TESTING THE RANDOM WALK THEORY ON SHARE PRICES AT THE NAIROBI STOCK EXCHANGE

BY

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A MANAGEMENT RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION.
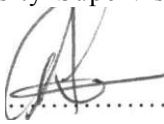
NOVEMBER, 2007

DECLARATION

This Management Research Project is my original work and has not been presented for a degree award in any other university.

Signed. .... Date. 28/11/0r

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This management research project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

This project is dedicated to my Mom and Dad for their love and support throughout my school life. Mom and Dad, you made me believe in the value of knowledge.

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ABSTRACT

This study examine whether share prices of companies trading at the Nairobi Stock Exchange follow a random walk trend. We provide evidence that expert analysis can not be used to earn investors an abnormal profit at the exchange. The autocorrelation model was used to test the random walk hypothesis. A sample of sixteen stocks was drawn from companies that comprised the NSE 20 share index during the five year period between September 2003 and August 2007.

Weekly average prices are shown to exhibit significant random walk behavior in the sense that the autocorrelation coefficient was less than 0.5 but more than -0.5 throughout the period. The results of the study confirmed that stock prices followed a random walk and that one cannot predict future prices based on the past price trends.

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ABBREVIATIONS

APT	Arbitrage Pricing Model
ARIMA	Arithmetic Moving Average
BAT	British American Tobacco Kenya Ltd Ord 10.00
BBK	Barclays Bank Ltd Ord 2.00
BCL	Bamburi Cement Ltd Ord 5.00
CAPM	Capital Asset Pricing Model
DJIA	Dow Jones Industrial Average
DTB	Diamond Trust Bank Kenya Ltd Ord 4.00
EAB	East African Breweries Ltd Ord 2.00
EMH	Efficient Market Hypothesis
KAK	Kakuzi 0rd.5.00
KAL	Kenya Airways Ltd Ord 5.00
KCB	Kenya Commercial Bank Ltd Ord 1.00
KPL	Kenya Power & Lighting Ltd Ord 20.00
NIC	NIC Bank Ltd Ord 5.00
NMG	Nation Media Group Ord. 5.00
NSE	Nairobi Stock Exchange
NYSE	New York Stock Exchange
OTC	Over the Counter
P/E	Price/Earning
SAL	Sameer Africa Ltd Ord 5.00
SCB	Standard Chartered Bank Ltd Ord 5.00
STC	Sasini Ltd Ord 1.00
TKL	Total Kenya Ltd Ord 5.00
TPS	TPS Eastern Africa (Serena) Ltd Ord 1.00

CHAPTER ONE

INTRODUCTION

1.1 Background

The efficient market hypothesis (EMH) implies that if, new information is revealed about a firm, it will be incorporated into the share prices rapidly and rationally with respect to the direction of the share price movement and the magnitude of the movement. According to Eugene Fama (1965), in an efficient market no investor will have an opportunity for making a return in a share that is greater than a fair return for the riskiness associated with that share except by chance. This is because no one has information not already available to everyone else. The nature of information does not have to be limited to financial news and research alone; indeed information about political, economic and social events, combined with how investors perceive such information, whether true or rumored, will be reflected in the stock price. According to EMH, as prices respond only to information available in the market, and, because all market participants are privy to the same information, no one will have the ability to out-profit anyone else (Heakal, 2002). Counter arguments to the EMH state that consistent patterns are present. Critics of the theory, mainly Fundamental Analysts and Technical Analysts, contend that stocks do maintain price trends over time - in other words, that it is possible to outperform the market by carefully selecting entry and exit points for equity investments.

Researchers have provided empirical evidence of instances where shares trade at prices higher or lower than those postulated by the EMH. French (1980), De Bondt and Thaler (1985), Abarbanell and Bernard (1992) and Singal (2004) refers such circumstances as market anomalies-a sign of market inefficiency. The following are some examples of anomalies raised against the EMH: the January effect -pattern that shows higher returns tend to be earned in the first month of the year; the weekend effect- that discourages buying stocks on Friday afternoon and Monday morning because prices tend to be higher on the day before and after the weekend than during the rest of the week. Other anomalies have also been documented in the stock market including, P/E ratio, size effect, weather, data snooping and over/under reaction of stock prices to earnings announcements among others. These documented anomalies

variance in monthly returns is due to transitory, or predictable, component. Subsequent study by Kim and Verrecchia (1991) show that this mean reverting tendency is overstated due to the assumptions of normally distributed returns.

McQueen and Thorley (1991) test the random walk hypothesis using the Markov chains. Their test is non linear in the sense that it focuses on periods of established trends and tests whether a low returns is more likely after observing a sequence of two high returns or a sequence of two low returns. Annual real and excess returns are shown to exhibit significant nonrandom walk tendencies in the sense that low (high) returns tend to follow runs of high (low) returns in the postwar period thus rejecting the random walk.

The NSE has been accused of inefficiency some claiming that it is possible to trade shares on the basis of information not in the public domain and thereby making abnormal profits. Kamuruci (2003) studied the predictability of accounting earnings using changes in share prices of all companies listed at the NSE during the period 1996 to 2001. He hypothesized that current share prices do not capture future earnings. Using weekly.average share prices, he found that, on average, 60.38% of companies had their share prices moving the same direction as the accounting earning. This is a sign of information leaking to some market players prior to the official announcement of results. According to Ndung'u (2003) the Kenyan market suffers from unsatisfactory corporate governance, dubious accounting systems, market manipulation and insider trading problem. The market also lack strong institutional investor and is highly characterized by speculative trading with very short trading periods. This has led to market distortion and limited the opportunities for long term investments

Stock price volatility was described by Leroy and Porter (1981) as the failure of the efficient market model due to relatively low variability of excess volatility. It is the variability of price movement to be too large to be justified in terms of the efficient market model. Their study provide evidence for price volatility and find that the variability of price indices cannot be accounted for by information regarding future

dividend since dividend just do not seem to vary enough to justify the price movement.

1.2   Statement of the Problem

Most investors buy shares with the hope of making a gain on selling the same at a price higher than the purchase price at a future date or to earn the periodic dividends declared by the company. It becomes apparent that it is not always possible to make a gain equal to what was expected and more so, within the stipulated period. At times, the gain is greater than speculated. Investors spend a sizable amount of time and resources trying to create portfolios so as to maximize their returns. According to Fischer and Jordan (2001), security analysts cannot be expected to predict with certainty whether a stock price will increase or decrease and by how much.   The reason is that the analysts cannot understand political and socioeconomic forces completely enough to permit predictions that are beyond doubt or error.

Much of the studies on the volatility of stock prices have been carried out in the developed economies notably the USA, Japan and the UK. Very little is documented about the emerging markets in general and Nairobi Stock Exchange in particular. In light of studies done on the NSE by Nyambogi (2005), Kalui (2004), Mwangi (1997) and Kerandi (1993), previous price changes or changes in returns cannot be used to predict future price changes. This is because successive price changes are independent and random. Okello (2006) found that the filter rule exists at the NSE and that with a filter of between 4.3% and 4.9%, investors can profit in the market. Thus, while some studies indicate that historical prices can be used to predict future prices others have concluded that stock prices follow a random walk and that past prices cannot predict future prices. This study aims to determine whether or not stock prices at the Nairobi Stock Exchange indeed follow a random walk.

1.3   Objective of the Study
  *   To test whether stock prices at the NSE follow a random walk.

1.5   Importance of the Study

The results of this study will add the existing body of knowledge and will benefit all players in the Nairobi Stock Exchange as follows.

Investors: Investors will understand why the expected return on their investment differs from the actual return. The study will also advice investors on whether engaging an analyst to professionally determine the composition of their investment portfolio as pertains to stocks actually pay.

Fund managers: Investors sometimes entrust the investment decision to fund managers. The fund/portfolio managers attempts to select individual constituent stocks by predicting the future of the market and its sectors, 'timing' the market and using superior stock-picking techniques. The result of this study will benefit the fund mangers in constructing portfolio that would maximize investor's returns given the nature of stock prices movement.

Scholars: The efficiency of the stock market and the predictability of share prices is one area that has attracted substantial attention to researchers and scholars of finance. This study will add to the existing literature in this area. The literature reviewed in the study will help scholars in understanding the empirical theories on capital market efficiency. The study will also suggest areas for further research.   ^

The CMA: The Capital Market Authority is charged with the role of regulating the stock market. An understanding of the behavior of stock prices will be beneficial the authority in regulating and formulating policies geared toward developing the market.

CHAPTER TWO

LITERATURE REVIEW

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2.1   Efficient Market Hypothesis

This is an investment theory that states that it is impossible to "beat the market" because stock market efficiency causes existing share prices to always incorporate and reflect all relevant information. According to the EMH, stocks always trade at their fair value on stock exchanges, and thus it is impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices. Thus, the crux of the EMH is that it should be impossible to outperform the overall market through expert stock selection or market timing, and that the only way an investor can possibly obtain higher returns is by purchasing riskier investments. The EMH applies the theory of rational expectations to the pricing of securities. According to Fama (1965), an "efficient market" is defined as the market where there are large numbers of rational, profit maximizers actively competing with each trying to predict future market values of individual securities and important information is almost freely available to all participants.

In the market, there are many active participants attempting to profit from their information. Unable to curtail their greed, a mass of investors aggressively pounce on even the smallest informational advantages at their disposal, and in doing so, they incorporate their information into market prices and quickly eliminate the profit opportunities that gave rise to their aggression. If this occurs instantaneously, which it must in an idealized world of frictionless markets and costless trading, then prices must always fully reflect all available information and no profits can be garnered from information-based trading (because such profits have already been captured) Getmansky et al (2003).

There are three forms of market efficiency namely the weak form, semi strong form and the strong form efficiency. According to Fama, in a weak form efficient market, all past market prices and information are fully reflected in current prices. In such a market, it is impossible to make abnormal profits (other than by chance) by making use of past prices because any information that comes from past stock prices is rapidly

incorporated in the stock prices. On the other hand, in a semi strong form efficient market, all publicly available information is fully reflected in stock prices. Analyst can therefore not use published information to earn investors an abnormal gain. The implication is that neither technical nor fundamental analysis can be used to beat the market and that whenever information is released in the market, prices will respond only if the information is different from what had been expected. The strong form of efficient market hypothesis on the other hand asserts that all information, public and private, is fully reflected in the prices. The implication of this is that not even insider information can be used to beat the market.

Getmansky et al (2003) traces the origin of the Efficient Market Hypothesis to Paul Samuelson (1965), an Economist, whose contribution is neatly summarized by the title of his article "Proof that Properly Anticipated Prices Fluctuate Randomly". In an informational efficient market, price changes must be unforecastable if they are properly anticipated, i.e., if they fully incorporate the expectations and information of all market participants Getmansky et al (2003). It follows that the more efficient the market, the more random the sequence of price changes generated by such a market, and the most efficient market of all is one in which price changes are completely random and unpredictable.

2.2 Random Walk Theory

Prior to the 1950s, it was generally believed that the traditional technical and fundamental approaches could be used to beat the market. Two early studies by Kendall (1953) and Roberts (1959) analyzed the price changes of both British and the U.S stocks and concluded that the patterns of changes were indistinguishable from patterns generated by a series of random numbers. Kendall (1953) found that stock prices followed a random walk and one cannot predict future prices based on the past price trends. Roberts (1959) provided an evidence of the random walk hypothesis on DJIA and argued that; Security price changes fully reflect the available information set which includes all public information; successive price changes are independent; and price changes are independent and identically distributed

The two studies provide the basis for the random walk or the fair game theory of market efficiency (Moses and Cheney 1989). The fair game theory suggests that there is a 50 per cent chance of earning a return above or below the expected return. The next price change in a security has an equal probability of increasing or decreasing regardless of the previous price change. The price changes are therefore random and do not follow any distinguishable pattern. In short, random walk says that stocks take a random and unpredictable path. The prices reflect reactions to information coming to the market in random fashion, so they are no more predictable than the walking pattern of a drunken person. The chance of a stock's future price going up is the same as it going down.

A follower of random walk believes it is impossible to outperform the market without assuming additional risk. Proponents of this theory contend that both technical analysis and fundamental analysis are largely a waste of time and are still unproven in outperforming the markets. Malkiel (1973) states that a "long-term buy-and-hold strategy is the best and that individuals should not attempt to time the markets". Attempts based on technical, fundamental, or any other analysis are futile. He backs this up with statistics showing that most mutual.funds fail to beat benchmark averages like the S&P 500. Past movement or direction of the price of a stock or overall market can therefore not be used to predict its future movement.

