EFFICIENT PORTFOLIO: AN ANALYSIS OF IT'S CONSTRUCTION, MANAGEMENT AND CONTROL

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DEDICATION

To My Mum Hajiya Adama Abdulkadir and My Wife,

Aishat Y. A. and my daughter, Adama.

APPROVAL PAGE

This thesis “Efficient Portfolio: An Analysis of It’s Construction, Management and Control” has been read through and approved as having met the requirement of the Department of Business Administration, ABU Zaria for the Award of Master of Business Administration Degree by:

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ABSTRACT

The project is concerned with the analysis of the key issues in the construction and management of portfolio. It therefore looked at the issues that should engage an investor's mind when building a portfolio.

Areas of particular attention were:

1. Diversification across industry and
2. Asset Allocation.

The significance of this problem – Efficient Portfolio construction – lies in the question, is diversification across industry and asset allocation worth any effort and time to investors? The information gathered from three brokerage firms and carefully analyzed provided answer to the above question.

Therefore the conclusion that, an investor's time and effort will not be in vain, if he allow the idea of portfolio diversification and asset allocation to guide his investment decision and that this can best be achieved through active portfolio management.

The use of Computer Programme is recommended as and integral part of modern portfolio theory. And, that Efficient Portfolio Management can only be achieved when the capital market is well developed in providing the information need of the users.

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CHAPTER ONE

1.0 Introduction

If anybody have ever deposited money in a savings account or putten money in business which he or she either run himself or run by somebody on his behalf, the person already have at least one investment to himself.

In financial terms, an investment is simply any vehicle into which funds can be placed with the expectation that they will generate positive income and/or that their value will be preserved or increased. The reward or returns, from investing are expected on either of two basic forms: current income or increased value (Gitman and Joehnk 1998) [1]

Obviously, investments are in different forms/types. When a person invest, the organization in which he or she invest –whether it is a company or a government entity –offers him or her an expected future benefit in exchange for the current use of his or her funds. As a result, different investors judge desirable benefits differently. Investment vary from "sure things" such as 4% interest on your bank savings account, to the possibility of doubling or tripling your money by investing in adjacent raw land.

According to Van Horne (2000)[2], the investment decision is the most important of the three decisions when it comes to the creation of values. Capital investment is the allocation of capital to investment proposals whose benefits are to be realized in the future.

Possibility exists for individuals or organizations with enough means (capital resources) to invest in more than one of these vehicles for future returns, thus investors having a combination of these investment vehicles either within the same industry or across industry. The combination of more than one security or investment vehicle is what is referred to as “Portfolio”.

Raymond (1991)[3] ,sees investment simply as a ‘collection of investment’

Also, a portfolio is seen as a collection of investment vehicles assembled to meet a common investment goal. Of course, different investors will have different objectives for their portfolio. The primary goal of a growth-oriented portfolio is long-term price appreciation. An income-oriented portfolio stresses current dividend and interest returns. (Gitman and Joehnk 1994)[4]

Raymond (1995)[5] has agreed that, for an investor through the stock exchange the portfolio will be a collection of shareholdings in different companies for property investors, his portfolio will be a collection of buildings. To a financial manager with an industry, his portfolio will be a collection of real capital projects. It will be seen that the actual nature of the components of a portfolio will depend on the population of opportunities from which the selection has to be made.

Investors’ benefit from holding portfolios of investments rather than single investment vehicles. The objective of a portfolio is to reduce risk without sacrificing returns. In other words, risk of a portfolio can be reduced to a level below that of any investment held in isolation.

Investment decision in relation to setting portfolio objective involves trade-off between risk and return, between potential price appreciation and current income, and between varying risk levels in portfolio. All these will

depend on income tax bracket, current income needs and ability to bear risk. Setting an efficient portfolio, which is the expectation of every investor, therefore is dependent on the above trade offs. An efficient portfolio is one that provides the highest return for a given level of risk or the one that has the lowest risk for a given level of return.

The ultimate goal of an investor is an efficient portfolio, one that provides the highest return for a given level of risk or that has the lowest risk for a given level of return. To reduce overall risk in a portfolio therefore, it is best to combine assets that have a negative or a low-positive correlation. This is because negatively correlated vehicles can reduce the overall variability of returns or risk above uncorrelated and/or positively correlated assets.

Lets assume for instance that, an individual own the stock of a machine tool manufacturer that is very cyclical, having high earnings when the economy is expanding and low earnings during a recession. If the individual bought stock in another machine tool company, which would have earnings positively correlated with those of the stock you already own, the combined earnings would continue to be cyclical. As a

result, risk would remain the same. As an alternative, however, the person could buy stock in a sewing machine manufacturer, which is counter cyclical having low earnings during economic expansion and high earnings during recession (because consumers are more likely to make their own clothes and clothing repairs at such a time). Combining the machine tool and the sewing machine stock, which have negatively correlated earnings should reduce risk. The low machine tool earnings during a recession would be balanced out by high sewing machine earnings, and vice versa. (Gitman and Joehnk 1996) [6]

The argument above is that, generally, the lower the correlation between two or more asset returns, the greater the potential diversification of risk. The point is that, for each combination of assets, is one that will result in the lowest risk possible. In other wards, the extent to which risk is reduced is dependent on the degree of correlation between the assets combined.

