Performance Evaluation of Small and Large Cap Companies

By Wasim Rashid Khawaja

2005-NUST-MBA-101

Thesis submitted to the Faculty of the NUST Institute of Management Sciences In partial fulfillment of the requirements for the degree of Master of Business Administration

APPROVED:

Mr. Haroon Rashid, Advisor

September 5, 2007 Rawalpindi, Pakistan

Acknowledgments

I would like to express my deepest gratitude to my academic and research advisor Mr. Haroon Rashid for his guidance and constant support in helping me to conduct and complete this work. In addition, I want to thank Miss. Zeenat Jabbar, Mr. Salman Shehzad and Mr. Imran Nazir for serving on my advisory committee, as well as for their generous advice. I am indebted to the NUST Institute of Management Sciences (NIMS) for funding this work and for providing research facilities. Many thanks to all the people I have come to know in NIMS, whose friendship and companionship I will always enjoy. I owe my sincere appreciation to my family and relatives who have supported and encouraged me over the years. Finally, I want to extend my profound appreciation to my beloved parents for their love, affection, and invaluable support during my life and studies.

Abstract

This study examines the performance of small cap and large cap companies in short and long run. Smalls caps and large caps are separated on the basis of their market capitalization. In short run performance is checked by calculating daily, weekly and monthly returns of the companies whereas in long run performance of the companies is measured using fundamental analysis. After calculating the returns and ratios (fundamental analysis) this research paper uses grid analysis to compare the performances of the selected small caps with large caps. This grid analysis would finally tell us whether to accept or reject the thesis.

Table of Contents

AcknowledgmentsII	I
Abstract III	I
Table Of Contents IV	1
CHAPTER #1 INTRODUCTION	
Background And Motivation7	
Aim	
Karachi Stock Exchange - Introduction	
KSE 100 Index 11	
Indices At KSE 11	Ĺ
Kse-100 Index 11	
Kse-30 Index 12	
Kse All Share Index 13	3
Membership Of Karachi Stock Exchange 13	3
Hypothesis14	
Hypothesis Statement # 1: 14	1
Hypothesis Statement # 2: 14	1
CHAPTER # 2 LITERATURE REVIEW	5
Work Done By Zunna Inc. On The Performance Evaluation Of Small And Large Cap	
Companies	5
Work Done By Ned Davis At Bailard Research	3
Fundamental Analysis By Investopedia Team19)
Fundamental analysis By Cory Janssen, Co-Founder, Investopedia.com)
CHAPTER # 3 DATA & METHODOLOGY 21	l
Data And Methodology22	2
Methodology For Hypothesis #1	2
Methodology For Hypothesis #2	1
CHAPTER # 4 FINDINGS	5
Findings For Hypothesis # 1	5
Comparison Of Small Caps Returns With Large Caps Returns On A Daily Basis 26	5
Comparison Of Small Caps Returns With Large Caps Returns On A Weekly Basis	
	5
Comparison Of Small Caps Returns With Large Caps Returns On A Monthly Basis	
	7
Findings For Hypothesis # 2	3
Gross Profit Margin	3
Comparing Gross Profit Margin Of Small Caps With Large Caps For Year 2006	
	3
Comparing Gross Profit Margin Of Small Caps With Large Caps For Year 2005	
	3
Profit Margin	~

Comparing Profit Margin Of Small Caps With Large Caps For Year 2006	
Comparing Profit Margin Of Small Caps With Large Caps For Year 2005	
Return On Total Assets	. 32
Comparing Return On Total Assets Of Small Caps With Large Caps For Year	
2006	. 32
Comparing Return On Total Assets Of Small Caps With Large Caps For Year	
2005	
Return On Total Equity	. 34
Comparing Return On Total Equity Of Small Caps With Large Caps For Year	
2006	. 34
Comparing Return On Total Equity Of Small Caps With Large Caps For Year	
2005	. 34
Earning Per Share	. 35
Comparing Earning Per Share Of Small Caps With Large Caps For Year 2006.	. 35
Comparing Earning Per Share Of Small Caps With Large Caps For Year 2005.	
Price/Earning Ratio	
Comparing Price/Earning Ratio Of Small Caps With Large Caps For Year 2000	
Comparing Price/Earning Ratio Of Small Caps With Large Caps For Year 2005	
CHAPTER # 5 CONCLUSION	. 37
Conclusion For Hypothesis # 1	
CONCIUSION FOR HVDOINESIS # Z	
Conclusion For Hypothesis # 2	
Limitations	
Limitations	. 39
LimitationsCHAPTER # 6 LOOKING FORWARD	. 39 . 40
Limitations	. 39 . 40
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research	. 39 . 40 . 41
LimitationsCHAPTER # 6 LOOKING FORWARD	. 39 . 40 . 41
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES	. 39 . 40 . 41 . 42
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES	. 39 . 40 . 41 . 42 . 44
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1	. 39 . 40 . 41 . 42 . 42 . 44 . 45
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2	. 39 . 40 . 41 . 42 . 42 . 44 . 45 . 47
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a	. 39 . 40 . 41 . 42 . 42 . 44 . 45 . 47 . 49
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b	. 39 . 40 . 41 . 42 . 42 . 44 . 45 . 47 . 49 . 50
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 a	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 a Annexure 4 b	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 b Annexure 5 a	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 50 . 51 . 52 . 53
Limitations	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52 . 53 . 54
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 a Annexure 4 b Annexure 5 a Annexure 5 b Annexure 6 a	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52 . 53 . 54 . 55
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 a Annexure 4 b Annexure 5 b Annexure 6 a Annexure 6 b	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52 . 53 . 54 . 55 . 56
Limitations	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52 . 53 . 54 . 55 . 56 . 57
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 b Annexure 4 b Annexure 5 a Annexure 5 b Annexure 6 a Annexure 7 a Annexure 7 b	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52 . 53 . 54 . 55 . 56 . 57 . 58
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 b Annexure 4 b Annexure 5 b Annexure 5 b Annexure 6 a Annexure 7 a Annexure 7 b Annexure 8 a	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52 . 53 . 54 . 55 . 56 . 57 . 58 . 59
Limitations CHAPTER # 6 LOOKING FORWARD Directives For Future Research REFERENCES ANNEXURE Annexure 1 Annexure 2 Annexure 3 a Annexure 3 b Annexure 4 b Annexure 4 b Annexure 5 a Annexure 5 b Annexure 6 a Annexure 7 a Annexure 7 b	. 39 . 40 . 41 . 42 . 44 . 45 . 47 . 49 . 50 . 51 . 52 . 53 . 54 . 55 . 56 . 57 . 58 . 59 . 60

CHAPTER#1 **INTRODUCTION**

Background And Motivation

There are few studies done in west which shows that small caps have performed better compared to large caps. According to global structured products group (GSPG), the past six years have been an extremely strong period for small caps stocks (as measured by Russell 2000 index) relative to large cap stocks (as measured by S&P 500 index). According to GSPG Russell 2000 index is currently of lower quality but still is traded at high P/E ratio than S&P 500¹.

In another article by Ned Davis(Ned Davis, 2001), its written that whether you look at relative valuations using trailing earnings, forward earnings or dividend yields, small cap stocks (as measured by the Russell 2000 index) are overvalued relative to large-cap stocks (as measured by the Russell 1000 index)². Historically, large caps have experienced slower growth with lower risk. Meanwhile small caps have experienced higher growth potential, but with higher risk.³

These studies done by different individuals triggered a thought in my mind to check whether the statement that small caps outperform large caps hold true for Pakistani market or not. So in order to apply these studies to Pakistani market I am carrying out this research work.

³ Investopedia,"MarketCapitalization Defined", Investopedia,

¹ Invesco,"Small Cap Sizzle",

http://www.institutional.invesco.com/portal/file/invescoinst/pdf/Will_Small_Caps_Sizzle.pdf, (accessed 24 june, 2007).

² Ned Davis, "Small Cap Performance Measure", Ned Davis,

http://216.109.125.130/search/cache?p=reserch+done+on+small+caps+outperforming+large+caps&fr=yfp-t501&toggle=1&ei=UTF&u=www.bailard.com/pdf/Strategy_Small%2520Cap%2520vs%2520%2520Larg e_May%25202006.pdf&w=reserch+research+done+small+caps+outperforming+large+caps&d=MKdCgv mdOpfM&icp=1&.intl=us, (accessed 24 June, 2007).

http://www.investopedia.com/articles/basics/03/031703.asp,(accessed august 24, 2007).

