

GLOBAL JOURNAL

OF MANAGEMENT AND BUSINESS RESEARCH: C

Finance

Firm Value Effect

Corporates Acquisition Programs

Highlights

Capital Structure and Financial

Macroeconomic and Firm Specific

Discovering Thoughts, Inventing Future



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The Firm Value Effect: Evidence from Egypt

By Omar Gharaibeh

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Abstract- This paper investigates for a value effect in Egyptian firm returns using three different ways to determine value by sorting firms based on their past long-term returns (long-term contrarian), the book-to-market ratios (BE/ME), and the percentage changes in their BE/ME ratios (change). These three strategies are approaches commonly used to measure for value effect. Using sample period from January 1997 to April 2014, this study provides a strong evidence of an inter-firm value effect with three measures. The long-term return contrarian and BE/ME, produce significant abnormal raw returns of 2.18% and 2.01%, respectively. On the other hand, the percentage changes in their BE/ME provides weakly significant profits of 1.08% per month. This paper also shows that the value profits generated by all three alternative value strategies in Egyptian stock market can be explained by three-factor model.

Keywords: value effect, contrarian, three-factor model, egyptian stock market (EGX).

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Omar Gharaibeh

Abstract- This paper investigates for a value effect in Egyptian firm returns using three different ways to determine value by sorting firms based on their past long-term returns (long-term contrarian), the book-to-market ratios (BE/ME), and the percentage changes in their BE/ME ratios (change). These three strategies are approaches commonly used to measure for value effect. Using sample period from January 1997 to April 2014, this study provides a strong evidence of an inter-firm value effect with three measures. The long-term return contrarian and BE/ME, produce significant abnormal raw returns of 2.18% and 2.01%, respectively. On the other hand, the percentage changes in their BE/ME provides weakly significant profits of 1.08% per month. This paper also shows that the value profits generated by all three alternative value strategies in Egyptian stock market can be explained by three-factor model.

Keywords: value effect, contrarian, three-factor model, egyptian stock market (EGX).

I. INTRODUCTION

The empirical literature on the value effect has shown that BE/ME ratio can be used to predict future returns (Clifford S Asness, Moskowitz, & Pedersen, 2013; Chen, 2011; Dempsey, 2010; Fama & French, 1993). Studies that have examined the value effect have proved the persistence of this effect at the level of company, industry and international index level (Clifford S Asness, et al., 2013; Chen, 2011; Chou, Ho, & Ko, 2012; Dempsey, 2010; Fama & French, 1993; Gharaibeh, 2016; Lakonishok, Shleifer, & Vishny, 1994).

Although most previous empirical research studies on monthly value effect employ data either from developed stock markets or emerging stock markets, few from these previous studies have addressed the Arabic stock markets. Egypt is one of the most important Arabic stock markets. Egyptian stock market constitutes an increasing share of the Arabic stock portfolio. Therefore, to the best of our knowledge; no such work has yet been done on the Egyptian stock market in any international literature. This paper mainly aims to investigate value effect in an Arabic stock market of developing country, namely Egypt.

In addition to the traditional methods used in previous studies to calculate the value effect which are long-term contrarian strategy and BE/ME ratio, this study is the first to suggest using the percentage change in the BM ratio as a third new method for identifying value. The results of this paper are easily summarized in three points. First, the current study shows the very existence of value effect in Egypt stock

market. Second, among the alternative three value strategies, this paper reveals that long-term contrarian and BE/ME strategies provide the highest monthly average returns. In particular, previous two strategies produce abnormal raw returns of 2.18% and 2.01% respectively, while change BE/ME strategy generate only abnormal profits of 1.08% per month. Lastly, this paper finds that all three alternative value effects used in Egypt stock market can be explained by three factor model.

The rest of the current study is organized as follows. Section 2 reviews that literature related to the value effect, while Section 3 describes the data and outlines the portfolio construction for three alternative value strategies. Section 5 provides the main empirical results, and finally Section 6 concludes the chapter.

II. LITERATURE REVIEW

Pioneering work by Fama and French (1993) which is the three-factor model has attracted the attention of many academic researchers and practitioners, as it found that the CAPM does not provide an adequate explanation of realized returns. Employing Fama and French's (1993) procedure to construct risk factors, Simlai (2009) re-investigated whether the size and book-to-market factors affect on the performance of portfolio returns. Simlai (2009) found that both size and book-to-market ratios have a key role in interpreting the variation in stock returns over the period from July 1926 to June 2007.

Lakonishok, Shleifer, and Vishny (1994)(LSV) investigated the relative performance of value strategies and showed that they outperform the market. Their finding supported the result of Fama and French (1992) that value strategies provide high returns. However, Whilst Fama and French (1992) consider the profitability of value strategies by explaining that these strategies are fundamentally riskier, Lakonishok et al. (1994) regard their profitability as being the result of stock mispricing.

Dempsey (2010) investigate the role of the BE/ME ratio in the formation of stock returns. He investigated whether the BE/ME ratio should take into account "risk-based", not a "mispricing" explanation for share prices in the Australian markets. His work was motivated by the explanation of stock return performance suggested by the Fama and French three-factor model, and applied Peterkort and Nielsen's (2005) approach to explain the relationship between the BM variable and stock return. Dempsey (2010) confirms

the previous results that stock returns are strongly related to the firm's book-to-market equity ratio. Furthermore, strong evidence suggests that this relationship stems from the BE/ME ratio's absorption of the conclusion of company leverage as a risk factor. In spite of the distinctive characteristics of the Australian stock market, these previous results are substantially consistent with the U.S. results of Fama and French (1993) and Peterkort and Nielsen (2005).

Chen (2011) examined the reason why the book-to-market effect increased in small stocks and decreased in large stocks. His analysis found that firms with short life expectations have high idiosyncratic volatility. Chou, Ho, and Ko (2012) claim that the book-to-market effect in the U.S. equity market is mostly an intra-industry phenomenon. In more recent study, Asness, Moskowitz and Pedersen (2013) examine value strategy returns for global stocks, currencies, equity indices, government bonds and commodities. They provide evidence of value effect in each asset class.

Hasan, Alam, Amin, & Rahaman (2015) examine whether the size and value effects can explain the inter-firm returns in Dhaka Stock Exchange (DSE) in Bangladesh. They show strong evidence of size and value effects. Small firms along with high BE/ME firms tend to provide higher average monthly returns than big firms along with low BE/ME firms. Hasan, Alam, Amin, & Rahaman (2015) also show that cross-section of expected return in DSE can be explained by three-factor model.

Using 18 emerging stock markets during the period 1990 – 2013, Cakici, Tang, & Yan (2016) examine the presence of value effect. Egypt market is not addressed in their study; they show that the value effect is existence in 17 emerging markets except Brazil. During the global financial crisis, Cakici, Tang, & Yan (2016) point out that value premium move increasingly and positively together across-market.

Next section describes the dataset and methodology used in this study, and then this study expands upon each of these results in some detail.

III. DATA AND METHODOLOGY

a) Data

This paper considers monthly stock returns, firm size (ME), and the firm book-to-market ratio (BE/ME) for 104 Egyptian firms of all firms listed in the Egyptian Exchange (EGX) for the period of January 1997 to May 2014. At present, a total 104 firms of different sectors are listed in EGX till May 2014. Monthly stock price data are downloaded from Data Stream. The current study use Egyptian Treasury bill rate (monthly average) as the proxy for risk free rate and collected from Jordan central Bank. MSCI index is used as the proxy for market portfolio and data are collected from Data Stream. Following Fama and French (1992), Egyptian firm's BM

ratio for June of year t is the book value of equity for the last fiscal year end in $t-1$ divided by the market value of equity as of December of $t-1$. A firm's annual BM ratio for June of year t is the average of the BM ratios of the firms. In the BM monthly portfolio sorts that follow, this annual firm BM ratio is used for the following 12 months. Table 1 details descriptive statistics over the period January 1997 through May 2014 for the Egyptian firms, demonstrating average monthly returns, standard deviation, Skewness and Kurtosis for each firm. Table 1 shows big difference in the mean and standard deviation of average returns. The South Valley Cement has the biggest monthly average (over 4% per month). In contrast, the Maridive & Oil Services has the lowest average at -104. The Egyptian firms have an average monthly return of 1.34% and an average standard deviation of 15.63%.

b) Portfolio Construction

This paper applies three alternative measures to determine value for each firm: the long-term return reversal by employing contrarian strategies, the firm's BM ratio, its 60-month past return, and the percentage change in its BE/ME ratio over the last 24, 36, 48 or 60 months. Using percentage change over the last 24, 36, 48, and 60 months allows testing the sensitivity of this new method to measure value to the same formation period. As a result this paper investigates three alternative value strategies: the long-term contrarian strategy, the BE/ME strategy and the change BE/ME strategy. The construction methodology for these strategies is presented in the next sections.

The portfolios for the three value strategies are formed as follows. At the beginning of each month t , the 104 firms are sorted based on their past BE/ME ratios (for the value strategy), on their 60-month past returns (for the contrarian strategy), and on the percentage changes in their BE/ME ratios over the past J months for $J = 24, 36, 48$ or 60months (for the change strategies). The high BE/ME, long-term winner and high change equal-weighted portfolios (denoted HV, LW and HC, respectively) contain the 25% of firms with the highest values for their respective sorting variables in the same way, the low BE/ME, long-term loser and low change portfolios (LV, LL and LC, respectively) contain the 25% of firms with the lowest values for their respective sorting variables.

The zero cost BE/ME strategy (HV-LV) is based on buying the high BE/ME portfolio and selling the low BE/ME portfolio. The zero cost long-term contrarian strategy (LL-LW) is longs the long-term loser portfolio and shorts the long-term winner portfolio. The zero cost change strategy (HC-LC) is buying the high change portfolio and selling the low change portfolio. Portfolios are held for K -month holding periods, while $K = 1, 3, 6, 9$ and 12 months.

For the long-term contrarian strategy, the current study keeps a 12-month gap between the end of the 60-month formation period and the beginning of the K-month holding period compatible with previous studies such as Fama and French (1996), Figelman (2007), Grinblatt and Moskowitz (2004) and Malin and Bornholt (2013). The reason for employing this process is that Fama and French (1996) show that omitting the first 12-month after the end of the formation period enhances the performance of long-term contrarian strategy because it avoids any long-term reversals being compensated by the short-term continuation of returns.

This process is compatible with DeBondt and Thaler's (1985) finding that the first 12-month of the holding period did not earn significant contrarian profits. For all other strategies in this paper, the current study adopts the common practice used in momentum studies of omitting 1-month between the end of the formation period and the beginning of the holding period. Whereas a gap of zero or 1-month makes no significant difference to the outcomes, a small gap makes achievement of trading strategies easier in the real world. In addition it avoids any concerns about microstructure biases.

Table 1 : Descriptive Statistics

Table 1 reports the descriptive statistics for 104 firm returns from January 1997 until April 2014, obtained from Datastream. The first column is the name of the firm. This is followed by the average monthly returns, the standard deviation of monthly returns, book-to-market ratios and finally the "Skew" is the skewness, and the "Kurt" is the kurtosis for each firm.

Firm Names	Average	SD	BE/ME	Skew	Kurt
South Valley Cement	4.53	26.24	1.27	3.90	27.58
Six of Oct.Dev.& Inv.	2.99	26.32	0.87	3.33	16.46
Egyptian Kuwaiti Holding	2.99	23.75	0.56	6.46	60.98
Egyptians Housing Dev.	2.94	24.30	0.98	3.51	16.83
Egyptians Abroad Invs.	2.88	25.19	1.10	2.21	7.38
Samad Misr -Egyfert	2.86	18.25	0.73	1.19	2.65
Faisal Islamic Bank Of Egypt Egp	2.86	17.50	1.67	4.30	28.94
Giza General Contracting	2.72	22.50	0.62	1.56	5.26
Global Telecom	2.71	18.63	0.68	2.14	10.30
United Arab Shipping	2.69	25.60	-0.85	1.93	6.21
El Ezz Porcelain (Gemma)	2.66	18.33	1.21	1.11	1.77
Orascom Construction Ind	2.62	11.87	0.38	0.00	1.01
Arab Ceramic	2.60	15.65	0.46	1.26	2.89
Misr Beni Suef Cement	2.55	11.41	0.57	1.00	3.00
United Housing & Dev.	2.44	16.58	0.27	1.16	3.70
Ezz Steel	2.41	18.91	0.69	0.84	1.51
Cairo Poultry	2.37	14.87	0.88	0.96	3.89
Heliopolis Housing	2.26	18.00	0.13	1.93	8.05
Misr Duty Free Shops	2.15	24.04	0.63	6.18	60.43
Acrow Misr	2.13	18.47	1.06	2.98	19.36
Piraeus Bank Egypt Dead - 19/03/10	2.13	19.82	0.78	2.65	11.43
Alexandria Cement	2.08	18.03	0.60	1.56	4.92
Helwan Cement Dead - 02/02/10	2.07	14.39	0.55	3.08	15.38
Egyptian Gulf Bank	2.04	16.11	0.68	2.75	31.47
Qatar National Bank Alahly	2.03	13.83	0.59	-0.12	9.81
Egypt.Co.for Mobil.Svs. (Mobinil)	2.02	15.25	0.21	1.88	7.31
Medinet Nasr Housing	1.98	17.31	0.26	1.37	5.73
Egyptian Electric Cable	1.89	28.26	3.34	8.64	103.10
Coml.Intl.Bank (Egypt)	1.86	11.25	0.57	0.74	1.71
Kafr El-Zait Pesticides	1.82	16.87	0.80	1.57	4.91
Orascom Hotels And Dev.	1.82	19.50	0.53	2.06	8.43
Sinai Cement	1.80	11.34	0.77	0.79	1.43
Nozha Intl.Hospital	1.78	14.94	0.68	1.81	11.46
Misr Cement (Qena)	1.72	8.86	0.34	2.18	9.33
Vodafone Egypt Telecom	1.71	15.08	0.25	2.73	28.29
Egyptian Finl.& Indl.	1.67	14.71	1.23	1.29	4.31
Development & Engr.	1.66	21.29	1.09	2.81	15.06
Orascom Hotel Holdings (Ohh)	1.62	19.02	1.36	2.25	13.40
Olympic Gp.Finl.Invs. Dead - 27/01/13	1.62	15.28	1.06	1.47	5.81
El Ahli Inv.& Dev.	1.62	20.67	0.78	2.32	11.05
Housing & Dev.Bank	1.56	16.88	1.48	1.88	8.48
El Ezz Aldk.Steel Alexa.	1.51	13.55	0.76	1.46	7.49

Eastern Tobacco	1.51	11.11	0.63	1.60	7.13
Elswedy Electric	1.41	12.93	0.63	0.18	1.55
National Dev.Bank	1.38	17.43	0.56	1.89	7.96
Alexandria Flour Mills	1.32	19.60	0.79	2.66	13.14
Arab Cotton Ginning	1.29	20.37	1.61	0.65	4.65
El Watany Bank Of Egypt	1.25	13.98	0.85	1.55	5.61
Bisco Misr	1.22	9.48	0.43	1.72	8.85
Alexandria Spng.& Wvg.	1.21	16.77	1.78	0.48	3.28
South Cairo & Giza Mls.& Bkrs.	1.21	18.35	1.03	2.28	9.17
Extracted Oils Derivatre	1.20	17.56	0.87	2.26	11.93
Middle Egypt Flour Mills	1.19	17.04	1.10	2.16	7.61
Abou Kir Fertilizers	1.16	10.75	0.33	2.17	16.09
National Cement	1.12	17.44	0.35	2.10	8.78
Egyptian Intl.Pharms. (Epico)	1.11	7.91	0.85	1.03	4.84
Credit Agricole Egypt	1.10	18.33	0.58	3.03	24.63
Upper Egypt Flour Mills	1.09	14.92	0.84	2.39	10.91
Ajwa For Food Inds.	1.09	23.40	0.68	5.50	46.60
Egypt Aluminium	1.09	14.01	1.21	1.37	4.15
Oriental Weavers	1.06	10.43	1.07	0.47	1.05
Export Dev.Bk.Of Egypt	1.02	17.40	1.37	2.98	29.69
Pyramisa Hotels	1.02	11.91	1.63	1.48	6.21
Mena Tourism & Rlst.Inv.	1.01	18.39	0.85	1.34	3.87
Ameriyah Cement Dead - 22/06/10	0.97	11.36	0.47	1.81	7.73
El Nasr Clothes & Text. (Kabo)	0.92	16.55	1.83	1.01	3.54
Ntrl.Gas & Mng.Project (Egypt Gas)	0.92	13.93	1.17	3.08	21.74
Cairo Pharmaceuticals	0.90	11.42	1.11	3.41	30.51
Misr Chemical Industries	0.90	15.63	0.97	1.16	3.69
Namaa For Dev.&Reit.Co. Dead -	0.88	19.59	1.08	1.43	8.12
Suez Cement	0.83	10.37	0.78	1.14	3.35
Ahli United Bank Egypt Dead -	0.82	10.27	0.53	2.52	21.14
Nile Cotton Ginning	0.78	19.49	0.99	2.26	19.09
Delta Insurance	0.78	12.34	0.93	1.30	5.23
Egyptian Strch.& Glucose	0.77	16.74	0.82	0.85	7.07
East Delta Flour Mills	0.75	12.92	0.94	1.84	8.99
Egypt American Bank Dead - 30/08/07	0.74	10.26	0.57	1.40	6.55
Blom Bank Egypt Dead - 16/10/10	0.74	15.97	1.10	0.23	10.24
Alexandria For Pharmacy	0.73	10.71	0.96	1.46	13.75
Mid.& Ws.Delt.Flr.Mls.	0.61	12.40	0.75	1.44	6.22
General Silos & Storage	0.60	16.84	0.96	3.70	25.92
Nile Pharmaceuticals	0.60	11.26	0.88	1.61	7.01
Torah Cement	0.58	10.55	0.51	0.71	2.88
Misr For Hotels (Hilton)	0.55	13.35	1.74	1.58	5.62
Palm Hills Devs.Sae	0.54	19.00	1.15	0.39	1.06
Raya Hldg.For Tech.& Comms.	0.54	14.50	1.27	0.56	2.58
Delta Industries (Ideal) Dead -	0.54	15.63	0.87	0.33	7.97
Paint & Chmid.(Pachin)	0.52	10.31	0.79	0.63	2.74
Misr Oil	0.48	13.37	0.80	1.14	5.38
Sidi Kerir Petrochem.	0.47	9.92	0.32	0.20	0.77
Amreyah Pharms.Inds Dead -	0.45	10.19	0.78	5.53	58.23
Memphis Pharmaceuticals	0.41	11.89	0.78	1.65	10.75
North Cairo Mills	0.41	15.95	0.81	2.65	15.22
Talaat Moustafa Group	0.39	13.81	2.30	0.30	0.83
Misr Intl.Bank (Mibank) Dead -	0.38	10.82	0.95	2.62	10.38
Delta Sugar	0.30	13.04	0.46	-0.17	17.41
Telecom Egypt	0.22	8.63	0.99	0.46	-0.03
Misr Conditioning (Miraco)	0.18	14.67	0.51	-0.76	13.79
Alexandria Mrl.Oils	0.16	8.86	0.46	-0.04	0.15
Suez Canal Bank	0.15	13.41	1.51	1.46	10.51
Egyptian Media Prdn.City	-0.24	16.14	1.72	0.80	1.60
Naeem Holding	-0.37	14.77	2.22	0.77	2.58
Al Arafa Inv.& Cnsl.	-0.85	8.78	1.31	0.03	-0.22
Maridive & Oil Services	-1.04	12.04	0.43	-0.40	0.42
Average	1.43	15.63			

IV. RESULTS

This section analyses the findings of the various value strategies. The section includes a discussion of raw and risk-adjusted results. This section reports the average monthly holding period returns for the long, short and long-short portfolios of the long-term contrarian strategy in Table 2, the BE/ME strategy in Table 3 and the pure change BE/ME strategy in Table 4 when applied to the sample of 104 Egypt firms. Columns 3 through 7 in each Table list the equal-weighted average monthly returns in percentages for the K -month holding periods ($K = 1, 3, 6, 9$ and 12 months).

a) Value strategies' results

Except for the $J = 24$ case over $K = 1$, the long-term contrarian results in Table 2 show that the strategy

profits (LL-LW) are statistically significant over all K -month holding periods if $J = 24, 36, 48$, or 60 months. Table 2 demonstrates significant long-term contrarian LL-LW profits. For example, for the 60-month (five-year) formation period case with a 6-month holding period ($K = 6$) case, the difference between the average monthly returns of the LL portfolio and the LW portfolio is large 2.18% per month and it is statistically significant (t-stat 2.84). In summary, there are large and significant long-term contrarian profits generated for long formation periods of 24, 36, 48 and 60 months.

Table 2 : Profitability of Long-Term Contrarian at Egypt Firms

Table 2 provides the average monthly holding period returns in percentages of the selling, buying, and selling minus buying portfolios of the long-term reversal strategy for 104 Egypt firms. Portfolios are constructed as follows: At the beginning of each month t , the 104 firms are sorted derived from their past J -month formation period returns for $J = 24, 36, 48$, and 60 months. The long-run loser equal-weighted portfolio (LL) comprises of the 25 % of portfolios with the lowest returns, and the long-term winner equal weighted portfolio (LW) comprises of the 25 % of portfolios with the largest returns. The strategy LL-LW buying the long-run loser portfolio and sells the long-run winner portfolio to be held for $K = 1, 3, 6, 9$, or 12 months. The t -statistics depends on the Newey and West (1987) adjustment for autocorrelation up to lag 11.

