

2.2.2. Clientele Theory of Dividend

Another closely related theory is the clientele effects hypothesis. According to this argument, investors may be attracted to the types of stocks that match their consumption/savings preferences, that is, if dividend income is taxed at a higher rate than capital gains, investors (or clienteles) in high tax brackets may prefer non-dividend or low-dividend paying stocks, and vice versa (Al-Malkawi (2007), and also, the presence of transaction costs may create certain clienteles. Pettit (1977) presented evidence consistent with the existence of clientele effects hypothesis. Retired investors and pension funds tend to prefer cash income and may therefore want the firm to pay out a high percentage of earnings; on the other hand, shareholders on their peak earnings years prefer the reinvestment of cash and low dividend payments (Wolmarans, 2003). Miller and Modigliani (1961) admit the possibility of clientele effects linked to dividends distributions, but they state that if the distribution of the firms' payout ratios corresponds exactly to the distribution of the investors' preferences, then the situation is not different from the case of perfect markets, where it is irrelevant for investors to receive dividends or capital gains. Each firm will tend to attract its own clientele, constituted by the investors that prefer its payout ratio. Black and Scholes (1974) also recognize the possibility of the existence of a clientele effect. They state that the firms, knowing that there are investors for several types of dividend yields, would adjust their dividend policies as necessary, to satisfy the demand.

2.2.3. The Bird-in-Hand Theory of Dividend

It is a theory for paying dividends based on the idea that since investors are risk-averse, they prefer a stream of relatively certain dividends over uncertain capital gains. Investors think dividends are less risky than potential future capital gains, hence they like dividends. This theory (a pre-Miller-Modigliani theory) asserts that in a world of uncertainty and information asymmetry dividends are valued differently to retained earnings (capital gains). Because of uncertainty of future cash flow, investors will often tend to prefer dividends to retained earnings. As a result, a higher payout ratio will reduce the required rate of return (cost of capital), and hence increase the value of the firm (Gordon, 1959). Miller and Modigliani (1961) point out that the current income argument is not relevant to their theoretical model. According to them, an individual preferring high current cash flow but holding low dividend securities can easily sell-off shares to provide the necessary funds. Thus, in a world of no transaction costs, a high-current-dividend policy would be of no value to the stock holder. However, the current income argument does have relevance in the real world as a result of the presence of transaction costs (Ross, *et al*, 1999).

2.2.4. Pecking Order Theory

As written by Fama & French (2007), Myers (1984) develops an alternative theory known as the pecking order model of financing decisions. The pecking order arises if the costs of issuing new securities overwhelm other costs and benefits of dividends and debt. The financing costs that produce pecking order behavior include the transaction costs

associated with new issues and the costs that arise because of management's superior information about the firm's prospects and the value of its risky securities.

Pecking order can keep leverage of firms down when investments are persistently large relative to earnings, as a result dividend payers can keep their payout ratio low (Fama & French, 2007). Firms that do not pay dividends can refrain from starting when earnings are strong. Fama and French (2001) find that dividend payers tend to be firms with high earnings relative to investment. Thus, for dividend payers, the prediction that firms with larger expected investments have less current leverage.

2.3. Forms of Dividend Payment

The usual meaning of dividend is a distribution of assets to stock holders in proportion to the number of shares of capital stock owned. The assets to be distributed can be in cash form or in some other asset. As alternative to the distribution of dividend in the form of assets, firms may distribute shares of their common stock holders as stock dividends.

The most common type of dividend is in the form of cash. Share companies usually pay regular cash dividends, and some times firms will pay an extra cash dividend in addition to the regular one (Ross, *et al*, 1999).

Many corporations distribute stock dividends to their share holders. As defined by Mosich (1989), a stock dividend is a distribution of additional shares of capital stock called dividend shares, to stock holders in proportion to their existing holdings. It is not a true dividend, because no cash leaves the firm, added Mosich. Rather it increases the number of shares outstanding, thereby reducing the value of each share (Ross, *et al*, 1999). Dividends are not always in the form of cash; frequently companies also declare stock dividends (Brealy and Myers 2000).

Brealy and Myer (2000) added that a stock dividend is very much like a stock split. Both increase the number of shares, but the company's assets, profits, and total value are unaffected so both reduce value per share. The distinction is that a stock dividend is the transfer of retained earnings to equity capital where as a split is a reduction in the par value of each share.

2.4. Determinants of Dividend payments

Over the past several decades, finance scholars have engaged themselves in extensive theorizing about factors that might be important in determining a firm's dividend policies. In developed countries, where there are well developed capital markets, the decision between paying dividend and retaining earnings has been taken seriously by both investors and management, and has been subject of considerable research by academicians. Scholars have also tried to identify the factors influencing the dividend policies and practices of firms. To enumerate, some of these factors are profitability, liquidity, earning predictability, Investment Opportunities, Ownership Considerations (agency cost), cash flows (liquidity), size of firms, amount of debt (leverage), tax considerations, legal considerations of the industry in which the firm is operating, etc.

2.4.1. Profit of firms

Profits have long been regarded as the primary indicator of the firm's capacity to pay dividends. A firm's profitability is considered to be an important factor that affects its dividend amount, this is because profitable firm are willing to pay higher amounts of dividends and hence a positive relationship is expected between firm's profitability and its dividend payments (Al Najjar 2007). This result is also supported by the signaling theory of dividend policy. Lintner (1956) conducted a study on how managers make dividend decisions. According to him the dividend payment pattern of a firm is influenced by the current year earnings and previous year dividends. Baker, *et al*, (1986) had a research and concluded that the major determinants of dividend

payments are anticipated level of future earnings and pattern of past dividends. Pruitt and Gitman (1991) asked financial managers of some of the largest U.S.firms and reported that, current and past year profits are important factors influencing dividend payments. Baker and Powell (2000) conclude from their survey that dividend determinants are industry specific and anticipated level of future earnings is the major determinant. Pandey (2001) suggests that low profitability of Malaysian firms in the trading and services sector is associated with low dividends. Dividend omissions of Malaysian firms are related to negative earnings; whereas, provided earnings are not negative, dividends are likely to either increase or stay the same.

2.4.2. Liquidity (Cash flow Position) of firms

The liquidity or cash flow positions is also an important determinant of dividend payouts. A poor liquidity position means less generous dividends due to shortage of cash. Alli (1993) reveal that dividend payments depend more on cash flows, which reflect the company's ability to pay dividends, than on current earnings, as cited by Anil and Kapoor (2008). They claim current earnings do not really reflect the firm's ability to pay dividends. A high degree of liquidity might be expected to encourage dividends by enabling high dividends to be paid with out resort to external finance (Brittain, 1966). The liquidity of a company is a prime consideration in many dividend decisions, because dividends represent a cash out flow, the greater the cash position and over all liquidity of a company, the greater its ability to pay a dividend (Van Horne and Wachowicz 2005). They added that a company that is growing and profitable may not be liquid due to the increase in fixed assets and permanent working capital, and because the management may also desire to maintain some liquid cushion to give it

financial flexibility and protection against uncertainty, it may be reluctant to jeopardize this position to pay a large dividend. The liquidity or cash flows position is also an important determinant of dividend payouts (Anil & Kapoor, 2008). A poor liquidity position means less generous dividends due to shortage of cash.