Aim

The aim of this research paper is to find whether small caps of KSE are performing better compared to the companies included in KSE-100 index, if this holds true then to challenge the KSE-100 index inclusion criteria. This criterion only allows those companies to be included in KSE-100 index which have the highest market capitalization in their respective sectors. The remaining slots are filled by the companies which are ranked high in terms of their market capitalization compared to whole market.

Karachi Stock Exchange - Introduction

Karachi Stock Exchange (KSE) is the biggest and most liquid exchange in Pakistan with the average daily turnover of 525.15 million shares and market capitalization of US \$ 54.28 billion. The international magazine 'Business Week' announced the KSE as the best performing world stock market in 2002. Since then the KSE continuously maintains the reputation as one of the best performing markets in the world.

Since 1991, foreign investors have an equal opportunity together with local investors to operate in the secondary capital market on the Karachi Stock Exchange. The establishment of the new policy for foreign investors and initiated privatization in Pakistan has accelerated the development of the KSE, which had even 663 companies listed in 2006. In addition, companies have a choice to be listed on one of the two markets - the ready market and the over-the-counter (OTC) market, which has lesser listing requirements. While the ready market requires listing companies to have minimum paid up capital of Rs 200 million, the companies with minimum of Rs 100 million can be listed on the OTC market.⁴

⁴ ADVFN, "Karachi Stock Exchange (KSE)", ADVFN,

http://www.advfn.com/StockExchanges/about/KSE/KarachiStockExchange.html, (accessed August 24, 2007).

KSE has been well into the 6th year of being one of the Best Performing Markets of the world as declared by the international magazine "Business Week". Similarly the US newspaper, USA Today, termed Karachi Stock Exchange as one of the best performing bourses in the world. The market performance during the period June 1998 to April 30, 2007 is given under.⁵

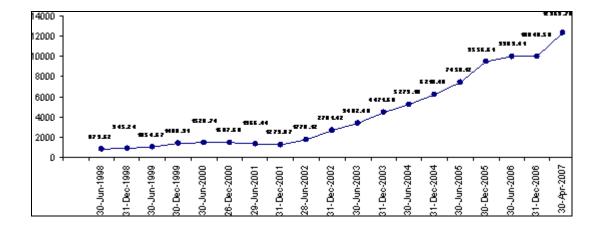
DECADEWISE PROGRESS

	NO. OF	LISTED	MARKET
YEAR	R LISTED	CAPITAL	CAPITALISATION
	COMPANIES	S (Rs. in million)	(Rs. in million)
1950	15	117.3	-
1960	81	1,007.7	1,871.4
1970	291	3,864.6	5,658.1
1980	314	7,630.2	9,767.3
1990	487	28,056.0	61,750.0
2000	762	236,458.5	382,730.4

Source: Karachi Stock Exchange, "about KSE", www.kse.com.pk

⁵ Karachi Stock Exchange," about KSE", KSE, www.kse.com.pk, (accessed August 24, 2007).

The market performing during the period June 1998 to April 30, 2007 is given under.



KSE 100 Index

Source: Karachi Stock Exchange, "about KSE", www.kse.com.pk

The Karachi Stock Exchange trades the KSE-100 Index. It is a highly-diversified index of 100 largest capitalization companies' stocks from all sectors of Pakistan economy. A constantly revised index is a good indicator of the overall Exchange performance over a period of time. In 2005, 88% of the KSE total market capitalization was represented by the KSE-100 Index.

Indices At KSE

Initially KSE started with a 50 share index but later it entered into the following:-

- i. KSE-100 index
- ii. KSE-30 index
- iii. KSE all share index

Kse-100 Index

On November 1, 1991 the KSE-100 was introduced with a base of 1,000 points. By 2001, it had grown to 1,770 points. By 2005, due to a period of robust growth the index had skyrocketed to 9,989 points. It reached a peak of 11,485 points in March 2006. At the

moment the KSE 100 index is trading at an all time high of over 12,400 points (May. 02, 2007) The KSE-100 approach remains to this date the most generally accepted measure of the Exchange. The KSE-100 is a capital weighted index and consists of 100 companies representing about 86 percent of market capitalization of the Exchange.⁶

Kse-30 Index

KSE-30 index was introduced on september 2nd, 2006. This is the Pakistan's first free float index comprising of 30 most floated stocks in KSE. KSE-30 index was trading at 14,199 points (March. 15, 2007).⁷

Need for KSE-30 index

Based on market capitalization, the irregularity of the KSE index of 100 shares was all too obvious. Companies with very small float such as Oil and Gas Development Company carried the heaviest weightage in the index. A rupee one movement in the price of OGDC stock could shake the KSE-100 index by 20 points either way. Three or four major scrips marching together in the same direction could set the trend of the market.

Everyone, including the corporate monitors, knew all along that the KSE-100 index misrepresented the market. In order to have a clear picture of the market this index was introduced. The new KSE-30 index is more representative of the market. Syed Shahnawaz Nadir Shah, head of research at Noman Abid and Company, explains salient features of the new index. "The main factors of this index that make it different from the other indices are:⁸

 Market capitalization is based only on the 'free-float' of shares, rather than on the basis of paid-up capital. Due to this reason the 'over-representation' of the oil and gas exploration stocks would reduce in the new index

⁶ Wikipedia, "Karachi Stock Exchange", Wikipedia The Free Encyclopedia,

http://en.wikipedia.org/wiki/Karachi_Stock_Exchange, (accessed August 24, 2007).

⁷ Wikipedia, "Karachi Stock Exchange", Wikipedia The Free Encyclopedia,

http://en.wikipedia.org/wiki/Karachi_Stock_Exchange, (accessed August 24, 2007).

⁸ DAWN, "KSE-30 To Over Shadow KSE-100", http://www.dawn.com/2006/09/03/ebr2.htm, (accessed August 24, 2007).

(ii) The other indices represent 'total returns' of the market. That is, when a company announces a dividend, the index is not reduced/adjusted for that amount of dividend (whether cash or bonus).

Kse All Share Index

In 1995 the need was felt for an all share index to reconfirm the KSE-100 and also to provide the basis of index trading in future. On August 29, 1995 the KSE all share index was constructed and introduced on September 18, 1995.⁹

Membership Of Karachi Stock Exchange

The membership in the Karachi Stock Exchange is limited. Only 200 individual and corporate entities can register as members in the KSE. In addition, foreign corporate entities may also become the members of the KSE with the condition that the nominee member of the company is a citizen of Pakistan.¹⁰

⁹ Karachi Stock Exchange," KSE ALL Share Index", www.kse.com.pk, (accessed August 24, 2007).
¹⁰ ADVFN, "Members of KSE", ADVFN,

http://www.advfn.com/StockExchanges/about/KSE/KarachiStockExchange.html, (accessed August 24, 2007).

Hypothesis

This study revolves around the following two hypotheses, which are to be tested in order achieve the aim of the study:-

Hypothesis Statement # 1:

"Small cap companies outperform large cap companies in short run".

Hypothesis Statement # 2:

"Small cap companies fundamentally outperform large cap companies in long run".

CHAPTER # 2 LITERATURE REVIEW

Work Done By Zunna Inc. On The Performance Evaluation Of Small And Large Cap Companies¹¹

While doing the literature review I came across a study done on the performance evaluation of small caps and large caps by Zunna Inc.

In this study they have used Ibbotson's data ranging between year 1920 and 2000. In this study they have divided the time period between 1920 and 2000 into the following periods.

- i. 1926-1974
- ii. 1946-1974
- iii. 1984-2000

Note: The time period between 1975 and 1983 is not considered by Zunna Inc because it was truly dominated by small caps.

According to the paper many people had an objection that data before the end of World War II should not be used in the present day investment decisions, for this Zunna Inc. studied the time period ranging 1946-1974.

In the article the performance of small caps is compared with large caps using a fairly simple measurement known as return premium.

Return premium measures the degree by which one investment outperforms (or under performs) another asset. The equation is like this:¹²

$$RP = \underbrace{ \begin{pmatrix} 1 + \text{Return of asset A} \\ \hline \\ 1 + \text{Return of asset B} \end{pmatrix}}_{-1}$$

¹¹ Zunna Inc, "Think Small", Zunna Inc, http://www.zunna.com/Research/ThinkSmall.pdf, (accessed 24 august, 2007).

¹² Zunna Inc, "Think Small", Zunna Inc, http://www.zunna.com/Research/ThinkSmall.pdf, (accessed 24 august, 2007).

So, for example, if asset A returns 20%, and asset B returns 10%, the premium of A over B is 9.1% (1.2 / 1.1, minus 1). Return premiums above zero indicate A has better performance than B, those below zero indicate A has worse performance than B.