J	Portfolio	Holding Period Returns				
		K=1	K=3	K=6	K=9	K=12
24	LW	0.88 (1.58)	0.89 (1.62)	0.87 (1.55)	0.82 (1.45)	0.91 (1.59)
	LL	2.06 (2.74)	2.10 (2.78)	2.06 (2.73)	2.61 (3.94)	2.57 (3.84)
	LL-LW	1.18 (1.94)	1.21 (2.01)	1.19 (2.05)	1.79 (3.98)	1.66 (3.76)
36	LW	1.07 (1.86)	1.08 (1.88)	1.03 (1.75)	1.02 (1.72)	1.06 (1.76)
	LL	2.77 (3.93)	2.48 (3.6)	2.41 (3.52)	2.43 (3.52)	2.39 (3.43)
	LL-LW	1.70 (3.17)	1.39 (2.79)	1.39 (2.88)	1.40 (2.97)	1.33 (2.87)
48	LW	1.23 (1.89)	1.33 (2.04)	1.28 (1.96)	1.23 (1.88)	1.16 (1.72)
	LL	2.56 (3.42)	2.66 (3.49)	2.58 (3.37)	2.72 (3.49)	2.79 (3.46)
	LL-LW	1.33 (2.44)	1.33 (2.47)	1.30 (2.49)	1.49 (2.85)	1.63 (3)
60	LW	0.52 (0.56)	0.67 (0.72)	0.68 (0.72)	0.66 (0.69)	0.72 (0.73)
	LL	2.82 (3.15)	2.99 (3.37)	2.86 (3.32)	2.86 (3.25)	2.86 (3.22)
	LL-LW	2.31 (2.78)	2.31 (2.85)	2.18 (2.84)	2.19 (2.83)	2.14 (2.56)

The BE/ME strategy results in Table 3 show clearly that the strategy profits (HV-LV) are statistically

significant over all K -month holding. For example, for the 6-month holding period ($K=6$) case, the difference

between the average monthly returns of the HV portfolio and the LV portfolio is large 2.01% per month (t -stat 4.35), which is statistically significant. In general, the holding period returns in Table 3 give strong evidence of BE/ME effect at the Egypt firm level.

Table 4 shows that the pure change strategy produces statistical significant and sometimes weakly significant profits for all K holding periods when the percentage change in the BM ratio is measured over 24, 36, 48 or 60 months. For example, when the percentage change in the BM ratio is calculated over the past 60 months, the high change portfolio (HC) provides an

average return of 2.36% per month while the low change portfolio (LC) produces an average return of only 1.29% per month with a six-month holding period. The difference of 1.08% per month between HC and LC is weakly significant (t -stat 1.65), and is economically large. On the other hand, measuring the percentage change in BE/ME ratios over 24, 36 or 48 months generates statistical significant profits and consistent results, with only the six-month holding period providing statistical significant profits (1.62%, 1.16% and 1.23%) per month (t -stat 2.89, 2.02 and 1.97), respectively.

Table 3 : Profitability of BE/ME at Egypt Firms

Table 3 provides the average monthly holding period returns in percentages of the buying, selling, and buying-selling portfolios for the BE/ME strategy applies to 104 Egypt firms. At the beginning of each month t from November 1994 to April 2014, the 104 firms are ranked based on their BE/ME, and are assigned to one of four portfolios. The high BE/ME equal-weighted portfolios (HV) comprises of the 25% of firms with the highest values, while the low BE/ME comprises of the 25% of firms with the lowest values. HV-LV refers to the buying the fourth portfolio and selling first portfolio. All reported returns are equally weighted. The strategy LL-LW longs the long-term loser portfolio and shorts the long-term winner portfolio to be held for $K = 1, 3, 6, 9,$ or 12 months. The t -statistics are based on the Newey and West (1987) adjustment for autocorrelation up to lag 11.

Portfolio	Holding Period Returns				
	K=1	K=3	K=6	K=9	K=12
HV	2.42 (3.48)	2.45 (3.65)	2.25 (3.36)	2.26 (3.3)	2.52 (3.7)
LV	0.08 (0.12)	0.06 (0.09)	0.24 (0.39)	0.35 (0.56)	0.57 (0.92)
HV-LV	2.50 (4.94)	2.40 (5.07)	2.01 (4.35)	1.91 (4.17)	1.95 (4.28)

In short, the results in Table 2, 3 and 4 suggest that the three alternative measures of value provide high levels of profitability. In Table 1 and 2, strategy profits for the long-term contrarian and BE/ME strategies are significant and very similar for all holding periods. For example, the long-term contrarian strategy earns a significant 2.18% per month (t -stat 2.84) and the BE/ME strategy earns 2.01% per month (t -stat 4.35) with six-month holding periods ($K=6$). For change BE/ME strategy, although Table 4 shows that the change value

strategy provides weakly significant for the same period, it is still economically large. The change value generates monthly returns 1.08% per month (t -stat 1.65).

The post-formation behaviors of the value strategies' profits are also illustrated in Figure 1. Figure 1 depicts the post-formation cumulative returns of the long-term contrarian strategy (LL-LW) with $J = 60$, the BE/ME strategy (HV-LV), and the change BE/ME strategy (HC-LC) with $J = 60$ for the 60 months following the end of the formation period.

Table 4 : Profitability of Change BE/ME at Egypt Firms

This table reports the average monthly holding period returns in percentages of the long, short, and long-short portfolios for change strategy applied to 104 Firms. Portfolios are constructed as follows: At the beginning of each month t , the 104 industries are ranked based on their percentage changes in their BM ratios over the past J months for $J = 24, 36, 48$ and 132 months. The high change portfolios HC contains the 25% of firms with the largest change values, while the low change BM portfolio LC contains the 25% of firms with the lowest change values. The change BM strategy (HC LC) portfolios are held for $K = 1, 3, 6, 9$ or 12 months.

J	Portfolio	Holding Period Returns				
		K=1	K=3	K=6	K=9	K=12
24	HC	2.84 (3.69)	3.02 (3.98)	2.74 (3.69)	2.76 (3.77)	2.71 (3.66)
	LC	0.90	1.10	1.31	1.41	1.38

		(1.38)	(1.7)	(2.03)	(2.15)	(2.1)
	HC-LC	2.06	1.87	1.62	1.40	1.49
		(3.25)	(3.14)	(2.89)	(2.7)	(2.96)
36	HC	2.57	2.53	2.48	2.33	2.25
		(3.44)	(3.46)	(3.39)	(3.18)	(3.07)
	LC	1.10	0.97	1.32	1.30	1.13
		(1.49)	(1.31)	(1.86)	(1.86)	(1.61)
	HC-LC	1.47	1.57	1.16	1.03	1.12
		(2.42)	(2.59)	(2.02)	(1.78)	(1.98)
48	HC	2.41	2.58	2.42	2.41	2.42
		(3.16)	(3.45)	(3.25)	(3.2)	(3.18)
	LC	1.23	1.16	1.18	1.10	1.30
		(1.63)	(1.54)	(1.56)	(1.48)	(1.74)
	HC-LC	1.18	1.41	1.23	1.32	1.12
		(1.74)	(2.18)	(1.97)	(2.22)	(1.9)
60	HC	2.35	2.34	2.36	2.57	2.74
		(2.77)	(2.9)	(2.91)	(3.16)	(3.29)
	LC	1.11	1.09	1.29	1.49	1.36
		(1.51)	(1.44)	(1.72)	(1.93)	(1.77)
	HC-LC	1.24	1.26	1.08	1.08	1.38
		(1.82)	(1.83)	(1.65)	(1.67)	(2.15)

Given the Figure 1, while the value strategies graph suggests a slowing in the cumulative returns towards the end of the 60 months we note that all alternative three value strategies generate positive

cumulative returns. Long-term contrarian strategy provides the highest cumulative returns, then comes the BE/ME strategy. The change BE/ME strategy comes in the last strategy among alternative value strategies.

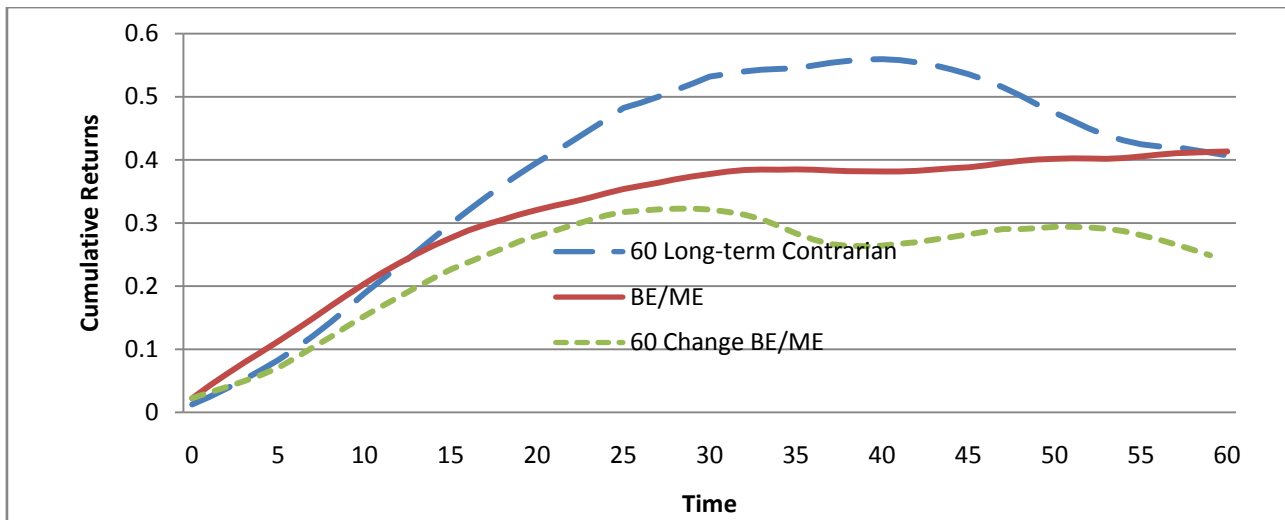


Figure 1 : Cumulative Return of Value Strategies

This graph presents the cumulative returns of the long-term return reversal portfolio LL-LW (with $J = 60$ months), BE/ME strategy HV-LV and change BE/ME (with $J = 60$ months) using non-overlapping portfolio ($K = 1$) for the 60 months after the end of the formation period.

b) Risk adjustments

To find whether the profits of these strategies could be considered a reward for bearing risk, the profits of the long-term contrarian, BE/ME and change

value strategies are risk-adjusted employing the Fama-French three-factor model. The three-factor regression model comprises of the market factor, a small minus big factor, and a value minus growth factor:

$$R_{pt} - R_{ft} = \alpha_p + \beta_p(R_{mt} - R_{ft}) + s_pSMB_t + h_pHML_t + \varepsilon_{pt}, \quad (1)$$

Where the dependent variable $R_{pt} - R_{ft}$ is the monthly excess return of the strategy portfolio p , R_{pt} is the monthly return of portfolio p at time t , and R_{ft} represents the monthly risk-free rate at time t , represented by the one-month Egyptian T-Bill return. The independent variables or factors are as follows:

$R_{mt} - R_{ft}$ is the Egyptian MSCI index's monthly excess market return for month t , while SMB_t and HML_t are the monthly size and book-to-market factors at time t , respectively.

The monthly return values for the three factors and one-month T-Bill risk-free rate covering the full sample period from January 1997 to May 2014 are downloaded from Data stream. The three-factor model covers the period from the period January 1997 to May 2014. The coefficients β_p , s_p and h_p are the regression loadings corresponding to the factors of the models, while the intercept α_p (or simply alpha) indicates to the risk-adjusted abnormal returns of the portfolios over the evaluation period. If alpha is statistically significant, then

this is evidence of abnormal profits. The t -values corresponding to the regression coefficients are corrected for heteroskedasticity using White's (1980) test.

Table 5 reports the estimated regression coefficients of the three-factor model and the corresponding White-corrected t -statistics for the long, short and long-short portfolios for the long-term contrarian ($J = 60$), the BE/ME and the change value ($J = 60$) strategies with six-month holding periods ($K = 6$) in Panels A, B and C, respectively. Column 2 of Table 5 reports the monthly alphas of the three-factor model, while the last column lists the adjusted R^2 .

The alpha of the long-term contrarian long-short LL – LW portfolio in Panel A, B and C is small (0.013%, -0.09 and -0.04 per month) and insignificant (t -stat 0.29, -1.30 and -0.76), respectively.

In summary, the three alternative value results in Panels A, B and C of Table 5 reveal that there is value return in Egyptian firm returns that can be explained by the Fama-French three-factor model. The insignificant long-term contrarian strategy's alpha is consistent with Fama and French's (1996) finding that the three-factor model can explain the reversal of long-term returns of individual U.S. stocks reported by DeBondt and Thaler (1985).

Table 5 : Risk-Adjusted inter-firm value Profits

This table presents the three-factor regression results for the contrarian, BE/ME and change BE/ME portfolios in Panel A, B and C respectively. These portfolios are described in Tables 2 and 3. The three-factor regression model is as follows:

$$R_{pt} - R_{ft} = \alpha_p + \beta_p(R_{mt} - R_{ft}) + s_pSMB_t + h_pHML_t + \varepsilon_{pt}$$

where $R_{pt} - R_{ft}$ is the portfolio's excess return, $R_{mt} - R_{ft}$ is the excess return on the market, and SMB_t and HML_t are the size and book-to-market factors. The t -statistics presented in parentheses are corrected for heteroskedasticity using White's (1980) test.

	Three-Factor Model				Adj R2
	α	β	s	h	
Panel A:					
contrarian	0.013 (0.29)	0.041 (0.08)	-0.380 (-5.39)	-0.093 (-0.86)	28%
Panel B:					
BEME	-0.090 (-1.3)	0.011 (1.36)	-0.017 (-5.99)	1 (4.12)	100%
Panel C:					
CHBEME	-0.040 (-0.76)	0.452 (0.77)	-0.205 (-2.34)	0.632 (4.77)	12.8%

V. CONCLUSION

Arabic stock markets are clearly a significant part of the world portfolio today and therefore are important to the average investor. Finance literature has discovered important facts about value effect in US, as

well as in the developed equity markets. Value effect is a lot less explored for emerging markets, especially Arabic market.

The current study provides results to fill this gap by considering stock returns in Egyptian stock market. Using sample period from January 1997 to April 2014,



this paper has shown two main contributions: First, the result of this study provides strong evidence of value effect by using three alternative value strategies: long-term contrarian, BE/ME and change BE/ME strategies. More specific, the long-term contrarian and BE/ME value strategies provide abnormal returns more than 2% per month, while the change BE/ME value strategy generate abnormal returns more than 1% per month. Second, this paper constructs 4 portfolios based on each value strategy for Egypt stock market, and uses these portfolios as the returns in the three-factor model. This paper also finds that the size and value premium in addition to market risk premium have very strong power to explain cross-section of expected return in the Egyptian Exchange.

The participants of the stock market, e.g. investors and fund managers may be utilized using previous findings. The investors from developing countries like Egypt can achieve abnormal returns by using three alternative value measures. In addition, practitioners manage their portfolios and assess their assets more accurately through applying three-factor model. For future research, it would be attractive to examine whether volatility effect can shed some light on the Egypt value returns. None of the previous studies investigate the relationship between value returns with volatility effect in Egypt stock market.

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The French SMEs and their Financial Performance at the Launch of the Corporates Acquisition Programs

By Omar Boufama

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Abstract- This paper presents an econometric analysis of the profitability generated at the initiation of the corporates acquisition programs by French investors. These programs generally launched by the firms directors, need to have a high frequency of acquisition attempts, in order to cover fixed costs of the program and generate profits, which they increase the value of the firm and enrich the shareholders. The French “SME” succeed better than large companies in the launch of acquisition programs. The hypothesis of the announcement effect was been verified, and the two others, were rejected by the t-student test. In a subsample two “SME”, Guerbet and Sartorius from Healthcare sector have a positive value. These results show clearly that the corporate acquisition programs are projects of value-creating investment for French “SME”.

Keywords: acquisition program; announcement effect; economic impact; profitability.

GJMBR - C Classification : JEL Code: E44



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I. INTRODUCTION

Knowledge gleaned on the French case regarding corporates acquisition all are almost reserved to the big companies, especially for the valuation of the acquisition programs gain. Recent empirical research has shown that, the aim objective of merger and acquisition (M&A) operations for the acquiring firms is to operate an external expansion with the aim of getting bigger and developing. A competitive market of corporates acquisition implies that the earnings of the acquirers during no successful acquisitions have a negative price of bid; shareholders of the target firm will accept this price. Ruback (1983) tested this implication in a study using data on takeovers desired by several acquiring firms. The results confirm the hypothesis of market competition concerning acquisition operations.

From this perspective, the problem, which we try to deal and to analyze, is to demonstrate how to measure, analysis and explain the profitability of the acquisition operations within the framework of the acquisition programs launched by French firm's directors.

As it is noted in the research of Aktas, N., De Bodt, Roll, R. (2009)¹, why would firms undertake acquisitions if not to create value? The problem we

cleared up the possible ways being able to help to answer a fundamental question, which is why the directors launch programs of acquisition while the present value of the program is negative?

The second case is when the acquisition programs are positive, that is generate profits for the acquirers. In this case, our question, which is secondary, is to know why then the acquirers do not launch them in a continual way? This question is justified by the fact that there are very precise periods when the directors make this complex kind of investment.

From this perspective, our empirical study in which we evaluate the profitability of corporates acquisition programs, try to specify stocks price reactions at the announcement of M&A operations. It is a question particularly to verify if the partially anticipated events by the French acquirers generates consistent returns, which can be compared with those of the American case.

The actual financial literature about this subject largely try to calculate the gains associated to the acquisition operations for both, acquirers and target firms. Another point treated in this literature focus on the identification of the impact of these operations on the shareholders wealth.

Malatesta and Thompson (1985) provide evidence on the acquisition programs profitability for American case. Both researchers are the first ones who established an econometric model, allowing estimating the value of an acquisition program. Previously, Schipper and Thompson (1983) realized an empirical study in which they measure the impact of acquisitions activity on firm value by differentiating between specific merger events and programs of acquisition activity. Through a sample of conglomerate acquirers, they find significantly positive abnormal returns associated with the announcement of acquisitions programs and significantly negative returns associated with certain institutional laws.

In another type of studies published in the 11 volume of the "Journal of Financial Economics", Asquith, Bruner and Mullins (1983) examines the effect of mergers on the wealth of bidding firms' shareholders. They clarifies some interesting points about acquisitions activity. They feel that the bidding firms gain significantly during the twenty-one days leading to the

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¹Aktas, N., De Bodt, E., Roll, R., 2009. Learning, hubris and corporate serial acquisitions. *Journal of Corporate Finance* 15, 543-561.

announcement of each of their first operation within four merger bids. These results have not a support to the capitalization hypothesis that acquirers' gains are capitalized at the beginning of merger programs.

In the same volume of the journal reserved to the wealth effects of mergers and the market for corporate control, Malatesta (1983) examines the net effects of the long-run sequence of events leading to merger, and of merger per se, on shareholder wealth. The author find that the long-run wealth effect of the event sequence culminating in merger is significantly negative for acquiring firms.

This study examines the profitability of corporates acquisition programs by distinguishing between types of effects. Specifically, an acquisition program has an announcement effect and an economic impact for each acquisition attempt made by the acquiring firm. The study determines the value of the both effects and the abnormal returns for the acquisition attempts on the non-event periods, for the total sample of big and SME French companies. The results shows that for the total sample which account 46 French acquirers, acquisition programs are losing. However, by considering the subsamples of the study, we find that the French SME perform better than, the big companies, and create value expressed in positive returns generated from their programs.

The next section explores theoretical considerations about the hypothesis studied within the framework of the estimation of corporates acquisition programs. I then describe the methodology used to evaluate reaction to acquisition programs announced by French acquirers. In this section, we try to present the mathematical development of the model that I apply on a sample of French acquirers in order to determine if corporates acquisition programs at the announcement date have a positive net present value or no. The following section is reserved to a discussion on the results of a number of SME, which are included in the initial sample. Through these results, I demonstrate that this type of firms are more profitable than, the other firms. The final section summarizes the results of the study.

II. THEORETICAL CONSIDERATIONS ON ACQUISITION PROGRAMS

The corporates acquisition programs were little handled by researchers because they are a very specific subject in finance. Indeed, directors must publicly announce the acquisition programs in order to be able to capitalize the gains, which are associated to it, at the time of their launch. The public announcement of this type of information, which is the launch of acquisitions programs, is very important for shareholders of acquiring firms. It allows their enrichment by the increase in share prices.

In this case, the very important assumption implied that acquisitions operations as mergers and tender offers are comprised partly of individual events undertaken within structured acquisitions programs. However, the empirical studies shows that the results of acquiring firms are expected by acquirers to gain from acquisitions activity, although some of the evidence is without supports.

The effect of an acquisition program must be profitable to the acquiring firm and to these shareholders at the same moment of the launch of said program. For example, if a firm were to announce an event concerning the structure of its capital, by then the reaction of its shares should take place at the announcement of the event, not at any later date.

There is a difference between individual acquisitions and programs of acquisition activity. Generally, for individual acquisition operations, the methodology used in the estimation of the returns of the shareholders and the variation in the firm value of the both target and bidding companies is the "event study methodology". Fama, Fisher, Jensen and Roll (1969) developed this technique in order to capture the effect of an event on stock prices by calculating the abnormal returns caused by this event. Studies that have examined the gains of mergers and tender offers applies the method based on the estimation of abnormal stock returns at the time of the specific event and surrounding this event date.

One of the preliminary hypothesis on which is based the evaluation of an acquisition program is relative to the value-maximizing behavior. Within the same framework, several hypothesis have been put forward in empirical studies, which estimate the value of the acquisition programs. In Malatesta and Thompson (1985), the capitalization hypothesis were treated and they find that is consistent with constant announcement effects for successive acquisition attempts. The net present value of all the acquisition attempts made by the acquiring firm within the program is fully capitalized in firm value at the time of the initiation of the program. The frequency of acquisition attempts influences the net present value of the program, also the expected economic impact imputed to future attempts raise the acquisition program value, and the fixed costs are attributed to the program.

The estimation of the capitalized value of acquisitions programs is very important for two reasons. First, as Malatesta (1981) have pointed out, the fixed costs of an acquisition program will not affect the price reaction around an acquisition event. Further, if acquisition program requires any initial expenses, price reactions to individual event announcement as take-over or merger could indicate a positive return to those expenses. For that purpose, the price reaction to an acquisitions program will reflect the cost of the initial outlay as well as the expected return on it. The second

and equally important reason is that once the expected value of an acquisitions program is capitalized, variations in the value of an acquiring firm surrounding event announcements will reflect only the surprise associated with the terms of the individual event. This surprise is measured relative to the expectations, which were capitalized at the time the acquisitions program was publicly announced.