2.4.3. Debt (Leverage) of firms

When a firm acquires debt financing it commits itself to fixed financial charges of interest payments and the principal amount, and failure to meet these obligations may lead the firm into liquidation. To reduce such risks, a firm may prefer to retain higher proportion of the earnings rather than paying it in the form of dividend. Rozeff (1982) points out that firm with high financial leverage tend to have low payout ratios to reduce the transaction costs associated with external financing. A firm's leverage plays a key role in explaining firms' dividend policy. Leverage is negatively related to dividends, this means that firms with low debt ratios are willing to pay more dividends. As Aivazian (2003) indicates, firms with relatively less debt and more tangible assets have greater financial slack and more able to pay and maintain their dividends. This result is supported by the agency costs theory of dividend policy. According to the pecking order theory (Myers, 1984) firms should prefer to finance investment by retentions rather than by debt. A higher retention ratio implies a lower dividend payout ratio, so a lower payout ratio should be associated with lower gearing rather than higher gearing. Conversely, a higher payout ratio should be associated with higher gearing. The inverse relationship between amount of debt and dividend is also evidenced by Fama & French (2007). However, contrary to this it is also argued that there is a positive relationship between leverage and a firm's dividend policy. This is supported by the signaling theory of

dividend. As cited by Al Najjar (2007), Firms with high payout ratios tend to be debt financed, while firms with low payout ratios tend to be equity finance (Chang and Rhee, 1990).

Another determining factor affecting the pay out policy of businesses supporting equity financing than debt is the amount of interest payment over the debt. As Brittain (1966) conclude, even if the dividend decision is the primary one, rising interest rates may tend to discourage dividends by making internal finance more attractive. He added dividends would tend to be negatively associated with the cost of debt financing.

2.4.4. Firms size

A firm's size is expected to explain the firm's dividends policy. Large firms are more likely to be mature and thus have easier access to capital markets, and should be able to pay more dividends (Al Najjar 2007). This indicates that, large firms can afford to pay higher dividends than the smaller ones. The empirical findings of Nikolaos Eriotis (2005) suggest that distributed earnings and size of firm include an indication about the firm's dividend. Besides obtaining a fair idea of dividend pay out ratios in various sectors, Aneel Kanwer (2002) investigate the validity of impact of firm size on capital structure and dividend pay out policies in Pakistan.

2.4.5. Investment Opportunities

Businesses with many good investment opportunities have high cash needs, which may lead them to pay out a low fraction of earnings to shareholders as dividends. Alternatively, we could argue that the relation between investment opportunities and dividends is in fact positive. Survey evidence suggests that firms are highly reluctant to

cut dividends and increase dividends only when sustainably higher earnings are expected (Lintner (1956). This conservatism suggests that only firms with a variety of good investment projects pay high dividends today because the cash flows earned from future projects support high dividends in the future(Chay and Jungwon Suh, 2005). The higher the growth opportunities, the more the need for funds to finance expansion, and the more likely the firm is to retain earnings than pay them as dividends (Chang and Rhee, 2003). In addition, this negative relationship is in line with Myers and Majluf (1984) findings. They suggested that firms with high growth opportunities will have low payout ratios. This negative relationship is supported by the agency theory of dividend policy (Chang and Rhee 2001). The idea was implicitly considered by Miller and Modigliani (1961). They stated it as the investment policy of the firm is set ahead of time and is not altered by changes in dividend policy.

2.4.6. Taxes

In situations where income on unrealized capital gains are not taxed, investors usually prefer a low payout, and hence growth. The Miller& Modigliani (1961) theory, which posit on the irrelevance in a tax-less society is remarkable fictitious on its assumption of taxes. Tax is a recurrent factor in most economies. Taxes undeniable affect investors and the firm especially in the dividend policies. As written by Nnadi & Akpomi (2008), when the Miller & Modigliani theory was postulated, most financial practitioners and many academics greeted the conclusion that tax had a marginal effect on dividend policy with surprise (Baker, *et al*, 2001). They added that it is difficult to divorce dividend policy formulation of firms from the tax effect it attracts. Brealey and Myers (2000) in their book stated as if dividends are taxed more heavily than capital gains, investors should

pay more for stocks with low dividend yields. In other words, they should accept a lower pretax rate of return from securities offering returns in the form of capital gains rather than dividends. Tax considerations have obvious potential to influence dividend payments to common shareholders, since dividends trigger tax obligations that might otherwise be deferred or avoided (A.Desai, *et al*, 2001).The influence of tax rates on dividend policy is also indicated in the paper written by Stacescu (2004) as it implies that high marginal tax rate investors could reduce their tax liabilities by selling their shares before the shares go ex-dividend and buying them again afterwards. Investors with a low dividend tax rate will do the opposite.

2.4.7. Risk (variability) of Earnings

Pruitt and Gitman (1991) find that risk (year to year variability of earnings) also determine the firm's dividend policy. A firm that has relatively stable earnings is often able to predict approximately what its future earnings will be. Such a firm is more likely to pay a higher percentage of its earnings than firm with fluctuating earnings. A high rate of growth of profits may lead to a reduction of the fraction paid out if corporate officials believe such growth rate may not be maintained (Brittain, 1966). In connection with this one, stability of dividend payments is an attractive feature of many investors; a share of a stock may command a higher price if it pays a stable dividend over time than if it pays out a fixed percentage of earnings (Van Horne and Wachowicz 2005). A firm with stable earnings can predict its future earnings with a greater accuracy. Thus, such a firm can commit to paying larger proportion of its earnings as dividends with less risk of cutting its dividends in the future (Chang and Rhee, 2001).

2.4.8. Agency Problem

The agency costs argument is based on the assumption that managers may conduct actions in accordance with their own self-interest which may not always be beneficial for shareholders. Al-Malkawi (2007), discussed in his study the importance of dividend payments to reduce the agency problem as follows. The agency costs thesis predicts that dividend payments can reduce the problems associated with information asymmetry. Dividends may also serve as a mechanism to reduce cash flow under management control, and thus help to mitigate the agency problems. Reducing funds under management discretion may result in forcing them in to the capital markets more frequently, thus putting them under the scrutiny of capital suppliers (Rozeff, 1982, and Easterbrook). As indicated by Kowalewski, *et al*, (2007), the agency theory points that dividends may mitigate agency costs by distributing free cash flows that otherwise would be spent on unprofitable projects by the management (Jensen, 1986). This scrutiny by the markets helps alleviate opportunistic management behavior, and, thus, agency costs Kowalewski, *et al*, (2007). The result of their research conducted in Poland supports the hypothesis that in companies providing strong minority shareholder rights, the power is often used to extract dividends, especially when investment opportunities are poor, and as a result, companies with weak shareholder rights pay dividends less generously than do firms with high corporate governance standards. Easterbrook (1984) argues that dividends help alleviate agency conflicts by exposing firms to more frequent monitoring by the primary capital markets because paying dividends increases the probability that new common stock has to be issued more often.

2.4.9. Regulatory Considerations

The regulation environment of industries in which companies are operating might have specified requirements concerning the amount of distributions of earnings in the form of dividends. The banking industry is one of the most regulated in most of the countries due to its importance in intermediation of business units with excess funds with that of shortage of funds. As Van Horne and Wachowicz (2005) put in their book the laws of a firm's state of incorporation decide the legality of any distribution to common share holders. As provided in the literatures the influence of the legal system on dividend payments might result to one of the following forms.

- ✓ Restrictive covenants in bond indentures, loan agreements, and preferred stock agreements.
- ✓ Designed to prevent excessive payments of dividends.
- ✓ No Dividends Unless Earnings or Net Assets reach certain levels.
- ✓ Net profit rule or Capital impairment rule.
- ✓ Insolvency rule- insolvent firms cannot pay dividends

A research carried out by K. Baker (2005), cited in Shleifer and Vishny (1997) conclude that the legal protection of investors and some form of concentrated ownership are essential elements of a good corporate governance system.