Work Done By Ned Davis At Bailard Research

In another article by Ned Davis(Ned Davis, 2001) its written that whether you look at relative valuations using trailing earnings, forward earnings or dividend yields, small cap stocks (as measured by the Russell 2000 index) are overvalued relative to large-cap stocks (as measured by the Russell 1000 index)¹³. Historically, large caps have experienced slower growth with lower risk. Meanwhile small caps have experienced higher growth potential, but with higher risk.¹⁴

Relative valuation does not preclude small stocks from appreciating or becoming more overvalued. First, historically small stocks tend to outperform in the long run, with large caps tending to outperform late in the economic cycle and during recessions. If the economy remains robust, small stocks could continue to outperform. Second, the overall market outlook remains positive and, if the equity market still has legs as we suspect, small value could continue to outperform large cap stocks tend to outperform six to eight months before and after bull market peaks. Finally, small stocks tend to under perform when interest rates are rising, the dollar is falling, and the Fed is near the end of its tightening regime. However, although interest rates have risen, they are coming from extremely low levels and are still relatively low. In addition, historically the Fed usually stops tightening after it has done some damage to the economy and the equity markets. So far, the Fed has yet to aggressively tighten and jeopardize the recovery. As long as the economic outlook and market cycle remain positive, we believe small stocks should do fine. Although small stocks have been outperforming for a long time, relative momentum and price trends remain positive. However, there has been some breadth deterioration which would favor large stocks. In addition, we are entering into the time of year where small stocks historically have underperformed.15

¹³ Ned Davis, "Small Cap Performance Measure", Ned Davis,

http://216.109.125.130/search/cache?p=reserch+done+on+small+caps+outperforming+large+caps&fr=yfp-t501&toggle=1&ei=UTF&u=www.bailard.com/pdf/Strategy_Small%2520Cap%2520vs%2520%2520Larg e_May%25202006.pdf&w=reserch+research+done+small+caps+outperforming+large+caps&d=MKdCgv mdOpfM&icp=1&.intl=us, (accessed 24 June, 2007).

¹⁴ Investopedia,"MarketCapitalization Defined", Investopedia,

http://www.investopedia.com/articles/basics/03/031703.asp,(accessed august 24, 2007).

¹⁵ Bailard Research, "Small Caps Outperforming Large Caps"

[,] Yahoo Search,

Fundamental Analysis By Investopedia Team₁₆

A method of evaluating a security by attempting to measure its intrinsic value by examining related economic, financial and other qualitative and quantitative factors. Fundamental analysts attempt to study everything that can affect the security's value, including macroeconomic factors (like the overall economy and industry conditions) and individually specific factors (like the financial condition and management of companies).

The end goal of performing fundamental analysis is to produce a value that an investor can compare with the security's current price in hopes of figuring out what sort of position to take with that security (under priced = buy, overpriced = sell or short). This method of security analysis is considered to be the opposite of technical analysis.

Fundamental analysis is about using real data to evaluate a security's value. Although most analysts use fundamental analysis to value stocks, this method of valuation can be used for just about any type of security.

For example, an investor can perform fundamental analysis on a bond's value by looking at economic factors, such as interest rates and the overall state of the economy, and information about the bond issuer, such as potential changes in credit ratings. For assessing stocks, this method uses revenues, earnings, future growth, return on equity, profit margins and other data to determine a company's underlying value and potential for future growth. In terms of stocks, fundamental analysis focuses on the financial statements of a company being evaluated.

One of the most famous and successful users of fundamental analysis is the Oracle of Omaha, Warren Buffett, who has been well known for successfully employing fundamental analysis to pick securities. His abilities have turned him into a billionaire.

http://216.109.125.130/search/cache?p=reserch+done+on+small+caps+outperforming+large+caps&fr=yfp-t-501&toggle=1&ei=UTF-

^{8&}amp;u=www.bailard.com/pdf/Strategy_Small%2520Cap%2520vs%2520%2520Large_May%25202006.pdf &w=reserch+research+done+small+caps+outperforming+large+caps&d=MKdCgvmdOpfM&icp=1&.intl= us, (accessed August 24, 2007).

¹⁶ Investopedia, "Fundamental Analysis", Investopedia, http://www.investorguide.com/igu-article-445-investing-strategies-fundamental-analysis.html, (accessed 24 August, 2007).

Fundamental analysis By Cory Janssen, Co-Founder, Investopedia.com₁₇

So, you want be a stock analyst? Perhaps not, but since you're reading this we'll assume that you at least want to understand stocks. Whether it's your burning desire to be a hotshot analyst on Wall Street or you just like to be hands-on with your own portfolio, you've come to the right spot.

Fundamental analysis is the cornerstone of investing. In fact, some would say that you aren't really investing if you aren't performing fundamental analysis.Because the subject is so broad, however, it's tough to know where to start. There are an endless number of investment strategies that are very different from each other, yet almost all use the fundamentals.

The goal of this tutorial is to provide a foundation for understanding fundamental analysis. It's geared primarily at new investors who don't know a balance sheet from an statement. While you may not be a "stock-picker extraordinaire" by the end of this tutorial, you will have a much more solid grasp of the language and concepts behind security analysis and be able to use this to further your knowledge in other areas without feeling totally lost.

The biggest part of fundamental analysis involves delving into the financial statements. Also known as quantitative analysis, this involves looking at revenue, expenses, assets, liabilities and all the other financial aspects of a company. Fundamental analysts look at this information to gain insight on a company's future performance. A good part of this tutorial will be spent learning about the balance sheet, income statement, cash flow statement and how they all fit together.

But there is more than just number crunching when it comes to analyzing a company. This is where qualitative analysis comes in - the breakdown of all the intangible, difficult-to-measure aspects of a company.

¹⁷ Corey Janssen, "Fundamental Analysis: Introduction", Inevestopedia,

http://www.investopedia.com/university/fundamentalanalysis/default.asp, (accessed on 24 august, 2007).

Chapter # 3 DATA & METHODOLOGY

Data And Methodology

This research has been carried out using data from 15 small cap and 15 large cap companies listed in Karachi stock exchange. Only those small caps are included in this research which are established for more than 3 years and have a daily trading volume in range of 25,000 and 35,000 shares. Companies listed in the KSE-100 index can not be considered to be included in this research as small caps under any assumption. This research considers only those companies to be included as large caps which are listed in KSE-100 index and are established for more than 3 years. Any company which is listed in the KSE-100 index but have a business life of less than 3 years is not considered as large cap.

Methodology For Hypothesis #1

To test the hypothesis # 1, this study has first calculated the daily, weekly and monthly returns of the selected companies. The formulas used for daily, weekly and monthly returns are given below:-

Daily return = (day 2 closing price - day 1 closing price) day 1 closing price

Weekly return = <u>(closing price of day 5 – closing price of day 1)</u> closing price of day 1

Monthly return = (c.p of last day of month – c.p of start day of month) closing price of start day of month

Then this study calculates the mean return of all the stocks involved on the daily, weekly and monthly basis. This mean return is later used for computing the risk premium and doing the grid analysis. Return premium is calculated by using the following formula¹⁸:-

 $RP = \begin{pmatrix} \frac{1 + Return \text{ of asset } A}{1 + Return \text{ of asset } B} & -1 \\ \end{cases}$

This return premium measures the degree by which one investment outperforms (or under performs) another investment. This study calculates return premium for every small cap in comparison to all the large caps. If the return premium comes out something above zero it would mean small cap has performed better and if risk premium is something below zero it would mean small cap has performed poor compared to a large cap.

After having this risk premium figure, winning percentage for both small caps and large caps has been calculated. Small cap's winning percentage shows the success percentage of small caps. This winning percentage would be calculated by dividing the total number of times small caps have performed better (compared to large caps) by the total number of comparisons made and vice versa for large caps.

¹⁸ Zunna Inc, "Think Small", Zunna Inc, http://www.zunna.com/Research/ThinkSmall.pdf, (accessed 24 august, 2007).

Methodology For Hypothesis #2

In order to test the hypothesis that small caps fundamentally outperform large caps in long run, this research paper have carried out the quantitative analysis in order to know the company's current (for period 2004-2006) performance. This research considers the time period greater than or equal to one year as long term. This fundamental analysis has been carried out by using three year's financial data for each company which is involved in the research.

¹⁹Fundamental analysis is the cornerstone of investing. In fact, some would say that you aren't really investing if you aren't performing fundamental analysis. Because the subject is so broad, however, it's tough to know where to start. There are an endless number of investment strategies that are very different from each other, yet almost all use the fundamentals.