The two main studies of the profitability of corporates acquisition programs within the framework of M&A operations are the ones of Shipper and Thompson (1983) and, Malatesta, and Thompon (1985). The results of the first study indicate that the acquiring firms anticipate gains from acquisitions activity. The second study approve this result. Indeed, Malatesta and Thompson (1985) find that the average estimated economic impact of an acquisition attempt exceeds 4 million dollars, but they cannot conclude that an acquisition program is desirable for firms in general.

III. ANALYSIS OF FRENCH ACQUISITIONS PROGRAMS PROFITABILITY

Our questions relative to the profitability of the corporates acquisition programs were studied in the context of French M&A operations realized between 1997 and 2007. In this section, we describes our sample of firms involved in a process of acquisition operations in series called acquisition program, then we present the empirical methodology used and hypothesis. In the third part of this section, we present the results for the entire sample of 46 acquiring firms.

a) Data

The acquiring firms sample analyzed in this study comes primarily from the AMF² files, which, are on its Web site. During the observation period (1997-2011), the French acquirers made 1050 acquisition operations. These operations concern only four types of acquisition, which are takeover bid, public offer of exchange, mixed public offer and merger.

The basic selection criterion is concerning the number of acquisition attempts made by the acquirer. Every acquiring firm having made at least an acquisition attempt during the eleven years of the study period is held in the sample. We strictly apply this selection criterion because it is impossible in this case (French case) to verify the real public announcement of the acquisition programs in the financial press.

Two firms are concerned in every acquisition operation, the acquiring firm and the acquired (target) firm. Our empirical analysis touches only the French acquiring firms. In final our sample study covers over 11 years, from 1997 to 2007 and they contains 46 French frequently acquirers. These firms represents practically all the economic sectors of France. The entire 46 firm

sample which announced and subsequently carried out acquisition programs launched a total of 97 acquisition operations, they represents on average 2.11 attempts by firm during the study period. This represents 95% of all the acquisition attempts counted during observation period (1997-2011) as it shown in table 1 and figure 1. We consider the acquisition operations made by the acquiring firms as acquisition attempts since they can be successful or unsuccessful.

All the financial and stock exchange data concerning the 46 French acquirers about which we evaluate the profitability of their acquisition programs are obtained from *Datastream* database. This data ranges from stock price, dividend, CAC 40 stock index, market value and FRANCE TREASURY BILL 1 MONTH for interest rate. These data is gathered every month and we calculate the zero beta portfolio return after having calculate the monthly stock return for each firm. We use the zero beta return to calculate the stock and market risk premium and it instead of interest rate.

b) Empirical methodology and assumptions

The fundamental idea according to which Malatesta and Thompson (1985) have developed their econometric model for assessing profitability of an acquisition program is diverted from estimation of a classical investment. In the launch of an acquisition program, the acquiring firm has fixed costs that she hope to cover with future cash flows generated by their acquisition attempts. The net present value of the acquisition program for an acquiring firm j , NPV_j is given by

$$NPV_j = \frac{q_j \cdot v_j}{r} - F_j \quad (1)$$

² AMF : Autorité des Marchés Financiers, www.amf-france.org

Table 1
Summary of the sample elements for empirical study

The sample elements	Rough description
<p>Data :</p> <ul style="list-style-type: none"> - Choice of firms - dates of the first announcement - Stock exchange and financial data - Types of acquisition attempts <p>The periods :</p> <ul style="list-style-type: none"> - Observation period - Studyperiod - Periodicity of the data - Length of the study period <p>The acquisition attempts :</p> <ul style="list-style-type: none"> - Number of firms - Number of firms without acquisition attempts - Sum of acquisition attempts during study period <p>Average of the attempts :</p> <ul style="list-style-type: none"> - Sum of attempts per firm - Sum of annual attempts per firm 	<p>Source of data :</p> <ul style="list-style-type: none"> - www.amf-france.org - www.amf-france.org - Datastream database - Take-over (cash, exchange, mixte) and mergers <p>Delimitation of periods :</p> <ul style="list-style-type: none"> - 1/1997 to 12/2011 - 1/1997 to 12/2007 - Monthly - 132 months <p>Statistical data :</p> <ul style="list-style-type: none"> - 46 - 0 - 97 <p>Statistical data :</p> <ul style="list-style-type: none"> - 2.11 - 0.19

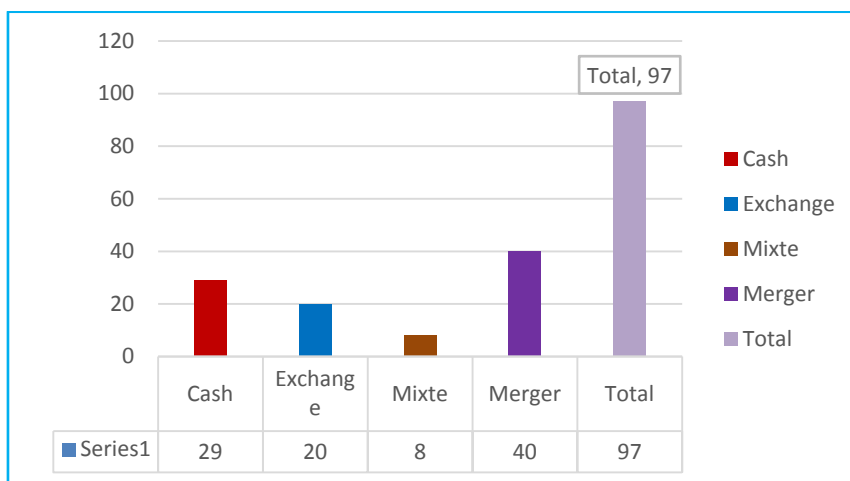


Fig. 1

Number of acquisition attempts by type 1997-2007

Where F_j denotes the program's fixed cost that contains all kinds of expenses in order to prolong the program. In addition, for each individual future attempt, the economic impact is indicated by v_j . Acquisition attempts within the program have a constant frequency q_j per period, the risk free interest rate equal to r .

The approach that I use in our empirical study in order to determines if French acquisitions programs are profitable or not begin by the estimation of the stock rate of return for each firm within the sample and the market return

$$R_{it} = \frac{P_{it} - P_{it-1} + D_{it}}{P_{it-1}} \quad (2)$$

where R_{it} is the realized rate of return to stock i at time t , P_{it} and P_{it-1} are the stock price as they are taken from *Datastream* database at time t and $t - 1$ successively, and D_{it} represents the dividend on the stock at time t .

$$R_{mt} = \frac{I_{CAC 40_t} - I_{CAC 40_{t-1}}}{I_{CAC 40_{t-1}}} \quad (3)$$

in which R_{mt} is the return on the market at time t , and I_{CAC40_t} , $I_{CAC40_{t-1}}$ are the stock index CAC 40(Paris Stock Index) at time t and $t - 1$ successively.

These two calculations allow us to begin the estimation of the multiple regression coefficients of the principles four models. The basic model serving to verify

the hypotheses of the study is in the form of a multiple regression with two independent variables, the first one is the market risk premium weighted by firm value V_{jt-1} at the time $t-1$. The second variable is a binary, d_{jt} equal to one for a firm j , which makes an acquisition attempt during period t and zero otherwise

$$(\tilde{r}_{jt} - r_t)V_{jt-1} = \alpha_j + \beta_j V_{jt-1}(\tilde{r}_{mt} - r_t) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt} \quad (4)$$

where $(\tilde{r}_{jt} - r_t)V_{jt-1}$ is the stock risk premium weighted by the firm value expressed by the market capitalization at the time $t-1$. The market risk premium $V_{jt-1}(\tilde{r}_{mt} - r_t)$ is one of the two independent variables of the regression equation; this one also is weighted by the firm value. The second independent (explanatory) variable of the multiple regression is the binary variable d_{jt} , which is equal to one if the firm take an acquisition attempt and zero when the firm does not take attempt during given period.

The main objective of our study is to estimate the gains or the losses of the French corporates acquisition programs, which spread out over several years. This evaluation is completed by the calculation of three coefficients α_j, γ_j and $\alpha_j + \gamma_j$ of the eq. (1). The analysis on which is based our empirical study is applied through four regressions, among which the three coefficients of two of them are expressed in

excess euro returns, and the two other regressions are in excess rate of return form, as it is shown below

$$(\tilde{r}_{jt} - r_t)V_{jt-1} = \alpha_j + \beta_j V_{jt-1}(\tilde{r}_{mt} - r_t) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt} \quad (5)$$

$$(\tilde{r}_{jt} - r_t) = \alpha_j + \beta_j (\tilde{r}_{mt} - r_t) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt} \quad (6)$$

$$(\tilde{r}_{jt} - \tilde{r}_{zt})V_{jt-1} = \alpha_j + \beta_j V_{jt-1}(\tilde{r}_{mt} - \tilde{r}_{zt}) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt} \quad (7)$$

$$(\tilde{r}_{jt} - \tilde{r}_{zt}) = \alpha_j + \beta_j (\tilde{r}_{mt} - \tilde{r}_{zt}) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt} \quad (8)$$

Both equations in which appear the variable defining the firm value V_{jt-1} are the ones which give the results in excess euro returns, and the two others which are without this variable, their results are in excess rate of returns. Another specification concern both risk premium. Two equations eq (5) and eq. (6) are expressed in interest rate and the two others eq. (7) and eq. (8) use the zero beta return to calculate both risk premium, that of the stock and that of the market.

Three hypotheses are treated in this study. The first one concern the variations of the abnormal returns that should be negative in non-event period. The second one predicts that the expected economic impact is positive and the last one it is about the expected announcement effect that should be positive. An overview on these hypotheses is presented in table 2 below:

Table 2

Hypotheses of the empirical study

Hypothesis	Coefficient	Coefficient sign	Definition of the hypotheses
$H_1 : \alpha_j = -q_j v_j < 0$	α_j	(-)	Expected abnormal return of an acquisition attempt for a non-event period
$H_2 : \gamma_j = v_j > 0$	γ_j	(+)	Economic impact of an acquisition attempt
$H_3 : \alpha_j + \gamma_j = (1 - q_j)v_j > 0$	$\alpha_j + \gamma_j$	(+)	Announcement effect of an acquisition attempt

The first hypothesis H_1 implies that the non-event period is the non-announcement period this means that is the time when the acquirer do not launch acquisition attempt. In every period, the frequency of acquisition attempt is positive q_j and because the expected economic impact of an acquisition attempt v_j is positive, then the variation of the abnormal returns in non-announcement periods α_j must be negative. In the second hypothesis H_2 , since γ_j is equal to v_j it follows that γ_j that measure the economic impact must be positive. The announcement effect of acquisition attempts is tested by the hypothesis H_3 , which states that the announcement effect must be positive if the expected economic impact is positive.

c) Results

For each of 46 companies constituting our sample, the parameters of every model 1, 2, 3 and 4 are considered by the ordinary least squares approach (OLS) applied to 132 months of study period (01/01/1997 to 31/12/2007).

Table 3 reports the main results of our study. In this table, I present for the four models, the average estimation of the coefficients, the average of t-student test and the significant percent different from zero of the coefficients.

In the panel A, the model 1 test the first hypothesis that $\alpha_j < 0$, I find that only one case on 46, this result was obtained and which is significant at the level of 0.05. This unique negative alpha is the one of the firm Unibel, an SME company specializes in the food

industry. On the other hand, in 32 cases we reject the null hypothesis in favor of the alternative $\alpha_j > 0$ for a significance level of 0.1. The number of non-significant cases is 13 cases on 46 studied what represents approximately 28% of the total sample.

The average of $\tilde{\alpha}_j$ for the entire sample is 169.033 million € what is against the hypothesis which predicts a negative sign. The explanation of this result according to which the French financial market is not efficient is not plausible, but there are other factors, which can explain this, as for example the competitiveness in the French corporates acquisition or what the launch of acquisition programs is expensive to the French acquiring firms.

The results given in panels B, C and D confirm the result of the basic model shown in panel A for both types, results expressed in excess euro returns or results in excess rate of return form.

IV. THE ACQUISITIONS PROGRAMS PROFITABILITY OF FRENCH SME

All the results on the profitability of the French corporates acquisition programs presented above are relative to the entire sample of French companies. Bouzgarrou and Navatte (2012)³ find positive significant CARs (Cumulative Abnormal Retrns) for French acquirers of private targets and negative insignificant CARs for French acquirers of listed targets. This result

my help us to complete our study. Indeed, to seize well the firms, which are more successful than others are, we distributed the 46 companies making up our sample study on subsamples. This work allowed us to constitute eight subsamples of industry: real estate, industrial services, chemistry and oil, technology, banks, media, distribution and health. For example, in the sector of the real estate, we have Vinci, Bouygues and especially Saint-Gobain which is a leader in his domain and very successful. Note that, in our sample there is also a small and medium enterprises "SME" as by example in the sub-sample of the Healthcare sector. This sub-sample consists of two companies only, Sartorius and Guerbet. Indeed, for this sector and for both firms together the sign of both coefficients γ_j and $\alpha_j + \gamma_j$ is positive. This is in line with the signs waited in both hypotheses, that of the economic impact and the announcement effect. The value of these two parameters, are estimated at 3.57 and 5.28 million €. Thus, there is at least one sector among eight branches of industry, which verified both hypotheses H_2 and H_3 . This is also an obvious result of the performance of the French EMS within the framework of French corporates acquisition programs.

Guerbet and Sartorius, together has significant results and their acquisition programs are slightly profitable but their financial performance are better than other big firms. Sartorius is listed at the SBF 120 stock index and Guerbet at the CAC SMALL 90 index.

Table 3

Summary of results for the four models

For each firm j the rates of return is indicated by \tilde{r}_{jt} and the market return by \tilde{r}_{mt} . Riskless interest rate is noted by r_t and in some cases, this interest rate is replaced by the zero beta portfolio return denoted by \tilde{r}_{zt} . The d_{jt} take two value: (1) if firm j firm j at period $t - 1$ is expressed by V_{jt-1} .

For each of 46 acquiring firms, estimates of α, γ and $\alpha + \gamma$ from 1/1/1997 through 31/12/2007, while α measures the acquisition attempts abnormal return on non-periods, γ measures the economic impact of acquisition attempts and $\alpha + \gamma$ measures the announcement effect.

Coefficient	Number of Estimates (J)	Average Estimate	Percent Positive (%)	Average t-statistic	Percent significant (0.1 level of significance)	
					(+)	(-)
Panel A Model 1 : $(\tilde{r}_{jt} - r_t) V_{jt-1} = \alpha_j + \beta_j V_{jt-1} (\tilde{r}_{mt} - r_t) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt}$						
α	46	169.033 ^a		2.48 ^d	69.57	2.17
β	46	1.20		7.55 ^d	97.83	0.00
γ	46	-40.901 ^a		-0.25 ^d	2.17	10.87
$\alpha + \gamma$	46	128.131 ^a		0.04	58.7	37.00

³ Bouzgarrou, H., Navatte, P., 2012. Short Term Wealth Creation Sustainability of French Acquirers of Unlisted Versus Listed Firms. Bankers, Markets & Investors N° 121, November-December, 47-58.

<i>Panel B Model 2: $(\tilde{r}_{jt} - r_t) = \alpha_j + \beta_j(\tilde{r}_{mt} - r_t) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt}$</i>						
α	46	0.0240	97.8	3.02 ^c	79.09	2.17
β	46	0.8332	100.0	6.71 ^b	96.65	0.00
γ	46	-0.0101	45.7	-0.11 ^c	4.35	2.17
$\alpha + \gamma$	46	0.0140	58.7	0.07	56.5	41.30
<i>Panel C Model 3: $(\tilde{r}_{jt} - \tilde{r}_{zt})V_{jt-1} = \alpha_j + \beta_j V_{jt-1}(\tilde{r}_{mt} - \tilde{r}_{zt}) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt}$</i>						
α	46	147.01 ^a	82.6	1.80 ^d	56.52	2.17
β	46	0.92	100.0	9.13 ^b	97.83	0.00
γ	46	-69.09 ^a	41.3	-0.27 ^d	2.17	10.87
$\alpha + \gamma$	46	77.92 ^a	56.5	-0.03	54.35	41.30
<i>Panel D Model 4: $(\tilde{r}_{jt} - \tilde{r}_{zt}) = \alpha_j + \beta_j(\tilde{r}_{mt} - \tilde{r}_{zt}) + \gamma_j d_{jt} + \tilde{\epsilon}_{jt}$</i>						
α	46	0.0218	91.3	2.41 ^d	69.56	2.17
β	46	0.8732	100.0	9.18 ^b	100.00	0.00
γ	46	-0.0107	43.5	-0.13 ^{n-s}	4.35	4.35
$\alpha + \gamma$	46	0.0111	54.3	0.04	52.17	45.65

^a In million €^b Significant at the 1% level

^c Significant at the 5% level

^d Significant at the 10% level

^{n-s} No Significant

V. SUMMARY AND CONCLUSIONS

By examining acquisitions programs, launched by frequently French acquiring firms from half of the 90s until the middle of the 2000s, I find that only the announcement effect hypothesis appears to apply to French acquisitions programs. Indeed, our results are a little limited by the weakness of the frequency of the acquisition attempts launched by the French acquirers.

Finally, proved evidence through the four regressions results supports partially the hypothesis that acquisition programs can be perceived as profitable investment projects for the French acquirers essentially those of "SME". This conclusion is justified by the individual results of firms. Otherwise, the sample which consists of 46 French companies considered as frequent acquirers on French acquisition market indicate clearly that firm's acquisition programs during the last decade were destructive of value. It means they do not maximize the value of the firm nor the stockholder's wealth.

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Macroeconomic and Firm Specific Determinants of Profitability of Insurance Industry in Ethiopia

By Demis Hailegebreal

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Abstract- This study was conducted on the determinants of profitability of Ethiopian insurance industry. The study attempts to examine the firm specific factors which are age of company, size of company, leverage ratio, liquidity ratio, premium growth, technical provision, underwriting risk, solvency, re-insurance dependency and tangibility of assets and macroeconomic factors; GDP and Inflation on profitability of Ethiopian insurance industry. Nine insurance companies from the total of 17 insurance companies established before 2008 were included in the study. Secondary data that was collected from the financial statements (Balance sheet and income statements) of insurance companies; and annual reports of National bank of Ethiopia are the major sources of data for this study. This study found that under writing risk, technical provision, leverage and inflation have negative and significant effect whereas premium growth, age of the company, solvency ratio and GDP have statically positive and significant relationship with the profitability of Ethiopian insurance industry.

Keywords: *Profitability of Insurance industry, Macro-economic and Firm Specific Determinants, Insurance Industry in Ethiopia.*

GJMBR - C Classification : *JEL Code: E44*



Strictly as per the compliance and regulations of:



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Keywords: Profitability of Insurance industry, Macro-economic and Firm Specific Determinants, Insurance Industry in Ethiopia.

I. INTRODUCTION

Insurance companies are playing vital role through saving, pooling of funds for huge investment, risk sharing and protection from suffering from risk for economic growth of developed and developing countries. That is, insurance companies, by channeling funds from savers to those have shortage of funds but have business ideas, and transferring risks from insurers to the insureds, can facilitate fund mobilization, saving and investment in particular country.

Previous study, Naveed et al (2011), stated that the effectiveness of insurance companies and transfer of risk can have an influence on economic growth and institutional insolvencies can result in systemic risk which have adverse results in the country in general and in insurance industry in particular. Therefore, the vital role that financial institutions such as insurance companies remain in financing and insuring economic activities and contribute to the stability of the financial system in particular and the stability of the economy of a particular country in general, is part of protected and repaired system of the economy.

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In doing so, insurance industry in general and insurance company in particular should be financially sound and examining the determinants of financial soundness of insurance industry, is a big concern of the business research.

Hence, the issue needs empirical analysis so as to sort out what are the major factors influencing profitability of insurance industry in Ethiopia too and this will help concerned bodies to focus on the relevant factors. The sound financial performance of insurance industry is important and studies by different previous researchers focus on what factors affecting the financial performance of the sector. Likewise, this study examined firm specific and macro-economic determinants of profitability of Ethiopian insurance industry.

a) Problem statements

Insurance companies can support businesses and individuals through channeling funds and indemnifying the losses of other sectors in the economy. Moreover, insurance companies offer economic and social benefits in the society through loss prevention, anxiety reduction, fear reduction and increasing employment.

According to Hifza (2011), profitability is the ultimate goal of wealth maximization of financial management. The best soundness of any industry in general and any firm in particular plays the role of rising the market value of that specific firm attached with the role of leading towards the growth of the whole industry which finally leads to the overall success of the economy. measuring the financial performance of insurance industry is important and researchable area in the business research as the sector is not only providing the means of saving money and transferring risk but also helps channeling funds from surplus economic units to deficit economic units so investment activities in a country can be promoted.

The insurance industry is part of protected and repair scheme of an economy and successful operation of the industry can set energy for other industries and development of a country. For doing so, the insurance industry is expected to be financially sound enough or profitable in operation. Therefore, not only measuring the financial performance of insurance companies but also comprehensible imminent on factor influencing financial performance in the industry is the problem that

must be examined. The Ethiopian economy is highly supported by insurance industry followed from the banking industry. As a result, the financial soundness of insurance industry in Ethiopia is not a compromising issue and examining the factors that can have an influence on the industry is highly researchable area.

The above critical issues motivated the researcher to put some sort of contribution on what factors have an effect on the financial performance of insurance companies. While taking importance of the issue of factors determining the profitability of insurance industry, the researcher tried to examine macroeconomic and firm specific factors that have influence on the profitability Ethiopian insurance industry.

b) Hypothesis

H1: age has significant and positive effect on Ethiopian insurance industry's profitability.

H2: size has positive and significant effect on insurance industry's profitability in Ethiopia.

H3: leverage has negative and significant effects on profitability of Ethiopian insurance industry.

H4: Tangibility of assets of insurance companies and their profitability are positively related.

H5: Liquidity ratio and profitability of insurance companies are negatively related.

H6: solvency has positive and significant effect on profitability of Ethiopian insurance industry.

H7: premium growth has significant and positive effect on insurance industry's profitability in Ethiopia.

H8: re-insurance dependency significantly and negatively affects the profitability of Ethiopian insurance industry.

H9: underwriting risk has a negative and significant effect on Ethiopian insurance industry's profitability.