Chapter Three

3. Historical Development and Backdrop of the Banking Industry

In this chapter, the historical development of the banking industry in Ethiopia, starting from its birth to the current status, has briefly discussed. For the purpose of discussion, the banking history of the country has been categorized in to three periods, (pre-Dergue period, during the Dergue period and post-Dergue period).

3.1. The Birth of Banking Service in Ethiopia (Pre-Dergue period)

It was in 1905 that the first bank, the “Bank of Abyssinia”, was established based on the agreement signed between the Ethiopian government and the National Bank of Egypt, which was owned by the British. Its capital was 1 million Shillings. According to the agreement, the Bank was allowed to engage in commercial banking (selling shares, accepting deposits and effecting payments in checks) and to issue currency notes. The agreement prevented the establishment of any other bank in Ethiopia, thus giving monopoly right to the Bank of Abyssinia. The Bank, which started operation a year after its establishment agreement was signed, opened branches in Harar, Dire-Dawa, Gore and Dembi-Dolo as well as an agency office in Gambela and a transit office in Djibouti. Apart from serving foreigners residing in Ethiopia, and holding government accounts, it could not attract deposits from Ethiopian Nationals who were not familiar with banking services.

The Ethiopian government, under Emperor Haile Sellasie, closed the Bank of Abyssinia, paid compensation to its share holders and established the Bank of Ethiopia which was fully owned by Ethiopians, with a capital of Pound Sterling 750,000. The bank started operation in 1932. The majority share holders of the Bank of Ethiopia were the Emperor and the political elites of the time. The Bank was authorized to combine the functions of central banking (issuing currency and coins) and commercial banking. The bank of Ethiopia opened branches in Dire Dawa, Gore, Dessie, Debre Tabor and Harrar.

With the Italian occupation (1936-1941), the operation of the Bank of Ethiopia came to a halt, but a number of Italian financial institutions were working in the country. These were Banco Di Roma, Banco Di Napoli and Banca Nazionale Del Lavoro. It should also be mentioned that Barclays Bank has opened a branch and operated in Ethiopia during 1942-43.

In 1943 Banque Del Indochine was opened and functioned until 1963. In 1945 The Agricultural Bank was established but was replaced by the Development Bank of Ethiopia in 1951, which changed into the Agricultural and Industrial Development Bank in 1970. In 1963, the Imperial Savings and Home Ownership Public Association (ISHOPA) and the Investment Bank of Ethiopia were founded. The later was renamed Ethiopian Development Corporation S.C. in 1965. In the same year, the savings and Mortgage Company of Ethiopia S.C. was also founded.

With the departure of the Italians and the restoration of Emperor Haile Selassie's government, the State Bank of Ethiopia was established in 1943 with a capital of one million Maria Theresa Dollars by a charter published as General Notice No. 18/1936(EC). The Bank which, like its predecessor, combined the functions of central

banking with those of commercial banking opened 21 branches, including one in Khartoum (the Sudan) and a transit office in Djibouti(AIB & AIC, 10th Anniversary Special Publication).

The National Bank of Ethiopia with more power and duties started its operation in January 1964. Following the incorporation as a share company on December 16, 1963 as per proclamation No.207/1955 of October 1963, Commercial Bank of Ethiopia took over the commercial banking activities of the former State Bank of Ethiopia. It started operation on January 1, 1964 with a capital of Eth. Birr 20 million.

The first privately owned company in banking business was the Addis Ababa Bank S.C., established in 1964. 51% of the shares of the bank were owned by Ethiopian Share Holders, 9% by foreigners living in Ethiopia and 40% by the National and Grindlays Bank of London. The Bank carried out typical commercial banking business. Banco Di Roma and Banco Di Napoli also continued to operate.

Thus, up until the end of 1974, there were state owned, foreign owned and Ethiopian owned banks in the country. The banks were established for different purposes: central banking, commercial banking, development banking and investment banking. Such diversification of functions, lack of widespread banking habit among the wider population, the uneven and thinly spread branch network, and the asymmetrical capacity of banks, made the issue of competition among banks almost irrelevant (NBE: <http://www.nbe.gov.et>, and AIB & AIC, 10th Anniversary Special Publication).

3.2. Banking Services during the Dergue Period

On January 1, 1975 all private banks were nationalized and, along with state owned banks, placed under the coordination, supervision and control of the National Bank of Ethiopia. The three private banks, Banco Di Roma, Banco Di Napoli and the Addis Ababa Bank S.C. were merged to form “Addis Bank”. Eventually in 1980 this bank was itself merged with the Commercial Bank of Ethiopia S.C. to form the “Commercial Bank of Ethiopia”, thereby creating a monopoly of commercial banking services in Ethiopia.

In 1976, the Ethiopian Investment and Savings S.C. was merged with the Ethiopian Government Saving and Mortgage Company to form the Housing and Savings Bank. The Agricultural and Industrial Development bank continued under the same name until 1994 when it was renamed Development Bank of Ethiopia.

Thus, from 1975 to 1994 there were four state owned banks, namely the National bank of Ethiopia (the central bank), the Commercial Bank of Ethiopia, the House and Savings Bank and the Development Bank of Ethiopia (NBE: [http:// www.nbe.gov.et](http://www.nbe.gov.et), and AIB & AIC, 10th Anniversary Special Publication).

3.3. Banking Services: Post-Dergue Period

After the overthrow of the Dergue regime by the EPRDF, the transitional Government of Ethiopia was established and the New Economic Policy for the period of transition was issued. This New Economic Policy replaced centrally planned economic system with a market oriented system and ushered in the private sector. Following the change in the economic policy, financial sector reform also took place.

Monetary and Banking Proclamation of 1994 established the National Bank of Ethiopia as a judicial entity, separated from the government and outlined its main functions. Monetary and Banking proclamation No.83/1994 and the Licensing and Supervision of Banking Business No.84/1994 laid down the legal basis for investment in the banking sector. Consequently shortly after the proclamation the first private bank, Awash International Bank was established in 1994 by 486 shareholders and by 1998 the authorized capital of the Bank reached Birr 50.0 million. Dashen Bank was established on September 20, 1995 as a share company with an authorized and subscribed capital of Birr 50.0 million. Bank of Abyssinia, another private bank was founded by 131 shareholders with subscribed and authorized capital of 25.0 million and 50 million, respectively. Wegagen Bank with an authorized capital of Birr 60.0 million started operation in 1997. The fifth private bank, United Bank was established on 10th September 1998 by 335 shareholders. Nib International Bank also started operation on May 26, 1999 with an authorized capital of Birr 150.0 million. Cooperative Bank of Oromia was established on October 29, 2004 with an authorized capital of Birr 22.0 million. Lion International Bank with an authorized capital of Birr 108 million started operation in October 02, 2006. The ninth bank, Zemen Bank started operation on June 17, 2008 with an authorized capital of Birr 87.0 million. The last bank to be established to date is Oromia International Bank that started operation on September 18, 2008 with an authorized capital of Birr 91 million (*NBE: [http:// www.nbe.gov.et](http://www.nbe.gov.et), and AIB & AIC, 10th Anniversary Special Publication*).