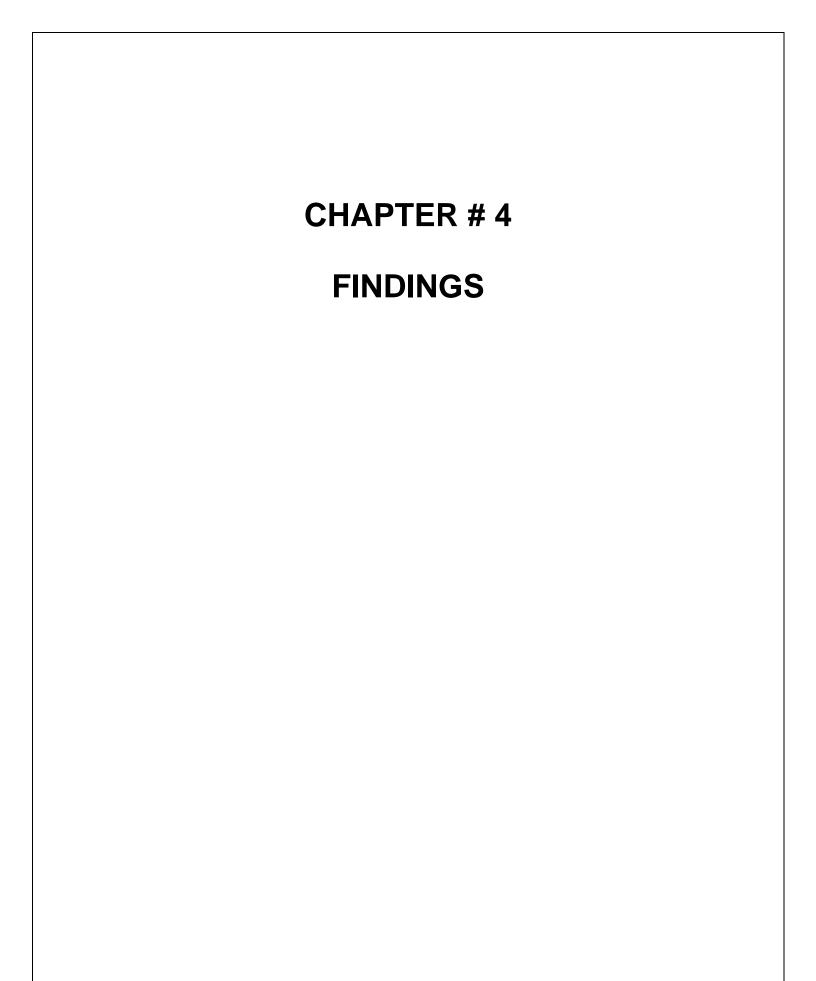
This research have covered the fundamental analysis by using the following ratios, 1) Profitability ratios, 2) Liquidity ratios, 3) Activity ratios, 4) Leverage ratios, 5) Market value ratios.

In order to accept or reject this hypothesis, main focus would be on profitability ratios, market value ratios and some what on activity ratios. The remaining ratios are done in order to have further insight on the company's performance.

After calculating the ratios, this research has used the grid analysis to compare the performance of small caps with large caps. In grid analysis large caps are on x-axis and small caps are on y-axis. Once the grid analysis is done this research calculates the number of times the small cap or large cap has performed better and further calculates its winning percentage (it's just the small caps or large caps performance percentage). This percentage would allow us to have a clear picture regarding performance of small cap and large cap companies.

¹⁹ Investopedia,"Fundamental Analysis: Introduction",

Investopedia,http://www.investopedia.com/university/fundamentalanalysis/default.asp, (accessed august 24, 2007).



Findings For Hypothesis #1

The grids for the calculations for return premium when small caps are compared with large caps on daily, weekly and monthly basis are pasted in annexure 1 and annexure 2 and 9 respectively. The result of these grids is given in the following tables:-

Comparison Of Small Caps Returns With Large Caps Returns On A Daily Basis

Grid Analysis

Total count	210
No. of times small caps performed better than large caps	95
No. of times small caps performed worst than large caps	115
Small cap winning %age	45%
Large cap winning %age	55%

The grid clearly shows that large caps have outperformed small caps on the daily basis returns. In total 210 comparisons are made while evaluating small cap and large cap performance out of which 95 times small caps have performed better and 115 times large caps have performed better.

Comparison Of Small Caps Returns With Large Caps Returns On A Weekly Basis

Grid Analysis

Total count	210
No. of times small caps performed better than large caps	84
No. of times small caps performed worst than large caps	126
Small cap winning %age	40%
Large cap winning %age	60%

The above results clearly show that large caps have outperformed small caps on weekly basis returns. In total 210 comparisons are made while evaluating small cap and large cap

performance, out of which 84 times small caps have performed better and 126 times large caps have performed better.

Comparison Of Small Caps Returns With Large Caps Returns On A Monthly Basis

Grid Analysis

Total count	210
No. of times small caps performed better than large caps	81
No. of times small caps performed worst than large caps	129
Small cap winning %age	39%
Large cap winning %age	61%

The grid clearly shows that large caps have outperformed small caps on monthly basis returns. In total 210 comparisons are made while evaluating small cap and large cap performance, out of which 81 times small caps have performed better and 129 times large caps have performed better.

Findings For Hypothesis #2

Gross Profit Margin

The results of the data analysis performed inorder to test hypothesis # 2 are given below where as the grids where the comparison between small caps and large caps is made could be seen in the annexure 3 a and annexure 3 b for year 2006 and 2005 respectively.

Comparing Gross Profit Margin Of Small Caps With Large Caps For Year 2006

The results are given below:-

Total count	24
Number of times small caps performed better	1
Number of times large caps performed better	23
Wining %age of small cap	4%
Wining %age of large cap	96%

Comparing Gross Profit Margin Of Small Caps With Large Caps For Year 2005

The results are given below:-	
Total count	24
Number of times small caps performed better	3
Number of times large caps performed better	21
Wining %age of small cap	13%
Wining %age of large cap	88%

The grid clearly shows that large caps have outperformed small caps on gross profit margin for both years (2006 and 2005). In total 24 comparisons are made(each year)

while evaluating small cap and large cap performance, out of which 1 time small caps have performed better and 23 times large caps have performed better in year 2006. In year 2005 out of 24 times, 3 times small caps have performed better and 21 times large caps have performed better.

Profit Margin

The results of the data analysis performed inorder to test hypothesis # 2 are given below where as the grids where the comparison between small caps and large caps is made could be seen in the annexure 4 a and annexure 4 b for year 2006 and 2005 respectively.

Comparing Profit Margin Of Small Caps With Large Caps For Year 2006

The results are given below :-	
Total count	24
Number of times small caps performed better	7
Number of times large caps performed better	17
Wining %age of small cap	29%
Wining %age of large cap	71%

Comparing Profit Margin Of Small Caps With Large Caps For Year 2005

The results are given below:-

Total count	24
Number of times small caps performed better	9
Number of times large caps performed better	15
Wining %age of small cap	38%
Wining %age of large cap	63%

The grid clearly shows that large caps have outperformed small caps on profit margin ratio for both years (2006 and 2005). In total 24 comparisons are made(each year) while evaluating small cap and large cap performance, out of which 7 time small caps have performed better and 17 times large caps have performed better in year 2006. In year

2005 out of 24 times, 9 times small caps have performed better and 15 times large caps have performed better.

Return On Total Assets

The results of the data analysis performed inorder to test hypothesis # 2 are given below where as the grids where the comparison between small caps and large caps is made could be seen in the annexure 5 a and annexure 5 b for year 2006 and 2005 respectively.

Comparing Return On Total Assets Of Small Caps With Large Caps For Year 2006

The results are given below:-	
Total count	24
Number of times small caps performed better	5
Number of times large caps performed better	19
Wining %age of small cap	21%
Wining %age of large cap	79%

Comparing Return On Total Assets Of Small Caps With Large Caps For Year 2005

The results are given below:-

Total count	24
Number of times small caps performed better	9
Number of times large caps performed better	15
Wining %age of small cap	38%
Wining %age of large cap	63%

The results clearly show that large caps have outperformed small caps on return on total asset ratio for both years (2006 and 2005). In total 24 comparisons are made(each year) while evaluating small cap and large cap performance, out of which 5 time small caps have performed better and 19 times large caps have performed better in year 2006. In

year 2005 out of 24 times, 9 times small caps have performed better and 15 times large caps have performed better.

Return On Total Equity

The results of the data analysis performed inorder to test hypothesis # 2 are given below where as the grids where the comparison between small caps and large caps is made could be seen in the annexure 6 a and annexure 6 b for year 2006 and 2005 respectively.