H10: technical provision has a negative and significant effect on profitability of Ethiopian insurance industry.

H11: GDP has positive and significant effect on profitability of insurance industry in Ethiopia.

H12: Inflation has negative and significant effect on Ethiopian insurance industry profitability.

c) Research objectives

The main objective of this study is to identify the major factors that affect the profitability of insurance industry in Ethiopia. Specifically, this study is designed to measure the extent to which these determinants exert impact on insurance companies' profitability; to determine the relationship between these factors and profitability in insurance companies and to make policy recommendations regarding the key drivers of profitability of insurance companies in Ethiopia based on the empirical findings.

d) Significant of the study

This research will help the policy makers and managers of insurance industry in Ethiopia to consider major determinants of insurance industry in Ethiopia. Despite the role of insurance for the overall growth of Ethiopian economy (that is affected by the performance or profitability of the industry), only few researches are conducted on the area. As far as the researcher's knowledge is concerned, there have not been empirical studies addressed the performance of insurance industry in Ethiopia. Thus, this research is aimed at filling this gap; motivate other researches to the area and providing appropriate recommendation.

e) Scope of the study

This study will be delimited on the firm specific determinants of profitability of insurance industry in Ethiopia from the fiscal year of 2008 to 2013. Both public and private and life and non life insurance companies will be included in the study.

II. EMPIRICAL LITERATURE

Renbao Chen et.al (2004) investigated that "higher profit provide both the means (larger obtainability of money from retained earned or from the capital market) and the incentive (a high rate of return) for new investment". This shows that insurance companies are needed to profitable or financially sound so as to support other industries in the economy.

Hifza (2011), stated that insurance companies plays vital role in promoting commercial and infrastructural businesses by encouraging financial and social stability; mobilizing and channeling savings; supporting trade, commerce and entrepreneurial activities and improves the standard of the lives of individuals and the overall wellbeing in a country.

Renbao Chen et.al (2004) summarized firm specific factors affecting profitability of property or liability insurance of general insurers and life or health insurance and provide valuable guidelines for insurers financial soundness as life/health insurance companies are different from property/liability insurers in terms of business, investment, exposure and length of liabilities. According to **Renbao Chen et.al 2004**, Life insurers perform a function of financial intermediation though general insurers act as risk takers.

Hamdan 2008) stated that return on assets (ROA), return on equity (ROE) and return on invested capital (ROIC) are used for the measurement of insurance companies profitability. Accordingly, ROA is the measure of financial performance of the company using its total assets. This is an indication of how effective management is in using the total assets to generate earnings whereas ROE measures a company's profitability which tells how much a company generates earnings with the money shareholders have invested. ROIC is a measure used to measure a company's

effectiveness in sharing the capital under its control in profitable business. This shows how well a company is in using its capital to generate returns. Comparing a company's ROIC with its weighted average cost of capital (WACC) indicates whether spent capital is used efficiently or not.

William H. Greene and Dam Segal (2004) in contrast, argued that the financial performance of insurance companies is normally expressed in net premium earned, underwriting profit, annual income, return on asset, return on equity. This can be categorized as profit performance and investment performance. Nevertheless, too many researchers in the field of insurance and their profitability stated that the key indicator of a firms' profitability is ROA. **Philip Hardwick and Mike Adams (1999)**, **Hafiz (2011)** are among others, who have suggested among others, ROA can be the best proxy of profitability and better to use it.

Swiss Re (2008) indicated that profits are determined with underwriting performance (which are influenced by product pricing, risk selection, claims management, and marketing and administrative expenses) and investment performance.

Previous studies, **Hifza(2011)**, **SylwesterKozak (2011)**, **Hamadan (2008)** **Swiss Re (2008)** and **Jay Angoff Roger Brown (2007)** investigated factors of non life insurers profitability while **Naveed Ahmed, Zulfqar Ahmed, Ahmad Usman (2011)**, **Adams M., Hardwick P. and Zou H., (2008)** **Desheng Wu Z., Sandra V. &Lianga, (2007)**, **Wright, K. M. (1992)**, investigated determinants of life and health insurance companies. Thus, most of the researchers focused on internal factors that influence profitability and most of the factors considered are age of company, size of company, leverage ratio, volume of capital, tangibility of assets and liquidity ratio.

Hamadin (2008) stated that internal factors can be financial statement variables and non-financial statements variables. The financial statement variables are factors which are directly driven from items in a balance sheet and profit & loss accounts of the insurance companies whereas the non-financial statement variables are those factors which are not directly shown on the financial statements accounts. Accordingly, **Hamadin (2008)**, **Kozak (2011)**, **Swiss Re (2008)**, **Brown (2007)**, **Adams M., Hardwick P. and Zou H., (2008)**, **Naveed et al (2011)**, **Desheng Wu Z., Sandra V. & Lianga (2007)**, **Wright, K. M. (1992)**, **Flamini et.al (2009)** and **Hafiz (2011)** used size, leverage, liquidity, tangibility of assets, and volume of capital.

Athanasoglou et al. (2005), investigated newly established banks are not particularly profitable in their first years of operation, as they give higher focus on boosting their market share, rather than on improving profitability. Similarly, **Yuqi li (2007)** stated that older banks expected to be more profitable due to their longer tradition and they have good reputation.

Several studies have been conducted to evaluate the influence of company size and age on its profitability. However, the results on the relation of profitability with size of the company are somewhat different. For example, empirical study by **Hardwick and Adams (1999)** shows that there is an opposite relation between profitability and firm size. **Brown (2007)** found that age has a positive and significant effect on firms' profitability as measured by ROA.

Contrarily, **Hamadan (2008)** found that no significant statistical relation between age and profitability of insurance companies however, size has positive and significant effect on profitability. Also, **Malik (2011)** found that age has significantly and positive effect on company profitability.

Flamini et. al (2009) specified that size is used to show that larger companies are offering better economies of scale and providing a higher profits than smaller firms.

Accordingly, a positive relationship can exist between size and profitability by many insurance area researchers. However, for extremely large firms, the effect of size could be negative due to bureaucratic and other reasons (**Yuqi Li, 2007**). Therefore, the relationship between size and profitability may be expected to be non-linear. **Athanasoglou et al. (2005)** and **Yuqi Li (2007)** found positive relationship between size and profitability.

Liquidity is the probability of firm to pay liabilities which include operating expenses and payments for losses/benefits, reveals large current assets are held and idle if the ratio becomes high which could be examined in favorable investments. **Naveed Ahmed et.al (2011)** found that profitability (ROA) has no significant relationship with liquidity. Similarly, several researches evaluated the performance of the insurance companies. However, **Chen and Wong (2004)** found that liquidity is the important factor influencing of financial soundness of companies with a negative relationship.

Renbao Chen and Kie Ann Wong, (2004), **Hamadan Ahamed Ali Al-Shami, (2008)**, **Hifza Malik, (2011)**, **Sylwester Kozak, (2011)**, **Swiss Re, (2008)** and **Flamini et.al, (2009)** found that negative and strong relationship between leverage and profitability of firms.

Tangibility of assets in insurance companies in most researches is determined by the proportion of fixed assets to total assets. **Naveed Ahmed et.al (2011)** investigated that size, profitability, age, risk, growth and tangibility are selected as explanatory variables and ROA as the measure of profitability. The study revealed that leverage, size and risk are major factors of performance of long term insurance whilst tangibility of asset has significant effect on ROA contrary, **Hafiz Malik (2011)** and **Yuqi Li (2007)** investigated that tangibility of asset has positive and significant effect on profitability of insurers.

Chen-Ying Lee (2014) and Ana-Maria and Ghiorghe (2014) proved in their study that the financial leverage, company size, growth of gross written premiums, underwriting risk, and solvency margin are the most significant determinants of insurance industry's profitability.

In his study 'the effect of firm specific factors and macroeconomics on profitability property-liability insurance industry in Taiwan found that underwriting risk and reinsurance usage are the most determinants of profitability in Taiwan property-liability insurance industry. This study also found that economic growth is the most important determinants of profitability of insurance industry in Taiwan. Similarly, Doreen (2013) found there is a strong and positive relationship between GDP and insurance companies' profitability.

Gatzlaff (2009) conducted research entitle dimensions of property-liability insurer performance and found that operational performance was negatively related to underwriting risk and premium growth. Lee and Lee (2012), Olajumoke Olaosebikan (2012) and Hsu-Hua and Chen (2012) found in their study that reinsurance, underwriting risks, and liquidity ratio have significant influence on firm performance.

Ana-Maria and Ghiorghe (2014) conducted a research on the Determinants of Financial Performance in the Romanian Insurance Market and the result shows that the financial leverage, company size, growth of gross written premiums, underwriting risk, and solvency margin are the most significant determinants of Romanian insurance industry's profitability.

Pervan and Pavić (2010), Doreen (2013) and Y. Shiu (2004) in their study 'determinants of insurance companies' profitability in Croatia' found an inverse and significant effect of inflation on profitability of insurance industry.

B. Charumathi (2012) found that profitability of life insurers is positively and significantly influenced by the size and liquidity whereas, leverage, premium growth and negatively and significantly influenced the

profitability of Indian life insurers. However, the study indicated that no significant relationship between underwriting risk and profitability.

III. RESEARCH METHODOLOGY

a) Research design

Depending on the nature of the research problem and the research perspective, a research method could be based on the philosophy of quantitative or qualitative or a combination of these two approaches.

According to Creswell (2003), quantitative research uses a review of the existing literature to deductively develop theories and hypotheses to be tested; the research problem is translated to specific variables and hypotheses.

Similarly, Creswell (2003) described qualitative approach as it uses the philosophical assumption of social constructivism world view that provides an understanding of social reality based on the subjective interpretation. Besides, the third approach is mixed research approach that seeks a pragmatic knowledge claim philosophy that consists of both quantitative and qualitative approaches.

Thus, in order to achieve the objectives stated in the previous section, bearing in mind the nature of research problem and the research outlook, this study mainly employed mixed research approach.

b) Target Population and sample size

Currently, as of 2016, there are 17 insurance companies in Ethiopia (www.nbe.gov.et). All private and public insurance companies established before the year 2008 were selected as a sample purposely. Accordingly, nine insurance companies were included in this study.

c) Types and Sources of Data

The data used for this study was secondary data which was collected from the audited financial statements of each insurance companies and NBE from the fiscal year of 2004 to 2014.

d) Variables with its measurement

	Variables	Measures	Sign	Sources
Dependent	Profitability (ROA)	Net profit before tax/total assets		
Independent	Underwriting risk	claim incurred / premium earned	-	Ana-MariaandGhiorghe (2014)
	Reinsurance dependence	premium ceded/total asset	-	Hsu-Hua and Chen (2012) and Olajumoke (2012)
	Solvency margin(SM)	net assets/net written premiums	+	Ana-Maria and Ghiorghe (2014), Shiu (2004), (B. Charumathi (2013).
	Company size	Natural logarithm of total assets	+	Hardwick and Adams (1999), Swiss Re (2008), Malik (2011)
	Liquidity(LQ)	Current Assets / Current Liabilities	-	Chen and Wong, (2004),

Premium growth(PG)	$PG = (GWP(t) - GWP(t-1)) / GWP(t-1)$	+	<i>EmineÖner Kaya (2015), Maria and Ghiorghe (2014)</i>
Tangibility of assets	fixed assets/Total assets	+	<i>HafizMalik (2011)</i>
Leverage	Total liability/Total assets	-	<i>Chen and Kie Ann Wong, (2004), Hamadan Ahamed Al-Shami (2008)</i>
Technical provisions	claims outstanding/equity ratio	-	
Inflation(I)	$I = (Inf_t - Inf_{t-1}) / Inf_{t-1}$	-	<i>Chen-Ying Lee, 2014), and Doumpos et al., 2012),</i>
Growth rate of GDP	$(GDP_t - GDP_{t-1}) / GDP_{t-1}$	+	<i>Gustina and Abdullah (2012), Beck and Webb (2003),</i>

Sources: empirical literatures

e) Model specification

$$ROA = C + \beta X_{it} + \varepsilon \text{ (adapted from Hifza, 2011)}$$

Where ROA is return on assets, X_{it} is dependent variables for insurance "i" at time "t", C is constant, β is the coefficient and ε is the error term.

a) Testing multi-collinearity problem

Table 4.1 : Testing multi-collinearity problem

Variable	VIF	1/VIF
napw	3.64	0.275095
coe	2.57	0.389662
ciep	2.15	0.464082
cacl	2.12	0.470945
pcta	2.00	0.500610
age	1.63	0.614648
pg	1.49	0.671438
gdp	1.45	0.688739
lev	1.45	0.691366
inf	1.38	0.726781
tangibility	1.21	0.823763
cs	1.13	0.882480
Mean VIF	1.85	

Sources: author computation

The above table presents the multi-collinearity among the independent variables. According to Morgan et al, (2004), the variance inflation factor (VIF) above 10 or the tolerance value (1/VIF) below 0.1 is an indication that there is a problem of multi-collinearity among the variables. The above table shows that there is no VIF greater than 10 and 1/VIF below 0.1; in turn reveals any of the independent variable included in this study is not explained by the other. Hence all variables can be retained in the model of this study.

b) Testing hetroskedasticity problem

Table 4.2 : Testing hetroskedasticity problem

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of roa

chi2(1) = 0.85

Prob > chi2 = 0.3572

Sources: author computation

IV. RESULT AND DISCUSSION

The data collected from annual reports of each insurance company was analyzed with the help of software (stata 12.0) and then was interpreted in the following section.

c) Hypothesis testing

Table 4.3 : Hypothesis testing

ROA	Coef.	Std.Err	t	p>t	[95% Conf.	Interval]
CIEP	-.2006741	.0342456	-5.86	0.000*	-.268752	-.1325962
NAPW	.0456464	.0163123	2.80	0.006*	.0780742	-.0132186
CACL	.0049059	.0175293	0.28	0.780	-.0299413	.0397531
CS	1.35e-07	1.98e-07	0.68	0.024*	-2.59e-07	5.28e-07
PG	.0946792	.0224599	4.22	0.000*	.0500304	.139328
PCTA	-.0315101	.0664695	-0.47	0.637**	-.163647	.1006268
COE	-.0394648	.0174286	-2.26	0.026*	-.0741118	-.0048178
						.0603932
					.!	.0039419
LEV	-.0348023	.0147505	-2.36	0.021*	-.0641253	-.0054794
GDP	4.518175	.5641255	8.01	0.000*	5.639619	3.39673
INF	-.0654974	.0391418	-1.67	0.098**	-.1433087	.0123139
_cons	.7131401	.0750059	9.51	0.000*	.5640332	.862247
Number of obs=		99				
F(12, 86)=		13.04				
Prob>F=		0.0000				
R-square=		0.6454				
Adj-R-square=		0.5959				

*significant at 1% level, ** significant at 10% level

Sources: author computation

As Morgan et al (2004) stated the adjusted R-square in the above table indicates how well the model variance explained. The adjusted R-square nearest to 1 is an indication that the model is strongly explained by the variables included in the study whereas the Adjusted R-square nearest to 0 is indicating that the model is not strongly explained by the variables used in the study. The above table shows that the adjusted R-square is 59.59% (0.5959), meaning 59.59% (0.5959) of profitability of insurance industry in Ethiopia is explained by under writing risk (CIEP), solvency ratio (NAPW), liquidity (CACL), company size (CS), premium growth (PG), re-insurance dependency (PCTA), leverage (IEV), technical provision (COE), tangibility of assets, age of the company, growth rate of GDP (GDP), and inflation (INF).

This study found that under writing risk, technical provision, leverage and inflation have negative and significant effect whereas premium growth, age of the company, solvency ratio and GDP have statically positive and significant effect on the profitability of Ethiopian insurance industry. Despite, the study found that liquidity, re-insurance dependency, tangibility of assets and company size have no significant effect on the profitability of insurance industry in Ethiopia. From this it is possible to conclude that the most important determinants of Ethiopian insurance industry are under writing risk, solvency ratio, technical provision, leverage, inflation, premium growth, age of the company and GDP.

The regression result in the table 4.3 shows the relationship between profitability as proxied by Return

on Assets (ROA) and age of the company is positive and significant (p-value of 0.0000) at 1 percent confidence interval. This is an indication that when the age of the companies increases, its return on assets will also raise. As a result the first hypothesis (H1) that age has a positive and significant effect on profitability of Ethiopian insurance industry's profitability is not rejected. The result of this study is similar with the result of Athanasoglou et al. (2005), Yuqi li (2007), Malik (2011), Swiss Re (2008), and Brown (2007) and contradicted with the result of previous study conducted by Hamadan (2008).

It is shown in the table above that size of the company has a positive and statistically significant (p-value of 0.024) effect on the Ethiopian insurance industry's profitability. As a result the second hypothesis that size has positive and significant effect on insurance industry's profitability in Ethiopia is not rejected. The result of this research similar with the previous studies done by Hardwick and Adams (1999), Swiss Re (2008), Malik (2011), Flamini et.al (2009), Athanasoglou et al., (2005), Yuqi Li (2007).

Leverage and return on assets of Ethiopian insurance industry have negative and significant (with p-value of 0.021) relationship. It was hypothesized that leverage has negative effect on the profitability of Ethiopian insurance industry. Thus the third hypothesis is not rejected showing that while the leverage of companies increased, the profitability of the industry will move to the opposite direction. This result tells us while the insurance companies increase their debt (if the insurance companies operate with huge debt), the

profitability of the industry will significantly falls. This result was also proved by Renbao Chen and Kie Ann Wong (2004), Hamadan Ahamed Ali Al-Shami (2008), Hifza Malik (2011), Sylwester Kozak (2011), Swiss Re (2008) and Flamini et.al (2009) and contradict with the study of Mirie Mwangi and Jane Wanjugu Murigu (2015), which found no relationship between leverage and Kenyan insurance industry's profitability.

The regression in the above table 4.3 indicated that tangibility of assets have negative and insignificant effect on the profitability of insurance industry in Ethiopia. Even if there is a negative relationship between return on assets of insurance industry in Ethiopia and tangibility of assets, their relationship is not significant, hence, the fourth hypothesis is rejected. The result of this study on this variable is consistent with the result of Naveed Ahmed et.al (2011) and Yuqi Li (2007) and contracted with the result of the study conducted by Hafiz Malik (2011).

It is found that liquidity has positive and insignificant effect on ROA of Ethiopian insurance industry. Thus the fifth hypothesis that liquidity and profitability of insurance industry in Ethiopia are negatively related is rejected. This result is similar with (Naveed Ahmed et.al, 2011), Daniel Mehari and Tilahun Aemiro, 2013), Adams and Buckle (2000) and Bilal et al (2013) and is not consistent with empirical results (Chen and Wong, 2004), and Valentina et al, 2009).

The solvency ratio and the return on assets of Ethiopian insurance industry have positive and significant relationship. This indicated that when the solvency of insurance companies is strong, the profitability of the industry will be increased. Thus, the hypothesis that solvency ratio has positive and significant effect on profitability of Ethiopian insurance industry, is not rejected. The result of this study is similar with result of the research previously conducted by Ana-Maria BURCA and Ghiorghe BĂTRÎNCA (2014), Shiu (2004), (B. Charumathi (2013). This is an indication that financially sound insurance companies are able to maximize their profitability.

The premium growth is considered the major determinants of insurance industry profitability everywhere. Similarly, the result of this study indicated that premium growth is positive and significant effect on the profitability of Ethiopian insurance industry and the seventh hypothesis is not rejected. The same result was proved in previous studies conducted by Emine Öner Kaya (2015), and contradicted with the result of Ana-Maria and Ghiorghe (2014) and B. Charumathi (2012) that found negative and significant relationship between profitability of Turkish insurance industry and premium growth.

It is proved from the above regression analysis that the re-insurance dependency doesn't have a significant effect on the profitability of Ethiopian insurance industry. Therefore, the eighth hypothesis is

rejected. Basically, purchasing a re-insurance is for the purpose of providing protection against catastrophic losses. However, in Ethiopia, the catastrophic losses are not the headache of insurance companies. Hence, the insurance companies are be able to determine appropriate ceding level and this can lead to a reduction in cost of reinsurance. Due to this, the relationship between re-insurance dependency and ROA of insurance industry in Ethiopia, have no significant relationship. The result of this study is similar with the result conducted by Chen-Ying Lee (2014) and contradicted with the result of Hafiza and Mobeen (214), which found positive and significant relationship between re-insurance dependency and insurance companies' profitability and Hsu-Hua and Chen (2012) and Olajumoke (2012) that found significant but negative relationship between re-insurance dependency and ROA.

As it is found in this study, underwriting risk (CIEP) has negative and significant effect on Ethiopian insurance industry's profitability. Hence, the ninth hypothesis is not rejected. This result is not consistent with the previous study conducted in Kenya by Mirie Mwangi and Jane Wanjugu Murigu (2015), which found no relationship between Kenyans insurance industry's profitability and under writing risk and Chen-Ying Lee (2014) which found positive relationship between underwriting risk and profitability of insurance industry of Taiwan but consistent with Ana-Maria and Ghiorghe (2014).

The regression result of this study revealed that the effect of technical provision on the Ethiopian insurance industry's profitability is significant and negative. Thus, the tenth hypothesis that technical provision has a negative and significant effect on profitability of Ethiopian insurance industry not rejected. Technical provisions is used to cover (for general insurance) provisions for items such as unearned premiums, unexpired risks, claims outstanding (whether or not reported), equalisation. Which means insurance companies set aside some sort of funds for contingencies or companies' solvency, which is not used for immediate operation of the companies. Therefore, this can have a negative effect on the profitability of insurance companies, which is similarly proved in this study.

As it is indicated in previous studies, the economic growth proxied by GDP is the most important determinants of insurance industry's profitability in the world. Likewise, it is proved in this study that GDP has positive and significant effect on Ethiopian insurance industry's profitability. This shows that the economic growth is a favorable factor for the rise of profitability of insurance industry in Ethiopia. Thus, the eleventh hypothesis is not rejected. The result of this study was similarly proved in previous studies done by Gustina

and Abdullah (2012), Beck and Webb (2003), Çelik and Kayali (2009), Redzuan (2011).