3.4. Private Banking Sector

Currently, there are about ten private banks rendering commercial services for the public at large. As studied by Gebrehiwot Ageba (2008), in 2006/07, the private banks had 232 branches all over the country, and they had a total paid up capital of Br.2.9 billion (compared to 255 branches and a paid up capital of Br.6.3 billion of the three public banks). Private Banks thus account for about 31.5% of the total banking capital and 47.6% of the total branches. He added that the development of private banks in deposit mobilization was essentially dynamic- their deposits increased 33.5% per year on average, compared to annual deposit increase of 9.4% in public banks. Despite the dynamic performance of private banks, however, the public banks still have a dominant position, holding about 70.6% of total deposits at end of June 2007. The market share of public banks in total outstanding loans is still higher than that of private banks although it has dropped continually, from 95% in 1998 to 67% in 2006/07.

Of the private banks currently operating, this project has focused on the dividend payment practice of the six large banks for the reason discussed in chapter one of the paper. The year of establishment and the current paid-up capital of these banks can be summarized in the following table.

Table1. Year of establishment & paid up capital

Bank	Year of establishment	Paid-up capital (Sene30,2008)
Abyssinia	1996	312,257,450
Awash	1994	282,300,878*
Dashen	1995	453,993,000
Nib	1999	416,901,000
United	1998	330,277,074
Wegagen	1997	370,825,000

*as of December 31, 2007

Source: NBE & annual reports of the banks

As shown in the table, these banks were not established in the same year and didn't join the market in the same period. This difference in the year of establishment and duration in operation might have its own impact on the dividend pay out of the banks. The authorized and paid up capital of the banks might also have its own influence on the dividend trend of the banks. Given these limitations, the following chapter (chapter four) presents an analysis on the determinant factors and dividend payment trend of the six banks.

Chapter Four

4. Data Presentation, Analysis and Interpretation

This chapter is divided into four main sections. In the first section, reasons why the banks pay dividends are described. In the second section, the dividend policy and the form of dividend payment of the banks have been briefly described based on the interviews conducted with the responsible individuals in each of the banks.

The third section contains the dividend payment trend of the banks during the nine years. And the trend is presented and described using tables and charts.

Included in section four of the chapter is the details of the determinant factors of dividend payment of the banks under study in two subsections. The first subsection deals with the degree of the association of some selected financial determinants of dividend payments, given the economic and data accumulation system of the country in general and the banking industry in particular, using regression models. Data from the annual reports of the six banks (1999/00-2007/08) were used to get the regression output. The second subsection contains discussions on other determinant factors through the analysis of documents and data collected through interview with the responsible officials of the banks under study.

4.1. Why the Private Banks pay Dividends?

Miller and Modigliani (1961) argue that given perfect capital markets, the dividend decision doesn't affect the value of the firm, and is therefore irrelevant. For a firm operating in an environment where there is no capital market at all, forget the perfect one, like ours, importance of dividend payment is not to be forwarded for discussion. The same is true for private banks in Ethiopia. The central issue is how decision on dividend is made and what factors need to be considered in the decision of dividends.

An unstructured interview was conducted with the responsible officials of the banks under study concerning the reasons behind paying dividends. During the discussion conducted with these officials of the banks, it was disclosed that there is no option to show for the investors that the operating performance of the bank is good or profitable other than distributing profits in the form of dividend. This is due to the absence of capital market in the country, where share holders can realize returns from their investments made on the banks even in the absence of declaration of dividend. Had a stock market been operational, the profitability of the banks would have been reflected in the price of the stocks in the market, and any dividend accrued would have been incorporated there as capital appreciation.

The respondents added that under the current business environment prevailing in Ethiopia there are no professional firms (individuals) that undertake financial analysis. These firms would have made analysis on share companies which can confirm whether the company is operating profitably or not and the price of shares would have reflected the inherent value of the company. There is no stock market

where an investor willing to transfer shares to other parties can negotiate on the price and sell it. The stock market is highly illiquid in general. Hence, dividend payment is the only available means to inform the share holders as their wealth is increasing as a result of the investment made on the bank. All these factors made the distribution of dividend a message for the share holders that the bank is operating profitably. This leads to a conclusion that the dividend practice of the banks supports the signaling theory of dividend.

On the other hand, after the General Assembly decides on the amount of dividend (indicated above), a form is used to be distributed by the bank to know the preference of each share holder how much of the dividend that he/she is interested to take in the form of cash and how much is to be capitalized (stock dividend), given the limitation over the number of shares that each share holder is allowed to enjoy. This means that one, who prefers certain cash dividends than uncertain increase in investment from the share of the bank, can take the cash dividend. This practice supports the Bird-in-hand theory of dividend.

How Decision on Dividend is made in the banks?

Banks prepare financial statements at the end of each year and determine their operating results. After total amount of after tax net profits distributable to the share holders is determined, the Board of Directors of the banks prepares proposals on the amount dividend payment at the end of each year. The board presents the proposal to the General Assembly, and after having detail discussion, the Assembly makes decisions on the distribution of earnings as per the articles of association of the banks as per the articles of association of the banks.

4.2. Policy and Forms of Dividend Payments of the Banks

The private banks do not have separately written dividend policy by which they are to be guided while making decisions on dividend except the one indicated in their articles of association. The articles of associations of the banks indicate that the General Assembly is the final decision maker on dividend of the banks at the end of each financial year.

Once the amount to be distributed is decided (as indicated above), it is the preference of the individual share holder to take in cash or to capitalize his share in the bank by taking additional shares instead of cash dividend, although there is a limitation on the number of new shares to be issued for the dividend. A study at Awash International Bank shows that about 70% of the shareholders reinvest their dividend in the bank (stock dividend), about 17% took cash dividend and the remaining 13% preferred partially in cash and partially in the form of dividend during the life of the bank. The same is true in other banks though there is no study made, as per the respondents. Before the issuance of banking business proclamation No. 592/2008, this was the experience of banks. But now article 11 of the proclamation restricts a share holder other than the Federal Government of Ethiopia, not to own more than 5% of the capital of the bank as against the previous rate of 20%, as stated in article 13 of Proclamation No. 84/1994. It is expected that some of the share holders may be obliged to take the cash dividend in the future, because if allowed to take stock dividend instead of cash, their capital may go up beyond the 5% limit.

It is also found that during the nine years no bank paid dividends in the form of assets other than cash and share dividends.

4.3. Analysis of Dividend Payment Trend of the Banks

To see the dividend payment trend of each bank and across the banks, the dividend per share of the banks for the period from 1999/00 to 2007/08 has been computed. Since the reporting period of Awash international Bank is different from others (Jan 1- Dec31), the period covered for this bank in the study is from 1999 to 2007. The financial (reporting) year for all other five banks is from July1 to June30. The par value of the shares of the banks differs from bank to bank. The shares of Abyssinia Bank have a par value of Br.25, Awash international Bank Br. 1000, Dashen bank Br.1000, Nib international Bank Br.500, United bank Br. 100, and Wegagen bank Br.1000. For the purpose of comparison in analyzing the dividend payment trend of these banks, the dividend per share and the respective earnings per share of the banks with par value different from Br 1000 are recomputed as if the shares have par value of Br 1000, so that comparison of the dividend per share across the banks during the period under study is made simple and consistent.

As it is provided by so many literatures and also empirically evidenced in section 4.4. of this chapter, earnings per share is found to be the most important determinant factor of dividend per share. As a result of that, trend of the dividend per share of the banks is presented in tabular forms and analyzed using charts together with the earnings per share of those banks during the period.

The following table depicts the earnings per share and dividend per share of the banks during the period.