To say that prices behave randomly is hardly a forgone conclusion; it really means that prices do not follow the few simple nonrandom patterns that the statistician happened to test (Larsy, 1979). Weber agues that the claim of random behavior of prices is a non rigorous judgment resulting from not being able to detect any one of a small number of previously hypothesized patterns of predictable behavior. He however admits that prices behave unpredictably, at least most of the times. The theory is hotly disputed by advocates of Technical Analysis, who say that charts of past price movements enable them to predict future price movements.

2.3   Security Analysis

According to Fischer and Jordan (2001), traditional investment analysis when applied to securities emphasizes the projection of prices and dividends. The methods used to analyze securities and make investment decisions can however be categorized to fall into two very broad categories: fundamental analysis and technical analysis. Fundamental analysis involves analyzing the characteristics of a company in order to estimate its value while Technical analysis takes a completely different approach and is only interested in the price movements in the market (Janssen et al, 2006a).

2.3.1   *Technical Analysis*

Technical analysis is a method of evaluating securities by analyzing the statistics generated by market activity, such as past prices and volume. Technical analysts, or chartists, believe that they can discern patterns in price or volume movement, and by observing and studying the past behavior patterns of given stocks, they can use this accumulated historical information to predict the future price movement in the security (Fischer and Jordan, 2001). Technical analysis has many different approaches all of which are based on the premise that past movement are useful in predicting future movements. The main two approaches are use of chart pattern and use of technical indicator and oscillators. Technical analysts do not attempt to measure a security's intrinsic value, but instead use charts and other tools to identify patterns that can suggest future activity.

In a market increasingly driven by market psychology, fundamentals are beginning to take a back seat to technical analysis as a reliable method of predicting where the market will go next (NSE 2007). According to Neil (2007) technical analysis, that encompasses basic charting techniques, understanding and applying complicated oscillators, enable traders to become more efficient and confident.

According to Janssen et al (2006a), the field of technical analysis is based on three assumptions; the first assumption is that the market discounts everything. It is assumed that, at any given time, a stock's price reflects everything that has or could affect the company including company fundamental, economic factors and market psychology. The second assumption is that price moves in trends. This implies that

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after a trend has been established, the future price movement is more likely to be in the same direction as the trend than to be against it. Thirdly, it is assumed that history tends to repeat itself. The repetitive nature of price movements is attributed to market psychology. In other words, market participants tend to provide a consistent reaction to similar market stimuli over time.

Although technical analysis has been a part of financial practice for many decades, this discipline has not received the same level of academic scrutiny and acceptance as more traditional approaches such as fundamental analysis. Lo et al (2007) attribute this to the highly subjective nature of technical analysis—"the presence of geometric shapes in historical price charts is often in the eyes of the beholder". In their paper, they propose a systematic and automatic approach to technical pattern recognition using nonparametric kernel regression, and apply this method to a large number of U.S. stocks from 1962 to 1996 to evaluate the effectiveness of technical analysis. By comparing the unconditional empirical distribution of daily stock returns to the conditional distribution they find that over the 31-year sample period, several technical indicators do provide incremental information and may have some practical value.

The philosophy behind technical analysis is in sharp contrast to the EMH which contend that past performance has no influence on future performance or market values (Reilly and Brown, 2000). According to Janssen et al (2006a), much of the criticism of technical analysis has its roots in academic theory - specifically the efficient market hypothesis which says that the market's price is always the correct one as any past trading information is already reflected in the price of the stock and, therefore, any analysis to find undervalued securities can not give the investors an edge.

Proponents of technical analysis counter that technical analysis does not completely contradict the efficient market hypothesis. Technicians agree with EMH in that they believe that all available information is reflected within a security's price; that is why technicians say a study of the price movement is necessary. Technicians also say that EMH ignores the way markets work, in that many investors base their expectations on past earnings, track record, etc. Because future stock prices can be strongly influenced

by investor expectations, technicians claim it only follows that past prices influence future prices.

2.3.2 *Fundamental Analysis*

This involve making investment decisions based on the examination of the economy, an industry and company variables that lead to an estimate of value for an investment, which is then compared to the prevailing market price of the investment (Reilly and Brown, 2000). The potential price of a firm's common stock and the future dividend stream are forecasted, and then discounted back to the present. The value arrived at is called the intrinsic value (Kettell, 2002) and is compared with the security's current market price. If the current market price is below the intrinsic value, the investor is recommended to purchase the stock. Conversely, if the current market price is above the intrinsic value, a sale is recommended. Moses and Cheney (1989) term this as a "top down" approach that start with a macro analysis of the economy and the industry before understanding the company. The approach centers on an identification and estimate of the "fundamental" factors (underlying factors that affect a company's actual business and its future prospects) that will determine a stock's price in the future.

According to Janssen et al (2006b) fundament analysis make use of both qualitative and quantitative factors. Some qualitative factors include; Business model where the researcher looks at what exactly the company does, or rather how the company makes money. Competitive advantage contends that a company's long term success is driven largely by its ability to maintain a competitive advantage such as in a brand name. Management on the other hand stipulates that the financial success of a company stems from the management. Even the best business model is doomed if the management fail in executing the plan properly. The corporate governance which refers to the policies in place within an organization denoting the relationships and responsibilities between management, directors and stakeholders. These policies are defined and determined in the company charter and its bylaws, along with corporate laws and regulations. The purpose of corporate governance policies is to ensure that proper checks and balances are in place, making it more difficult for anyone to conduct unethical and illegal activities. The industry qualitative factors such as

customers, market share, industry growth, competition, and regulations tend to influence the price of securities.

However, the biggest part of fundamental analysis involves digging into the financial statements. Also known as quantitative analysis, it 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 (Janssen et al, 2006b). Fundamental analysis thus requires a deep understanding of the income statement, the balance sheet and the cash flow statement of a company by the analyst. The analysis rest on the tenet that the price of a stock on the stock market does not fully reflect a stock's real value and the fact that in the long run, the stock market will reflect the fundamentals-hence the point of buying a stock based on the intrinsic value of the same.

Fundamental analysis has however come under sharp criticisms by technical analysts and believers of efficient market hypothesis. The fact that the market discount everything leave the technical analysts contented that all news about a company is already priced in the stock, and therefore, a stock's price movement gives more insight than the underlying fundamental factors of the business itself (Janssen et al, 2006b). Followers of the efficient market hypothesis, however, are usually in disagreement with both fundamental and technical analysts. The efficient market hypothesis contends that it is essentially impossible to produce market-beating returns in the long run, through either fundamental or technical analysis (Fama 1976). The rationale for this argument is that, since the market efficiently prices all stocks on an ongoing basis, any opportunities for excess returns derived from fundamental (or technical) analysis would be almost immediately whittled away by the market's many participants, making it impossible for anyone to meaningfully outperform the market over the long term.

2.4 Factors Influencing Volatility of Stock Prices

According to Ngoje (2007) stock prices move up and down in response to market forces of demand and supply. These forces fall into three broad categories: fundamental factors, technical factors, and market sentient. In an efficient market,

stock prices would be determined primarily by fundamentals which he finds to be combination of a company's earning base (Earning per share) and the firm's value (price/earning ration). Technical factors are a mix of external conditions that alter the supply of and demand for a company's stock. Some of these factors indirectly affect the fundamentals and include economic growth, inflation and availability of substitute products such as corporate bonds, government bonds and treasury bills. On the other hand, market sentiment refers to the psychology of market participants, individually and collectively. Ngoje finds that investors tend to overemphasize data that come easily to the mind and they react with great pain to losses and persist in a mistake than with pleasure to equivalent gains and success. This study discusses the factors influencing volatility of stock prices as under;

2.4.1   Dividend Announcement

Though the famous Miller and Modigliani (1961) dividend irrelevance theory advocate that whether a firm pay dividend or not has no effect on the firm's stock prices, studies have found some correlation between divided policies of a firm with its stock prices. Arguments have been put forward that the dividend policy of a company conveys some information that affect stock prices. Black (1986) found that an increase in share prices is associated with a public announcement of dividend increase. Franklin et al (2000), sought to find out why some firms prefer to pay dividend rather than repurchase shares in light of the tax differential between institutional and individual investor. Their study found that dividend-paying stocks were low priced than non-dividend-paying stocks. This is because firms paying high dividends attract relatively more institutional investors who are keen on the quality of the firms' management.

Fama (1976) found that a stock split accompanied by dividend announcement has a direct impact on the stock prices. Iminza (1997) studied the information content of dividend payment on share prices of publicly quoted companies in Kenya. She find that dividends and shares are highly correlated and that correlation in actually higher when the change in dividend is negative. Similarly, using a sample of all companies that were consistently quoted and paid a dividend for the six year period between 1998 and 2003, Kibet (2004) finds that prices of shares at the NSE are affected by the

dividend policy adopted by the company. The higher the dividend payout ratio, the higher is the price of the shares and the lower the dividend payout ratio, the lower will be the share price.

2.4.2   Earnings Announcement

Since the late 1960's, voluminous research in the finance and accounting literature has documented evidence of relationship between accounting reports and market reactions in the US capital markets. Fama (1970) described an efficient market as having prices that "fully reflect" available information. Beaver (1981) offers a definition of market efficiency based on the information distribution when investors have heterogeneous beliefs. Accounting reports probably are one of the sources of pubic information.

Ball and Brown (1968) study the relationship between prices and accounting reports. Their results show that the market reacts to unexpected earnings as though the market participants had access to the good or bad news prior to the availability of this news to the market. They estimate only 10-15% of the market reaction takes place during the announcement month. Beaver (1968) examines the size of price changes and the levels of trading volume in the weeks surrounding the announcement of the firm's annual earnings in The Wall Street Journal. He finds that the absolute values of the price changes and the levels of trading were significantly higher during the announcement week than in any other week. Using daily data, Morse (1981) observes large piece reactions to accounting reports for two days following The Wall Street Journal announcement and unusual trading volume during the three days following the announcement. Therefore, while the market responds quickly, there appears to be some delay before the market settles down following the release of accounting reports.

While Morse finds similar results in exchange securities and over-the counter (OTC) securities, Grant (1980) finds that traded OTC firms, which are smaller, have a greater price reactions to accounting reports than do NYSE firms. Brown (1970) also finds that there is more price adjustment in the announcement month on the Australian exchange. This result could be due to the fact that Australian firms issue semi-annual instead of quarterly reports, which suggests that annual accounting reports are more important sources of information in Australia.

Onyangoh (2004) documented that earning announcements for companies quoted at the NSE carries information that investor find relevant and that which affect stock prices. His study investigated the responses of stock price to earnings announcements for 16 companies and covered the period 1998 to 2003. He used cumulative average residuals to compute weekly share price indices over a 17 weeks window. Graphical presentation and Regression Analysis showed that information is instantly impounded in the stock prices prior to or almost instantaneously at the time of announcement. Likewise, Ondigo (1995) sought to establish whether annual reports and accounts of companies listed at the NSE have information content. Ondigo studied the annual reports of 18 blue chip companies quoted in the exchange in the period 1990 to 1994 and find that the annual report contains no information.

To the contrary, a similar study by Lishenga (1989) find that annual reports do contain some information and that less profitable firms at the NSE tend to delay their reports while companies experiencing big profits report earlier. His study used data of 34 companies trading for the whole period between 1979 and 1988 and aimed at determining a trend in reporting delay and finding out whether reporting delay had something to do with the company's attribute. In the study, he sites empirical evidence provided by Beaver on the information content of annual earning announcements and suggests that investors may postpone their purchases and sales of securities until the earning reports is released.

2.4.4   Stock Market Anomalies

According to Singal (2004), stock market anomalies are circumstances that cause stocks to sell at a price higher or lower than they should. An anomaly is an inefficiency that causes prices distortion in the financial market and is related to either structural factors such as unfair competition and lack of market transparency or behavioral biases by the economic agents. It sometimes refers to phenomena contradicting the efficient market hypothesis. Some well known market anomalies are discussed below.

2.4.4.1 Weather

Though it has been argued that sunshine puts people in a good mood and hence people make optimistic choices and judgment on a sunny day, Nyambogi (2005) investigated the correlation of stock returns and weather at the NSE and found that weather does not significantly affect the NSE 20 share index. Nyambogi used the mean percentage daily changes on the NSE share index for the period January 1998 through to January 2003. As sited in Nyambogi, Saunder (1993) however shows that the New York Stock Exchange index tends to be negative when it is cloudy while Hirshleifer and Shumway (2003) find a positive correlation between stock returns and sunshine in the city of a country's leading stock exchange in most of the 26 countries studied for the period 1982 to 1997.