In most cases, inflation is a macro-economic challenge for the development and profitability of insurance industry in any country. However, the result of this study indicated that inflation is not a significant factor of Ethiopian insurance industry's profitability and

the tenth hypothesis is rejected. This result is similar with previous studies Chen-Ying Lee, (2014), and Doumpou et al., (2012), and is not consistent with the previously conducted research (Doreen, 2013) and Y. Shiu (2000), that found no significant relationship between profitability of insurance industry and inflation.

d) Correlation between ROA and independent variables

Table 4.4 : Correlation coefficients

	roa	ciep	napw	cacl	cs	pg	pcta	coe	tangib-y	age	lev	gdp	inf
roa	1.0000												
ciep	-0.3244	1.0000											
napw	-0.1051	-0.5289	1.0000										
cacl	-0.0080	-0.4168	0.6844	1.0000									
cs	0.0439	0.0095	-0.0455	-0.0618	1.0000								
pg	0.2326	0.0699	-0.1935	-0.1036	-0.0953	1.0000							
pcta	0.3624	-0.3033	-0.1337	-0.1016	-0.0441	0.1802	1.0000						
coe	-0.0454	0.4077	-0.7125	-0.4921	0.0799	-0.0844	0.2271	1.0000					
tangibility	0.1981	-0.0688	-0.0282	-0.0102	0.2469	-0.1346	0.1242	0.0791	1.0000				
age	0.2095	0.1492	-0.2184	-0.0165	-0.0085	-0.0597	0.3710	0.2475	0.0921	1.0000			
lev	-0.1096	-0.2748	0.0177	-0.0440	0.1408	0.0308	0.3947	0.0219	0.0419	0.3272	1.0000		
gdp	0.4963	-0.0555	0.1990	0.2296	-0.0918	0.1123	-0.2239	-0.2483	-0.2765	-0.0002	-0.0662	1.0000	
inf	-0.0659	0.1898	-0.2319	-0.2260	-0.0743	0.2633	0.1108	0.2064	-0.0956	-0.0013	0.0762	-0.3335	1.0000

Sources: author computation

As per the above table, the correlation coefficient between ROA and underwriting risk (CIEP), solvency ratio (NAPW), liquidity (CACL), technical provision (COE), leverage and inflation is negative indicating that an increase in underwriting risk (CIEP), solvency ratio (NAPW), liquidity (CACL), technical provision (COE), leverage and inflation will lead to a decrease in the profitability of insurance companies of Ethiopia. on the other hand, the correlation coefficient between ROA and company size (CS), premium growth (PG), re-insurance dependency (PCTA), age of the company, tangibility of assets and GDP is positive showing an increase in company size (CS), premium growth (PG), re-insurance dependency (PCTA), age of the company, tangibility of assets and GDP will lead to an increase in the profitability of Ethiopian insurance industries' profitability.

V. CONCLUSION AND RECOMMENDATION

Profitability is the major objectives of financial management because one goal of financial management is to maximize the owner`s wealth. This study attempts to examine the effects of firm specific factors (age of company, size of company, leverage ratio, liquidity ratio, premium growth, technical provision, underwriting risk, solvency, re-insurance dependency and tangibility of assets) and macroeconomic factors

(GDP and Inflation) on profitability of Ethiopian insurance industry. nine insurance companies from the total of 17 companies established before 2008 were included in the study. Secondary data that was obtained from the financial statements of insurance companies; financial publications of NBE are the major sources of the study.

This study found that under writing risk, technical provision, leverage and inflation have negative and significant effect whereas premium growth, age of the company, solvency ratio and GDP have statically positive and significant effect on the profitability of Ethiopian insurance industry. However, the study found that liquidity, re-insurance dependency, tangibility of assets and company size have no significant effect on the profitability of insurance industry in Ethiopia.

This study suggests that insurance companies should critically consider underwriting risk and should minimize the accumulation used for technical provision and the level of leverage.

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Performance of Monthly Income Scheme in Mutual Fund Industry in India

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Abstract- Mutual funds are an integral part of the stock market. It has become the investment avenue for large number of investors in the past 10 years. Also the stock market volatility is high in these years. Thus in order to analyze the performance of top funds under importance schemes, a research has been done. Ten mutual funds in the income fund category were selected based on their returns. The main focus of this research is to find the risk and return features and study the performance of the funds and to compare it with the market return. The research is limited NAV data for ten income funds available for (2005-2015). The findings will be useful to bring out insight into investment avenues.

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Performance of Monthly Income Scheme in Mutual Fund Industry in India

N.Dharmalingam ^α & Dr. K. Balanaga Gurunathan ^ο

Abstract- Mutual funds are an integral part of the stock market. It has become the investment avenue for large number of investors in the past 10 years. Also the stock market volatility is high in these years. Thus in order to analyze the performance of top funds under importance schemes, a research has been done. Ten mutual funds in the income fund category were selected based on their returns. The main focus of this research is to find the risk and return features and study the performance of the funds and to compare it with the market return. The research is limited NAV data for ten income funds available for (2005-2015). The findings will be useful to bring out insight into investment avenues.

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I. INTRODUCTION

There are a number of investment opportunities available to an investor. Each of these investments has its own risk and return features. An investor must learn to analyze and measure the risk and return of the portfolio. The mutual fund industry plays a significant role in the development of the economy. Its buoyant growth leads to lower intermediate costs, more efficient financial markets, and increased vibrancy of the capital markets and higher local ownership of financial assets. If retail investment is directed through the mutual fund route, it will lead to greater wealth creation in the long run. Thus, the industry can be one of the causative factors for a healthy economy. The Indian mutual funds business is expected to grow significantly in the coming years due to a high degree of transparency and disclosure standards comparable to anywhere in the world, through there are many challenges that need to be addressed to increase net mobilization of funds in the sector.

II. LITERATURE REVIEW

Michael C. Jensen, Harvard Business School (2002), in his paper a risk adjusted measure of portfolio performance that estimates how much a manager's forecasting ability contributes to the funds return. The measure is based on the theory of the pricing of Capital assets by Sharpe (1964) Lintner (1965) and Treynor. Timotej Jagric, Boris Podobnik, Sebastjan, Strasek and Vita Jagric (2007), studied the mutual fund industry and

apply various test to evaluate the Performance capacity of mutual funds. They used performance measure to evaluate funds and also they rank them according to the results. Arnod L. Redman, N.S. Gullet and Herman Manakyan (2000), examines the risk adjusted returns using Sharpe Index, Treynors Index, Jensens Alpha for five portfolios of International mutual funds and for three time period: 1985-1994, 1985-1989 and 1990-94. The bench mark for comparison was the US market provided by the Vanquand Index 500 mutual funds and a portfolio of funds that invest solely in US stocks. J. Cal, KC Chan and T. Yamada, 'The performance of Japanese mutual funds', analyze the performance of Japanese open-type stock mutual funds for the 1981-1992 period. David Blake (2003), reviewed the extensive empirical literature on mutual fund performance and also conducted an empirical analysis of the performance of a large sample of UK unit trusts. S.P. Kothari, Jerold B, Warner (2005), indicates standard model fund performance measures, using simulated funds whose characteristics mimic actual funds. Shanmugham (2000) conducted a survey of 201 individual investors to study the information sourcing by investors, their perceptions of various investment strategy dimensions and the factors motivating share investment decisions, and reports that among the various factors, psychological and sociological factors dominated the economic factors in share investment decisions. Madhusudhan V Jambodekar (1996) conducted a study to assess the awareness of MFs among investors, to identify the information sources influencing the buying decision and the factors influencing the choice of a particular fund. The study reveals among other things that Income Schemes and Open Ended Schemes are more preferred than Growth Schemes and Close Ended Schemes during the then prevalent market conditions. Investors look for safety of Principal, Liquidity and Capital appreciation in the order of importance; Newspapers and Magazines are the first source of information through which investors get to know about MFs/Schemes and investor service is a major differentiating factor in the selection of Mutual Fund Schemes. Sujit Sikidar and Amrit Pal Singh (1996) carried out a survey with an objective to understand the behavioural aspects of the investors of the North Eastern region towards equity and mutual funds investment portfolio. The survey revealed that the salaried and self-employed formed the major investors

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in mutual fund primarily due to tax concessions. UTI and SBI schemes were popular in that part of the country then and other funds had not proved to be a big hit during the time when survey was done. Syama Sunder (1998) conducted a survey to get an insight into the mutual fund operations of private institutions with special reference to Kothari Pioneer. The survey revealed that awareness about Mutual Fund concept was poor during that time in small cities like Visakhapatnam. Agents play a vital role in spreading the Mutual Fund culture; open-end schemes were much preferred then; age and income are the two important determinants in the selection of the fund/scheme; brand image and return are the prime considerations while investing in any Mutual Fund. In India, one of the earliest attempts was made by 64 Pacific Bus. Anjan Chakarabarti and Harsh Rungta (2000) stressed the importance of brand effect in determining the competitive position of the AMCs. Their study reveals that brand image factor, though cannot be easily captured by computable performance measures, influences the investor's perception and hence his fund/scheme selection. Hirshleifer (2001) categorized different types of cognitive errors that investors make i.e. self-deception, occur because people tend to think that they are better than they really are; heuristic simplification, which occurs because individuals have limited attention, memory and processing capabilities; disposition effect, individuals are prone to sell their winners too quickly and hold on to their losers too long. In this paper, an attempt is made by the author, mainly to study preference of investors for mutual funds and their performance evaluation.

III. STATEMENT OF PROBLEM

Mutual Funds have not only contributed to the India growth story but have also helped families tap into the success of Indian Industry. As information and awareness is rising more and more people are enjoying the benefits of investing in mutual funds. The success of a mutual fund depends upon the confidence of the investors. But most of the investors are lacking in selection of right mutual funds for their regular commitments. All the problems related to the investors are, lack of awareness and poor after sales service to the investors. The investors believed, so far that the mutual funds promoted by regulated bodies and nationalized banks are guaranteed by the Central Govt. The majority of the new investors don't understand the concept, operations and advantages of investment in mutual funds before investing. This research paper has mainly focused how to evaluate the performance of various income scheme mutual funds in India.

a) Objectives

The main focus of this research is to analyze the risk, return parameters of the top performing income

funds, rank the funds based on various measures, to compare the performance of the fund returns with the market returns, to analyze the stock selection ability and market timing ability of the fund managers of the top performing funds.

IV. RESEARCH METHODOLOGY

a) Treynor's performance index

Treynor (1965) was the first researcher for developing a composite measure of portfolio performance. He measures portfolio risk with beta, and calculates portfolio's market risk premium relative to its beta:

Where:

$$Treynor = \frac{(R_P - R_f)}{\beta_P}$$

Ti = Treynor's performance index

Rp = Portfolio's actual return during a specified time period

Rf = Risk-free rate of return during the same period

βp = beta of the portfolio

Whenever $R_p > R_f$ and $\beta_p > 0$ a larger T value means a better portfolio for all investors regardless of their individual risk preferences. In two cases we may have a negative T value: when $R_p < R_f$ or when $\beta_p < 0$. If T is negative because $R_p < R_f$, we judge the portfolio performance as very poor. However, if the negativity of T comes from a negative beta, fund's performance is superb. Finally when $R_p - R_f$, and β_p are both negative, T will be positive, but in order to qualify the fund's performance as good or bad we should see whether Rp is above or below the security market line pertaining to the analysis period

b) Sharpe's Performance index

Sharpe (1966) developed a composite index which is very similar to the Treynor's measure, the only difference being the use of standard deviation, instead of beta, to measure the portfolio risk, in other words except it uses the total risk of the portfolio rather than just the systematic risk:

Where:

$$Sharpe = \frac{(R_P - R_f)}{\sigma_P}$$

Si = Sharpe performance index

σp = Portfolio standard deviation

This formula suggests that Sharpe prefers to compare portfolios to the capital market line (CML) rather than the security market line (SML). Sharpe index, therefore, evaluates funds performance based on both rate of return and diversification (Sharpe 1967). For a completely diversified portfolio Treynor's and Sharpe indices would give identical rankings.

c) *Jensen's Alpha*

Jensen (1968), on the other hand, writes the following formula in terms of realized rates of return, assuming that CAPM is empirically valid:

$$J_p = R_p - R_f = \alpha + \beta (R_m - R_f)$$

$$Jensen = \alpha_P = R_P - \left[R_f + \beta_P (R_M - R_f) \right]$$

Jensen uses α as his performance measure. A superior portfolio manager would have a significant positive α value because of the consistent positive residuals. Inferior managers, on the other hand, would have a significant negative α . Average portfolio manager

Where,

Rit = Yearly return for fund i for year t rn = Monthly return for the fund for month n

n = 1, 2,12 the number of months for calculating yearly return and

i = 1, 2,160, the number of mutual funds taken in the study Then, the risk adjusted performance of each fund has been calculated by using Sharpe performance measure (1966) as explained below:

$$S_p = (R_i - R_f) / \sigma \tag{iii}$$

Where,

Ri – mean return on fund i,

Rf – mean risk free rate of return measured by T-364 treasury bill and

σ_i – standard deviation of returns for fund i.

d) *Analysis*

Table 1.1.1 : Return of IDFC Government Securities Fund - Investment Plan - Regular Plan

	2008	2009	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	11.06	10.12	10.52	11.56	13.06	13.89	16.18	17.15	12.94
Total Return (%)	-	-8.47	3.97	9.89	12.97	6.35	16.46	5.99	6.73

From the above table it can be inferred that the IDFC government securities fund earned maximum return of Rs. 16.46 per cent in the year 2014 and the

having no forecasting ability but, still, cannot be considered inferior would earn as much as one could expect on the basis of the CAPM.

Return performance, Return is measured by its 5 to 10 years Sharpe Ratio. For this, initially the unadjusted monthly return has been calculated for each mutual fund through rate of return measure as:

$$\text{Return} = [\text{NAV}_t - \text{NAV}(t-1)] / \text{NAV}(t-1) \tag{i}$$

Where,

NAVt = Net Asset Value at time t NAV(t-1) = The corresponding value at time t-1 rit = Return for mutual fund i at time t.

From the above monthly returns, yearly return for each fund has been calculated as:

$$R_{it} = [(1+r_1) \times (1+r_2) \times (1+r_3) \dots \times (1+r_n)] - 1 \tag{ii}$$

fund has given minimum return of Rs. -8.47 per cent during the year 2009. The overall return of the IDFC government securities fund was 6.73.

Table 1.1.2 : Performance of evaluation of IDFC Government Securities Fund - Investment Plan - Regular Plan.

	Mean	Std Dev	Beta	Alpha	Sharpe	Treynor's	Jensen's	Sortino
Fund	6.73	4.42	0.69	0.9	1.350962	8.653986	1.304348	0.59

From the above table the performance indicators of IDFC fund is 0.9. The market sensitivity index (Beta) is 0.69. The unsystematic risk of IDFC is 4.42. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 1.35, 8.65, 1.30 and 0.59 respectively.

1.2.1 Return of Birla Sun Life Treasury Optimizer Fund - Regular Plan from 2008 to 2014

History	2008	2009	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	10.26	10.82	11.45	125.07	137.4	150.64	169.42	183.86	109.5389
Total Return (%)	-	5.47	5.81	9.25	9.85	9.63	12.47	8.52	7.83375

The above table shows that the Birla Sun Life Treasury Optimizer fund earned maximum return of Rs. 12.47 per cent in the year 2014 and the fund has given

minimum return of Rs. 5.47 per cent during the year 2009. The overall return of the IDFC government securities fund was 7.83.

1.2.2. Performance evaluation of Birla Sun Life Treasury Optimizer Fund - Regular Plan

Risk Measures (%)	Mean	Std Dev	Sharpe	Treynors	Jensens	Sortino	Beta	Alpha
Fund	7.83375	1.34	5.801306	18.07849	6.976744	3.65	0.43	3

From the above table that the performance indicators of IDFC fund is 3.0. The market sensitivity index (Beta) is 0.43. The unsystematic risk of IDFC is

1.34. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 5.80, 18.07, 6.97 and 3.65 respectively.

1.3.1 Return of ICICI Prudential Banking & PSU Debt Fund

History	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	10.6	11.57	12.59	13.72	15.16	16.47	13.35167
Total Return (%)	-	9.12	8.87	8.93	10.5	8.64	9.212

The above table shows that the ICICI Prudential Banking & PSU Debt fund earned maximum return of Rs. 10.5 per cent in the year 2014 and the fund has

given minimum return of Rs. 8.64 per cent during the year 2015. The overall return of the IDFC government securities fund was 9.212.

1.3.2 Performance evaluation of ICICI Prudential Banking & PSU Debt Fund

Risk Measures (%)	Mean	Beta	Alpha	Std Dev	Sharpe	Jensens	Treynors	Sortino
Fund	9.212	0.83	2.26	2.21	4.141176	2.722892	11.02651	0.85

The above table shows that the performance indicators for ICICI Prudential Banking & PSU Debt Fund is 2.26. The market sensitivity index (Beta) is 0.83. The unsystematic risk of ICICI is 2.21. The sharpe

performance index, Treynors performance index, Jensen's performance index and sortino ratio are 4.14, 11.02, 2.72 and 0.85 respectively.

1.4.1 Return of HDFC Medium Term Opportunities Fund from 2010 to 2015

History	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	10.35	11.25	12.43	13.37	14.83	16.11	16.35
Total Return (%)	-	8.68	10.49	7.56	10.95	8.61	9.258

The above table shows that the HDFC Medium Term Opportunities fund earned maximum return of Rs. 10.95 per cent in the year 2014 and the fund has given

minimum return of Rs. 7.56 per cent during the year 2009. The overall return of the HDFC Medium Term Opportunities fund was 9.258.

1.4.2 Performance evaluation of HDFC Medium Term Opportunities Fund

Risk Measures (%)	Mean	Std Dev	Beta	Alpha	Sharpe	Treynors	Jensens	Sortino
Fund	9.258	2.39	0.92	2.37	3.84854	9.99783	2.57609	0.8

The above table shows that the performance indicators of HDFC Medium Term Opportunities fund is 2.37. The market sensitivity index (Beta) is 0.92. The unsystematic risk of HDFC Medium Term Opportunities

Fund is 2.39. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 3.84, 9.99, 2.57 and 0.8 respectively.

1.5.1 Return of Religare Invesco Medium Term Bond Fund from 2011 to 2015

History	2011	2012	2013	2014	2015	Average
NAV (Rs)	10.82	11.78	1249.76	1376.12	1490.06	827.708
Total Return (%)	-	8.86	6.11	10.11	8.28	8.34

The above table shows that the of Religare Invesco Medium Term Bond fund earned maximum return of Rs. 10.11 per cent in the year 2014 and the fund has given minimum return of Rs. 6.11 per cent during the year 2013. The overall return of the IDFC government securities fund was 8.34.

1.5.2 Performance evaluation of Religare Invesco Medium Term Bond Fund

Risk Measures (%)	Mean	Std Dev	Beta	Alpha	Sharpe	Treynors	Jensens	Sortino
Fund	8.34	1.92	0.72	1.61	4.3125	11.5	2.236111	0.58

The above table shows that the performance indicators of of Religare Invesco Medium Term Bond fund is 1.61. The market sensitivity index (Beta) is 0.72. The unsystematic risk of Religare Invesco Medium Term Bond is 1.92. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 4.31, 11.5, 2.23 and 0.58 respectively.

1.6.1 Return of Tata Balanced Fund - Regular Plan from 2006 to 2015

History	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	average
NAV (Rs)	49.33	76.64	42.61	74.58	85.67	75.38	98.4	105.82	158.32	169.35	93.61
Total Return (%)	34.95	55.35	-44.4	75.04	14.87	-12.02	30.55	7.54	49.61	6.97	21.846

The above table shows that the of Tata Balanced fund earned maximum return of Rs. 49.61 per cent in the year 2012 and the fund has given minimum return of Rs. -44.4 per cent during the year 2008. The overall return of the Tata Balanced fund was 21.84.

1.6.2 Performance evaluation of Tata Balanced Fund - Regular Plan

Risk Measures (%)	Mean	Std Dev	Beta	Alpha	Sharpe	Treynors	Jensens	Sortino
Fund	21.846	12.72	1.01	9.25	1.712736	21.5703	9.158416	1.3

The above table shows that the performance indicators of Tata Balanced fund is 9.25. The market sensitivity index (Beta) is 1.01. The unsystematic risk of Tata Balanced is 12.72. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 1.71, 21.57, 9.15 and 1.3 respectively.

1.7.1 Return HDFC Childrens Gift Fund - Investment Plan from 2006 to 2015

History	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	24.68	32.45	19.41	32.54	42.94	39.72	50.58	57.13	81.76	83.75	46.496
Total Return (%)	12.4	31.45	40.17	67.62	31.96	-7.49	27.32	12.96	43.1	2.44	18.159

The above table shows that the HDFC Childrens Gift fund earned maximum return of Rs. 67.62 per cent in the year 2009 and the fund has given minimum return of Rs. -7.49 per cent during the year 2011. The overall return of the HDFC Childrens Gift fund was 18.15.

1.7.2 Performance evaluation of HDFC Childrens Gift Fund - Investment Plan

Risk Measures (%)	Mean	Std Dev	Beta	Alpha	Sharpe	Treynors	Jensens	Sortino
Fund	18.159	10.61	0.84	7.98	1.705844	21.54643	9.5	1.26

The above table shows that the performance indicators of HDFC Childrens Gift fund is 7.98. The market sensitivity index (Beta) is 0.84. The unsystematic risk of HDFC Childrens Gift is 10.61. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 1.70, 21.54, 9.5 and 1.26 respectively.

1.8.1 Return of SBI Magnum Balanced Fund from 2006 to 2015

History	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	35.37	52.48	29.04	47.73	53.7	41.76	56.39	63.08	90.35	96.99	37.833
Total Return (%)	33.93	48.37	-44.66	64.36	12.51	-22.23	35.03	11.86	43.24	7.36	12.2245

The above table shows that the SBI Magnum Balanced fund earned maximum return of Rs. 64.36 per cent in the year 2009 and the fund has given minimum return of Rs. 7.36 per cent during the year 2009. The overall return of the SBI Magnum Balanced fund was 12.22.