	Abyssinia	Awash*	Dashen	NIB	United	Wegagen
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Year	DPS	EPS	DPS	EPS	DPS	EPS	DPS	EPS	DPS	EPS	DPS	EPS
1999/00	76	177	183	197	113	248	0	230	0	76	32	78
2000/01	70	172	87	189	100	430	0	254	41	89	54	134
2001/02	103	-19	117	209	300	476	118	214	55	55	141	125
2002/03	0	42	115	94	267	354	82	142	35	63	77	177
2003/04	0	284	100	157	411	608	81	296	45	78	167	380
2004/05	189	403	178	279	460	712	172	320	56	347	202	478
2005/06	187	430	223	302	537	956	185	322	205	416	261	553
2006/07	247	250	379	529	692	1,001	170	320	178	359	261	573
2007/08	173	58	355	526	566	846	153	322	192	295	254	449

Table 2. DPS and EPS of the six banks during the period

*period covered is 1999-2007

Source: summarized from Annual reports of the banks

As can be seen from the table above, the dividend per share of banks range from the minimum zero (BOA in 2002/03 & 2003/04, NIB in 1999/00 & 2000/01, and UB in 1999/00) to a maximum dividend per share of Br.692 by DB in 2006/07. The earnings per share of the banks during these periods were Br 42 & 284 in 2002/03 & 2003/04 respectively for BOA, Br. 230 & 254 in 1999/00 & 2000/01 respectively for NIB, and Br. 76 for UB in 1999/00. The earnings per share of the banks during the same period range from a minimum per share loss of Br.19 to (BOA in 2001/02) to a maximum earnings per share of Br. 1001 (DB in 2006/07). Unexpectedly, bank of Abyssinia paid dividend per share of Br. 103 in 2001/02 when it recorded negative earnings per share.

The maximum dividend per share paid during the period by each of the banks was Br.247,355,692, 185, 205 & 261 by BOA, AIB, DB, NIB, UB & WB respectively, and the minimum dividend per share was 0, 87,100, 0,0 & 32 respectively.

To see the trend analysis of average dividend per share of the banks vertically, the following table (table 3) is developed. The table shows the average dividend per share

of the banks during the period under study and the percentage change in dividend per share in the same time period together with the respective earnings per share.

The maximum percentage increment in the average dividend per share of the private banking sector was in the year of 2004/05, increased by 56% (from 134 to 210 per share), on the other hand, the average earnings per share of the banks during the same period was increased by 41 % (from 301 to 423 per share) which is the maximum increment in earnings per share during the period.

Table 3: percentage change in average Dps & Eps

Year	Aver Eps	Change	Aver Dps	Change
1999/00	168		67	
2000/01	211	0.26	59	-0.13
2001/02	177	-0.16	139	1.37
2002/03	145	-0.18	96	-0.31
2003/04	301	1.07	134	0.40
2004/05	423	0.41	210	0.56
2005/06	497	0.17	266	0.27
2006/07	505	0.02	321	0.21
2007/08	416	-0.18	282	-0.12

Source: summarized from Annual reports of the banks

The trend analysis of the average dividend per share of the private banking industry during 1999/00-2007/08, together with the respective earnings per share, presented in the above table can be seen using charts as follows.

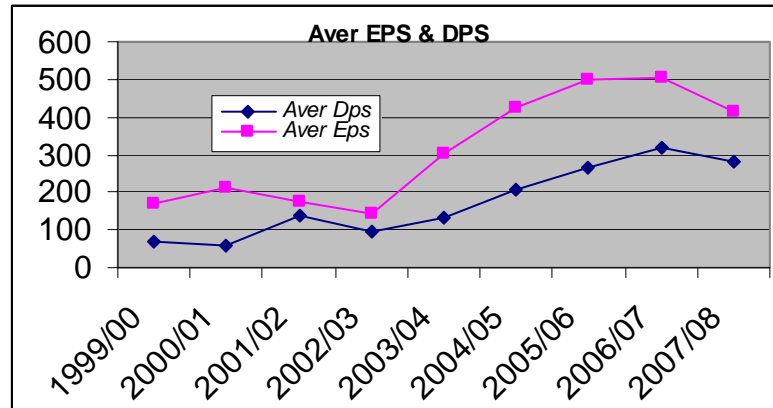


Fig. 1: Average earnings per share and dividend per share

During the first four years, 1999/00-2002/03, there was no clearly identified trend both in the dividend per share as well as earnings per share. During the next four years (2003/04-2006/07), the graph shows an increasing trend both in the dividend per share and earnings per share. In the year of 2007/08, it shows a slight decrease in both the earnings per share and the dividend per share. In general, it is apparent to conclude that the trend of dividend per share is parallel to the trend of earnings per share except the year 2001/02 in which earnings per share and dividend per share go in opposite directions. This conclusion is substantiated by statistical analysis in subsection 5.4.1 of the chapter.

The horizontal analysis of dividend payment of the private banking industry can be analyzed by taking the average dividend per share of each bank during the period covered.

Table 4. Average Dps and Eps

Bank	Eps*	Dps*	percent
Abyssinia	200	116	58.13
Awash	276	193	69.98
Dashen	626	383	61.21
Nib	269	107	39.77
United	198	90	45.43
Wegagen	327	161	49.18
*average			

Source: Computed from table 1

As shown in the above table, the maximum average dividend per share during the period is paid by Dashen bank amounting Br 383 (61% of the earnings), followed by Awash Bank and Wegagen bank which paid average dividend per share of Br. 193(70%) and Br.161 (49%) respectively. The minimum payment was made by United bank amounting Br. 90(45%) per share, followed by Nib bank and Bank of Abyssinia with a payment of Br. 107(40%) and Br.116 (58%) per share on average respectively. The following chart shows the average dividend per share of each bank under study with the corresponding earnings per share during the nine years.

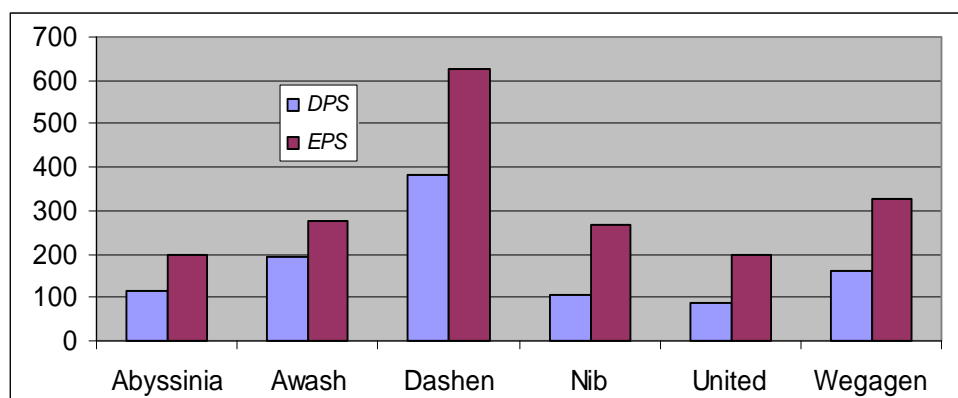


Fig 2: Average Dps and Eps

The graph clearly indicates that the highest average earning per share was recorded by Dashen bank (Br.626), and it was also true for dividend (Br.383) during the period covered.

The accumulated dividend and earnings (net profit after tax), and the proportion of the total earnings paid out in the form of dividend for all the banks under study during the nine years is shown below. One can see from the table that Awash International Bank has paid the highest proportion of its earnings in the form of dividend (69.45%) followed by Bank of Abyssinia and Dashen bank which paid 68.23% and 64.09% of their earnings recorded during their operation in the nine years respectively. Dashen bank is the highest in the amount of accumulated earnings, and United Bank is the lowest both in the amount of earnings and dividends but NIB is the lowest in the proportion of earnings paid out in the form of dividend (48.18%).