2.4.3.2 Over/Under Reaction

Onyangoh (2004) find that the NSE in characterized by overreaction hypothesis. Investors overreact to the latest information about a security and thus bid prices incorrectly. This occurs when the average return following not one but a series of announcements of good news is lower than the average return following a series of bad news announcements. A price fall results from a bad news announcement amid over optimism of the investors.

Stock market overreaction effect was earlier documented by De Bondt and Thaler (1985). They found systematic price reversals for stocks that experience extreme long-term gains or losses. Past losers (strategy of buying prior extreme) significantly outperform past winners (selling prior extreme) as measured in terms of stock price performance. They interpreted their finding as consistent with the behavioral hypothesis of investor overreaction. In a later follow-up paper (1987), additional evidence is reported that supports the overreaction hypothesis and that is inconsistent with two alternative hypotheses based on firm size and differences in risk, as measured by CAPM-betas.

Abarbanell and Bernard (1992) present evidence that analysts' forecasts underreact to recent earnings. Their study examines whether security analysts underreact or overreact to prior earnings information, and whether any such behavior could explain

previously documented anomalous stock price movements. However, the underreactions in analysts' forecasts are at most only about half as large as necessary to explain the magnitude of the drift. "We conclude that security analysts' behavior is at best only a partial explanation for stock price underreaction to earnings, and may be unrelated to stock price overreactions".

2.4.3.4 Seasons

Stock prices have been found to fluctuate according to seasons. Coutts et al (2000) studied security price anomalies in the Athens Stock Exchange General Index over an approximate ten year period - 14 October 1986 through 14 August 1996 and found that the Weekend and January effects are indeed present in the emerging markets. Their study however concludes that seasonalities documented would not be able to render potential investors profitable trading strategies net of transaction costs.

The seasonal pattern of returns was also examined by De Bondt and Thaler (1985). Excess returns in January were related to both short-term and long-term past performance, as well as to the previous year market return. Singal (2004) studied the January Effect and the New December Effect and discusses how poor-performing small-cap stocks have tended to go up in January, and strong-performing large-caps have tended to have a "Santa Claus rally". This phenomenon is also known as the turn of the year effect. Singal also find that small-cap stocks have a tendency to rise on Fridays and fall on Mondays, a phenomenon referred to as the Weekend Effect discusses.

2.4.3.4 Data Snooping

In the process of data examination and modeling to gain market information, there is a tendency for researchers to focus attention on surprising and exiting information. To the extent that subsequent authors reiterate or refine the surprising results by examining the same or at least positively correlated data, there is really no additional evidence in favour of the anomaly.

2.4.3.5 Price/Earning Ration Effect

Basu (1977) shows that stocks of companies with low P/E ratios earned a premium for investors during the period 1957 to 1971. An investor who held the low P/E ratio portfolio earned higher return than an investor who held the entire sample of stocks.

2.5   Predictability of Stock Prices at the NSE

Scholars have attempted to develop models that would be used to predict share prices at the NSE but have produced varying and sometimes conflicting findings. Omosa (1989) studied the predictability of selected asset pricing models on the NSE. She used the Box-Jeking model, time-series analysis and the ARIMA model and found that under the prevailing conditions in the NSE, no model qualifies as a good predictor of share prices. In Kerandi (1993) thirteen companies listed at the NSE for the five year period to 31st December 1988 were studied in the aim of determining the predictive ability of the Dividend Valuation Model on ordinary share prices. The model, postulated by William (1938) and Gordon (1962), was found not to be a good predictor of the model. This, he attributed to the inefficiency of the NSE, the existence of information differential, inappropriate discounting factor and the preposition that dividends do not affect share prices. He also found that the Market Model could only predict 54% of ordinary share prices for companies listed at the NSE.

Ndung'u (2003) found that it is possible to predict the stock prices at the NSE by referring on the company size as measured by the number of outstanding shares. His study used the weekly returns for the period 1996 to 2002 to compute the excess return under the CAPM assumption of linear relationship between security's expected return and its risk. Though his study show a weak depiction of the size effect, he nonetheless concludes that small companies' common stocks return less excess return than is the case for large firms. Okello (2006) sampled the 20 companies comprising the NSE 20 share index for the three years period from January 1999 to December 2002 in his attempt to determine the applicability of the filter rule test at the NSE. He used the filter rule model developed in Fama and Blume (1960) and found that the filter rule exist in the NSE and is indeed profitable. The filter rule trading strategies attempt to profit from serial dependencies in stock returns and states that an investor should buy

when stock's price rises Y% above its past local low and sell when it fall Z% below its past local high.

Dickson and Muragu (1994) studied the weekly price movement at NSE and found that stock prices follow a random walk. A similar study done on ten "blue chip" companies at the NSE by Kiweu (1991) found that weekly bid price changes are independent of one another and over time, the change in price is random. His study found no pattern in the price movement and concluded that abnormal profits can be reaped.

Muragu (1990) found that with proper data control, the random walk hypothesis holds for the NSE. Akwimbi (2003) sought to test the application of the Arbitrage Pricing Model (APT) in predicting stock returns at the NSE. He used the regression model on security monthly returns/portfolio indices and the economic indicators on 39 companies trading at the NSE during the period January 1995 to December 2002. His results suggest that a mult-index APT using selected economic and industrial variables (interest on loans and interest on savings in particular) provide additional power in explaining the variability of NSE stock returns over a single index alone. Akwimbi concludes that APT could be used to form portfolios designed to track particular well diversified benchmarks.

However, Macharia (2002) using a sample of fourteen companies trading at the NSE during the period 1996 to 2000 did a predictive regression model. Her paper provides a test of the extent of predictive ability of P/E, Dividend Yield and Price Sales Ratio aiming to establish how useful the ratios are in predicting future returns. She used lagged variables and found that price earning ratio has a predictive ability of share prices at the bourse. Kalui (2004), sought to establish the effect of earnings volatility, payout ratio, long-term debt, size and growth on price volatility at the bourse. He regressed the daily stock prices of a sample of 16 companies listed at the NSE for the period 1998 to 2002 and found that price volatility does exist at NSE and that it is not only a function of factor considered but also many other factors. His findings support the hypothesis that security prices follow a trend less random walk pattern.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1   Research Design

The study used both longitudinal and horizontal data of companies trading at the NSE over a period of 60 months running from September 2003 to August 2007.

3.2   Population

The population of the study comprised all companies trading at the Nairobi Stock Exchange for the period September 2003 to August 2007.

3.3   Sample

Twenty companies comprising the NSE 20 share index were sampled. To arrive at the sample, companies that traded for the whole period under review were selected and those that were not actively trading dropped. A company was taken to be inactive if its shares did not trade at least twice a week and (or) data was not available or was inconsistent. Brooke Bond Ltd was dropped from the study after the shares were delisted in August 2004, Williamson Tea was inactive while Uchumi Supermarket and BOC Kenya were left out for being suspended from trading leaving a sample of 16 companies.

3.4   Data Collection

The data is quantitative in nature. The study used secondary data consisting of daily stock prices of companies trading at the NSE and was obtained from the NSE library. The list of quoted firms was also obtained from the NSE library.

3.5   Data Analysis

Weekly weighted average prices were computed from the daily stock prices. Following the MM dividend irrelevancy theory, Coutts (1997), Coutts et al (2000), Ondigo (1995) and for the purpose of simplicity, we assumed that earnings and dividend announcements do not affect stock prices at the NSE. Market anomalies such as seasonality of returns were also ignored in this study.

3.6 The Model

The study aimed at testing independence or otherwise of successive weekly price changes of stocks trading at the NSE using the serial correlation test (Also known as autocorrelation). This is a mathematical representation of the degree of similarity between a given time series and a lagged version of itself over successive time intervals. If random, autocorrelations should be near zero for any and all time-lag separations. If non-random, then one or more of the autocorrelations will be significantly non-zero.

Step 1: Computing the Weighted Average Price of Shares

The weighted average price Yi for week i is given by;

$$Y_i = \sum_{t=1}^{T} \frac{P_i q_i}{q_i}$$

Where;

Pi = Share price

qi = Quantity of shares sold at price pi

Step 2: Computing the Autocorrelation Coefficient

The autocorrelation coefficient was computed as follows;

$$f_k = \frac{E e_j - k e_i}{\overline{\Sigma e_i^2}}; \quad \text{For } k = 1, 2 \qquad 52$$

Where;

[\ = Autocorrelation coefficient,

e = Residual associated with the observation $(Y_, - Y_e)$

The statistic is used to test for the presence of both positive and negative correlation in the residuals.

Step 3: Testing the Hypothesis

Ho: There is no significant correlation between stock prices and their lagged observations.

Hi: There is a significant correlation between stock prices and their lagged observations.

Regions of acceptance and rejection of the null hypothesis		
$r_k < -0.5$	$-0.5 > r_k < 0.5$	$r_k > 0.5$
Reject Ho: Negative Autocorrelation	Accept H_0 : No Autocorrelation	Reject Ho: Positive Autocorrelation

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

This chapter contains the analysis of the secondary data and the findings of the study.

4.1 Data Analysis

A fifty two weeks sample analysis was used for the period September 2003 to August 2007. The weekly average prices for the sixty months were computed from the daily stock price list.

4.2 Findings

The stock prices were studied by comparing the weekly average day's stock prices for a period of 60 month starting 1st September 2003 to August 2007. The null hypothesis was that there is no significant correlation. The analysis also looked at the specific segments to see if there were significant effects on stock prices in the subsequent weeks. The findings on each year are contained in the following sections.

4.2.1 Autocorrelation Report, year 2003

The study sought to establish whether there was any significant correlation between the stock prices and the lagged observations. It became apparent from the findings of the analysis (Figure 4.1) that all the autocorrelation coefficients lied between -0.5 and 0.5. The study therefore shows that there was no significant correlation between the lagged observations and stock prices in the year 2003.

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Figure 4.1: Autocorrelation Plot for 2003
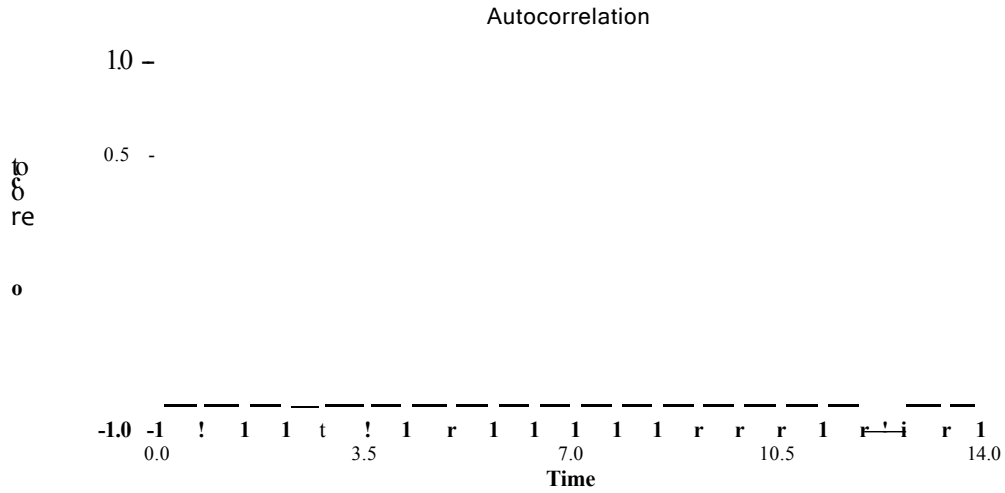
Autocorrelation

Source: Author (2007)

Table 4.1: Autocorrelations of prices (0,0,52,1,0)

Lag	Correlation	Lag	Correlation	Lag	Correlation
1	-0.3531	5	-0.1173	9	-0.2004
2	0.38737	6	-0.1174	10	0.44166
3	-0.192-3	7	-0.1068	11	-0.1963
4	-0.1515	8	0.20009	12	0.16031
				13	-0.1324

Significant if ICorrelationl> 0.500000

This section shows the values of the autocorrelations for the specified number of lags.

The numbers in parentheses, (d,D,s,M,T), are defined as follows:

d is the regular differencing order.