1.8.2 Performance evaluation of SBI Magnum Balanced Fund

Risk Measures (%)	Mean	Std Dev	Beta	Alpha	Sharpe	Treynors	Jensens	Sortino
Fund	12.2245	11.03	0.85	8.76	1.102856	14.31118	10.30588	1.43

The above table shows that the performance indicators of SBI Magnum Balanced fund is 8.76. The market sensitivity index (Beta) is 0.85. The unsystematic risk of SBI Magnum Balanced fund is 11.03. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 1.10, 14.31, 10.30 and 1.43 respectively.

1.9.1 Return of Franklin India Balanced Fund from 2006 to 2015

History	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	32.64	46.56	28.72	43.9	50.4	44.15	54.84	58.48	86	90.16	53.585
Total Return (%)	32.83	42.66	-38.32	52.86	14.82	-12.4	24.21	6.64	47.05	4.85	17.52

The above table shows that the Franklin India Balanced fund earned maximum return of Rs. 52.86 per cent in the year 2009 and the fund has given minimum return of Rs. -12.4 per cent during the year 2011. The overall return of the Franklin India Balanced fund was 17.52.

1.9.2 Performance evaluation of Franklin India Balanced Fund

Risk Measures (%)	Mean	Std Dev	Beta	Alpha	Sharpe	Treynors	Jensens	Sortino
Fund	17.52	11.54	0.94	8.3	1.512998	18.57447	8.829787	1.48

The above table shows that the performance indicators of Franklin India Balanced Fund is 8.3. The market sensitivity index (Beta) is 0.94. The unsystematic risk of Franklin India Balanced Fund is 11.54. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 1.51, 18.57, 8.82 and 1.48 respectively.

1.10.1 Return of L&T Gilt Fund - Investment Plan

History	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
NAV (Rs)	18.62	19.69	24.01	21.68	22.24	23.24	26.47	28.91	33.63	36.15	25.464
Total Return (%)	0.84	5.74	21.97	-9.71	2.6	4.48	13.92	9.19	16.34	7.48	7.285

The above table shows that the L&T Gilt fund earned maximum return of Rs. 21.97 per cent in the year 2008 and the fund has given minimum return of Rs. -9.71 per cent during the year 2009. The overall return of the L&T Gilt fund was 7.28.

1.10.2 Performance evaluation of L&T Gilt Fund - Investment Plan

Risk Measures (%)	Mean	Std Dev	Beta	Alpha	Sharpe	Treynors	Jensens	Sortino
Fund	7.285	4.56	0.74	2.37	1.58443	9.763514	3.202703	0.98

The above table shows that the performance indicators of L&T Gilt fund is 2.37. The market sensitivity index (Beta) is 0.74. The unsystematic risk of L&T Gilt is 4.56. The sharpe performance index, Treynors performance index, Jensen's performance index and sortino ratio are 1.58, 9.76, 3.20 and 0.98 respectively.

Table 1.11 : Performance Index of Funds

Funds	Sharpe	Treynors	Jensens	Sortino
IDFC Government Securities Fund	1.350962	8.653986	1.304348	0.59
Birla Sun Life Treasury Optimizer Fund	5.801306	18.07849	6.976744	3.65
ICICI Prudential Banking & PSU Debt Fund	3.848536	9.997826	2.576087	0.8
HDFC Medium Term Opportunities Fund	4.141176	11.02651	2.722892	0.85
Religare Invesco Medium Term Bond Fund	4.3125	11.5	2.236111	0.58
Tata Balanced Fund	1.712736	21.5703	9.158416	1.3
HDFC Childrens Gift Fund	1.705844	21.54643	9.5	1.26
SBI Magnum Balanced Fund	1.102856	14.31118	10.30588	1.43
Franklin India Balanced Fund	1.512998	18.57447	8.829787	1.48
L&T Gilt Fund	1.58443	9.763514	3.202703	0.98

From the above table it can be inferred that Birla Sun Life Treasury optimizer fund had the maximum Sharpe ratio of 5.80 and the fund which has the least value is SBI Magnum Balanced fund with the ratio of 1.10. Birla Sun Life fund was out performing fund among the top income fund in India from 2006-2015. As per the Treyners model the fund which has the highest ratio is Franklin India Balanced fund with a ratio of 18.57 and

the least fund is IDFC Govt securities fund with a ratio of 8.65. In the Jensens model SBI Magnum has the highest ratio of 10.31 and the least happens to be IDFC Govt. Securities fund with a ratio of 1.30. And in the Sortino model it was found that Birla Sun Life fund had the highest ratio with 3.65 and the least being Religare Invesco Medium term Bond fund with a ratio of 0.58.

Table 1.12 : Performance of Top ten performing Income mutual Funds from 2006-2015

Fund	Sharpe	Treynors	Jensens	Sortino	Weighted Average	RANK
IDFC Government Securities Fund	9	3	10	9	7.75	10
Birla Sun Life Treasury Optimizer Fund	1	10	5	1	4.25	3
ICICI Prudential Banking & PSU Debt Fund	4	8	8	8	7.00	9
HDFC Medium Term Opportunities Fund	3	7	7	7	6.00	6
Religare Invesco Medium Term Bond Fund	2	6	9	10	6.75	7
Tata Balanced Fund	5	1	3	4	3.25	1
HDFC Childrens Gift Fund	6	2	2	5	3.75	2
SBI Magnum Balanced Fund	10	5	1	3	4.75	5
Franklin India Balanced Fund	8	4	4	2	4.50	4
L&T Gilt Fund	7	9	6	6	7.00	8

According to the Sharpe, Tryners, Jensens and Sortino ratio models it was found that Tata Balanced fund out performed every other fund. It was followed by HDFC Children's Gift fund in the second place and in the third place was Birla Sun Life Treasury Optimiser fund. In the fourth and fifth place was Franklin India Balanced fund and SBI Magnum Balanced fund respectively.

V. IMPLICATIONS OF THE RESEARCH

IDFC Government Securities Fund has a Alpha value of 0.9 which says that the fund is least performing to bench indices. The Tata Balanced Fund has an Alpha

value of 9.25, which shows that it has outperformed all the other funds. Tata Balanced Fund has a Beta value of 1.01, which shows that the fund is highly volatile among all other funds. Birla Sun Life Treasury Optimizer Fund has a Beta value of 0.43, which shows that the fund is less volatile in the market. Tata Balanced Fund has a standard deviation of 12.72, which means the fund has high risk factor. Birla Sun Life Treasury Optimizer Fund has a standard deviation of 1.34, which means the fund is less risky. Tata Balanced Fund has the highest return of 21.84 and IDFC has the lowest returns of 6.73. This shows that the Tata Balanced Fund has a very good performance over the period of 9 years. Based on the systematic (Beta) and unsystematic (Std. Dev),

Performance indicator (Alpha) and Return, Tata Balanced Fund has outperformed the top ten funds.

VI. CONCLUSION

The mutual fund industry is gaining importance in the recent years. A large number of plans have come up from different financial resources. With the stock markets soaring the investors are attracted towards these schemes. Still only a small segment of the investors invest in mutual funds due to the risk associated with it. Also there is a greater tendency to invest in fixed deposits due to the security. Such investors can invest in safe funds like debt and balanced funds, with comparatively less risk and earn high returns than fixed deposits. In order to excel and make mutual funds a success, companies still need to create awareness and understand the psyche of the Indian consumer. Performance analysis helps investors as well as the fund manager to study about risk and return relationship and is a useful tool for making proper investment decisions. It acts as a guide for the investors in choosing the schemes which best suits their expected returns and risk tolerance level.

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Capital Structure and Financial Performance of Insurance Industries in Ethiopia

By Mohammed Getahun

Jimma University

Abstract- An appropriate capital structure is a critical decision for any business organization to be taken by business organization for maximization of shareholders wealth and sustained growth. Thus, the major focus of this study is to investigate empirically firm specific factors such as, firm leverage, growth opportunities, size, risk, tangibility and liquidity were impacts on performance in Ethiopian insurance companies from 2004-2013 annual reports. The results show that firm leverage, Size, tangibility and business risk are significant impact on performance of insurance companies in Ethiopia. While firm growth and liquidity are not clear and statistical proved relationship are obtained from the regression analysis. The results provide strong evidence in support of the pecking order theory of capital structure which asserts that leverage is a significant determinant of firms' performance. A significant negative relationship is established between leverage and performance. From the findings the researcher recommended that the sample of insurance companies in Ethiopia use more equity than debt in financing their business activities, this because if the value of business can be enhanced with debt capital, it is dangerous for the firm.

Keywords: capital structure, performance, Ethiopian insurance industry, Returns on asset.

GJMBR - C Classification : JEL Code: G19



CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE OF INSURANCE INDUSTRIES IN ETHIOPIA

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Abstract- An appropriate capital structure is a critical decision for any business organization to be taken by business organization for maximization of shareholders wealth and sustained growth. Thus, the major focus of this study is to investigate empirically firm specific factors such as, firm leverage, growth opportunities, size, risk, tangibility and liquidity were impacts on performance in Ethiopian insurance companies from 2004-2013 annual reports. The results show that firm leverage, Size, tangibility and business risk are significant impact on performance of insurance companies in Ethiopia. While firm growth and liquidity are not clear and statistical proved relationship are obtained from the regression analysis. The results provide strong evidence in support of the pecking order theory of capital structure which asserts that leverage is a significant determinant of firms' performance. A significant negative relationship is established between leverage and performance. From the findings the researcher recommended that the sample of insurance companies in Ethiopia use more equity than debt in financing their business activities, this because if the value of business can be enhanced with debt capital, it is dangerous for the firm. Each insurance industry establishes with the aid of professional financial managers, that particular debt-equity mix that maximizes its value and minimizes its weighted average cost of capital.

Keywords: *capital structure, performance, Ethiopian insurance industry, Returns on asset.*

I. INTRODUCTION

The capital structure of a firm describes the way in which a firm raised capital needed to establish and expand its business activities. It is a mixture of various types of equity and debt capital a firm maintained resulting from the firms financing decisions. In one way or another, business activity must be financed.

Without finance to support their fixed assets and working capital requirements, business could not exist. In all aspects of capital investment decision, the capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. Therefore, proper care and attention need to be given while determining capital structure decision.

The theory of capital structure and its relationship with a firm's value and performance has been a puzzling issue in corporate finance and accounting literature since the Modigliani and Miller

(1958) argue that under the perfect capital market assumption that, if there is no bankrupt cost and capital markets are frictionless, if without taxes, the firm's value is independent with the structure of the capital. Debt can reduce the tax to pay, so the best capital structure of enterprise should be one hundred percent of the debt. Since then, several theories have been developed to explain the capital of a firm including the Pecking order theory, Static Trade-off theory and agency cost theory. The firm's decision about its source of capital will affect its competitiveness among its peers. Therefore, firm should use the appropriate mix of debt and equity that will maximize its profitability.

In connection this, financing the firm's needs, the amount of debt to be undertaken is affected by several factors. Capital structure theory, specifically the trade-off model suggests that firms with high business risks should use less debt than lower risk firms. This because the higher the risk the higher probability that the firm will face financial distress. Furthermore, firms that have tangible asset should use more debt than firms that have more intangible assets since only tangible assets can be used as collateral. Besides, when financial distress occurs, intangible assets will most likely to lose value. It also stated that firms that are paying taxes at higher rates should take more debt since its bankruptcy risks is lesser than the lower taxpayer firms (Brigham, Gapenski and Ehrhardt, 1999).

Pecking order theory that has been introduced by Myers (1977) is also relevant to deviation of capital structure. It states that firms have a preferred hierarchy for financing decisions. The highest preference is to use internal financing before resorting to any form of external fund.

The Agency cost theory lastly states that an optimal capital structure is attainable by reducing the costs resulting from the conflicting between the managers and the owners. Jensen and Meckling (1976) argued that leverage level can be used to monitor the managers to pursue the overall firm's objectives and theirs. By so doing, cost is reduced leading to efficiency which shall eventually enhance firm performance (Buferna et.al, 2005).

Furthermore, capital structure and its impact on performance have been investigated for many years, but researchers have found different results with different contexts. Accordingly, there is no specific result, which can be generalizes on the extent of the relationship

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between capital structure and firm performance, thus there is a constant for new research in different context for achieving a more complete understanding for the dynamics of the capital structure and firm performance interchange.

The issues of capital structure are commonly, not given attention in developing countries, such as Ethiopia. The primary reason is that firms in those countries face major financing constraints, such as undeveloped bond markets and ineffective bank lending. It is important for developing countries to better understanding their financial institutions and the nature of their funding sources. The financial managers very important to know issue capital structure decision in these institutions. To them in fulfilling their goals, it is important to provide them with knowledge that relates to various determinants of financing. It would help financial managers to improve their financing decisions regarding their financing mix. By taking into account some key variables that affect their capital structure, financial managers can better achieve their overall performance goals. Therefore, the researcher attempt to clarify some of the key firm characteristics that managers need to consider when setting their optimal capital structure. Thus, the researcher goal is to understand and isolate the effects of firm characteristics on the performance of insurance companies in Ethiopia.

a) *Objectives of the study*

The general objective of this study will be to determine the effect of capital structure to the company's financial performance of some selected insurance companies institutions in Ethiopia. The Specific Objectives of the study are:

1. To investigate the effect of leverage on performance of insurance companies in Ethiopia
2. To determine growth opportunities on performance of insurance companies in Ethiopia
3. To examine the effect of bank size on performance of insurance companies in Ethiopia
4. To determine the effect tangibility, business risk and *liquidity* on performance of insurance companies in Ethiopia

b) *Justification of the Study*

The main objective of this study was the impact capital structure on the performance of Ethiopian insurance industry. It provides the applicable and practical teaching to anyone who wishes to understand the topic. In general, this study will cover many aspects of the topic but specifically it has been tried to determine the relationship between of capital structure and performance of the firm. This study especially will help the managers to take the financing decision for their firms. The creditors can also take the benefit to minimize their risk, in funding a specific sector firms. This study will be beneficial to Ethiopian insurance company's

management and investors in making clear decisions on capital structure. In addition to the above, a lot of work is written because of the endless argument on capital structure theories.

This study is another contribution to the existing work on the study of the impact of capital structure on performance of Ethiopian insurance companies.

II. LITERATURE REVIEW

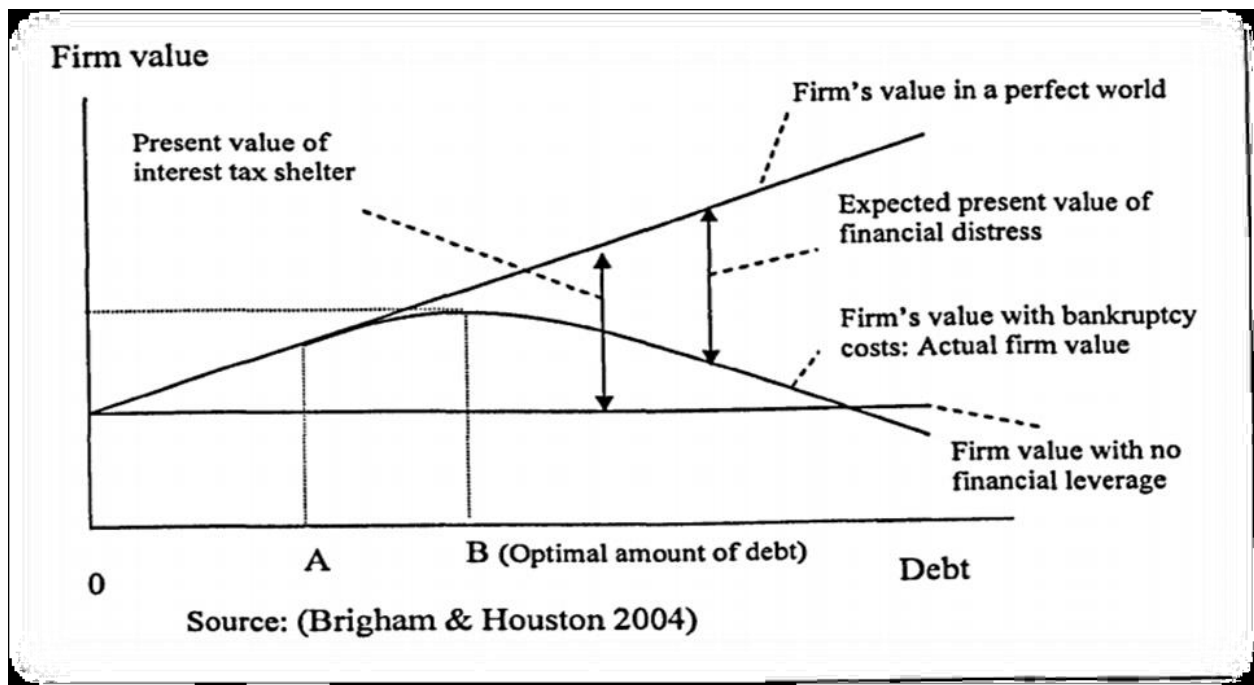
a) *Theories of Capital Structure*

Capital structure theory, as known today, originates from the work of Modigliani and Miller, hereafter named M&M, who published their famous article in 1958. Many, if not all business and finance academics have heard and know about M&M's capital structure irrelevance proposition and several textbooks within corporate finance begin their explanations of capital structure and cost of capital with the work of M&M. In addition M&M Myers (2002) indicates that the capital structure theories and empirical evidences focus mainly on financing strategy as well as the selection of an optimal debt ratio for a certain type of firm that operates in a distinct institutional environment. According to Myers (2002), these theories are credible not because they do a perfect job highlighting the differences in total debt ratios, but because the costs and benefits that drive the theories at work in financing strategies can be observed. While there is no universal theory of capital structure, there are however, some relevant conditional theories and these theories can be distinguished in their relative focus on the factors that could significantly impact the right mix of debt and equity. These factors comprise taxes, agency costs, and differences in information, institutional or regulatory constraints and a whole lot more (Myers, 2002). The same author stressed that each of these factors could be very significant for some firms and for other firms they could be highly unimportant. The leading theories are given below. Majority of these theories overlap and a blend of these theories help in explaining capital structure.

Capital structure theory still provides the foundation for many other theories suggested by other researchers.

b) *Trade-Off Theory*

The tradeoff theory model originated from the debate over the M&M's theorem. When corporate tax was added to the original irrelevance proposition of M&M, a benefit for debt is observed that serves to shield earnings from taxes. This theory states that the optimal capital structure is the trade-off between the benefits of debt (i. e., the interest tax shields) and the costs of debt (i. e., the financial distress and agency costs) (Brigham and Houston, 2004).



Source: (Brigham & Houston 2004)

Study made by Wippen(1966) investigated relationship between financial leverage and firm performance. In his study he used debt to equity ratio as financial leverage indicator and earning to market value of common stock as performance indicator. His results indicated that leverage has positive effects on firm performance.

Capon et al. (1990) conducted a meta- analysis from 320 published studies related financial performance, and found a positive relationship between usage of leverage levels and financial performance. In 1995 Roden and Lewellen analyzed the impact of capital structure on performance for 48 US based firms with a leveraged buyout during the period 1981 through 1990, using multinomial logit models. Their results indicate a positive relationship between firm performance and its leverage policy based on tax considerations. Their findings were consistent with the trade-off theory.

c) Pecking Order Model

Unlike the trade-off theory, the pecking order theory does not assume an optimal level of capital structure. It states that companies prioritize their source of financing, from internal financing to equity financing, according to the principle of the least resistance, preferring to raise equity as a financing means of last resort. So, the pecking order theory claims that internal funds are used first and only when all internal finances have been depleted, firms will optimum for debt. When it is not sensible to issue any more debt, they will eventually turn to equity as a last financing resource.

Study made by kester (1986) recorded a negative link between capital structure and firm performance in the U.s and Japan. Similar results,

negative relationship between capital structure and financial performance, were reported for US firms by friend and Lang (1988) as by Titman and wessels(1988). According to the study Rajan and Zingales(1995) used data from F7 countries and recorded a negative relationship between firm leverage and firm performance.

According the studies of Fama and French also tested the pecking order and the trade-off theories on more than 3000 firms in their publication of 2002. Their study covered the period 1965 to 1999. Their models were based on both cross-section and time series methods in order to check for robustness of their results. They support the pecking order theory by documenting a negative relationship between a firm's leverage and its performance.

According to Minton and Wruck (2001) examined domestic financial conservative firms and their capital structure over the period of 1974 to 1998 and they concluded that the performance of low leverage firms outweigh the performance of high level firms. This thus indicates that there is a negative relationship between leverage and a firm's performance.

d) Agency Cost Theory

The next important theory mentioned in the literature is the agency cost theory. Jensen and Meckling developed this theory in their 1976 publications. This theory considered debt to be a necessary factor that creates conflict between equity holders and managers. Both scholars used this theory to argue that the probability distribution of cash flows provided by the firm is not independent of its ownership structure and that this fact may be used to explain

optimal capital structure. Jensen and Meckling recommended that, given increasing agency costs with both the equity-holders and debt-holders, there would be an optimum combination of outside debt and equity to reduce total agency costs.

e) *Capital structure determinants and performance*

i. *Firms Leverage*

The pecking theory of capital structure shows that if a firm is profitable, then it is more likely that financing would be from internal sources rather than external sources. In other words, firms tend to use internally generated funds first and then resort to external financing. This implies that profitable firms will have less amount of leverage (Myers and Majluf, 1984). By this, profitable firms that have access to retained profits can rely on them as opposed to depending on outside sources (debt).

Most studies found a negative relationship between profitability and capital structure Friend and Lang, (1988); Barton et al., (1989); Van der Wijst and Thurik, (1993); Chittenden et al., 1996; Jordan et al., (1998); Shyam-Sunder and Myers, (1999); Mishra and McConaughy, (1999); Cassar and Holmes (2003), and Hall et al. (2004) also suggest negative relationships between profitability and both long-term debt and short-term debt ratios.

ii. *Growth opportunities*

According to Brush, Bromiley, &Hendricks, (2000) in the light of free cash flow hypothesis, they conducted in Maryland-USA found a strong positive relationship between sales growth and a firm's financial performance in terms of stockholders' returns and return on assets.