Table 5. Total dividend and total earnings

Bank	Total earnings	Total Dividend	Percent
BOA	304,443,756	207,717,705	68.23
AIB	366,730,751	254,683,876	69.45
DB	770,798,877	494,000,000	64.09
NIB	364,744,963	175,747,561	48.18
UB	253,604,525	130,524,266	51.47
WB	427,231,735	212,705,023	49.79

Source: summarized from Annual reports of the banks

UB and WB lay in between these by paying 51.47% and 49.79% of their after tax net profit in the form of dividend during the nine years respectively. In general, the banks have paid around 58.5% of their profit as dividend on average in the nine years.

This total earnings and the portion paid in the form of dividend can be seen by using charts as given below (Fig 3).

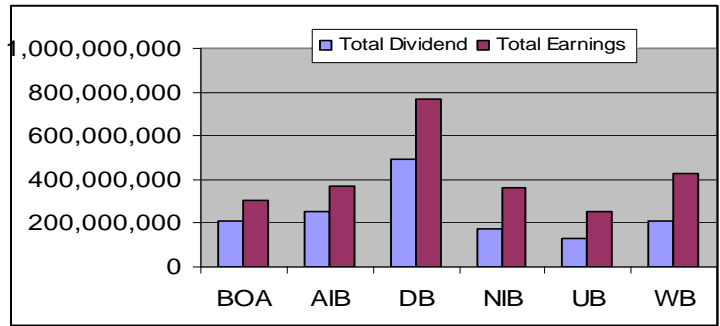


Fig 3. Total Dividend and total earnings during the nine years

The variation in the amount of the proportion of earnings paid out across the banks in the form of dividend results from the earnings of the banks and the nature shareholders. Some banks can have more feasible investment projects than others, so that they pay lower proportion of earnings than others. The preference of the shareholders itself causes dividend to vary across the banks. The shareholders of some banks may need immediate cash flow from the investment made on the banks, and others may not. After all, it is the decision of the shareholders on the general assembly whether to withdraw the earnings in the form of dividend or not. The duration of the banks in the industry is also another cause of variation of earnings paid as dividend. Relatively mature banks pay higher portion of earnings as dividend than others.

4.4. Factors Determining the Dividend payment of the Banks

This section is classified in two subsections. The first subsection is merely of statistical taking some key determinants of dividend. The second subsection is a discussion on other factors from documentary analysis like commercial code of Ethiopia, proclamations, regulations and directives and from the interviews conducted with the officials of the banks.

4.4.1. Key Financial Determinant Factors

This part of the study of factors affecting dividends of banks relies primarily on statistical tools. Given the economic environment of Ethiopia (absence of stock market) and data accumulation culture and willingness of the firms (non-availability of data), the statistical test is limited to the three factors. Regression models have been fitted to annual data for the year specified above in an effort to see whether there is association (positive or negative) between the amount of dividend and the identified variables, average earnings per share, average debt to equity ratio, and liquidity.

4.4.1.1. Data and Variable construction

As per the available literature, the three variables identified above are found to be the key determinant factors in the decision of managers on the payment of dividend to the share holders, though they are not all inclusive and the only ones. To statistically test whether there is close association between the above identified variables and the dividend per share of the private banking industry, cross sectional data of the six

banks have been taken for the period 1999/00-2007/08. The above mentioned variables are identified and computed as follows:

Dividend Per Share (DPS)- to measure the average dividend per share of each bank, the amount of dividend paid by each bank during the nine years have been extracted from the annual reports of the banks.

The dividend is then divided by the average number of shares outstanding (as per the calculation of the banks) during each year to get the dividend per share of banks. The average of the dividend per share of the banks during the nine years is then taken as a proxy variable for the amount of dividend.

Earnings Per Share (EPS) - This one are calculated in the same fashion as to that of the dividend per share. The earnings per share of all the banks are taken from the annual reports of each bank during the period under study. It is disclosed there in the reports as it is computed as the net profit after tax of each year is divided by the average number of shares outstanding during each year. Then, the average of the earnings per share for each bank during the period is taken as proxy variable for profitability to test its association with the amount of dividend across the banks.

Debt to Equity Ratio (DER) - The total liability of each bank as of the date of the financial statements is taken from the reports during each of the nine years. The sum of short term and long term liability is then divided by the total stock holder's equity of the bank as of the same date. The average of this ratio for each bank during the period is taken as debt to equity ratio to measure its association with the amount of dividend across the six banks.

Liquidity of the Banks- As per the Reserve Requirement Directive No. SSB/45/2008, all banks are required to maintain in their reserve account 15% of all Birr and foreign currency deposit liabilities held in the form of demand (current) deposits, saving deposits and time deposits. Considering this fact, the excess of all liquid assets over the legal reserve is computed and divided by the average number of share outstanding during each of the nine years for each bank. The average excess liquid asset per share of the individual banks is then computed and considered as a proxy variable to see the association of liquidity with that of dividend across the banks.

Liquid assets include cash on hand, Reserve and payment and settlement accounts with the National Bank of Ethiopia, deposits with local banks and deposits with foreign banks as per the definition of liquid asset given in the Banking Business proclamation No.592/2008.

Hypothesis and the Variables

The hypothesis to be tested have already been developed in chapter one of the paper.

The following table summarizes the hypothesis, variables and the expected association between the dependent variable and the independent variables.

Table 6. Summary of Hypothesis and Variables

Hypothesis	Variables	Relationship with dividend per share
H ₁ : Earnings per share	EPS: average after tax earnings per share	Positive
H ₂ : Financial leverage	DER: average debt to equity ratio	Negative
H ₃ : Liquidity	EXL: Average excess liquid asset per share	Positive
Dependent Variable	DPS: Average dividend per share	

The table below is a summary of the amount of average dividend per share of the banks during the period and the corresponding figures for the above mentioned key variables. This data is used to conduct a statistical test to accept or reject the hypothesis developed.

Table 7. Summary of DPS, EPS, DER & EXL

Bank	Variables			
	DPS	EPS	DER	EXL
BOA	116.06	199.64	7.27	2158.00
AIB	193.00	276.00	9.82	1477.19
DB	382.89	626.00	14.20	5939.85
NIB	106.94	268.89	4.16	2898.28
UB	89.77	197.60	4.99	2328.51
WB	161.00	327.00	7.86	3404.75

Source: Computed with the data obtained from table 1

The variables that have been identified can be stated as follows:

Y= average dividend per share

X₁= average earnings per share

X₂= average debt to equity ratio

X₃= average liquid asset per share

The statistical technique of regression was used to explore the relation ship between these variables.

4.4.1.2 Empirical Analysis of the Data

For the analysis of cross sectional data for the six banks covering the period of 1999/00-2007/08 the technique of multiple linear regression analysis was used. An attempt was made to develop a multiple regression equation using identified key variables. The dividend per share(Y) was used as dependent variable and other variables(X₁, X₂, and X₃) were used as independent variables. On this basis the under mentioned multiple linear regression equation was developed.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \text{Error Term}$$

Where, *a* is the regression constant and *b*₁, *b*₂, and *b*₃ are regression coefficients respectively, and the Error Term is the variation in Y not accounted by the independent variables in the equation.