D is the seasonal differencing order,

s is the number of seasons (ignored if D is 0).

M is 1 if the mean is subtracted, 0 otherwise.

T is 1 if the trend is subtracted, 0 otherwise.

Figure 4.2: Data Plot for year 2003

Plot of Price against Time

```
          200.0

   o      150.0  -
  al
          100.0
                                                    i   /  \
          50.0   -

          0.0
             0.0          4.0          8.0         12.0         16.0
                                      Time
```
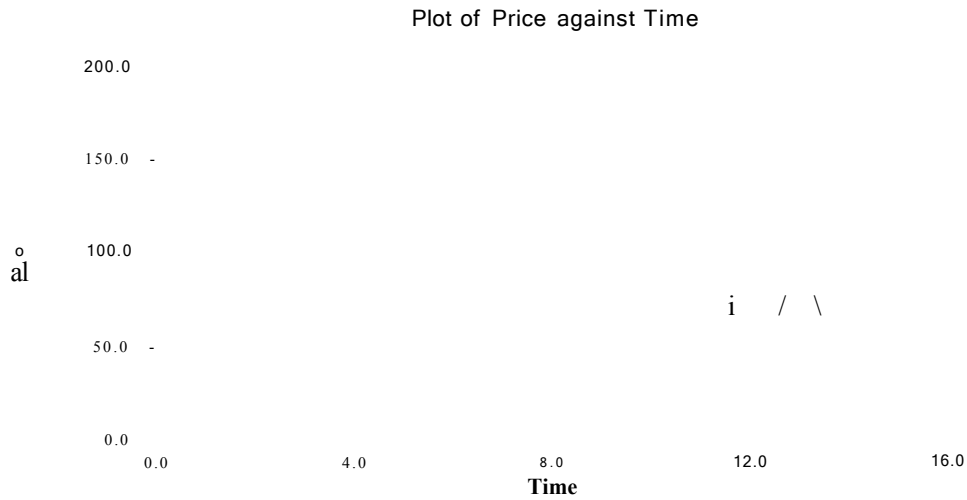
Source: Author (2007)

4.2.2 Autocorrelation Report, year 2004

In this section the study sought to establish whether there was significant correlation between the stock prices and the lagged observations in the year 2004. The analysis in figure 4.3 revealed that all the autocorrelation coefficients fell between -0.5 and 0.5. This implied that there was no significant correlation between lagged observations and stock prices in the year 2004.

Figure 4.3: Autocorrelation Plot for year 2004

Autocorrelation

```
          1.0

          0.5

   ro
   m      0.0

          -0.5  -


          -1.0
             0.0      "r  7  !  r  1  T__I       10.5 ─i  !  r  l"  14.0
                         3.5             7.0
                                     Time
```
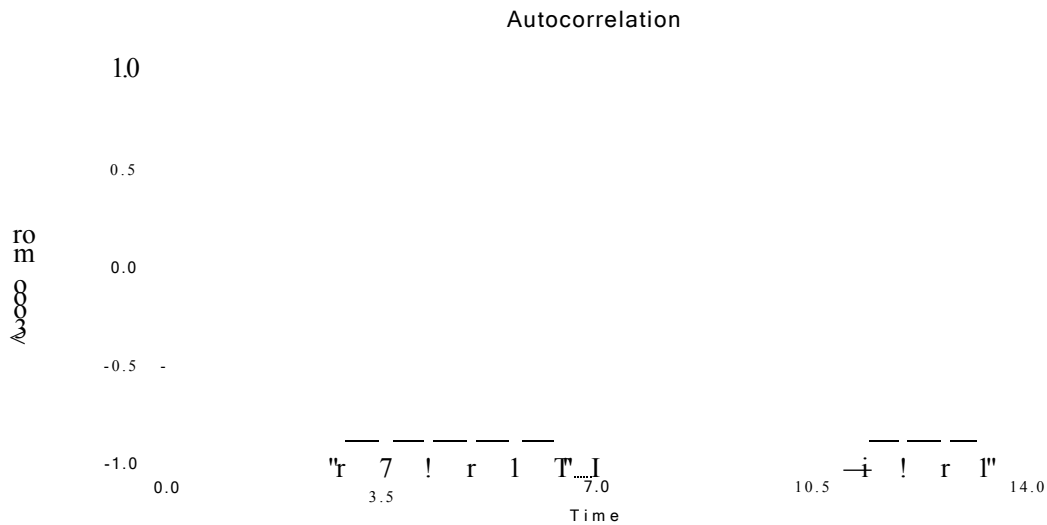
Source: Author (2007)

Table 4.2: Autocorrelations of Prices (0,0,52,1,0)

Lag	Correlation	Lag	Correlation	Lag	Correlation	Lag	Correlation
1	-0.258522	5	-0.186391	9	-0.138789	13	-0.143685
2	0.344931	6	-0.132724	10	0.377004		
3	-0.227701	7	-0.130967	11	-0.186561		
4	-0.053425	8	0.148494	12	0.266153		

Significant if ICorrelationl> 0.500000

Figure 4.4: Data Plot Section

Plot of Price against Time

225.0

75.0

./'   \

4.0   8.0   12.0   16.0
                 Time
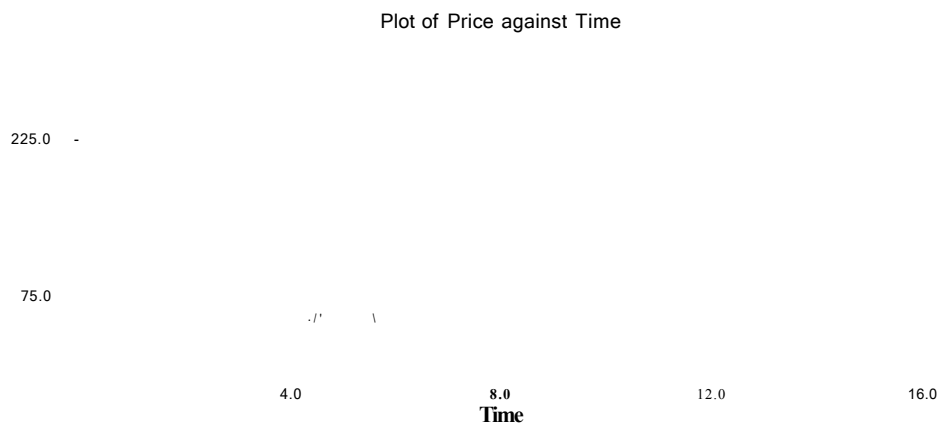
Source: Author (2007).

4.2.3 Autocorrelation Report, year 2005

The study further sought to establish whether there was any significant correlation between the stock prices and their lagged observations in the year 2005. The results of data analysis in figure 4.5 revealed that none of the autocorrelation coefficient values were more than 0.5 or less than -0.5, hence no significant correlation between the lagged observations and stock prices in the year 2005.

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Figure 4.5: Autocorrelation Plot for year 2005

Autocorrelation

1.0

0.5

0.0

-0.5

-1.0

0.0   3.5   7.0   10.5   14.0

Time
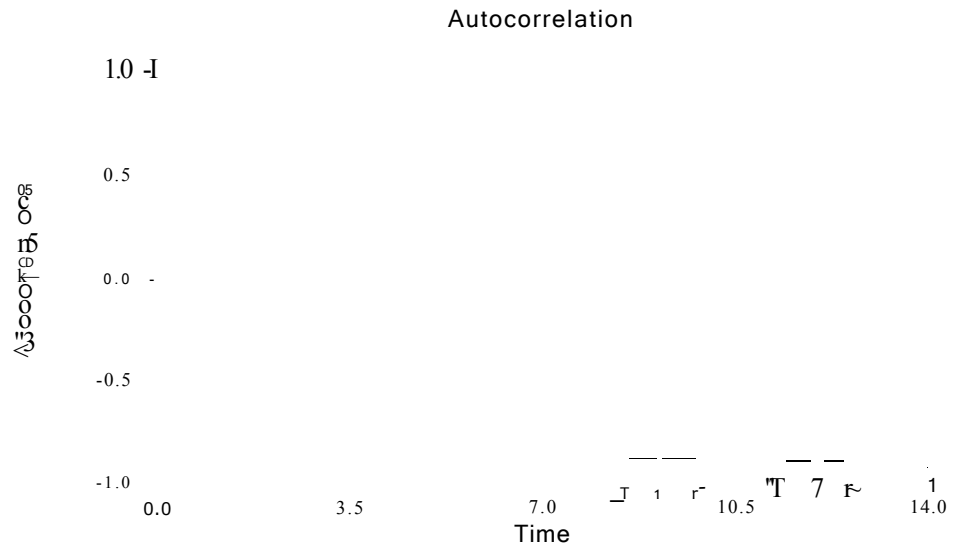
Source: Author (2007)

Table 4.3: Autocorrelations of Prices (0,0,52,1,0)

Lag	Correlation	Lag	Correlation	Lag	Correlation	Lag	Correlation
1	-0.393283	5	-0.152692	9	-0.189897	13	-0.118882
2	0.329756	6	-0.064285	10	0.402464		
3	-0.245273	7	-0.159842	11	-0.208305		
4 "	-0.015138	8	0.273184	12	0.17852		

Significant if ICorrelationl> 0.500000

Figure 4.6: Data Plot Section

Plot of Price against Time

250.0

187.5

125.0

0.0   4.0   7.o   12.0   16.0

Time
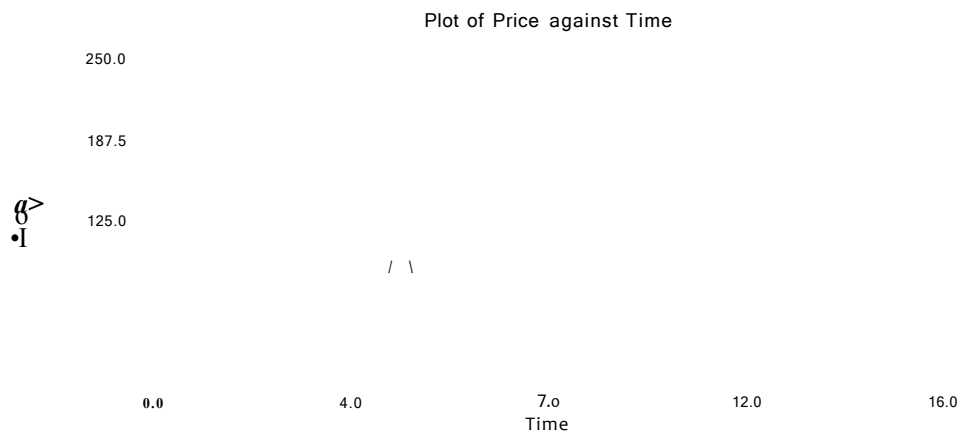
Source: Author (2007)

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4.2.4 Autocorrelation Report, year 2006

The study sought to establish whether there was any significant correlation between the stock prices and the lagged observations in the year 2006. The results of data analysis in figure 4.7 show that the autocorrelation coefficients are less than 0.5 indicating a near zero; hence no significant correlation lagged observations and stock prices in the year 2006.