Additionally, for the top 500 Australian companies. In addition of this Hutchinson and Gul, (2006) they found that firms with high investment opportunities are associated with lower agency costs and better return on equity.

iii. *Firm's size*

According to the studies (Orser, Hogarth-Scott, & Riding 2000), using Canadian firms using changes in gross revenue to reflect performance. They find a positive effect for a firm's size support the arguments that size reflects greater diversification, economies of scale production, greater access to new technology and cheaper sources of funds.

f) *Asset structure (tangibility)*

i. *Firm's liquidity*

According to the researcher knowledge apart from (Wang, 2002) there is no studies address this relationship. But, (Wang, 2002) and, who addresses the liquidity management. He investigates the liquidity management and its relationship with performance and corporate value using data of Taiwan and Japan. Furthermore, he observes that the cash conversion

cycle (CCC) has a negative relationship with the financial performance measured by returns on assets (ROA) or returns on equity (ROE) and this relationship is sensitive to industry factors. Furthermore, he finds that aggressive liquidity management enhances operating performance.

ii. *Firm's business risk*

Many studies investigate the relationship between risk and profitability. Among others (Shergill & Sarkaria 1999) using the data of Indian firms, they confirm the positive relationship between a firm's risk and financial Performance,(Dewan, Shi, &Gurbaxani 2007) using the Fortune 1000 and the total firm value to reflect performance,(Loudon 2006) for 15 markets, comprising a mix of developed and emerging markets using equity returns.

iii. *Conceptual Frame Work*

After careful study of literature review, the following conceptual model is formulated to illustrate the effects of capital structure on performance. The conceptualization model from figure below shows the effects of capital structure on profitability of Ethiopian insurance companies.

III. METHODOLOGY

This section stresses the methodology employed for this work. The process of research usually entails problem identification, making hypothetical statements, collecting relevant data, analyzing the data using the relevant and appropriate statistical tools of analysis.

This paper is based on secondary data collection. The sources of data for this study are Balance sheets and Income Statements of companies over 10 years period from 2004 still 2013, which are mainly extracted from National Bank of Ethiopia, which can provide comprehensive database for all insurance companies. Time series and cross sectional data has been used in this study where 9 commercial banks out of 17 insurance companies have been included in the study in Ethiopia. However, the remaining insurance companies did not have the required period information. Due to this reason, the year service below Ten years is not included in sample frame to make panel data model structured.

a) *Model Specification*

The multiple regression models used to establish the relationship between capital structure and financial performance was of the specific form;

$$ROA = \beta_0 - \beta_1 LEV_{it} + \beta_2 GR_{it} + \beta_3 SIZE_{it} + \beta_5 TANG_{it} + \beta_6 LQ_{it} + \beta_4 BR_{it} + \epsilon_{it}$$

Where:

ROA - Return on Asset (performance of the firm)

β_0 - Constant coefficient

$\beta_1 - \beta_6$ = Regression coefficients for measuring independent variables
 LV = Firm Leverage
 GR = growth opportunities
 Size = firm size
 Tang = tangibility of fixed asset
 LQ = liquidity of the firm
 Br = business risk.
 Uit = Error component showing unobserved factor

b) Operationalization of Variables

The description of each variable and their expected signs are given below in the following tables.

Variables	Variable Measurements	Some References	Expected Signs
Firm's leverage	$\frac{\text{Total liabilities}}{\text{Total assets}}$	Kyereboah-Coleman (2007), Abor (2005), Titman and Wessels (1988), king and santor, 2008	(-)
Growth opportunities	Change in the total assets	(Degryse, Goeij, &Kappert, 2010), Hovakimian, Opler and Titman, 2001	(+)
Business risk	Standard deviation of operating income/Total Asset	Wald (1999),Kim & Limpaphayom,(1998) and Allen & Mizunot, (1989)	(+)
Size	Natural logarithm of total assets	Holmes, 2003; Panno, 2003; Deesomsak 2004; King and Santor (2008)).	(+)
Asset tangibility	$\frac{\text{Total fixed assets}}{\text{Total assets}}$	Titman &Wessels 1988; Gaud <i>et al.</i> ,2005, Fattouh, Scaramozzino, & Harris 2005	(+)
Liquidity	$\frac{\text{Current assets}}{\text{Current liabilities}}$	Kila and Mansoor (2009), Ozkan 2001, Laitinen 200	(+)
μit	Are the error terms		
Return on Asset	$\frac{\text{Profit after tax}}{\text{Total assets}}$	(Bistrova, Lace, &Peleckienė, 2011 Mehran (1995), Ang, Cole and Line (2000	

IV. RESULTS AND DISCUSSION

a) Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	90	.0783043	.123769	-.10886	.921629
Lev	90	.520138	.1843834	.02007	.902047
Grow.Opp	90	.352805	1.418099	-.9800652	1 3.16158
Size	90	18.95876	1.090104	16.30014	21.22304
Ta	90	.1410642	.0998923	.000258	.465749
Lq	90	2.633622	1.829073	.103773	11.24678
Br	90	.1602669	.183787	.019253	1.48693

Source: computed from financial statement of Ethiopian insurance companies

As presented in table above, the average value of the performance ratios measured by ROA, sample Ethiopian insurance industry is 7.8 percent (0.0783043), this implies sample Ethiopian insurance companies on average earned a net income of 7.8 percent of total asset with a maximum and minimum value of 0.921629 and -.10886. The standard deviation is 12.4 percent from the average value, which reflects the presence of

moderate variation among across the sampled insurance companies.

b) Regression result

Regression analysis is a statistical technique used to test the relationship between one dependent variable and one or several independent (predictor) variables.

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Lev	-.1673747	.0758574	-2.21	0.030*	-.3184903	-.016259
Grow.Opp	.0038993	.0082162	0.47	0.636	-.0124683	.0202669
Size	.0886285	.0211508	4.19	0.000**	.0464938	.1307631
Ta	-.3100963	.1231772	-2.52	0.014*	-.5554778	-.0647148
Lq	-.0160876	.0126096	-1.28	0.206	-.0412072	.0090321
Br	.3995292	.0728456	5.48	0.000**	.2544132	.5446451
_cons	-1.494222	.4170297	-3.58	0.001**	-2.324988	-.6634563
Sigma u	.09529538					
Sigma e	.0989344					
rho	48127097					
<i>R</i> ²	0.3720					
No.obs	90					

Regression Result: Fixed effect regression model

Note * Significant at 1% level, ** significant at 5% level

ROA = $\beta_0 - \beta_1 \text{LEV}_{it} + \beta_2 \text{GR}_{it} + \beta_3 \text{SIZE}_{it} + \beta_4 \text{BR}_{it} + \beta_5 \text{TANG}_{it} + \beta_6 \text{LQ}_{it} + \text{eit}$.

ROA = -1.494 - 0.167LEV_{it} + 0.0039GR_{it} + 0.089SIZE_{it} - 0.31TANG_{it} - 0.016LQ_{it} + 0.40BR_{it} + eit.

(0.759) (0.0082) (0.211) (0.073) (0.0123) (0.126)

R² from the table 4.8, 37.2% variations in the dependent variable can be accounted for by the independent variables. This means 37.2% of variations in the performance of selected Ethiopian insurance companies are explained by independent variable. This showed that the independent variable values have at least 37% significant influence on performance of the Ethiopian insurance companies. This also indicates that there are other variables that influence the variations in the level of performance of the firms.

c) Firm leverage

As presented in table above, panel data results for the analysis method of fixed effects model results show a negative and significant impact on profitability of Ethiopian insurance industry with a regression coefficient of -0.1673747, t-statistic -2.21, P-value of 0.030.

Theoretical prediction yields no conclusion for the relationship between leverage and performance. Trade off models argues that profitable firms have great needs to shield income from corporate tax and should borrow more than less than profitable firms. While pecking order models theory suggests an inverse relationship between leverage and profitability of the firm.

This results has been consistent with Jensen (1986) that if firm leverage acts as a bonding device in terms of forcing managers to commit free cash flows to service debt, then higher debt will lead to lower funds available for managers in profitable investments and then lower performance (Singh & Faircloth 2005).

d) Growth opportunities

The panel fixed effect estimation regression result shows insignificant a positive relationship between growths of sampled Ethiopian insurance companies and their performance ratio with a regression coefficient of 0.0038993, t-statistic of 0.47, p-value of 0.636.

Trade-off theory considers growth opportunities as an indicator for the firm success; these firms are stronger to face financial distress. Firms with good opportunities have a good reputation in getting funds, easier access to the finance markets and reflected in better performance for these firms. According to the agency theory perspective, firms with high growth opportunities have lower agency costs. These firms might have lower debt ratios due to the fear of debt holders those firms may forgo valuable investment opportunities and expropriate wealth to their benefit, and this outcome would be reflected in lower agency costs (Hutchinson & Gul 2006).

e) Firm size

The panel fixed effect estimation result reveals there is significant positive relationship between size and performance of sampled Ethiopian insurance companies with a regression coefficient of .0886285, t-statistic of 4.19, and P-value of 0.000. The significance of firm size on firm performance indicates that large firms can earn higher returns compared to smaller firms, most probably as a result of diversification of investment and economies of scale.

f) Asset tangibility

The panel fixed effect estimation result, in this study, shows a statistical significant negative relationship between tangibility of assets and

performance of Ethiopian insurance companies with a regression coefficient of -0.3100963 , t-statistic -2.52 and p-value of 0.014 . This means that a sampled Ethiopian insurance company with high ratio of fixed assets to total asset leads lower performance of the companies, because in Ethiopia lending financial institutions not require fixed assets as collateral to provide debt to those of insurance companies. The other reason is the fixed asset of Ethiopian insurance companies not able to generate revenue. This shows that firms with high ratio of tangibility have a lower performance ratio. However, the negative relationship between firm's asset tangibility and performance is consistent with similar findings of previous researchers Osuji & Odita, A (2012).

g) Firm Liquidity

A result from fixed effects models shows a negative and insignificant relationship between firm liquidity and performance of Ethiopian insurance industries. Specifically, fixed effect estimation with a coefficient of -0.0160876 , t-statistic -1.28 and p-value of 0.206 confirmed a negative relationship between liquidity and performance ratio.

Pecking order theory suggesting that the more liquid firm would use external financing due to their ability of paying back liabilities while trade of theory suggesting that high liquidity position for the firm indicates that this firm is strong enough to face any short or long-term financial problems and this strong firm can perform better than a weak firm which has weak liquidity position in its financial statements.

h) Business risk

Result shows in this study, shows a statistical significant positive relationship between business risk and performance ratio with a regression coefficient 0.3995292 , t-statistic -3.58 and p-value of 0.001 , which statistical significant positive on performance of Ethiopian insurance companies.

The reason for such relationship due the theoretical prediction of the agency theory; the required rate return from investors should be suitable to their risk in the firm. Shareholders will require high return in order to hold the risk related to the bankruptcy and financial distress since the debt holders have the priority in the case of bankruptcy.

V. LIMITATION OF THE STUDY

- ♥ The study consists of only ten years of data that might not be sufficient to establish the relation in a very significant manner.
- ♥ The study considers only secondary data but not primary (i.e., interaction with the executives in finance department would close picture and management style etc. is not considered).

VI. CONCLUSION AND RECOMMENDATIONS

a) Conclusion

Capital structure has been a much debated topic in the finance field since the Modigliani & Miller proposition in 1958. Capital structure theories, such as the pecking order and the tradeoff theory emerged into the finance field and many have tried to analyze the implications of these theories for firms in the market.

The objective of this study is limited to the impact of capital structure on the performance in the context of Ethiopian insurance industries. This paper has applied the panel data regressions for nine insurance companies in Ethiopia during the period 2004 to 2013. All insurance companies included in the study if they had the specified period of time, audited financial statements of ten years. This thesis examined empirically the implication of theory of capital structure in Ethiopian insurance companies. The results of regression analysis disclose that firm leverage, growth opportunities, size, business risk, tangibility of assets and liquidity as independent variable while the profitability the firm (ROA) is dependent variable. The results show that firm leverage, Size, tangibility and business risk are significant effects on performance of Ethiopian insurance companies.

b) Recommendation

The result proves that with the increase in leverage negatively affects the performance Ethiopian insurance industry. Therefore, the researcher recommends that managers shall not use excessive amount of leverage in their capital structure, they must try to finance their projects with retained earnings and use leverage as a last option. Managers must work to achieve the optimal capital structure level to maximize the firm's performance and try to maintain it as much as possible.

In generally, the variable that significant direct relationship between the impacts of capital structure on performance of the firm, the managers should devote their time and efforts on those variables in order to minimize the weighted average cost of capital and consequently maximize the welfare of shareholders.

c) Recommendations for Further Research

The study has laid some ground work to explore the effects of capital structure on performance of Ethiopian insurance industries. Further work is required to develop new hypotheses and design new variables to reflect the firm specific factors to influence on firm performance related with theory of capital structure.

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APPENDIX

Appendix for Hausman test

---- Coefficients ----				
	(b)	(B)	(b-B)	sqrt(diag (V _{b-V_B}))
	fixed	random	Difference	S.E.
lv	-.1673747	-.0884367	-.078938	.0334373
gr	.0038993	.002613	.0012863	.0008566
size	.0886285	.0464443	.0421841	.0157781
ta	-.3100963	-.1414094	-.1686869	.0288326
lq	-.0160876	-.0054207	-.0106668	.0094598
br	.3995292	.3139315	.0855977	.0238584

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg
 Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2 (6)} &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 62.20 \\ \text{Prob>chi2} &= 0.0000 \\ (V_b-V_B &\text{ is not positive definite}) \end{aligned}$$

Appendix for fixed effects regression analysis

<i>Fixed-effects (within) regression</i>	<i>Number of Obs</i>	=	90
<i>Group variable: company</i>	<i>Number of groups</i>	=	9
<i>R-sq: within = 0.3720</i>	<i>Obs per group: min</i>	=	10
<i>Between = 0.3310</i>	<i>avg</i>	=	10.0
<i>Overall = 0.2383</i>	<i>max</i>	=	10
Date: 08 /05/14 Time: 9:25			
<i>Sample2004 to 2010</i>	<i>F (6, 75)</i>	=	7.40
<i>corr(u_i, Xb) = -0.7622</i>	<i>Prob > F</i>	=	0.0000

<i>roa</i>	<i>Coef.</i>	<i>Std. Err.</i>	<i>t</i>	<i>P> t </i>	<i>[95% Conf. Interval]</i>	
<i>lv</i>	-.1673747	.0758574	-2.21	0.030**	-.3184903	-.016259
<i>gr</i>	.0038993	.0082162	0.47	0.636	-.0124683	.0202669
<i>Size</i>	.0886285	.0211508	4.19	0.000*	.0464938	.1307631
<i>ta</i>	-.3100963	.1231772	-2.52	0.014*	-.5554778	-.0647148
<i>lq</i>	-.0160876	.0126096	-1.28	0.206	-.0412072	.0090321
<i>br</i>	.3995292	.0728456	5.48	0.000**	.2544132	.5446451
<i>_cons</i>	-1.494222	.4170297	-3.58	0.001**	-2.324988	-.6634563

sigma_u | .09529538
sigma_e | .0989344
rho | .48127097 (*fraction of variance due to u_i*)

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Factors Affecting Loan Repayment Performance of Small Scale Enterprises Financed by Micro Finance Institutions: Study on Private Borrowers around Wolaita and Dawuro Zone

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Abstract- Micro finance involves the provision of micro-credit, savings, and other services to the poor that are excluded by the commercial banks for collateral and other reasons. Microfinance is relatively new to Ethiopia and came to existence during 1994-95. Out of which Wolaita zone Micro Finance Institution (WZMFI) is one among 31 Micro Finance Institutions (MFIs) to serve needy people in Ethiopia. Based on this researchers' intended to study major socio- economic factors and loan related factors that determines loan repayment performance of borrowers in WZMFI. In fact, the identifying and analyzing such determining factors of loan repayment rate is vital in the achievement of profitability and sustainability of MFIs. In this connection, researchers' collected data from primary and secondary resources and analyzed by using two limit Tobit model is used. Through the study 15 determinants' are selected for evaluation, out of which 6 variables are significant and remaining insignificant are found.

Keywords: *loan repayment, performance, small scale enterprise, micro finance institution, private borrowers.*

GJMBR - C Classification : *JEL Code: G20*



Strictly as per the compliance and regulations of:



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Abstract- Micro finance involves the provision of micro-credit, savings, and other services to the poor that are excluded by the commercial banks for collateral and other reasons. Microfinance is relatively new to Ethiopia and came to existence during 1994-95. Out of which Wolaita zone Micro Finance Institution (WZMFI) is one among 31 Micro Finance Institutions (MFIs) to serve needy people in Ethiopia. Based on this researchers' intended to study major socio- economic factors and loan related factors that determines loan repayment performance of borrowers in WZMFI. In fact, the identifying and analyzing such determining factors of loan repayment rate is vital in the achievement of profitability and sustainability of MFIs. In this connection, researchers' collected data from primary and secondary resources and analyzed by using two limit Tobit model is used. Through the study 15 determinants' are selected for evaluation, out of which 6 variables are significant and remaining insignificant are found. Based on the analysis, researchers are recommended that proper training should be provided, reasonable amount of loan which should be useful to their business. Further, more age people and well business experience people can able to repay their loan amount` timely to micro finance institution.

Keywords: loan repayment, performance, small scale enterprise, micro finance institution, private borrowers.

1. INTRODUCTION AND JUSTIFICATION

In developing countries like Ethiopia where the farming system is at its traditional level and the industrial and service sectors are at their infant stage, the role of small scale enterprises (SSEs) is significant in terms of their employment generation capacity, quick production response, adaptation to weak infrastructure, use of local resources and as a means of developing indigenous entrepreneurial and managerial skills for a sustained growth need (Aryeetey, 2004 in BFasika and Daniel, 2007). For small-scale enterprises to grow up to medium and large-scale level, the need for formal credit source is indispensable because formal financial sector have the financial capacity to meet their growing credit

demand, which the informal sector is incapable to supply.

Despite their importance, many of them do not have sufficient access to credit from formal financial institutes. Their major source of finance, especially at the start up stage, is the informal sector (i.e. from friends, relatives and local money lenders). This poor credit access from formal financial source, based on the experience of some developing countries, arises partly from biased government policy, due to the operational practices and procedures of the formal financial institutions and the internal problems of small scale enterprises themselves. (Asrat, 2009). Solving the major financial constraint of this important sub-sector of the economy is an important step towards achieving the national development objective of a country. For this to succeed, the problem of high default risk associated with them, which made the financial institutes reluctant to extend loan, has to be solved. However, the majority of potentially viable SSEs still couldn't get credit access from the formal financial market. High transaction cost, complex bureaucratic lending procedures, elaborate paper work, high collateral requirements and delays are some of the factors which militate against effective utilization of the existing banking facilities (Dejene, 2003). Because of this only limited number of SSEs could be eligible for credit from the banking sector.

Similarly, MFI was one of government owned financial institute that passed through the lending policies mentioned earlier. Its major task has been extending medium and long term credit small and medium-scale development projects.

After 1991 like other financial institutes, MFI diverted its attention towards the private sector whose share never exceeded 11% during the socialist period increased to more than 77% in 2011/12 (MFI, 1970/71-2011/12). Credit access to small scale private enterprises was also improved although it didn't match with the need of customers. With the removal of restrictions imposed by the government, the bank has been given autonomy to pass its own lending decision on the basis of purely commercial criteria. Together with this there is no government guarantee unlike before in

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case of default. That is, the bank is required to meet its development objective keeping at the same time its financial position safe. Its success/failure of development financing as well as its financial position therefore relies on its loan recovery performance.

The problem of loan default reduces the lending capacity of a financial institution. It also denies new applicants access to credit as the bank's cash flow management problems augment in direct proportion to the increasing default problem. In other words, it may disturb the normal inflow and outflow of fund a financial institution has to keep staying in sustainable credit market.

The effect of default problem experienced in MFI as mentioned earlier has been reflected on its financial position. For instance, as of June 30, 2012 the MFI's debt equity ratio was 6:1 as opposed to the internationally recognized ratio of 4:1. During the same period its current ratio (i.e. the ratio of current assets to current liabilities) stood at 0.59:1 implying that the MFI is in severe liquidity constraint, that is its current asset is not in a position to cover its current liability. The repayment problem could arise either from the demand side, supply side, and both or other external factors.

The supply side problems include change in the structure of the bank, change in the lending policy, failure in properly appraising the project document (i.e. in assessing the background of the promoter, technical capability, marketability, financial and economic viability of the project) and lack of responsibility and accountability of the staff members of the MFI.

Concerning MFI there has been no significant change introduced on the general lending policy of the MFI except shifting its attention towards loan collection than loan disbursement, which in fact arisen from severe liquidity problem it has faced. Therefore the problem on the supply side relies more on implementation of the rules and regulations of the MFI and on the MFI's efficiency of making proper credit assessment.

Studies conducted so far were on Micro enterprises (Mengistu, 2007; Birhanu, 2009; Teferri, 2000) and on manufacturing firms' case (relatively medium and large scale ones) located in Addis Ababa (Mengistu, 2009). However, these studies don't specifically touch the case of small-scale private enterprises. This study therefore tried to narrow the research gap paying attention to this sector of the economy. Studies done on micro enterprises are meant to evaluate the institutional sustainability of the credit scheme. However, this study will focuses on identifying factors behind the poor loan repayment performance that SSEs are associated with.

II. OBJECTIVES OF THE STUDY

The general objective of the study is to analyze and identify the major factors that determine loan repayment performance of the small scale enterprises

and to identify the major challenges of the MFI's in the wolaita and Dawuro area.

a) *Specific objectives*

- ✚ To identify the major socio-economic factors that influence loan repayment rate of the borrowers of micro finance institution.
- ✚ To examine the businesses and loan related factors influence the repayment performance of the Private borrowers.
- ✚ To investigate the major problems faced by the borrowers and lenders in the repayment process in micro finance institution.

III. METHODOLOGY

a) *Research Design*

The study employed explanatory research design with quantitative and qualitative methods. The quantitative aspect of the data focused on description of socioeconomic variables, loan and related variables, and business related variables and analysis of relationship among the dependent and explanatory variables of WZMFI for the study.

b) *Data Sources*

The study employed both primary and secondary sources. Primary data sources are the sample loan borrowers of both defaulters and non defaulters from each branch. In support of primary sources, secondary data sources were obtained from both head office, and branches' managers concerned other officers and unpublished works also.

c) *Sampling Techniques*

For this study multi-stage probability sampling techniques were used. At the first stage, the WOLAITA ZONE micro finance institution was selected purposively due to so far there is no scientific studies has been taken regarding to loan repayment performance in this study area. So, researchers motivated to identify and analyze the determinants of loan repayment performances of borrowers in WZMFI. A stratified sampling technique would used to select the respondents. At the outset, the respondents were stratified into two categories, i.e. defaulters and non-defaulters. All borrowers of the MFI's credit that would have repaid their loans when the due date are classified as non-defaulters while those who did not repay their loan three months after the due date are classified as defaulters.