Comparing Return On Total Equity Of Small Caps With Large Caps For Year 2006

The results are given below:-

Total count	24
Number of times small caps performed better	6
Number of times large caps performed better	18
Wining %age of small cap	25%
Wining %age of large cap	75%

Comparing Return On Total Equity Of Small Caps With Large Caps For Year 2005

The results are given below:-

Total count	24
Number of times small caps performed better	8
Number of times large caps performed better	16
Wining %age of small cap	33%
Wining %age of large cap	67%

The results clearly show that large caps have outperformed small caps on return on total equity ratio for both years (2006 and 2005). In total 24 comparisons are made(each year) while evaluating small cap and large cap performance, out of which 6 time small caps have performed better and 18 times large caps have performed better in year 2006. In year 2005 out of 24 times, 8 times small caps have performed better and 16 times large caps have performed better.

Earning Per Share

The results of the data analysis performed inorder to test hypothesis # 2 are given below where as the grids where the comparison between small caps and large caps is made could be seen in the annexure 7 a and annexure 7 b for year 2006 and 2005 respectively.

Comparing Earning Per Share Of Small Caps With Large Caps For Year 2006

The results are given below:-

Total count	24
Number of times small caps performed better	3
Number of times large caps performed better	21
Wining %age of small cap	13%
Wining %age of large cap	88%

Comparing Earning Per Share Of Small Caps With Large Caps For Year 2005

The results are given below:-

Total count	24
Number of times small caps performed better	4
Number of times large caps performed better	20
Wining %age of small cap	17%
Wining %age of large cap	83%

The results clearly show that large caps have outperformed small caps on earning per share ratio for both years (2006 and 2005). In total 24 comparisons are made(each year) while evaluating small cap and large cap performance, out of which 3 time small caps have performed better and 21 times large caps have performed better in year 2006. In year 2005 out of 24 times, 4 times small caps have performed better and 20 times large caps have performed better.

Price/Earning Ratio

The results of the data analysis performed inorder to test hypothesis # 2 are given below where as the grids where the comparison between small caps and large caps is made could be seen in the annexure 8 a and annexure 8 b for year 2006 and 2005 respectively.

Comparing Price/Earning Ratio Of Small Caps With Large Caps For Year 2006

The results are given below:-

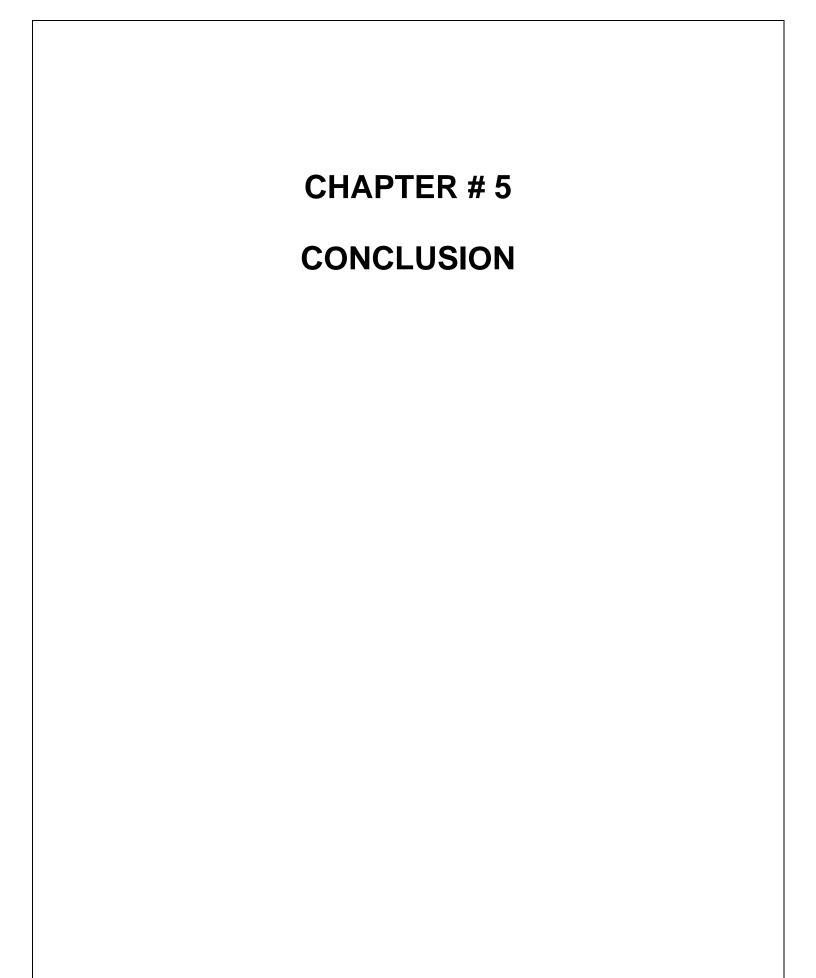
Total count	20
Number of times small caps performed better	5
Number of times large caps performed better	15
Wining %age of small cap	25%
Wining %age of large cap	75%

Comparing Price/Earning Ratio Of Small Caps With Large Caps For Year 2005

The results are given below:-

Total count	20
Number of times small caps performed better	1
Number of times large caps performed better	19
Wining %age of small cap	5%
Wining %age of large cap	95%

The results clearly show that large caps have outperformed small caps on price/earning ratio for both years (2006 and 2005). In total 20 comparisons are made(each year) while evaluating small cap and large cap performance, out of which 5 time small caps have performed better and 15 times large caps have performed better in year 2006. In year 2005 out of 20 times, 1 time small caps have performed better and 19 times large caps have performed better.



Conclusion For Hypothesis #1

After looking at the findings gathered from the comparison of small caps returns with large caps returns on a daily, weekly and monthly basis it could be concluded that small caps (at KSE all share index) have not performed well compared to large caps (at KSE-100 index) in time period ranging between January 2005 and December 2006. Thus my hypothesis that small cap companies outperform large cap companies in short run is "rejected".

Conclusion For Hypothesis #2

From findings of the fundamental analysis of both small and large cap companies, it could be concluded that large cap companies have substantially outperformed small cap companies in long run. Thus the hypothesis that "Small cap companies fundamentally outperform large cap companies in long run" is rejected.

The conclusion drawn from both the hypothesis clearly shows that we can not challenge the KSE 100 index inclusion criteria and can not enforce a point that KSE 100 index must also includes small caps. KSE-100 index inclusion criteria could not be challenged because as per the findings, in Pakistani environment large caps have performed better compared to small caps for period (2005 and 2006).

Limitations

The major limitation in the complementation of this thesis was time and uneasy access to data. This study could have improved if we have gathered a data for a longer period of time (at least data extending over 30 years) and have covered more companies. Collecting data regarding the fundamentals of large caps was at least possible but to find about the fundamentals of small caps was really hard.

CHAPTER # 6 LOOKING FORWARD

Directives For Future Research

In future we could explore further into the performance of small cap and large cap companies by considering 30-50 years data, probably by taking this much large time period we would be able to find small caps do outperform large caps.

Another aspect which could also be explored is, whether the market price of stocks for large caps are in accordance with their fundamentals or not.

REFERENCES

[1] Invesco,"Small Cap Sizzle",

http://www.institutional.invesco.com/portal/file/invescoinst/pdf/Will_Small_Caps_Sizzle .pdf, (accessed 24 june, 2007).

[2] Ned Davis, "Small Cap Performance Measure", Ned Davis,

http://216.109.125.130/search/cache?p=reserch+done+on+small+caps+outperforming+la rge+caps&fr=yfp-

t501&toggle=1&ei=UTF&u=www.bailard.com/pdf/Strategy_Small%2520Cap%2520vs %2520%2520Large_May%25202006.pdf&w=reserch+research+done+small+caps+outpe rforming+large+caps&d=MKdCgvmdOpfM&icp=1&.intl=us, (accessed 24 June, 2007).

[3] Investopedia,"MarketCapitalization Defined", Investopedia, http://www.investopedia.com/articles/basics/03/031703.asp,(accessed august 24, 2007).

[4] ADVFN, "Karachi Stock Exchange (KSE)", ADVFN, http://www.advfn.com/StockExchanges/about/KSE/KarachiStockExchange.html, (accessed August 24, 2007).

[5] Karachi Stock Exchange," about KSE", KSE, www.kse.com.pk, (accessed August 24, 2007).

[6] Wikipedia, "Karachi Stock Exchange", Wikipedia The Free Encyclopedia, http://en.wikipedia.org/wiki/Karachi_Stock_Exchange, (accessed August 24, 2007).