The regression coefficient indicates the amount of change in the value of dependent variable for a unit change in independent variable. The coefficient of X₁(*b*₁) measures the change in the mean value of Y per unit change in X₁, holding X₂ and X₃ constant. Likewise, *b*₂ measures the change in the mean value of the dependent variable-*y* per unit change in the independent variable-X₂, holding constant X₁ and X₃. In other words, the

coefficient gives the direct or net effect of a unit change in the independent variable- X_1 on the mean value of the dependent variable- Y , net of X_2 and X_3 .

To test the significance of any individual partial regression coefficients, t-test has been used. The null hypothesis in this case is that, holding X_2 and X_3 , X_1 has no linear influence on Y . If the computed t-value is greater than the critical t-value at a given level of significance, we may reject the null hypothesis and conclude that the independent variable- X_1 has linear influence on the dependent variable- Y , we can say that b_1 is statistically significant, that is, it is statistically different from zero. Likewise, t-test has been conducted on other partial regression coefficients.

The level of significance shows us the probability of rejecting the true null hypothesis. In connection with this, it is also possible to decide whether the individual regression coefficients are statistically different from zero or not by looking at the probability value of the calculated t-value to fall in the rejection region. The p-value is then compared with that of the level of significance assumed. If p-value is less than the level of significance assumed, we can reject the null hypothesis and conclude that the coefficient is statistically different from zero.

The coefficient of determination (R^2), gives an estimate of the proportion of variance of dependent variable accounted for by the independent variable. It suggests the covariance between changes in dividend per share and other independent variables. The value of R^2 varies between 0 and 1. An R^2 of zero means that the predictor accounts for none of the variability of “ Y ” by “ X ”. An R^2 of 1 means perfect prediction of y by x and that 100% of variability of “ Y ” is accounted for by “ X ”. The higher the value of R^2 , the closer the relationship between the variables.

Regression Results

To see the linear association of the key determinant factors with dividend, regression analysis was performed. The result is given in the following tables.

Table 8: Regression results

R	R Square	ADJ R Square	STD. Error
0.9980	0.9961	0.9902	10.78

Table 9: Regression Coefficients and their significance

	Regression Coefficients	t-value	Prob.
Constant	-53.16456	-3.95	0.058
X ₁ (EPS)	0.5386004	3.28	0.082**
X ₂ (DER)	11.77145	3.29	0.081**
X ₃ (EXL)	-0.0121213	-1.05	0.403

**significant at 10%

Table 10: ANOVA Result

Source	SS	D.o.F	MS	F-Value	Prob.
Model	58877.8186	3	19625.9395	168.89	0.0059*
Residual	232.411054	2	116.205527		
Total	59110.2296	5	11822.0459		

*significant at 5%

The regression result shows that the coefficient of X1 is 0.5386. To see whether this coefficient is statistically significant or not, we can compare the t-value given in the computer output and the critical t-value in the t-table. The calculated t-value is 3.28 greater than the critical t-value 2.353 at 10% level of significance. This leads us to

conclude that the earning per share has a positive linear influence on the dividend per share of the banks. The p-value in the regression output measures the exact probability of rejecting a true null hypothesis, in other words, it is the lowest significant level at which a null hypothesis can be rejected. The p-value in the regression output shows 0.082 which is less than 10%, and we can conclude that the coefficient is statistically significant at 10% significant level.

The coefficient of X_2 in the regression result is found to be 11.77145. The calculated t-value 3.29 is greater than the critical t-value 2.353. This leads to the conclusion that the null hypothesis that b_2 is equal to zero is rejected and to say that debt to equity ratio has a positive linear influence on the dividend per share of the banks during the period under study. The p-value is also found to be lower than the 10% significance level assumed and gives the same result of rejecting the null hypothesis that the coefficient of X_2 is equal to zero and conclude that the coefficient is statistically significant. This significant positive linear influence of debt to equity ratio on the dividend of the banks leads tells us that the banks tend to pay dividends as liability increases, and increase the stockholders equity as individual shareholders reinvest(stock dividend) as per their preference, so that, it enhances the capital adequacy of the banks.

As opposed to the two coefficients b_1 and b_2 (coefficients of X_1 and X_2), b_3 (the coefficient of X_3) is found to be statistically insignificant with a computed t-value of -1.05, lower than the critical t-value of 2.353 at 10% level of significance. This leads us to accept the null hypothesis that the coefficient of X_3 is zero. The p-value of 0.403 also reveals the same result sine it is greater than the 10% level of significance. This result tells us that the liquidity status of the banks has no linear statistical influence on the

dividend payment of the banks. The possible reasons, as indicated by the finance officials of the banks and also from the financial reports, for the absence of this linear relationship are discussed as follows; since the major proportion of the financial resources of the banks is liquid asset, and the amount of the asset required to pay dividends is very less as compared to the total liquid asset, as a result banks may not give attention on their liquidity status to decide on the dividend payment. In addition, the banks know from their experience that most of the share holders prefer to reinvest their dividend in the banks (stock dividend), because of lack of other investment opportunities, possibly due to the absence of stock market in the country. This reinvestment of the dividends in the banks will not result in liquidity problem. These can be taken as the possible reasons for the absence of the linear relationship between liquidity of the banks and dividend per share during the period.

To test the overall significance of the regression model, the analysis of variance approach (ANOVA) was used; the F-test. The null hypothesis in this approach is that, the coefficients of X_1 , X_2 and X_3 are simultaneously zero ($b_1=b_2=b_3=0$). The F-value provides a test of the null hypothesis that the slope coefficients are zero. If the computed F-value exceeds the critical F-value from the table at a given level of significance, we can reject the null hypothesis. As indicated in the table 9 (table10), the calculated F-value is 168.89. The table F-value is found to be 19.2 at 5% level of significance, which is far bellow the calculated value, and hence the null hypothesis is rejected. This suggests the overall applicability of the model.

A deeper look at the R^2 value reveals that the existing model explains more than 99% of the dividend payment pattern of the private banking sector in Ethiopia since it assumes 0.9961.

4.4.2. Other Determinant Factors of Dividend

In this subsection, some determinant factors of dividend payment of the banks under study have been discussed based on the interviews conducted and by analyzing documents like proclamations, regulations and directives.

4.4.2.1. Ownership Structure and Agency Problem

The General Assembly is the final decision maker on dividend in the banks. All the share holders can participate in the assembly with no limitation on the amount of shares owned by each share holder. The decision is then passed through voting. The voting right of each share holder is dependent on the number of share holdings. This leads to the conclusion that ownership structure has its own influence on the dividend decision. Major shareholders can influence the decision over dividend of banks. Such practice of the banks is consistent with the literatures.

Most of the members of the board of directors of the banks are share holders, so that, the board takes in to account the agency problem in preparing the proposal that may prevail and reduce free cash flows that other wise might be spent on some unprofitable projects by management, in making decisions on dividend. This leads to the conclusion that ownership structure and agency problems get due consideration on the decision of the dividend payment.

4.4.2.2. Liquidity, Investment opportunities and Capital structure Concerns

The Board of Directors develops the proposal taking in to account the liquidity position of the bank. Even though there is no written or specified liquidity ratio by the banks other than the one stipulated by National Bank of Ethiopia, directive No.SBB/44/08, the liquidity status gets consideration on the decision of the proportion of cash dividend and on the number of shares each share holder is allowed to as dividend. Capital raising decision is the result of the liquidity concern of the banks in addition to other factors. However, in the empirical analysis above it is evidenced that liquidity position has no significant linear relationship with dividend for the reasons discussed in the empirical analysis.

Whenever there are investments to be undertaken by banks like construction of building and investments in other companies, the board incorporates it in the decision of the number of shares to be issued for the existing share holders and new ones if the existing ones are not interested to have their dividend in the form of new shares.