Stratified sampling would be used where borrowers can be divided in to two different strata's: defaulters and non-defaulters. In each stratum, simple random sampling will be used to get the required number of respondents. According to 2006 E.C record of both Wolaita and Dawuro zone finance and economy development office, there are a total of 108,672 private borrowers were listed on the both Wolaita and Dawuro

area chart of loan account out of which the repayment date for 300 borrowers was not mature, and hence are excluded from the list.

About 300 Sample respondents were selected through using simple random sampling technique. The

sampling respondents were taken from all active clients that have been participated in the program during 2013.

IV. RESULT AND DISCUSSION

Table 1 : Borrowers characteristics (continuous variables)

Variables	Non -Defaulters				Defaulters				Total sample (N= 261)			
	Mean	St.deviation	minimum	maximum	Mean	St.deviation	minimum	maximum	Mean	St.deviation	minimum	maximum
Age	34.650	8.880	19	60	29.172	8.126	16	56	31.911	8.503	35	116
Farming Expr	1.384	5.0266	0	30	.948	5.576	0	40	1.166	5.301	0	70
hhsiz	6.1970	1.985	1	13	5.655	1.606	2	10	5.256	1.756	3	23
depratio	1.850	1.414	0	8	1.582	1.079	0	5	3.432	1.247	0	13

Sources: survey results, 2014

The average age of the whole respondents was 32 ± years, ranging between 19 and 60 years old. There was statistically significant (at 5% level) difference between the mean age of defaulter and non-defaulter (Table 1). As we see from the table below, more than half of the respondents were in the first and second age category, showing that most of the borrowers were young age groups. The proportion of youngsters in the defaulter group was a little bit higher than that in the non-defaulter group.

Thus, this indicates that the borrowers at younger stages become more defaulter than at older age. This is because as age of borrowers' increases they became settled and accumulate wealth; acquire experience in business management and credit use

than youngsters. Then these and related positive variables enables elder borrowers to be better payers than youngsters.

Therefore, based on the survey result the average family size of non-defaulters is greater than the average family size of defaulters. This indicates that as family size in the household of borrowers' increases then they allocate their business incomes, which was financed by credit loan, to cover different household's expenses. As a result, this impacts the borrowers' loan repayment performance negatively. The significance value is .000, which is less than .05; therefore based on this researchers can say that there is a significant difference between defaulters at 5% significance level (table 1).

Table 2 : Borrowers characteristics (continuous variables)

Variables	Non -Defaulters (N=)				Defaulters(N=)				Total sample (N= 261)	
	Mean	Standard deviation	minimum	maximum	Mean	Standard deviation	minimum	maximum	Mean	Standard deviation
Total live stock ownership	4.10699	38.19087	0	544.44	.8186207	2.3631	0	9.4	2.4628	20.276985
Value of equipment	12247.41	54085.63	0	759,550	2818.1	5460.217	0	22,800	7532.755	29772.9235
Land size	4.623498	2.557656	0.99	16	4.396897	3.158024	1	20	4.5101975	2.85784
Off farm income	1289.468	4389.592	0	48,900	267.7586	983.0369	0	5000	778.6133	2686.31445

Sources: Survey results, 2014, Significant at 5% level of confidence

Next to land, livestock is the most important asset for rural households in Ethiopia. It is used as a source of food, draft power, income and energy. Moreover, livestock is an index of wealth and prestige in rural community. All the sample households reared livestock, which consisted of cattle, small ruminants, back animals and poultrys.

Total livestock ownership (LIVSTKNO) is, as expected, positively related to the dependent Variable (significant at 5% level). Each additional TLO increases the probability being non defaulter by the mean value of

4.10695. The minimum number of livestock maintained was 0 whereas the maximum was 544.44 Credit users possessed relatively more livestock unit than non-users. The mean difference between the two groups in owning of livestock was significant at 1% level.

The implication is that, Livestock are sources of cash in rural Ethiopia and serve as security against crop failure. Farmers who owned more livestock are able to repay their loans even when their crops fail due to natural disaster. In addition, as a proxy to oxen ownership the result suggests that farmers who have

larger number of livestock have sufficient number of oxen to plough their field timely and as a result obtain high yield and income to repay loans.

Getting income from off-farm activities (OFF-FARM) is another economic factor that was positively and significantly affected loan repayment performance of smallholder farmers. This might be due to the fact that; off-farm activities were additional sources of income for smallholders and the cash generated from these activities could back up the farmers' income to settle their debt even during bad harvesting seasons and when repayment period coincides with low agricultural prices. Each additional unit of Off-farm income increases probability of being non-defaulter by

the mean value of 1289.468 and on average increases the rate of loan repayment by 0.1061 for the entire respondents and by 0.131 among non defaulters. However, this result is contrary to Bekele's (2001), findings that, off-farm income was negatively related with loan repayment performance of farmers.

With respect to land size, the average land holding of the sample borrowers was 5.57 hectare. The minimum and maximum holding sizes were 0.99 and 20 hectares, respectively. All respondents owned more than 15 hectares of land. This shows that farming in the area is of subsistent type (Table 2). The average farm sizes of the non-defaulters and defaulters were 4.6 and 4.3 hectares, respectively.

Table 3 : Borrowers characteristics (continuous variables)

Variables	Non -Defaulters (N=)				Defaulters(N=)				Total sample (N= 261)			
	Mean	St.deviation	minimum	maximum	Mean	Standard deviation	minimum	maximum	Mean	Standard deviation	minimum	maximum
Loan amount	22545.32	29583.82	0	544.44	7412.069	14017.07	1500	100,000	26251.3545	30,291.855	1500	100544.44
Loan frequency	2.221675	1.474242	1	8	1.12069	.65098	1	5	1.6711825	1.062611	2	13
Days pro	84.2957	75.1213	10	365	8.275862	34.08647	0	180	46.285781	54.603885	10	545
Portion of loan repaid	.6157656	.3028648	.0312891	1	0	0	0	0.3078828	.3078828	.1514324	.0312891	1.3078828

Source: Survey results, 2014

Despite the fact that majority of respondents have responded the loan amount approved as insufficient to their planned or current engagement, the mean amount of approval deviation is birr 29583.064 and 14,017 for good non defaulter borrowers and defaulters respectively. This implies that majority of those who have defaulted were granted a loan much lower than their request in relation to those of non defaulter borrowers.

Most borrowers request below sufficient amount and are granted even below their request. This condition leads to lower amount of investment on business, unable to hold all the necessary stocks demanded by the market and minimal return from business activity. As noted on table 3 this was the main reason cited by borrowers for lower return.

However, due to the factors indicated in the beginning, the amount applied in the first place is influenced by the credit officers' advice of what amount would possibly be approved with the given status of the borrower, irrespective of his/her demand.

With respect to loan frequency, on an average, respondents obtained the loan credits for 1.671 rounds with the standard deviation of 1.062. It was found that non-defaulters had credit 2.22 rounds while defaulters had 1.120 rounds with a standard deviation of 1.474 and 0.6509 respectively. Moreover, the mean difference between defaulters and non defaulters was statistically significant at 5 % level (table 3). This implies that if client borrow loan for the number of rounds, then they aware obligation and responsibility on loan usage as well as

repayment more than those who are the first time borrowers.

With respect to portion of loan repaid, according to loan repayment status of respondents, on an average it was found that 0.6157 of non-defaulters had fully repaid on maturity time, and only .3028 of them paid it fully but too late. The fully repayment of loan enables non-defaulters to gate the advantages of next higher loan like, having good relationship with the lending institution, keeping their socially status in the society, realizing their freedom from any penalty. Whereas, according to defaulters group, on an average, none of respondents had paid loan partially on maturity period and none of the same group had paid too late.

Table 4 : Socio-Economic Characteristics of Respondents Based on Discrete Variables

Marital status		Defaulters		Non defaulters		Toal sample (N=261)		X ² -Value
		N	P	N	P	N	P	
Marital status	Single	40	15.33	89	34.10	129	49.43	X ² = 11.3907 P=0.001**
	Married	18	6.9	114	43.68	132	50.7	
Sex	Male	32	12.26	143	54.79	175	67.05	x ² = 4.7617 P=0.029**
	Female	26	9.96	60	22.99	86	32.95	
educational status	Illiterate	6	2.3	13	4.98	19	7.28	X ² = 1.0380 P= 0.308*
	Literate	190	72.80	52	19.92	242	92.72	

Source: Survey results, 2014 * significant association ** Not significantly associated

N= number of respondents, P = number of respondents' percentage

As regard to marital status, from the total sample respondents 50.7%, 49.43%, were married and single, respectively. The marital statuses of defaulters were also married and single, with the percentage of 6.9, 15.33, respectively. Whereas the marital statuses of non-defaulters were also married and single, with the percentage of 43.68, 34.10, at the same order. Statistically, it was found that the percentage differences between the two groups were insignificant (Table 4). This indicates that being single, married, divorced, and widowed have the same status either to repay or not to repay.

As regards to sex composition, 86(32.95%) were female respondents, whereas, 175(67.05%) were male respondents. The proportion of non-defaulters was 60(22.99%) for females, whereas, 143(54.79%) for male counter parts. This reveals that from their respective sex

composition, males' respondents were found having more repayment performance than female respondents. However, the chi-square result shows that the association between sex and loan repayment is significant (X² = 4.7617 P= 0.029) table 4. This indicates that being either sex does determine loan repayment rate.

As regards to the educational status of the respondents, the survey results also revealed that 7.28 percent of the sample household heads were illiterate, whereas 92.72 percent of the household's heads were literate (Table 4). Of the total sample respondents, 4.9 percent of the non-defaulters and 2.3 percent of defaulters were illiterate respectively. There was no significant difference between defaulters and non defaulters in terms of their literacy level (Table 4).

Table 5 : Characteristics of Lending Scheme, Purpose, Usage, and Size of Loan

Variables		Non-defaulters	Defaulters	Total sample (n=261)		x ² & p values
				N	P	
Loan issued timely	No	62(23.75 %)	55(21.07%)	117	44.83	X ² = 75.3781 P= 0.000
	Yes	141(54.02)	3(1.15%)	144	55.17	
Loan purpose	Purchase of industrial products	18(6.9%)	2(.77%)	20	7.66	X ² = 27.9488 P= 0.000
	Construction of diary	12(4.6%)	0(0.0%)	12	4.6	
	Purchase of cross bre	15(5.75%)	0(0.0%)	15	5.75	
	Fill family requirements	21(8.05)	0(0.0%)	21	8.05	
	Settle debts	3(1.15)	0(0.0%)	3	1.15	
	Growing crops	11(4.21)	0(0.0%)	11	4.21	
	Other	123(47.13)	56(22.22%)	179	47.13	
Why long loan application	Unqualified loan officers	51(19.54%)	2(.77%)	53	20.31	X ² = 221.9382 P= 0.000
	Less speedy procedure	41(15.71%)	1(.38%)	42	16.09	
	Long procedure	66(25.29%)	3(1.15%)	69	26.44	
	High no of	26(9.96)	0	26	9.96	

	applicants					
	Non willing officers	18(6.9%)	0	18	6.90	
	Others	1(0.38%)	52(19.92%)	53	20.31	
Repayment suitable	No	32(12.26%)	54(20.69%)	86	32.95	$X^2 = 122.1336$ P= 0.000
	Yes	171(65.52%)	4(1.53%)	175	67.05	
Repaying loan	No	0	54(20.69%)	54	20.69	$X^2 = 238.3043$ P= 0.000
	Yes	203(77.78%)	4(1.53%)	207	79.31	
Repayment status	Fully repaid on time	29(11.11)	0	29	11.11	$X^2 = 238.9397$ P= 0.000
	Fuly repaid too late	33(12.64)	0	33	12.64	
	Partially repaid on time	93(35.63)	1(.38%)	94	36.02	
	Partially repaid too late	48(18.39)	3(1.15)	51	19.54	
	Not repaid	0(0.00%)	54(20.69%)	54	20.69	
Receive training	No	67(25.67%)	45(17.24%)	112	42.91	$x^2 = 36.5987$ P= 0.000
	Yes	136(52.11%)	13(4.98%)	149	57.09	
Lent in group	No	82(31.42%)	20(7.66%)	102	39.08	$X^2 = 0.6621$ P= 0.416
	Yes	121(46.36%)	38(14.56%)	159	60.92	

Source: Survey result, 2014. N = number of respondents P = percentage of respondents

With respect to loan disbursement, 55.7% of respondents have been answered that they took loan timely. On the other hand, 44.83% of respondents portrays that loan disbursement was delayed for number of weeks. The table 6 below shows that the higher proportion of non-defaulters 54.02% were found from those respondents who received timely disbursed loan, while only 23.75% of non-defaulter respondents were a group from who have received the loan delayed on disbursement.

According to respondents, this delay of disbursement was due to the absence of qualified loan officers and managers on the work time, 20.31%, Less speedy procedure 16.09%, and taking long procedure to finish precondition to deliver loan service 26.44%, High no of applicants 9.96%, Non willing officers 6.90% and others 20.31%. The chi-square result also shows the presence of strong and significant association between disbursement and dependant variable at 5% significance level ($X^2 = 75.3781$ at $P = 0.000$).

With respect to the purpose for which loan was taken, we observe that the majority of the borrowers, i.e., 179 (47.13%) took the loan for other purposes like Animal husbandry ,Horticulture ,Weaving and tailoring ,Food processing ,Metal work ,Wood work, Construction , "Baltina" and petty trading ,Kiosk and shop ,Service provider both in urban rural areas. The next activity for which most of the borrowers took loan is to fill family requirements, 21 (8.05%).

To see if at all purpose of borrowing has some association with loan repayment performance, table 6 is constructed from the survey data. Accordingly only 47.13% of those who borrowed for the other purposes

were non-defaulters. The same trend is observed in the rest of the cases. This indicates that purpose of borrowing may not have a notable implication on the loan repayment performance of borrowers. In fact this could be an issue for future research.

According to loan repayment status of respondents, it was found that 11.11% of non-defaulters had fully repaid on maturity time, and only 12.64% of them paid it fully but too late. The fully repayment of loan enables non-defaulters to gate the advantages of next higher loan, having good relationship with the lending institution, keeping their socially status in the society, realizing their freedom from any penalty.

Whereas, according to defaulters group, 0.38% of respondents had paid loan partially on maturity period and 1.15% of the same group had paid too late.

With respect to lending methodology about 60.92% of respondents were engaged in group lending scheme, while 39.08% of respondents were borrowed loan under individual lending scheme. The finding indicates that 14.56% of defaulter's proportions were involved in group lending methodology, whereas the remaining 7.66% of defaulters were categorized under individual lending methodology. In group lending methodology respondents had the chance to gate loan easily without formal collateral and personal guarantee, joint liability of group members used as collateral.

With regard to suitability of repayment period, 67.05% of respondents indicated that the loan repayment period was suitable; on the other hand 32.95% of other respondents revealed it was not. Based on findings, more defaulters' number (20.69%) of respondents was found in the group that replied period

was not suitable, while large numbers of non-defaulters (65.52%) were those who reported period was suitable. For the 20.69% respondents who disagreed on suitability of period; the main reason was the shortness of grace and repayment period. The chi-square result also shows the presence of strong and significant association between repayment period and dependant variable at 5% significant level ($\chi^2=122.1336$ at $P=0.000$).

In regarding to training, majority of respondents 57.9% indicated that they had received some kind of

training on business and about institutional services before receiving loans, while 42.91% responded that they had not received any training before receiving loans. As table 6 shows almost all respondents of non-defaulters were those who took training on business. Hence, the training variable has direct impact on loan repayment performance either to increase or decrease defaulting rate. Statistically, chi-square also confirms the presence of strong and a significant association between training and dependant variable at 5% level of significance ($=36.5987$ at $P=0.000$).

Table 6 : Results of two limit Tobit model

Independent Variable	B	SE	Sig	Exp(B)
Sex of household	0.1305399	0.0763707	0.089	-0.0198839
Educational status of HH	0.223957	0.1352203	0.099	-0.0423806
Marital status of HH	0.075803	0.0837720	0.366	-0.0892004
Age of HH	0.00206	0.0051369	0.689	-0.0080577
Farming experience	0.01549	0.0101005	0.126	-0.004405
HH size	0.015245	0.016997	0.371	-0.0182328
Dependency Ratio	0.043917	0.02588	0.091	-0.0070577
Tropical livestock unit	0.000936	0.0003093	0.003	0.0003262
Off Farm income	-0.002894	0.0107956	0.789	-0.0241573
Value of equipment	0.027837	0.0093389	0.003	0.0094424
Receiving training	0.025597	0.0775924	0.742	-0.1272328
Lend in group	-0.072074	0.0804411	0.371	-0.2305149
Repayment suitability	0.58213	0.0984152	0.0001	0.388286
Loan amount	-0.019143	358382	0.594	-0.0897318
Loan frequency	0.034654	0.0251999	0.17	-0.0149813

Source: Survey result, 2014. B=regression coefficient, Exp (B) = odds ratio Overall, correct prediction = 89.9%
 Sig. =significance S.E = standard error Log pseudo likelihood = -201.05208 Pseudo R2 = 0.2020

A total of 15 explanatory variables were considered in the econometric model. Out of which **six variables** were found to be significant. These were sex of house hold, Education level, Number of dependants within and out house hold, Tropical live stock unit, Value of equipment, Repayment suitability. The coefficients of these all significant variables were negative and positive.

Sex of house hold: As regards to sex composition, 86(32.95%) were female respondents, whereas, 175(67.05%) were male respondents. The proportion of non-defaulters was 60(22.99%) for females, whereas, 143(54.79%) for male counter parts. This reveals that from their respective sex composition, males' respondents were found having more repayment performance than female respondents. However, the chi-square result shows that the association between sex and loan repayment is significant ($\chi^2= 4.7617$ $P=0.029$) table 4. This indicates that being either sex does determine loan repayment rate.

Education level: The education level was positively and significantly influencing loan repayment at 1% significance level. An increase in one year schooling increases the probability of the loan repayment rate by 4.23806, ceteris paribus. This figure reveals that the borrowers whose educational level increased have the probability of increasing the loan repayment performance four times more than the borrowers who have lesser education level/ illiterates. This suggests that more educated borrower may have access to business information.

Number of dependants within and out household: This variable was found to determine negatively and significantly borrowers' loan repayment performance at 1% significance level. If other variables held constant, having non-dependants or lower number of dependants' decreases the probability of defaulting by the 15.8%.

Livestock Ownership: Next to land, livestock is the most important asset for rural households in Ethiopia. It is

used as a source of food, draft power, income and energy. Moreover, livestock is an index of wealth and prestige in rural community. All the sample households reared livestock, which consisted of cattle, small ruminants, back animals and poultry. Total livestock ownership (LIVSTKNO) is, as expected, positively related to the dependent Variable (significant at 5% level). Each additional livestock ownership unit increases the probability being non defaulter by the mean value of 4.10695. The minimum number of livestock maintained was 0 whereas the maximum was 544.44 Credit users possessed relatively more livestock unit than non-users. The mean difference between the two groups in owning of livestock was significant at 1% level.

Repayment suitability: In regard to suitability of repayment period, 67.05% of respondents indicated that the loan repayment period was suitable; on the other hand 32.95% of other respondents revealed it was not. Based on findings, more defaulters' number (20.69%) of respondents was found in the group that replied period was not suitable, while large numbers of non-defaulters (65.52%) were those who reported period was suitable. For the 20.69% respondents who disagreed on suitability of period; the main reason was the shortness of grace and repayment period. The chi-square result also shows the presence of strong and significant association between repayment period and dependant variable at 5% significant level ($\chi^2 = 122.1336$ at $P = 0.000$).

V. CONCLUSION AND RECOMMENDATION

The finding of this study revealed that the age of respondents negatively and significantly determines the loan repayment performance of borrowers. This indicates that the elder respondents have better repayment performance than youngsters. And the elders were more responsible to repay loan than youngsters.

The researcher not recommends excluding youngsters. However, the care must be taken when starting from applicants' screening to through repayment periods, the special attention for follow up and supervision is necessary.

The education level determines loan repayment positively and significantly. The borrowers who attained higher education level able to pay better than the borrowers who were in lower level schooling and/or illiterates. Therefore, institution should motivate educated people and also easy to provide training.

Time lag between loan application and disbursement should be reduced to increase repayment rate. The complicated loan processing procedures, which might lead to delay in disbursement, further, it will increase default rate.

The supervision made by the loan officers and borrowers ratio should be reduced and it leads to

increase follow-up services. However, it is recommended that institution should compute thoroughly the borrowers' business proposal loan size before approving and sanctioning.

Borrowers who have small number of or no dependants in the household perform better in loan repayment. The borrowers who support large number of dependants also perform well with proper supervision.

Loan diversion was also found as essential and significant determinant of loan repayment rate negatively. This means, diverting loan into non-income generating activities increases default rate. Therefore, it is recommended that the institution should give attention to continuous follow-up on proper loan utilization.

Repayment period is also found to be a significant determinant of loan repayment performance of borrowers. Suitability of loan repayment period for borrowers was found to significantly increase the probability of repaying loan. Therefore, the institution has to give enough time to clients so that they will be able to work with the loans they have borrowed and arrange the time to collect loan that will be suitable for them to sell their business output.

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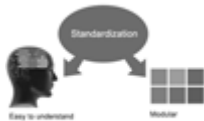


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The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.



- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
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Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

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- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

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- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
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Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
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What to keep away from

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- Leave out information that is immaterial to a third party.

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The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently. You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.



Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
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Approach

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Approach:

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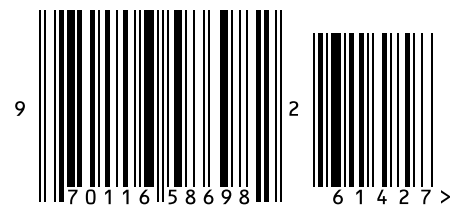
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