[7] Wikipedia, "Karachi Stock Exchange", Wikipedia The Free Encyclopedia, http://en.wikipedia.org/wiki/Karachi_Stock_Exchange, (accessed August 24, 2007).

[8] DAWN, "KSE-30 To Over Shadow KSE-100", http://www.dawn.com/2006/09/03/ebr2.htm, (accessed August 24, 2007).

[9] Karachi Stock Exchange," KSE ALL Share Index", www.kse.com.pk, (accessed August 24, 2007).

[10] ADVFN, "Members of KSE", ADVFN,

http://www.advfn.com/StockExchanges/about/KSE/KarachiStockExchange.html, (accessed August 24, 2007).

[11] Zunna Inc, "Think Small", Zunna Inc, http://www.zunna.com/Research/ThinkSmall.pdf, (accessed 24 august, 2007).

[12] Zunna Inc, "Think Small", Zunna Inc, http://www.zunna.com/Research/ThinkSmall.pdf, (accessed 24 august, 2007). [13] Ned Davis, "Small Cap Performance Measure", Ned Davis,

http://216.109.125.130/search/cache?p=reserch+done+on+small+caps+outperforming+la rge+caps&fr=yfp-

t501&toggle=1&ei=UTF&u=www.bailard.com/pdf/Strategy_Small%2520Cap%2520vs %2520%2520Large_May%25202006.pdf&w=reserch+research+done+small+caps+outpe rforming+large+caps&d=MKdCgvmdOpfM&icp=1&.intl=us, (accessed 24 June, 2007).

[14] Investopedia,"MarketCapitalization Defined", Investopedia, http://www.investopedia.com/articles/basics/03/031703.asp,(accessed august 24, 2007).

[15] Bailard Research, "Small Caps Outperforming Large Caps", Yahoo Search,

http://216.109.125.130/search/cache?p=reserch+done+on+small+caps+outperforming+la rge+caps&fr=yfp-t-501&toggle=1&ei=UTF-

8&u=www.bailard.com/pdf/Strategy_Small%2520Cap%2520vs%2520%2520Large_Ma y%25202006.pdf&w=reserch+research+done+small+caps+outperforming+large+caps&d =MKdCgvmdOpfM&icp=1&.intl=us, (accessed August 24, 2007).

[16] Investopedia, "Fundamental Analysis", Investopedia, http://www.investorguide.com/igu-article-445-investing-strategies-fundamentalanalysis.html, (accessed 24 August, 2007).

[17] Corey Janssen, "Fundamental Analysis: Introduction", Inevestopedia, http://www.investopedia.com/university/fundamentalanalysis/default.asp, (accessed on 24 august, 2007).

[18] Zunna Inc, "Think Small", Zunna Inc, http://www.zunna.com/Research/ThinkSmall.pdf, (accessed 24 august, 2007).

[19] Investopedia, "Fundamental Analysis: Introduction", Investopedia, http://www.investopedia.com/university/fundamentalanalysis/default.asp, (accessed august 24, 2007).

ANNEXURE

Annexure 1

Comparison Of Small Caps Returns With Large Caps Returns On A Weekly Basis

		Bank	Metro	PICIC	Askri	F.	POL	Oil &	Nat.	PTCL	Pak	MCB	PSO	Engro	F.
		Alfalah	Bank	Bank	Comm.	Fertiliz		Gas	Bank	Α	Petro.				Fertilizer
		1			Bank	er		Dev.							BQ
		-0.09%	0.10%	-0.26%	0.29%	-0.29%	0.27%	0.13%	0.79%	-0.25%	0.29%	1.32%	0.08%	0.74%	0.07%
Agri Auto	0.37%	0.0047	0.0027	0.0063	0.0008	0.0067	0.0010	0.0024	-0.0042	0.0062	0.0009	-0.0094	0.0029	-0.0037	0.0030
Al Zamin															
Leasing															
Modarba	0.16%	0.0025	0.0006	0.0042	-0.0013	0.0045	-0.0011	0.0002	-0.0063	0.0041	-0.0013	-0.0115	0.0008	-0.0058	0.0009
Bannu															
Woolen															
Mill	-0.03%	0.0006	-0.0013	0.0023	-0.0032	0.0026	-0.0030	-0.0016	-0.0081	0.0022	-0.0031	-0.0134	-0.0011	-0.0077	-0.0010
BRR															
Capital	-0.35%	-0.0025	-0.0045	-0.0009	-0.0063	-0.0005	-0.0061	-0.0048	-0.0113	-0.0010	-0.0063	-0.0165	-0.0043	-0.0108	-0.0042
DadaBohay															
Modarba	2.36%	0.0246	0.0226	0.0262	0.0207	0.0266	0.0209	0.0222	0.0156	0.0262	0.0207	0.0102	0.0228	0.0160	0.0229
Dandot															
Cement	1.00%	0.0110	0.0090	0.0126	0.0071	0.0130	0.0073	0.0087	0.0021	0.0126	0.0071	-0.0032	0.0092	0.0026	0.0093
Dominian															
Stock Fund	2.12%	0.0221	0.0201	0.0238	0.0183	0.0242	0.0184	0.0198	0.0132	0.0237	0.0183	0.0078	0.0204	0.0136	0.0204
Idress															
Textile Mill	-0.22%	-0.0012	-0.0032	0.0004	-0.0050	0.0007	-0.0048	-0.0035	-0.0100	0.0003	-0.0050	-0.0152	-0.0030	-0.0095	-0.0029

		Bank	Metro	PICIC	Askri	F.	POL	Oil &	Nat.	PTCL	Pak	МСВ	PSO	Engro	F.
		Alfalah	Bank	Bank	Comm.	Fertiliz		Gas	Bank	Α	Petro.				Fertilizer
					Bank	er		Dev.							BQ
		-0.09%	0.10%	-0.26%	0.29%	-0.29%	0.27%	0.13%	0.79%	-0.25%	0.29%	1.32%	0.08%	0.74%	0.07%
Kohinoor															
Spinning															
Mill	0.51%	0.0060	0.0041	0.0077	0.0022	0.0080	0.0024	0.0037	-0.0028	0.0076	0.0022	-0.0081	0.0043	-0.0023	0.0044
Prudential															
Investment															
Fund	-0.91%	-0.0082	-0.0101	-0.0065	-0.0119	-0.0062	-0.0117	-0.0104	-0.0169	-0.0066	-0.0119	-0.0220	-0.0099	-0.0164	-0.0098
Saudi Pak															
Leasing	-0.34%	-0.0024	-0.0044	-0.0008	-0.0062	-0.0004	-0.0060	-0.0047	-0.0112	-0.0008	-0.0062	-0.0164	-0.0041	-0.0107	-0.0041
Tri Star															
Mutual															
Fund	-2.25%	-0.0216	-0.0235	-0.0200	-0.0253	-0.0196	-0.0251	-0.0238	-0.0302	-0.0200	-0.0253	-0.0353	-0.0232	-0.0297	-0.0232
Orix															
Leasing	-0.18%	-0.0009	-0.0028	0.0008	-0.0046	0.0011	-0.0045	-0.0031	-0.0096	0.0007	-0.0046	-0.0148	-0.0026	-0.0092	-0.0025
Union															
Leasing	-0.10%	-0.0001	-0.0020	0.0015	-0.0039	0.0019	-0.0037	-0.0024	-0.0089	0.0015	-0.0039	-0.0141	-0.0018	-0.0084	-0.0018
General															
Tyre and															
Rubber															
Company	-0.43%	-0.0033	-0.0053	-0.0017	-0.0071	-0.0014	-0.0069	-0.0056	-0.0121	-0.0018	-0.0071	-0.0173	-0.0051	-0.0116	-0.0050

Note: Red boxes represents small caps have performed worst compare to large caps where as green boxes represents small caps have performed better compared to large caps.