It is also found that the banks have no written target capital structure on which the amount of dividend is based other than the one stipulated by NBE, capital adequacy ratio Directive No.SSB/24/99. However, the amount of total liabilities and total assets are thoroughly analyzed at the end of each fiscal year before decision on dividend is made.

4.4.2.3. Long-term Debt and Dividend of Banks

In the literatures, it is assessed that if a firm has incurred long term debt, periodical payment of the principal and interest will be mandatory. As a result, some portion of the profit may be assigned to settle the debt, and has influence on the amount of dividend to be paid. In the case of private banks of Ethiopia, they incur no long term-liability. It is the banking industry itself issuing long-term liabilities to other sectors of the economy. The issuance of debt is currently unusual; the banking industry has no long-term debt by which the dividend payment is to be influenced.

4.4.2.4. Dividend of the Banks and Tax Considerations

As discussed in the previous section, once the amount of dividend and the number of shares to be issued in the form of dividend is decided by the General Assembly, it is the decision of the share holders to take in the form of cash or stock dividend. The usual practice of the banks is that the share holders prefer to take the stock dividend even though they need to get cash for their own purpose. The basic reason is that, whenever cash dividend is paid, the bank is required to withhold 10% dividend income tax as per income tax proclamation No. 286/2002, article 34. But there is no tax paid by the share holders on stock dividends. Directive No.17/1996 issued by Ministry of Revenue clearly lists business activities, in which share companies engaged, required to collect tax on dividend distributed in the form of shares. Dividends used to increase the capital of share companies engaged on activities other than the listed ones are exempted from tax as per the directive. On the other hand, an investor interested to sell shares of his own can negotiate with a party willing to buy

the shares and can apply to the bank to transfer the ownership title to the buyer. In this case, if the shares are sold above the par value, the above mentioned proclamation requires the seller to pay 30% as per proc No.286/2002 capital gain tax over the excess amount. Due to the absence of transparency on the price of the shares being transferred, the seller discloses to the bank as the shares are sold at par value. And hence, share holders prefer stock dividend and transfer it to the third party and escape from paying capital gain tax and dividend income tax though the market is not liquid and encouraging to do so. This clearly indicates that the tax structure of the country affects the form of dividend payment of the banks.

4.4.2.5. Variability of Earnings and Dividend of the Banks

In situation where there is well developed capital market, the price of a stock is highly dependent on the amount of dividend of the stock. As a result, firms prefer stable dividend payments because it is evidenced that firms with stable dividend commands higher price. And hence, firms try to stabilize the dividend payment across periods, even though there is a variation in earnings. But in our case, the variability of earnings has no influence on the dividend payment decision. Banks don't try to stabilize their dividend payment. It varies with the direction of the variation in earnings. This really emanates from the absence of stock market in the country in which the shares of the banks can be traded publicly.

4.4.2.6. Legal Restrictions over Dividend payment of banks

The total after tax net profit of the banks is not ready for distribution to share holders of the banks. There are some restrictions over it from the government, National Bank of Ethiopia and from the banks themselves.

Legal Reserve Requirement-The government issued Licensing and supervisions of Banking Business No. 84/1994. In this proclamation, it is clearly indicated that every bank at the end of each financial year, transfer to its legal reserve account, maintained at the NBE, not less than 25% of its net profit. When the legal reserve account equals the capital of the bank, the amount to be retained can be reduced to 10% (Directive No. SBB/4/95) of the after tax net profit. The newly issued Banking Business Proclamation No. 592/2008 also repeats the same percentage legal reserve requirement.

Capital Impairment-Proclamation No. 592/2008 article 18, sub article 4 clearly indicates that no banks at any time declare or pay share holders any dividend until all impairments of its capital have been removed. So that, these banks are restricted from paying dividends if there is any impairment in capital.

Other Reserve-Banks can maintain different accounts at the national bank of Ethiopia. National bank of Ethiopia requires banks to transfer some portion of their profit as a reserve for any loss that may result from fraud or misconduct of management, though the national bank still yet not issued a specified directive on the percentage of this reserve. Most of the banks have a special /general reserve account at the national bank for this purpose. A certain portion of the after tax net profit of the

banks is transferred to this account. The amount and the percentage of this reserve differ across the banks and across periods.

Capital Adequacy Ratio- Directive No. SBB/24/99 issued by the national bank requires banks to maintain a minimum paid up capital levels not less than 8% of risk weighted assets. As a result, there may be a situation where the banks may be forced to transfer some portion of their profit to paid-up capital before decision to pay dividend is made. As per the responses of the officials, the actual capital ratio usually ranges around 15%, and hence this ratio is not as such a problem for the dividend decision of the banks.

Chapter Five

Summary, Conclusion and Recommendation

5.1. Summary and Conclusion

This paper has examined the dividend payment practice of private banks in Ethiopia. The paper has that the private banks under study have no written policy concerning their dividend payment except the one indicated in the articles of association in which it is indicated that the decision on dividend is to be made at the end of each financial year by the General Assembly. The paper has tried to analyze and made comparisons on the dividend payment trend of the six private banks under study for the period from 1999/00 to 2007/08. It is examined that AIB paid the maximum i.e. 69.45% of its earnings recorded in the form of dividend during the nine years, where as NIB paid the lowest percentage of its earnings (48.18%) during the same period. On average, the banks have paid 58.5% of their earnings as dividend during the period covered. Trends in average dividend per share were roughly parallel to that of the average earnings per share during the period.

Multiple Linear Regression Model was used to see the degree of association between some selected determinants factors that affects dividend payment of banks. Cross-sectional data of the six banks were extracted and used to see the extent of association.

The result showed that earnings as measured by the after tax earnings per share of the banks have significant positive association with dividend per share of the banks.

This positive association is consistent with the hypothesis developed in chapter one.

The regression result also showed that there is a positive significant association between dividend per share and financial leverage as measured by the ratio of total liability to total stock holders equity of the banks. This hypothesis contradicts with the hypothesis that debt to equity ratio has negative association with dividend. Most of the shareholders prefer stock dividend, and hence the stockholders equity of the banks increase, so that the ratio of total liability to equity decreases.

In the regression result, it is evidenced that the liquidity of the banks has no significant linear relationship with the dividend. The reason is that, most of the share holders prefer to take stock dividend to cash dividend, so that, it has no influence on the liquidity of the banks.

Other determinant factors like legal restrictions, tax considerations, ownership structure, and investment opportunities are also found to be essential determinants in addition to the earnings.

5.2. Recommendations

Based on the findings and conclusions of the paper, the following suggestions and recommendations are forwarded to the shareholders, banks and the government:

1. The decision on the dividend of the banks is made by the General Assembly at the end of each financial year as per their articles of association, and they have no written policy on dividend. The banks should develop such a policy by which they are to be guided while making decisions on dividend.
2. The tax structure of the country is found to be an important determinant factor for the dividend decision of the banks. The treatment of dividend tax (exemption of reinvested dividend) creates problem on the dividend decision of the banks. Government should develop a clear regulation or directive on this area considering the absence of stock market in the country, so that, proper decision on dividend can be made by the banks and shareholders.
3. Periodical valuation of shares should be done by banks, as a result share holders can be required to pay capital gain tax when they transfer shares, so that the influence of the transfer of share at par value on the dividend decision can be removed.
4. Government should facilitate the establishment and operation of stock market in the country, so that shares can be traded freely in the market. This will help share companies, including banks, not to be dependent on internally generated funds. They can make proper decision on dividend, and sell new shares in the market whenever need arises.