Figure 4.7: Autocorrelation Plot for 2006
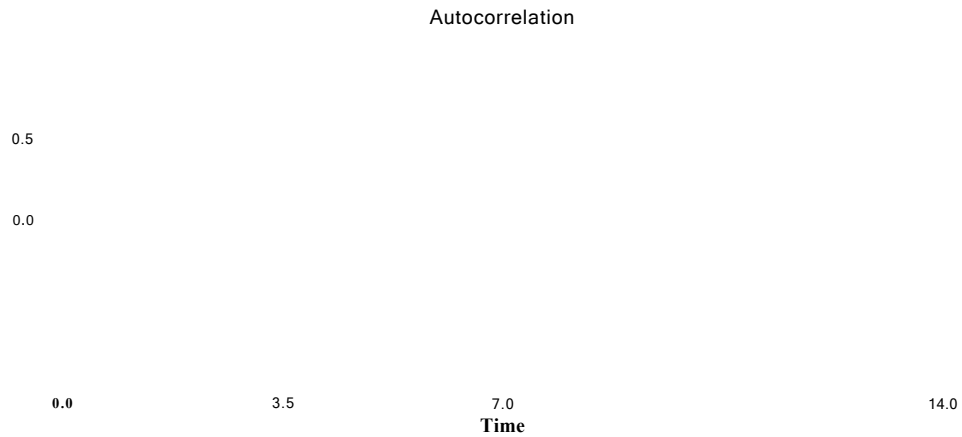
Source: Author (2007)

Table 4.4: Autocorrelations of prices (0,0,52,1,'$_0$

Lag	Correlation	Lag	Correlation	Lag	Correlation	Lag	Correlation
1	-0.550947	5	-0.199701	9	-0.290882	13	-0.089997
2	0.43963	6	0.09983	10	0.325264		
3	-0.306007	7	-0.236685	11	-0.172065		
4	0.088133	8	0.410412	12	0.080596		

Significant if ICorrelationl> 0.500000

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Figure 4.8: Data Plot Section

Plot of Price against Time
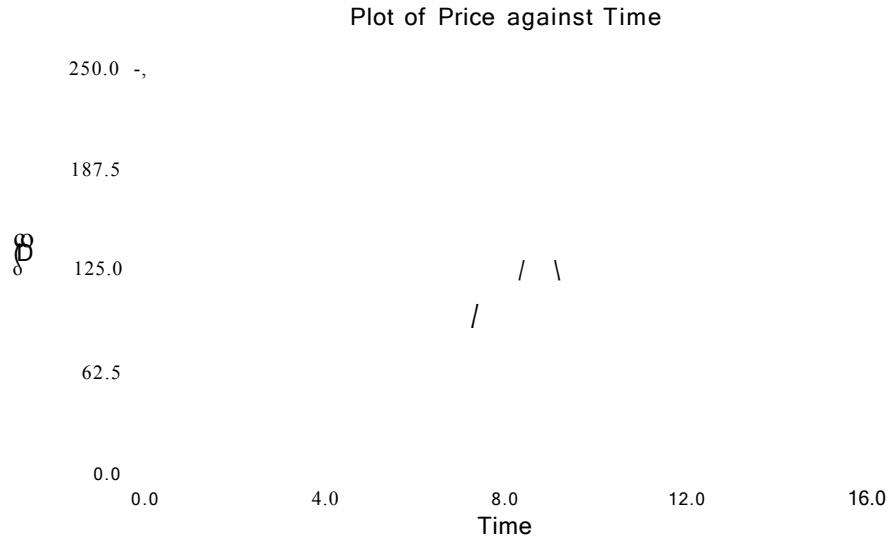
4.2.5 Autocorrelation Report, year 2007

Lastly the study tested if there was any significant correlation between the lagged observations and the stock prices during the period January 2007 to August 2007. The findings of the analysis (figure 4.9 below) revealed that all the values of autocorrelation coefficients were greater than -0.5 but less than 0.5; hence no significant correlation between the lagged observations and stock prices.

Figure 4.9: Autocorrelation Plot for 2007
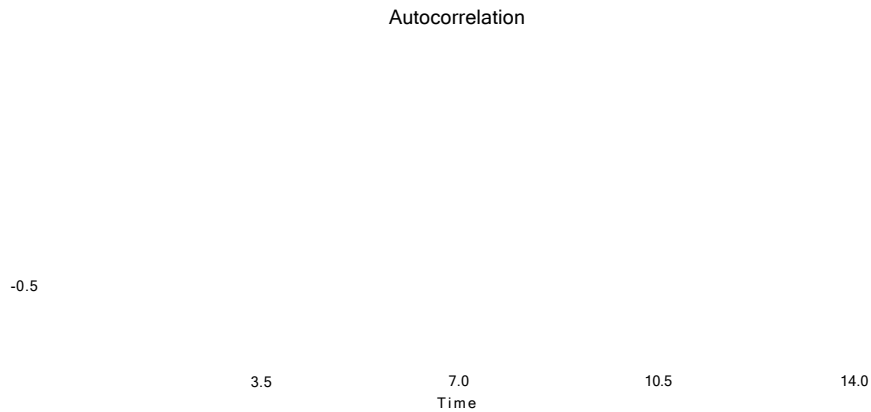
Autocorrelation

Source: Author (2007)

Table 4.5: Autocorrelations of prices (0,0,52,1,0)

Lag	Correlation	Lag	Correlation	Lag	Correlation	Lag	Correlation
1	-0.232226	5	-0.160432	9	-0.083869	13	0.019976
2	0.217423	6	-0.005234	10	0.219106		
3	-0.093535	7	-0.344468	11	-0.019944		
4	-0.176304	8	0.195459	12	0.006584		

Significant if ICorrelationl> 0.500000

Figure 4.10: Data Plot Section

Plot of Price against Time

Source: Author (2007)

30
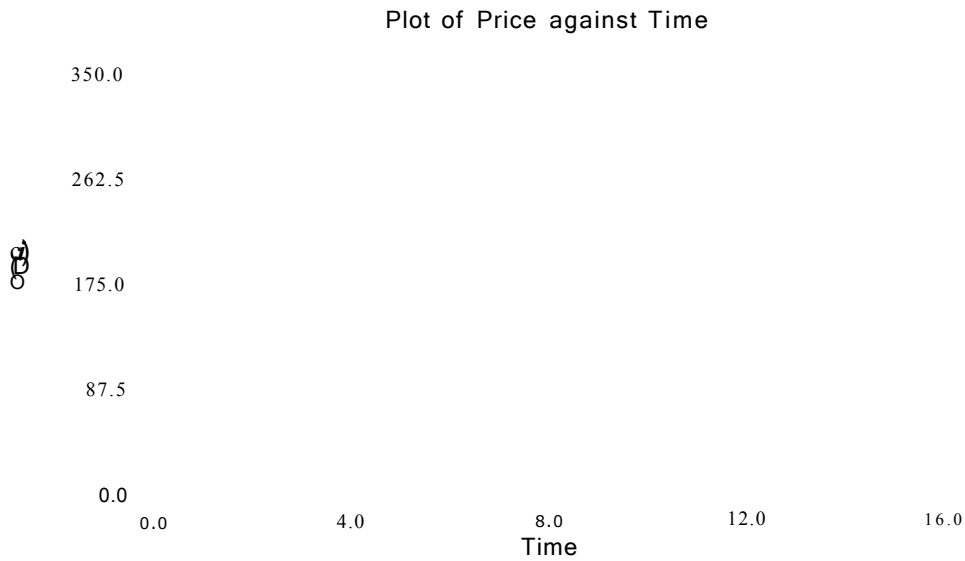
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter contains summary, conclusions and recommendations from the study.

5.1   Summary

The study used the correlation model to test whether successive share price changes for companies quoted at the NSE are dependent. To test the hypothesis, we used secondary data available in the form of daily price list from the exchange library. Weekly averages were computed from the sample of sixteen companies selected. Tests for each year under study were done separately and independently.

The empirical results reported in this study indicate that during the period September 2003 to August 2007, there was no significant correlation between stock prices and their lagged observations. The coefficient of correlation was found to lie between -0.5 and 0.5 thus failing to reject the null hypothesis in all cases.

5.2   Conclusion

The result of the study shows that share price fluctuation was a prevalent phenomenon and that share prices fluctuated randomly during the period under study. This implies that the volatility of the stock market prices significantly differ across periods. The empirical results of this study confirm the previous research findings that price changes are independent and random (Nyambogi, 2005; Kalui, 2004; Mwangi, 1997 and Kerandi, 1993). The results of the study also agree with Kendall (1953) findings that stock prices follow a random walk and that one cannot predict future prices based on the past price trends. This was evidenced as the study failed to prove the existence of any significant correlation between the stock prices and their lagged observations. All the years under study were depicted by autocorrelation coefficient values less than 0.5 but greater than -0.5 which is perceived to be near zero as defined by the researcher. This led to acceptance of the null hypothesis that there is no significant relationship between the lagged observations and the stock prices. The rising and falling of the prices were not systematic.

The empirical results also imply that aggregate stock return in NSE appear to be generated by different factors compared to those in the developed markets where these effects have been present in almost all the studies carried out. In Kenya, the presence of fiscal policies like tax on capital gain may attribute to non-neutrality of returns at NSE, in that investors may be under pressure to dispose off shares at the year end.

5.3   Recommendations

From the study, it is recommended that investors should not worry about the other factors perceived to affect the stock prices because they do not have significant effects on the stock prices. In fact a buy and hold strategy would work well than using expert opinion at the NSE.

The empirical results imply that the NSE is at least weak form efficient. Information on past prices is incorporated in share prices and that stock prices adjust randomly to information flowing in the market. Players in the market should therefore not make decisions on the basis of information already in the market with the hope to outperform the market.

5.4   Limitations of the study

The major limitation of the study was that data for the first eight months of the year 2003 and the last four months of the year 2007 were not sampled and were therefore not analyzed and compared. The other limitation is that only 16 companies were considered in the study. This left out all the other listed companies. Lastly, the study failed to look at the other factors perceived to cause volatility in the stock prices.

5.5   Suggestions for further research

Further research can be done to investigate whether reported weekly, monthly and yearly anomalies are valid for individual shares at the NSE. Another fruitful area of research can be done to test whether a trading strategy based on individual shares is profitable considering the transaction costs. For example, such an active portfolio strategy as buying an index representative portfolio of stocks at the start of the year and selling towards the end of the year can be investigated if it outperforms a passive strategy such as "buy-and-hold".

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The Official Nairobi Stock Exchange Web Site, *http://www.nse .com*

APPENDIX

A)   **List of Companies Listed at the NSE as at 31ˢᵗ August 2007**

AGRICULTURAL SEGMENT

Unilever Tea Kenya Ltd Ord 10.00

Kakuzi 0rd.5.00

Rea Vipingo Plantations Ltd Ord 5.00

Sasini Ltd Ord 1.00

COMMERCIAL AND SERVICES SEGMENT

AccessKenya Group Ltd Ord. 1.00

Car & General (K) Ltd Ord 5.00

CMC Holdings Ltd Ord 0.50

Hutchings Biemer Ltd Ord 5.00

Kenya Airways Ltd Ord 5.00

Marshalls (E.A.) Ltd Ord 5.00

Nation Media Group Ord. 5.00

Scangroup Ltd Ord 1.00

Standard Group Ltd Ord 5.00

TPS Eastern Africa (Serena) Ltd Ord 1.00

Uchumi Supermarket Ltd Ord 5.00

FINANCE AND INVESTMENT SEGMENT

Barclays Bank Ltd Ord 2.00

C.F.C Bank Ltd ord.5.00

Diamond Trust Bank Kenya Ltd Ord 4.00

Equity Bank Ltd Ord 5.00

Housing Finance Co Ltd Ord 5.00

I.C.D.C Investments Co Ltd Ord 0.50

Jubilee Holdings Ltd Ord 5.00

Kenya Commercial Bank Ltd Ord 1.00

Kenya Re-Insurance Corporation Ltd Ord 2.50

National Bank of Kenya Ltd Ord 5.00

NIC Bank Ltd Ord 5.00

Pan Africa Insurance Holdings Ltd Ord 5.00

Standard Chartered Bank Ltd Ord 5.00

INDUSTRIAL AND ALLIED SEGMENT

Athi River Mining Ord 5.00

B.O.C Kenya Ltd Ord 5.00

Bamburi Cement Ltd Ord 5.00

British American Tobacco Kenya Ltd Ord 10.00

Carbacid Investments Ltd Ord 5.00

Crown Berger Ltd Ord 5.00

E.A.Cables Ltd Ord 0.50

E.A.Portland Cement Ltd Ord 5.00

East African Breweries Ltd Ord 2.00

Eveready East Africa Ltd Ord. 1.00

Sameer Africa Ltd Ord 5.00

Kenya Oil Co Ltd Ord 0.50

Mumias Sugar Co. Ltd Ord 2.00

Kenya Power & Lighting Ltd Ord 20.00

KenGen Ltd. Ord. 2.50

Olympia Capital Holdings ltd Ord 5.00

Total Kenya Ltd Ord 5.00

Unga Group Ltd Ord 5.00

ALTERNATIVE INVESTMENT MARKET SEGMENT

A.Baumann & Co.Ltd Ord 5.00

City Trust Ltd Ord 5.00

Eaagads Ltd Ord 1.25

Express Ltd Ord 5.00

Williamson Tea Kenya Ltd Ord 5.00

Kapchorua Tea Co. Ltd Ord Ord 5.00

Kenya Orchards Ltd Ord 5.00

Limuru Tea Co. Ltd Ord 20.00

B)   Nse 20 Share Index Constituent Companies

1. Bamburi Cement Ltd
2. Barclays Bank Ltd
3. BOC Kenya Ltd
4. British American Tobacco Kenya Ltd
5. Brooke Bond Ltd
6. Diamond Trust Bank Kenya Ltd
7. East African Breweries Ltd
8. Kakuzi Ltd
9. Kenya Airways Ltd
10. Kenya Commercial Bank Ltd
11. Kenya Power & Lighting Ltd
12. Nation Media Group.
13. NIC Bank Ltd
14. Firestone E.A Ltd/Sameer Africa Ltd
15...Sasini Ltd
16. Standard Chartered Bank Ltd
17. Total Kenya Ltd
18. TPS Eastern Africa (Serena) Ltd
19. Uchumi Supermarkets Ltd
20. Williamson Tea Ltd