Annexure 2

Comparison Of Small Caps Returns With Large Caps Returns On A Monthly Basis

		Bank	Metro.	PICIC	Askri	F.	POL	Oil &	Nat.	PTCLA	Pak	MCB	PSO	Engro	F.
		Alfalah	Bank	Bank	Comm	Fertilizer		Gas	Bank		Petr.				Fertilizer
					Bank			Dev.							BQ
		-0.19%	1.10%	-1.79%	-0.33%	-1.27%	2.19%	2.64%	4.59%	1.57%	4.16%	4.25%	-0.46%	1.17%	-1.21%
Agri Auto	2.10%	0.0230	0.0099	0.0396	0.0244	0.0341	-0.0008	-0.0053	-0.0238	0.0053	-0.0197	-0.0206	0.0257	0.0092	0.0335
Al Zamin															
Leasing															
Modarba	1.17%	0.0137	0.0007	0.0301	0.0150	0.0247	-0.0100	-0.0144	-0.0327	-0.0039	-0.0287	-0.0295	0.0163	0.0000	0.0241
Bannu															
Woolen Mill	-0.74%	-0.0054	-0.0182	0.0107	-0.0041	0.0054	-0.0286	-0.0329	-0.0509	-0.0227	-0.0470	-0.0478	-0.0028	-0.0188	0.0048
BRR															
Capital	-1.80%	-0.0162	-0.0288	-0.0002	-0.0148	-0.0054	-0.0391	-0.0434	-0.0612	-0.0332	-0.0572	-0.0581	-0.0135	-0.0294	-0.0060
DadaBohay															
Modarba	4.93%	0.0513	0.0378	0.0683	0.0527	0.0627	0.0268	0.0222	0.0032	0.0331	0.0074	0.0065	0.0541	0.0372	0.0621
Dandot															
Cement	0.89%	0.0109	-0.0021	0.0273	0.0123	0.0219	-0.0127	-0.0171	-0.0354	-0.0066	-0.0313	-0.0322	0.0136	-0.0027	0.0213
Dominian															
Stock Fund	2.28%	0.0248	0.0117	0.0414	0.0262	0.0360	0.0009	-0.0035	-0.0221	0.0070	-0.0180	-0.0189	0.0275	0.0110	0.0354
Idress															
Textile Mill	-0.60%	-0.0040	-0.0168	0.0121	-0.0027	0.0068	-0.0272	-0.0316	-0.0496	-0.0213	-0.0456	-0.0465	-0.0014	-0.0174	0.0062

		Bank	Metro.	PICIC	Askri	F.	POL	Oil &	Nat.	PTCLA	Pak	MCB	PSO	Engro	F.
		Alfalah	Bank	Bank	Comm	Fertilizer		Gas	Bank		Petr.				Fertilizer
					Bank			Dev.							BQ
		-0.19%	1.10%	-1.79%	-0.33%	-1.27%	2.19%	2.64%	4.59%	1.57%	4.16%	4.25%	-0.46%	1.17%	-1.21%
Kohinoor															
Spinning	-2.64%	-0.0246	-0.0371	-0.0087	-0.0232	-0.0139	-0.0473	-0.0515	-0.0692	-0.0415	-0.0653	-0.0661	-0.0220	-0.0377	-0.0145
Prudential															
Investment															
Fund	2.32%	0.0251	0.0120	0.0418	0.0265	0.0363	0.0013	-0.0032	-0.0218	0.0074	-0.0177	-0.0185	0.0279	0.0114	0.0357
Saudi Pak															
Leasing	-0.76%	-0.0057	-0.0185	0.0104	-0.0044	0.0051	-0.0289	-0.0332	-0.0512	-0.0229	-0.0472	-0.0481	-0.0031	-0.0191	0.0045
Tri Star															
Mutual															
Fund	2.77%	0.0297	0.0165	0.0464	0.0311	0.0410	0.0057	0.0013	-0.0174	0.0119	-0.0133	-0.0141	0.0325	0.0159	0.0403
Orix															
Leasing	-1.67%	-0.0148	-0.0274	0.0012	-0.0134	-0.0040	-0.0377	-0.0420	-0.0599	-0.0318	-0.0559	-0.0568	-0.0122	-0.0280	-0.0046
Union															
Leasing	-0.72%	-0.0052	-0.0180	0.0109	-0.0039	0.0056	-0.0284	-0.0327	-0.0508	-0.0225	-0.0468	-0.0476	-0.0026	-0.0186	0.0050
General															
Tyre and															
Rubber															
Company	-1.80%	-0.0161	-0.0287	-0.0001	-0.0148	-0.0054	-0.0390	-0.0433	-0.0611	-0.0331	-0.0572	-0.0580	-0.0135	-0.0293	-0.0060

Note: Red boxes represents small caps have performed worst compare to large caps where as green boxes represents small caps have performed better compared to large caps.

Annexure 3 a

C	ompai	ring gross pro	ofit margin o	f small caps w	ith large cap	s for year 2	2006
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals
		0.51	0.32	0.32	0.74	0.74	0.24
Agri Autos	0.30	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Small Cap
Dandot Cement	0.15	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Saudi Pak Leasing	0.21	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Orix Leasing	0.16	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap

Table 1.0(Shows the comparison for gross profit margin of small caps with large caps -year 2006. On the xaxis of the grid we have large caps and on y-axis of the grid we have small caps with their respective gross profit margin ratio.)

Annexure 3 b

C	ompa	ring gross pro	ofit margin of s	small caps w	ith large cap	s for year 2	2005
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals
		0.52	0.34	0.32	0.34	0.70	0.22
Agri							
Autos	0.25	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Small Cap
Dandot							
Cement	0.06	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Saudi							
Pak							
Leasing	0.26	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Small Cap
Orix							
Leasing	0.24	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Small Cap

Table 1.1(Shows the comparison for gross profit margin of small caps with large caps -year 2005. On the xaxis of the grid we have large caps and on y-axis of the grid we have small caps with their respective gross profit margin ratio.)

Annexure 4 a

Cor	nparing	g profit margir	n of small ca	ps with large	e caps for ye	ar 2006	
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals
		0.583	0.140	0.166	0.685	0.422	0.145
Agri							
Autos	0.171	Large Cap	Small Cap	Small Cap	Large Cap	Large Cap	Small Cap
Dandot							
Cement	0.054	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Saudi							
Pak							
Leasing	0.144	Large Cap	Small Cap	Large Cap	Large Cap	Large Cap	Large Cap
Orix							
Leasing	0.172	Large Cap	Small Cap	Small Cap	Large Cap	Large Cap	Small Cap

Table 2.0(Shows the comparison for profit margin of small caps with large caps -year 2006. On the x-axis of the grid we have large caps and on y-axis of the grid we have small caps with their respective profit margin ratio.)

Annexure 4 b

Con	nparin	g profit margir	n of small ca	ps with large	e caps for ye	ar 2005	
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals
		0.371	0.161	0.172	0.477	0.370	0.127
Agri							
Autos	0.174	Large Cap	Small Cap	Small Cap	Large Cap	Large Cap	Small Cap
Dandot							
Cement	0.070	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Saudi							
Pak							
Leasing	0.252	Large Cap	Small Cap	Small Cap	Large Cap	Large Cap	Small Cap
Orix							
Leasing	0.206	Large Cap	Small Cap	Small Cap	Large Cap	Large Cap	Small Cap

Table 2.1(Shows the comparison for profit margin of small caps with large caps -year 2005. On the x-axis of the grid we have large caps and on y-axis of the grid we have small caps with their respective profit margin ratio.)

Annexure 5 a

Compari	ing retu	ırn on total as	sets of small	caps with la	rge caps for	r year 2006	
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals
		0.025	0.128	0.094	0.054	0.368	0.169
Agri							
Autos	0.350	Small Cap	Small Cap	Small Cap	Small Cap	Large Cap	Small Cap
Dandot							
Cement	0.009	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Saudi							
Pak							
Leasing	0.017	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Orix							
Leasing	0.019	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap

Table 3.0(Shows the comparison for return on total assets of small caps with large caps -year 2006. On the x-axis of the grid we have large caps and on y-axis of the grid we have small caps with their respective return on total assets.)

Annexure 5 b

Compari	Comparing return on total assets of small caps with large caps for year 2005											
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals					
		0.016	0.140	0.105	0.033	0.302	0.164					
Agri												
Autos	0.425	Small Cap	Small Cap	Small Cap	Small Cap	Small Cap	Small Cap					
Dandot												
Cement	0.032	Small Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap					
Saudi												
Pak												
Leasing	0.021	Small Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap					
Orix												
Leasing	0.018	Small Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap					

Table 3.1(Shows the comparison for return on total assets of small caps with large caps -year 2005. On the x-axis of the grid we have large caps and on y-axis of the grid we have small caps with their respective return on total assets.)

Annexure 6 a

Compari	ing retu	ırn on total eq	uity of smal	l caps with la	arge caps fo	r year 2006	
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals
		0.318	0.349	0.204	0.481	0.369	0.211
Agri							
Autos	1.676	Small Cap	Small Cap	Small Cap	Small Cap	Small Cap	Small Cap
Dandot							
Cement	0.019	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Saudi							
Pak							
Leasing	0.143	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Orix							
Leasing	0.125	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap

Table 4.0(Shows the comparison for return on total equity of small caps with large caps -year 2006. On the x-axis of the grid we have large caps and on y-axis of the grid we have small caps with their respective return on total equity.)