C)   The Sample Used In The Study

BAT   British American Tobacco Kenya Ltd Ord 10.00

BBK   Barclays Bank Ltd Ord 2.00

BCL   Bamburi Cement Ltd Ord 5.00

DTB   Diamond Trust Bank Kenya Ltd Ord 4.00

EAB   East African Breweries Ltd Ord 2.00

KAK   Kakuzi 0rd.5.00

KAL   Kenya Airways Ltd Ord 5.00

KCB   Kenya Commercial Bank Ltd Ord 1.00

KPL	Kenya Power & Lighting Ltd Ord 20.00
NIC	NIC Bank Ltd Ord 5.00
NMG	Nation Media Group Ord. 5.00
SAL	Sameer Africa Ltd Ord 5.00
SCB	Standard Chartered Bank Ltd Ord 5.00
STC	Sasini Ltd Ord 1.00
TKL	Total Kenya Ltd Ord 5.00
TPS	TPS Eastern Africa (Serena) Ltd Ord 1.00

WEEKLY AVERAGE SHARE PRICES

YEAR 2003

	BAT	BBK	BCL	DTB	EAB	KAK	KAL
Wk 36	165.00	27.68	110.00	22.19	58.40	28.31	6.56
Wk 37	165.20	30.08	109.80	22.75	67.20	24.18	
Wk 38	165.60	33.12	104.40	24.40	53.60	19.03	
Wk 39	176.71	38.00	100.67	27.43	67.23	18.60	
Wk 40	184.33	38.13	102.67	27.58	68.53	18.08	
Wk 41	186.00	37.95	104.25	27.94	70.30	19.00	
Wk 42	185.50	37.68	105.60	27.80	71.40	21.25	
Wk 43	187.67	38.40	105.00	27.00	73.60	25.50	
Wk 44	190.00	38.12	104.50	26.05	75.24	28.15	
Wk 45	192.60	38.32	104.00	24.85	77.28	27.06	
Wk 46	200.80	38.68	101.90	25.44	78.20	24.13	
Wk 47	206.00	40.84	100.60	26.81	80.08	24.00	
Wk 48	237.80	47.81	103.72	28.61	88.02	24.00	
Wk 49	267.40	57.24	112.40	31.35	91.12	24.25	
Wk 50	278.50	50.50	120.00	28.92	86.60	24.00	
Wk 51	269.80	50.64	122.25	27.44	84.12	24.00	

KCB	KPL	NIC	NMG	SAL	SCB	STC	TKL	TPS
44.30	32.35	28.45	158.00	10.45	103.00	18.69	35.05	23.42
49.10	32.50	29.35	155.80	11.45	107.00	18.55	35.45	24.60
47.95	32.30	30.50	157.80	11.99	119.40	17.93	38.88	25.75
50.14	40.86	35.00	163.14	11.80	140.29	17.23	39.11	26.93
54.17	42.83	44.67	168.00	11.57	144.67	18.35	38.75	29.33
51.06	39.88	38.81	175.00	11.89	149.00	18.67	38.44	30.56
50.05	36.38	37.45	175.20	12.00	150.00	21.45	38.35	29.95
50.00	37.58	38.33	175.00	11.97	150.33	24.17	38.00	28.25
48.50	36.30	38.50	175.40	11.64	151.20	24.00	37.95	28.70
49.65	36.00	39.20	176.00	11.32	149.60	23.25	37.95	28.20
50.55	36.00	41.50	176.20	11.52	149.40	22.42	38.00	28.50
51.30	39.90	39.90	176.80	11.54	149.40	21.00	37.88	28.81
56.16	48.98	44.68	183.76	11.79	168.28	20.25	37.73	31.16
57.90	49.10	46.65	191.80	11.95	191.00	20.00	38.05	31.65
52.75	45.06	43.25	191.00	11.96	183.00	19.90	38.00	30.56
52.50	43.35	43.05	188.00	11.91	175.60	19.38	38.05	29.75

Wk 52	272.33	54.80	125.20	28.00	87.57	24.25	8.22

Year 2004

	BAT	BBK	BCL	DTB	EAB	KAK	KAL
wk1	276.00	56.20	125.00	28.50	88.00	24.00	8.40
wk2	272.00	57.04	125.40	29.88	89.44	24.13	8.37
wk3	290.40	57.84	126.00	33.00	96.76	23.75	8.26
wk4	290.80	56.88	126.60	37.30	99.44	24.05	8.55
wk5	299.20	59.28	127.20	46.40	79.92	24.06	9.28
wk6	302.50	59.44	127.25	42.95	78.92	24.00	9.45
wk7	305.20	61.44	122.60	41.55	97.52	24.50	8.91
wk8	312.80	61.52	112.60	44.00	100.16	24.50	9.08
wk9	310.40	60.52	109.00	43.88	79.20	24.50	9.38
wklO	310.20	58.96	109.67	39.00	98.44	24.25	12.06
wk11	303.00	55.20	108.25	34.85	96.92	24.63	12.80
wk12	297.20	48.72	104.80	31.60	96.72	23.80	10.91
wk13	276.00	48.08	103.75	31.06	96.08	23.00	11.52
wk14	241.33	46.07	99.50	34.17	92.67	24.00	9.47
wk15	186.20	39.83	95.00	33.75	87.50	23.92	10.68

55.00   54.08   44.75   190.50   11.90   184.17   19.50   38.65   27.19

KPL	NIC	NMG	SAL	SCB	STC	TKL	TPS
59.50	45.50	191.00	11.80	190.00	20.00	41.50	27.25
61.30	47.65	191.20	11.74	191.40	20.00	38.10	27.44
71.50	50.60	194.60	11.74	196.40	19.73	38.00	28.13
91.90	50.80	197.20	11.65	192.00	19.45	38.00	28.50
105.10	61.60	200.80	13.41	200.80	18.03	49.40	29.20
104.00	62.00	205.40	14.05	200.40	17.75	53.50	29.69
108.00	61.10	216.20	13.17	212.20	17.00	55.30	35.00
106.00	61.70	218.60	11.21	233.80	17.03	56.50	35.10
122.00	58.50	221.40	11.88	231.60	17.39	55.00	34.31
119.80	52.20	224.40	13.51	217.60	19.65	54.60	32.90
105.90	50.00	225.50	14.17	203.00	21.70	52.20	27.40
94.00	49.10	217.60	11.95	199.60	20.66	48.00	26.15
96.30	48.60	204.75	10.92	189.60	18.27	45.45	22.05
97.00	45.00	196.00	11.00	185.33	17.50	44.75	19.85
99.58	41.35	163.50	11.00	136.50	17.25	43.35	27.00

wk16	182.50	47.50	91.00	33.50	83.85	23.00	11.26	59.63
wk17	217.00	50.45	91.50	31.63	92.90	23.00	11.53	64.00
wk18	222.50	47.90	91.50	31.00	96.25	23.00	11.84	58.38
wk19	221.60	46.84	90.67	30.19	72.12	21.75	11.81	55.70
wk20	214.90	46.01	87.67	34.36	82.22	21.19	11.79	57.74
wk21	206.38	46.28	81.67	34.02	84.08	20.30	11.82	57.15
wk22	196.60	47.04	80.00	31.33	82.96	21.13	12.67	58.10
wk23	198.50	45.80	80.00	30.83	82.67	22.00	12.72	58.83
wk24	199.67	44.56	79.63	30.58	82.36	24.00	12.74	61.00
wk25	208.00	43.88	79.88	31.00	87.76	29.00	13.00	61.10
wk26	210.00	42.72	78.70	30.45	89.04	29.90	13.21	58.10
wk27	210.00	40.78	79.14	30.44	88.97	29.60	13.18	54.42
wk28	204.50	40.67	78.38	30.58	88.93	30.25	12.78	57.50
wk29	206.30	41.78	78.40	31.01	89.12	29.94	12.81	57.67
wk30	202.33	41.90	79.32	30.67	89.75	28.86	12.81	62.78
wk31	199.58	41.65	79.47	30.53	91.36	28.78	12.72	65.46
wk32	200.00	42.96	79.60	30.00	95.40	29.08	12.50	66.00
wk33	199.00	42.00	79.90	28.80	96.52	29.00	12.60	63.40
wk34								

99.00	45.38	153.50	11.00	159.00	17.10	43.88	27.38
99.50	50.63	188.00	10.93	169.75	17.08	44.25	27.25
97.25	50.38	198.00	10.54	161.75	16.98	41.56	27.19
96.30	48.35	197.75	10.13	157.80	17.05	40.05	27.44
93.76	45.67	196.75	10.28	153.96	16.90	39.61	28.94
87.35	45.13	191.19	10.76	155.19	16.55	39.22	28.79
93.00	50.00	185.60	10.59	158.80	19.25	41.65	26.81
94.50	50.67	184.50	10.65	155.33	22.38	44.75	28.50
93.60	48.20	185.20	10.76	150.60	18.81	43.75	29.75
92.63	47.25	186.80	10.74	148.80	19.34	40.25	29.50
94.80	48.25	188.00	10.07	142.60	19.75	40.15	30.00
92.46	48.65	186.50	10.04	136.12	19.60	39.63	29.75
89.30	45.17	185.75	10.05	131.33	18.95	40.92	30.17
86.38	46.36	184.15	10.37	147.06	18.82	42.28	31.03
87.23	46.44	183.19	10.33	150.51	18.61	42.34	32.34
91.37	49.03	186.44	10.95	144.75	18.09	42.26	34.26
91.10	48.00	181.50	12.46	146.40	18.02	42.60	37.10
90.50	47.40	187.33	12.78	151.40	18.17	41.90	38.06

	198.00	41.44	80.00	29.75	99.00	28.58	12.88
wk35	182.80	41.56	81.40	29.31	100.48	28.50	13.73
wk36	183.50	40.73	84.50	29.25	102.00	29.63	14.38
wk37	191.60	40.36	86.50	27.05	102.04	28.94	14.77
wk38	193.75	39.64	85.40	26.00	101.92	28.83	13.94
wk39	195.60	39.96	85.00	26.30	102.00	28.00	13.87
wk40	201.00	40.25	85.50	25.88	103.10	28.08	13.98
wk41	200.67	41.50	85.00	26.44	105.57	28.58	14.48
wk42	200.11	42.78	85.13	27.34	93.96	28.65	15.90
wk43	199.35	43.20	90.28	28.97	92.23	28.82	16.77'
wk44	199.73	43.60	95.46	29.79	93.60	30.71	17.72
wk45	200.00	43.48	97.50	29.30	99.24	32.85	16.86
wk46	200.40	43.44	95.70	29.20	98.08	32.75	17.17
wk47	199.92	43.30	92.81	28.92	95.42	30.76	16.88
wk48	205.40	43.24	95.80	27.31	101.96	31.33	17.53
wk49	209.00	42.40	97.17	28.08	109.00	33.00	17.50
wk50	205.67	42.00	98.00	29.38	104.33	36.33	17.48
wk51	200.00	42.00	96.13	28.83	102.75	42.63	17.06
wk52	197.67	40.25	95.17	28.00	97.38	40.00	16.58