Annexure 6 b

Compari	ing retu	ırn on total eq	uity of smal	l caps with la	arge caps fo	r year 2005	
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals
		0.218	0.376	0.222	0.506	0.323	0.314
Agri							
Autos	1.402	Small Cap	Small Cap	Small Cap	Small Cap	Small Cap	Small Cap
Dandot							
Cement	0.074	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap
Saudi							
Pak							
Leasing	0.268	Small Cap	Large Cap	Small Cap	Large Cap	Large Cap	Large Cap
Orix							
Leasing	0.161	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap

Table 4.1(Shows the comparison for return on total equity of small caps with large caps -year 2005. On the x-axis of the grid we have large caps and on y-axis of the grid we have small caps with their respective return on total equity.)

Annexure 7 a

Comparing earning per share of small caps with large caps for year 2006												
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals					
		11.230	12.667	2.620	23.400	19.540	15.470					
Agri												
Autos	12.570	Small Cap	Large Cap	Small Cap	Large Cap	Large Cap	Large Cap					
Dandot												
Cement	0.290	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap					
Saudi												
Pak												
Leasing	2.520	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap					
Orix												
Leasing	5.700	Large Cap	Large Cap	Small Cap	Large Cap	Large Cap	Large Cap					

Table 5.0(Shows the comparison for earning per share of small caps with large caps -year 2006. On the xaxis of the grid we have large caps and on y-axis of the grid we have small caps with their respective earning per share.)

Annexure 7 b

Comparing earning per share of small caps with large caps for year 2005												
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	Fauji Fertilizer Bin Qasim	МСВ	Pakistan Petroleum	Engro Chemicals					
		13.420	12.960	2.620	21.360	12.570	14.370					
Agri												
Autos	10.520	Large Cap	Large Cap	Small Cap	Large Cap	Small Cap	Large Cap					
Dandot												
Cement	1.120	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap					
Saudi												
Pak												
Leasing	3.330	Large Cap	Large Cap	Small Cap	Large Cap	Large Cap	Large Cap					
Orix												
Leasing	4.620	Large Cap	Large Cap	Small Cap	Large Cap	Large Cap	Large Cap					

Table 5.1(Shows the comparison for earning per share of small caps with large caps -year 2005. On the xaxis of the grid we have large caps and on y-axis of the grid we have small caps with their respective earning per share.)

Annexure 8 a

Comparing price/earning ratio of small caps with large caps for year 2006												
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	МСВ	Pakistan Petroleum	Engro Chemicals						
		9.261	8.447	10.556	11.853	11.021						
Agri												
Autos	6.046	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap						
Dandot												
Cement	41.379	Small Cap	Small Cap	Small Cap	Small Cap	Small Cap						
Saudi												
Pak												
Leasing	3.730	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap						
Orix												
Leasing	4.298	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap						

Table 6.0(Shows the comparison for price/earning ratio of small caps with large caps -year 2006. On the xaxis of the grid we have large caps and on y-axis of the grid we have small caps with their respective price/earning ratio.)

Annexure 8 b

Comp	Comparing price/earning ratio of small caps with large caps for year 2005													
		Askari Commercial Bank	Fauji Fertilizer Company Ltd	МСВ	Pakistan Petroleum	Engro Chemicals								
		9.45	10.82	7.86	16.73	11.44								
Agri														
Autos	5.941	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap								
Dandot														
Cement	9.286	Large Cap	Large Cap	Small Cap	Large Cap	Large Cap								
Saudi														
Pak														
Leasing	4.099	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap								
Orix														
Leasing	6.320	Large Cap	Large Cap	Large Cap	Large Cap	Large Cap								

Table 6.1(Shows the comparison for price/earning ratio of small caps with large caps -year 2005. On the xaxis of the grid we have large caps and on y-axis of the grid we have small caps with their respective price/earning ratio.)

Annexure 9

Comparison Of Small Caps Returns With Large Caps Returns On A Daily Basis

		Bank	Metro	PICIC	Askri	F.Fertili	POL	Oil &	Nat.	PTCLA	Pak	MCB	PSO	Engro	F.
		Alfalah	Bank	Bank	Comm.	zer		Gas	Bank		Petro				Fertilizer
					Bank			Dev.							B.Q
		0.05%	0.06%	-0.01%	0.06%	-0.03%	0.12%	0.13%	0.25%	0.04%	0.15%	0.34%	0.03%	0.09%	0.02%
Agri Auto	0.09%	0.0004	0.0003	0.0010	0.0003	0.0012	-0.0003	-0.0004	-0.0016	0.0005	-0.0006	-0.0025	0.0006	0.0000	0.0007
Al Zamin															
Leasing															
Modarba	0.10%	0.0005	0.0004	0.0011	0.0004	0.0013	-0.0002	-0.0003	-0.0015	0.0006	-0.0005	-0.0024	0.0007	0.0001	0.0008
Bannu															
Woolen Mill	-0.03%	-0.0007	-0.0009	-0.0001	-0.0009	0.0000	-0.0014	-0.0015	-0.0028	-0.0007	-0.0017	-0.0036	-0.0006	-0.0011	-0.0005
BRR															
Capital	-0.11%	-0.0016	-0.0017	-0.0010	-0.0017	-0.0008	-0.0023	-0.0024	-0.0036	-0.0015	-0.0026	-0.0045	-0.0014	-0.0020	-0.0013
DadaBohay															
Modarba	2.98%	0.0293	0.0292	0.0300	0.0292	0.0301	0.0286	0.0285	0.0272	0.0294	0.0283	0.0264	0.0295	0.0289	0.0296
Dandot															
Cement	0.16%	0.0011	0.0010	0.0017	0.0010	0.0019	0.0004	0.0003	-0.0009	0.0012	0.0001	-0.0018	0.0013	0.0007	0.0014
Dominian															
Stock Fund	0.71%	0.0066	0.0065	0.0072	0.0065	0.0074	0.0059	0.0058	0.0045	0.0067	0.0056	0.0037	0.0068	0.0062	0.0069
Idress															
Textile Mill	-0.08%	-0.0013	-0.0014	-0.0007	-0.0014	-0.0005	-0.0020	-0.0021	-0.0033	-0.0012	-0.0023	-0.0042	-0.0011	-0.0017	-0.0010

		Bank	Metro	PICIC	Askri	F.Fertili	POL	Oil &	Nat.	PTCLA	Pak	МСВ	PSO	Engro	F.
		Alfalah	Bank	Bank	Comm.	zer		Gas	Bank		Petro				Fertilizer
					Bank			Dev.							B.Q
		0.05%	0.06%	-0.01%	0.06%	-0.03%	0.12%	0.13%	0.25%	0.04%	0.15%	0.34%	0.03%	0.09%	0.02%
Kohinoor															
Spinning															
Mill	0.11%	0.0006	0.0005	0.0012	0.0005	0.0014	-0.0001	-0.0002	-0.0015	0.0007	-0.0004	-0.0023	0.0008	0.0002	0.0009
Prudential															
Investment															
Fund	0.27%	0.0022	0.0021	0.0028	0.0021	0.0030	0.0015	0.0014	0.0001	0.0023	0.0012	-0.0007	0.0024	0.0018	0.0025
Saudi Pak															
Leasing	-0.04%	-0.0008	-0.0010	-0.0002	-0.0010	-0.0001	-0.0016	-0.0017	-0.0029	-0.0008	-0.0018	-0.0037	-0.0007	-0.0012	-0.0006
Tri Star															
Mutual															
Fund	0.50%	0.0046	0.0044	0.0052	0.0044	0.0053	0.0038	0.0038	0.0025	0.0046	0.0036	0.0017	0.0047	0.0042	0.0048
Orix															
Leasing	-0.04%	-0.0009	-0.0010	-0.0003	-0.0010	-0.0001	-0.0016	-0.0017	-0.0029	-0.0008	-0.0019	-0.0038	-0.0007	-0.0013	-0.0006
Union															
Leasing	-0.04%	-0.0009	-0.0010	-0.0002	-0.0010	-0.0001	-0.0016	-0.0017	-0.0029	-0.0008	-0.0019	-0.0037	-0.0007	-0.0012	-0.0006
General															
Tyre and															
Rubber															
Company	-0.10%	-0.0015	-0.0016	-0.0009	-0.0016	-0.0007	-0.0022	-0.0023	-0.0035	-0.0014	-0.0025	-0.0044	-0.0013	-0.0019	-0.0012

Note: Red boxes represents small caps have performed worst compare to large caps where as green boxes represents small caps have performed better compared to large caps.