59.20	89.75	45.94	181.50	12.43	140.60	19.01	40.50	39.10
59.70	90.30	45.40	180.00	11.50	138.20	19.82	39.95	37.63
60.50	92.83	45.58	177.00	10.60	136.00	20.00	40.33	37.33
59.20	93.30	45.70	176.50	10.79	131.40	20.49	40.20	37.30
55.30	92.30	45.10	176.00	11.08	130.00	20.15	40.00	36.42
52.20	90.00	45.10	175.40	11.11	130.80	20.21	39.65	36.65
56.50	85.25	45.38	177.75	11.21	133.00	20.18	39.31	36.06
57.92	88.08	45.13	177.33	11.31	134.33	20.50	38.67	35.80
58.40	85.35	45.77	175.39	11.44	135.22	21.13	38.86	36.36
57.15	82.72	46.42	175.23	11.64	138.37	22.19	38.85	36.48
57.86	79.12	46.20	175.04	11.88	139.56	23.11	38.60	37.25
60.40	83.20	46.15	175.80	12.31	139.40	23.00	37.80	39.25
61.70	85.00	46.65	178.40	12.56	138.40	21.65	37.90	39.10
59.10	83.08	46.24	175.97	11.97	138.19	22.22	38.40	37.69
62.30	85.50	48.95	185.60	13.26	137.00	23.15	37.85	39.35
67.00	86.00	50.17	189.50	12.70	131.67	23.42	38.08	42.67
67.50	85.00	50.00	189.67	12.40	125.67	26.67	39.50	43.25
66.63	84.33	50.00	189.00	12.42	125.00	28.75	39.50	45.75
64.38	81.25	49.31	178.00	12.36	120.50	26.94	37.94	47.75

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Year 2005

	BAT	BBK	BCL	DTB	EAB	KAK	KAL
wk1	201.60	40.24	97.00	28.31	100.00	40.00	17.97
wk2	215.60	42.76	96.50	31.85	107.20	40.50	18.73
wk3	220.00	43.56	96.90	31.63	109.20	41.50	19.29
wk4	222.20	43.00	97.17	30.30	105.20	42.58	19.56
wk5	227.25	33.35	96.50	29.88	107.25	45.50	19.40
wk6	232.60	46.04	99.30	30.00	109.20	46.50	19.51
wk7	238.00	46.48	101.25	28.95	107.80	48.31	20.10
wk8	238.80	44.84	100.33	29.44	104.00	48.67	21.25
wk9	235.00	43.90	100.00	34.83	105.00	46.83	21.25
wklO	239.25	41.80	99.75	36.44	105.00	49.13	22.31
wk11	244.25	40.95	97.83	33.88	106.00	44.63	22.88
wk12	220.31	41.19	97.71	32.97	108.00	43.06	23.41
wk13	213.44	31.10	97.57	33.43	109.50	40.95	23.85
wk14	210.75	41.40	97.00	34.40	110.40	41.40	24.10
wk15	208.20	41.48	96.50	34.10	111.00	44.00	24.40
wk16	202.84	42.58	96.00	34.22	111.80	44.31	24.68

KCB	KPL	NIC	NMG	SAL	SCB	STC	TKL	TPS
67.20	89.50	50.00	179.80	12.50	123.60	26.00	41.63	47.25
68.30	85.20	50.30	197.40	12.50	129.20	26.25	44.55	47.25
69.70	84.90	50.40	188.00	12.62	127.40	27.50	44.60	46.00
68.75	85.50	50.25	185.00	13.23	123.00	29.50	42.30	45.50
70.17	87.00	52.17	190.00	13.63	130.00	30.38	41.44	45.38
70.30	92.00	52.00	190.50	13.58	130.00	32.15	42.30	45.55
69.90	90.63	50.40	191.00	13.60	132.20	32.00	41.75	46.00
66.70	86.90	52.50	196.00	13.34	124.80	31.50	40.85	45.80
63.88	86.25	50.56	196.75	13.63	123.75	27.94	40.94	45.75
63.63	86.63	50.00	224.50	12.66	120.50	29.56	39.44	49.83
62.50	85.00	50.13	223.75	11.98	120.25	29.69	39.50	50.00
63.50	85.25	50.04	224.94	11.99	119.06	29.92	39.50	50.00
62.25	86.44	50.01	229.23	11.45	118.52	30.06	39.81	50.00
61.20	87.00	50.00	230.60	11.50	118.60	31.19	39.95	50.70
62.10	84.38	49.25	228.60	11.60	116.60	31.55	38.25	51.25
63.42	82.48	47.85	227.72	11.58	119.72	31.77	37.80	51.15

wk17	204.33	43.35	96.75	34.44	114.50	45.42	25.94	64.50
wk18	209.25	43.25	98.50	35.63	114.50	45.44	26.31.	64.75
wk19	219.50	43.90	99.63	35.94	116.50	46.75	26.06	65.13
wk20	217.75	45.10	100.67	38.06	127.00	46.75	25.69	66.88
wk21	219.00	47.85	103.75	28.25	142.75	46.38	35.88	69.25
wk22	217.00	47.20	110.00	27.00	139.50	46.75	38.75	67.50
wk23	216.75	47.50	110.00	27.44	147.25	51.13	41.00	68.50
wk24	214.75	48.30	114.75	27.69	146.00	54.88	47.50	68.88
wk25	214.00	49.05	121.00	28.94	149.00	54.50	47.81	68.88
wk26	217.67	49.81	120.25	28.92	148.75	54.38	52.83	69.22
wk27	222.00	51.04	129.00	29.10	157.00	65.20	69.00	73.60
wk28	222.80	52.56	142.60	29.15	162.80	76.50	72.90	83.20
wk29	220.70	51.19	136.15	27.23	151.16	68.50	66.78	73.44
wk30	219.54	50.20	134.43	26.80	150.23	60.00	65.86	75.89
wk31	220.00	50.60	132.75	28.63	155.50	52.83	68.25	77.50
wk32	214.50	49.80	134.25	28.31	158.25	53.50	70.88	81.13
wk33	209.00	49.60	134.50	27.06	154.50	53.63	69.75	82.50
wk34	208.50	48.95	134.75	27.38	154.75	53.67	70.38	81.25

83.50	47.83	234.50	12.45	124.50	32.44	37.81	51.88
83.13	48.06	240.00	12.90	126.00	32.67	37.13	50.00
82.63	48.00	242.00	12.51	127.25	35.19	37.50	51.00
83.13	47.63	181.33	12.81	127.25	36.44	38.00	51.38
88.75	46.44	201.25	15.38	130.75	34.13	41.06	53.25
89.25	47.00	202.50	17.75	126.50	30.75	40.75	55.25
91.13	47.38	201.75	17.66	130.00	32.94	40.31	61.13
96.88	48.56	200.75	17.96	129.50	32.19	40.00	73.38
106.00	50.50	197.50	17.95	130.00	32.00	40.06	86.63
112.75	52.00	198.38	17.98	130.00	33.25	43.58	86.41
112.40	54.00	197.40	17.99	131.20	35.85	44.65	88.10
121.50	55.20	196.20	21.74	136.60	42.95	44.35	85.50
113.30	53.34	196.44	20.34	138.72	40.24	42.57	83.50
111.26	52.37	195.49	20.72	139.14	38.35	39.56	79.38
124.00	52.88	198.00	20.63	140.00	38.25	38.75	76.38
138.25	53.00	196.25	19.91	139.75	38.00	38.88	75.75
136.00	53.13	194.00	20.06	140.00	37.63	39.00	75.50
136.00	53.00	187.50	21.69	139.50	35.58	38.69	75.63

wk35	208.13	48.24	135.69	27.59	152.19	54.04	70.47
wk36	208.60	47.72	123.67	27.05	145.80	53.10	73.00
wk37	209.25	47.48	131.00	28.10	138.00	49.13	72.80
wk38	210.25	47.44	132.20	27.35	139.00	48.44	73.70
wk39	211.05	47.93	134.64	27.15	138.20	47.30	79.24
wk40	210.50	48.04	137.00	27.85	142.60	46.67	83.40
wk41	211.10	48.29	136.60	27.47	138.52	46.98	83.38
wk42	211.10	48.29	136.60	27.47	138.52	46.98	83.38
wk43	211.10	48.29	136.60	27.47	138.52	46.98	83.38
wk44	212.00	49.93	137.67	27.50	139.00	49.67	81.50
wk45	213.60	49.72	138.60	27.25	137.40	48.50	76.50
wk46	212.25	49.80	139.60	27.60	137.80	48.56	77.70
wk47	211.60	49.88	139.20	27.85	138.00	48.25	81.20
wk48	208.00	49.85	140.00	29.63	137.50	48.50	80.38
wk49	205.75	50.05	140.00	31.25	137.25	48.67	79.25
wk50	204.00	50.30	140.00	32.25	135.00	48.33	78.75
wk51	204.50	50.63	140.00	31.94	135.00	48.33	80.06
wk52	204.63	51.86	140.67	32.30	135.00	48.33	80.89

80.31	136.00	52.63	182.88	21.55	139.38	34.36	38.86	75.53
79.60	133.40	52.50	180.20	20.85	137.60	33.25	40.83	76.30
79.60	130.80	51.10	180.40	20.60	135.80	32.35	39.55	76.50
81.20	131.60	50.40	180.40	20.04	134.00	33.05	38.00	77.00
83.14	137.32	48.78	180.60	20.01	135.20	32.76	38.58	77.10
84.60	140.40	49.05	180.60	19.97	136.00	31.30	41.25	76.90
86.22	152.88	51.51	180.92	19.74	136.00	30.71	43.60	77.28
86.22	152.88	51.51	180.92	19.74	136.00	30.71	43.60	77.28
86.22	152.88	51.51	180.92	19.74	136.00	30.71	43.60	77.28
97.33	138.00	51.00	186.33	19.00	137.67	32.00	41.75	89.17
97.80	146.60	50.60	186.00	18.56	139.80	32.70	40.75	87.10
99.10	147.20	48.55	186.60	18.99	138.60	32.20	40.05	82.25
102.00	146.20	51.00	187.20	20.11	139.20	31.75	40.40	81.40
115.00	142.00	50.63	189.00	21.19	138.00	32.31	41.81	89.25
107.75	136.75	51.00	188.75	21.94	138.00	31.19	41.44	86.50
110.00	137.00	50.63	189.00	21.94	137.25	28.94	40.19	81.67
112.00	137.00	50.53	189.75	21.86	138.56	28.31	40.48	81.42
112.50	137.50	51.13	189.94	21.78	139.14	27.33	40.62	81.10

Year 2006

	BAT	BBK	BCL	DTB	EAB	KAK	KAL
wkl	204.50	54.05	140.50	32.38	135.25	48.00	82.75
wk2	204.80	57.80	141.33	36.10	135.00	47.38	85.40
wk3	204.40	56.72	141.75	39.80	135.00	47.25	91.50
wk4	204.75	54.48	140.20	43.75	134.80	45.67	90.70
wk5	204.67	55.20	143.00	39.67	134.33	47.00	91.83
wk6	204.13	56.00	141.20	40.63	132.87	46.45	92.67
wk7	201.60	56.36	140.00	41.20	128.20	45.50	92.50
wk8	200.00	52.36	140.00	44.95	128.80	40.25	93.40
wk9	200.00	50.27	140.00	44.50	131.00	39.67	96.33
wklO	198.50	50.24	140.00	40.90	130.00	39.00	92.70
wkll	196.60	50.24	139.75	39.50	128.40	38.94	89.10
wkl2	196.50	50.76	140.00	40.25	129.80	38.60	95.00
wkl3	199.60	49.96	138.60	42.05	133.20	39.00	105.20
wkl4	201.75	50.24	139.75	43.05	132.40	37.56	101.80
wkl5	199.00	49.85	140.00	42.06	130.25	36.00	102.00
wkl6	199.67	49.80	140.00	43.08	130.67	35.75	103.33
wkl7	201.00	49.96	140.00	43.70	131.20	34.70	106.80

KCB	KPL	NIC	NMG	SAL	SCB	STC	TKL	TPS
113.50	138.00	51.00	190.50	21.81	137.75	26.50	40.81	108.50
115.60	139.40	51.50	194.60	22.10	139.75	26.05	42.15	101.20
120.00	137.40	52.40	194.60	22.55	141.40	30.50	42.70	99.70
119.20	136.00	52.70	196.20	21.90	142.00	27.70	43.70	100.60
115.67	135.00	53.17	197.67	21.58	141.67	29.75	41.58	104.33
116.13	132.80	53.13	197.13	20.82	141.33	29.25	41.77	105.07
115.80	128.80	52.60	199.80	20.06	140.00	29.45	42.15	112.40
115.60	126.60	51.90	200.40	19.70	139.40	27.90	42.70	119.00
117.67	128.33	51.67	198.33	19.82	139.67	27.00	42.17	109.00
113.40	127.20	51.30	196.80	18.42	140.00	26.55	41.15	108.00
111.20	120.00	49.40	188.80	18.21	139.60	25.95	39.80	89.00
117.60	124.80	50.00	193.60	19.60	140.00	26.70	41.35	81.40
118.60	134.20	51.00	199.40	19.70	140.00	26.38	41.80	107.00
114.40	134.50	50.10	197.40	19.29	139.60	25.85	40.30	108.00
112.00	131.00	49.50	195.33	18.48	139.33	25.56	39.56	100.00
114.00	131.00	49.33	196.67	18.65	139.00	25.42	39.88	99.83
115.60	132.20	49.45	197.20	17.25	139.40	25.20	40.15	100.00

wk18	201.75	50.05	140.00	44.19	131.75	35.81	114.50
wk19	202.00	50.04	139.00	46.80	136.80	36.70	128.40
wk20	201.00	50.32	149.25	49.05	144.80	40.50	127.60
wk21	200.00	50.86	149.25	47.11	138.36	40.15	124.32
wk22	198.80	51.25	148.81	46.77	132.84	39.88	122.66
wk23	178.33	52.48	146.00	44.75	138.60	39.69	113.40
wk24	160.60	52.96	145.00	46.70	138.80	38.55	114.00
wk25	170.40	53.32	145.40	50.00	139.00	38.38	115.80
wk26	183.25	53.80	147.00	50.56	138.00	37.00	114.75
wk27	193.80	53.92	145.25	51.30	138.00	35.19	116.00
wk28	193.80	54.32	146.33	52.40	137.60	33.94	114.00
wk29	191.80	54.56	149.40	52.50	136.40	34.35	111.80
wk30	191.60	54.72	150.00	53.30	134.60	34.13	111.00
wk31	192.75	55.25	149.75	60.13	133.75	34.88	112.25
wk32	191.95	56.33	149.92	68.43	133.95	34.38	115.45
wk33	192.59	57.95	154.78	70.69	136.59	34.72	115.69
wk34	192.52	59.43	165.96	67.74	138.32	34.72	114.94
wk35	193.10	60.61	172.39	65.95	143.86	34.74	113.79

124.25	133.75	50.25	199.75	20.09	139.25	25.75	40.69	104.00
155.00	153.40	52.70	201.00	20.19	140.20	27.06	43.90	104.80
166.60	175.80	69.40	199.40	20.01	142.60	29.95	44.45	112.40
159.52	171.60	70.28	199.28	75.76	143.52	29.05	34.53	116.28
157.30	94.30	70.26	200.06	142.15	142.10	29.01	22.79	119.06
151.60	159.20	68.70	200.25	18.61	143.00	29.25	41.60	114.80
156.40	159.80	66.90	199.80	18.24	144.80	28.92	39.20	114.80
167.20	168.40	69.20	200.80	18.33	145.80	28.85	38.65	116.20
166.50	168.75	70.63	202.00	17.53	148.75	27.83	37.75	114.75
166.80	168.40	71.00	201.80	17.40	151.60	27.44	37.85	115.20
164.80	163.20	72.10	201.60	17.34	153.60	27.65	37.75	114.40
163.40	149.60	72.30	201.40	16.94	153.60	28.25	37.30	114.40
167.00	148.40	73.20	201.60	16.51	154.00	29.00	37.35	113.80
173.00	153.75	78.75	200.75	15.95	153.75	29.31	37.44	100.00
177.60	154.35	92.05	201.35	15.74	155.15	29.33	37.34	102.00
177.12	157.27	95.01	201.47	15.28	155.23	29.67	37.32	101.00
171.02	190.65	94.50	202.09	14.91	155.45	30.08	37.61	100.20
175.00	198.93	90.90	203.22	15.13	155.89	30.62	37.67	100.04

wk36	189.17	60.53	177.80	67.00	141.67	33.50	112.83
wk37	185.20	63.00	191.75	73.00	140.80	35.00	119.60
wk38	188.80	66.00	194.20	78.70	142.20	38.95	133.60
wk39	193.80	65.12	188.60	74.50	144.80	39.60	128.80
wk40	196.80	66.24	176.60	80.80	151.00	40.05	133.40
wk41	193.96	67.21	181.32	75.66	156.00	39.91	130.88
wk42	192.40	71.24	186.20	71.10	146.80	39.60	126.20
wk43	193.00	92.20	193.80	72.30	144.80	40.75	125.40
wk44	197.33	85.93	207.00	79.67	143.00	43.50	119.00
wk45	194.60	101.44	210.00	78.20	144.40	43.00	117.00
wk46	194.00	106.28	217.60	75.40	145.20	41.35	117.20
wk47	193.00	118.84	217.40	72.70	143.60	39.75	121.40
wk48	194.20	111.85	221.28	72.24	141.92	39.80	121.88
wk49	194.20	80.90	200.80	68.70	136.60	39.58	117.40
wk50	192.04	76.98	207.60	70.24	139.12	39.82	115.08
wk51	194.00	68.50	209.40	70.00	139.00	40.15	117.80
wk52	196.67	72.17	211.33	71.50	136.67	41.63	119.33

178.00	203.17	89.58	203.33	15.02	157.50	34.25	37.58	97.58
182.60	224.80	98.10	208.40	15.23	160.60	45.35	36.65	92.70
197.60	266.20	98.20	214.40	15.71	171.80	50.20	36.20	85.80
191.80	258.80	96.60	230.40	17.45	167.40	46.80	36.80	86.10
194.80	265.60	100.90	233.40	16.59	171.00	54.20	36.20	88.60
196.36	261.52	101.38	235.48	15.37	174.40	53.74	36.49	90.62
196.00	253.40	97.70	230.20	15.52	178.60	58.40	36.65	89.20
199.40	250.20	97.80	245.80	19.63	194.80	80.40	35.75	88.20
224.00	269.33	102.33	303.67	27.00	221.67	114.33	34.42	87.33
214.40	270.20	103.80	305.80	34.00	206.40	130.20	34.65	83.90
217.60	283.60	102.20	316.60	27.50	201.40	116.00	35.10	85.60
214.60	281.80	101.80	348.20	26.40	208.60	127.00	34.10	88.20
214.52	276.56	101.76	372.44	27.13	210.12	126.20	34.02	87.14
209.00	252.40	97.10	306.60	26.05	204.60	123.60	32.95	85.40
215.40	274.88	97.22	313.12	25.11	206.32	132.52	32.64	87.78
218.60	271.80	97.50	311.00	24.55	202.40	151.20	33.95	86.00
229.00	270.00	101.33	309.67	23.50	205.00	139.67	34.42	87.00

Year 2007

	BAT	BBK	BCL	DTB	EAB	KAK	KAL
wkl	197.25	88.50	207.25	80.25	140.00	41.00	119.50
wk2	213.50	85.88	224.75	86.50	146.00	45.00	116.50
wk3	226.50	80.50	230.00	80.50	146.00	45.13	113.75
wk4	239.50	77.00	223.50	81.25	147.25	45.19	113.00
wk5	234.63	78.75	218.63	79.31	147.81	43.48	110.00
wk6	226.20	77.30	216.75	75.80	150.40	40.95	104.20
wk7	237.40	78.80	218.40	75.90	155.00	42.45	110.80
wk8	229.48	77.16	220.28	75.58	154.00	42.18	108.16
wk9	208.30	71.43	217.26	71.02	148.00	40.11	103.83
wklO	187.40	64.60	215.00	69.90	140.80	38.20	98.30
wkll	193.20	66.60	214.25	70.10	142.40	40.75	91.70
wkl2	186.20	63.20	193.20	64.70	135.20	39.00	70.10
wkl3	184.24	66.24	188.04	69.74	139.04	36.75	82.62
wkl4	191.00	68.50	201.25	74.38	139.25	38.00	94.13
wkl5	181.25	67.63	198.75	76.25	142.75	40.56	90.75
wkl6	186.00	66.50	196.60	71.60	146.00	38.50	85.00
wkl7	184.40	67.30	199.00	74.10	145.00	39.35	86.30

KCB	KPL	NIC	NMG	SAL	SCB	STC	TKL	TPS
261.50	280.50	104.50	321.75	27.06	211.00	139.50	34.63	86.75
264.25	324.00	115.00	343.00	28.75	243.50	141.50	36.19	87.38
265.75	311.25	119.75	331.75	25.75	244.50	146.00	35.44	96.75
255.50	303.75	116.50	320.50	24.19	228.25	143.25	35.31	93.00
242.38	288.19	116.38	312.88	23.05	218.81	142.56	34.08	90.88
227.00	280.00	108.60	295.40	20.45	216.00	134.20	32.75	87.90
256.40	281.00	120.00	300.80	20.55	216.60	119.85	33.10	90.90
246.48	284.20	118.80	300.16	16.15	215.72	108.37	30.92	90.58
228.10	262.44	107.46	295.63	17.09	203.34	115.92	29.73	86.82
230.80	218.20	93.30	271.00	15.68	177.80	93.70	29.40	80.60
220.00	205.20	94.70	268.80	14.66	192.20	87.70	29.45	84.70
197.60	183.40	85.10	227.40	13.84	179.40	79.15	29.45	76.70
202.12	184.68	87.82	223.08	13.66	175.88	85.53	30.24	82.74
233.88	199.50	96.50	237.25	14.93	185.25	101.38	32.31	83.25
248.75	204.25	98.38	238.00	14.58	185.75	104.69	32.88	81.38
248.00	208.60	92.30	241.20	14.21	183.00	96.20	31.40	85.50
241.50	216.00	91.80	244.20	13.82	177.40	96.20	32.20	85.50

wkl8	188.33	69.00	199.67	74.50	144.67	38.00	86.17
wkl9	181.20	67.30	199.40	71.10	144.60	36.92	83.80
wk20	186.60	68.00	199.20	72.60	144.00	36.95	83.60
wk21	186.00	68.10	195.20	73.80	143.00	36.06	79.60
wk22	182.50	67.25	191.00	73.63	143.50	34.31	79.50
wk23	181.00	68.20	198.00	78.10	144.20	32.56	75.90
wk24	180.00	68.40	199.60	82.70	145.20	33.00	75.00
wk25	179.40	69.30	197.00	90.50	147.40	36.31	77.00
wk26	183.80	71.60	191.60	80.20	151.60	40.65	78.00
wk27	186.80	71.00	192.00	86.50	152.20	40.50	75.40
wk28	189.20	72.20	191.80	86.00	150.60	38.40	74.40
wk29	183.60	73.10	189.80	86.80	150.60	37.55	75.30
wk30	178.00	74.90	189.80	87.70	153.60	36.75	75.00
wk31	173.67	77.83	189.67	99.17	152.33	35.58	75.00.
wk32	174.00	74.30	188.80	98.90	152.80	36.20	74.00
wk33	167.40	73.30	189.00	95.90	154.60	38.00	73.20
wk34	161.60	74.00	194.00	95.80	155.20	38.95	71.20
wk3S	162.50	75.25	198.50	96.00	155.50	37.00	71.50

250.00	211.33	92.17	243.00	13.38	181.33	95.92	30.83	86.83
257.50	211.20	91.90	244.80	12.29	179.60	91.60	32.30	86.00
247.00	212.80	97.10	245.20	13.38	183.20	91.90	32.95	85.80
244.50	210.60	97.90	246.80	13.16	182.20	87.65	32.45	85.10
233.75	207.50	96.00	249.00	13.08	179.50	88.88	32.19	84.75
229.50	209.80	98.90	252.60	13.36	176.80	93.20	29.85	86.40
237.50	207.20	103.80	255.60	13.64	182.20	96.90	29.95	73.90
244.00	210.00	111.20	249.00	12.95	182.20	95.05	30.25	73.70
225.50	208.40	104.80	248.20	12.79	184.00	92.85	29.30	73.80
240.50	212.40	109.00	250.00	13.03	192.60	92.50	29.25	74.80
234.50	215.60	108.80	251.40	12.78	188.80	89.65	29.35	76.50
252.00	218.40	107.40	257.40	12.85	186.40	90.05	29.31	77.10
267.50	228.60	127.00	258.60	12.98	184.60	90.75	32.00	84.20
283.33	224.67	149.33	259.67	13.50	187.33	97.75	31.42	87.33
263.00	227.80	156.60	259.00	12.82	185.40	98.00	30.70	88.30
266.50	219.60	159.00	254.40	12.87	182.80	95.45	30.15	85.30
263.50	220.60	158.00	247.60	12.82	185.60	91.85	30.10	82.00
262.50	226.50	159.00	253.50	12.90	188.50	96.13	31.00	82.00