In addition to the argument provided by Gitman and Joehnk stated above, to achieve an efficient portfolio vis-à-vis its construction, investors and financial managers have to pay attention to some important criteria. The

criteria provide a basic and useful framework for selecting individual investment vehicle for a portfolio. One of these criteria is investor characteristics and objective. Financial and family situation of an individual are important in the determination of portfolio policy. The determinants include, level of stability of income, networth, investor experience and age, family factor, and disposition towards risk. Gitman and Joehnk believe that individual portfolio strategy obviously must be tailored to meet his need and that ones risk should not exceed his ability to bear risk.

The second of the criteria is the portfolio objective and policies. Here, investors' attention should be on his current income needs, capital preservation, capital growth, tax considerations, and risk. Gitman and Joehnk categorize these into two. Current income and capital preservation, which they believe, are portfolio objectives synonymous with a low-risk and conservative investment strategy. Capital growth objective to imply increased risk and a reduced level of current income.

Asset allocations involves dividing ones portfolio into various asset classes, such as bond, stock, mutual fund, convertibles, tangibles, real estate etc. The main objective of asset allocation is preservation of capital, that is, protecting portfolio against negative development while effort is geared towards taking advantages of

positive development. What asset allocation does is focusing on investments in various vehicles (assets) classes. Knowledge of asset allocation is of great importance in portfolio management/analysis because of the belief that the total return of a portfolio is influenced more by the division of investments into assets classes than by the actual investments. A number of approaches used in asset allocation will be looked into in the next chapter.

An efficient portfolio therefore can only be achieved when the construction, management and control is efficient.

1.1 STATEMENT OF THE PROBLEM

The two sides of the coin (portfolio analysis) are risk and return. As stated above an efficient portfolio is one that provide the highest return for a given level of risk or the one that has the lowest risk for a given level of return. 1n portfolio analysis, the problem faced by investors and managers as well is that of how to maximize return at a given level of risk or minimize risk at a given level of return. It is therefore important to know the part play by the two– risk and return–in portfolio analysis.

Risk is the chance that the actual return from an investment may differ from what is expected. In other words, the probability of occurrence. Risk can be seen in two forms, systematic and unsystematic. Systematic risk also known as market risk is one that influences a large number of assets, each to a greater or lesser extent. Unsystematic risk or unique or asset specific risk is the one that affect a single asset or specific to a sizeable group of assets. The risk of a given investment is directly related to its expected return. The broader the range of possible return associated with a given investment, the greater it's risk. The question is therefore asked as to why investor would have to risk his or her capital. The simple answer is, the riskier investment provide higher level of return. What investors do therefore is attempt to minimize risk for a given level of return or to maximize return for a given level of risk. This relationship between risk and return is called risk-return trade-off.

When faced with the choice between two equally risky investments with different returns, ordinarily, an investor would be expected to choose the investment with the higher return. On the other hand, if the choice is between investments with same return but differing risk, an investor would be expected to choose the investment with least risk. Base on ones disposition towards risk, however, and the alternative investment vehicles available; one should be able to combine best portfolios– efficient portfolio–possible. The challenge however is that such portfolio are not necessarily obvious. Investors as well as managers of funds therefore must have to search through investment alternatives to get the best combinations of risk and return.

Another problem that should be noted is that, the degree of correlation that exists between or among assets/vehicles plays an important role in risk minimization. Diversification is the inclusion of a number of different investment vehicles in a portfolio. The intention behind the principle of diversification is the idea of correlation. The question therefore is, what level of diversification would achieve certain degree of correlation?

Other questions that investors, managers and students as well have to contend with are, what are the criteria upon which the construction of an efficient portfolio is built and how are the criteria used to allocate assets/capital to various investment categories?

Unfortunately, there are many uncertainties involved in the whole economic environment. This clearly calls for more than simply devising what appears to be a feasible plan for attaining a stated future goal, hence the need to periodically assess the progress towards the goad (portfolio management).

1.2 STATEMENT OF THE HYPOTHESIS

Hypotheses 1

An efficient portfolio is one that has the right kind of diversification across industry.

Hypotheses 2

The total return of a portfolio is influenced more by the division of investment into asset classes than by the actual investments.

1.3 SIGNIFICANCE OF THE STUDY

Portfolio analysis represents an important aspect of investments decision in financial management. Despite the unsophisticated nature of our business environment billions of Naira is involved in investment decisions. Given the uncertain nature of business environment, the need for careful and detail understanding of this environment becomes necessary if not a most. If the fact remains that the objective of investment is to maximize return at the expense of risk inherent in the environment, the need to analyze investment would be much more important. This objective of wealth maximization is largely influenced by how resources are place in various investment vehicles. This therefore means that some bases have to be set up within which the decisions (efficient portfolio) are made especially within our society.

A simple argument is made by some people that the risk they face is reduced when resources are place in various assets rather than in a single asset. Although the simple argument set out above sounds very plausible. There is in

fact a serious flaw in its logic. This is for the fact that, of the risk to which investments are subject are often common to them all. A recession, for example will cause all industrial and commercial activity to do less well and therefore no spread of investment could reduce vulnerability to this effect. Similarly, substantial movements in the general of, for example, stock market prices will affect all shares and a diversified portfolio will withstand this no better than an un-diversified one. One of the fact that this paper is set to establish is that, only with non-diversifiable risk is there a positive risk return relationship.

This paper will help to improve on the knowledge of how to construct and manage an efficient portfolio. Students of business, investors and financial managers will find the report useful in their day-to-day portfolio analysis.

1.4 SCOPE OF THE STUDY

Due to the broad nature of portfolio analysis, this research work is confine to the construction and management of efficient portfolio in an attempt to analyze the hypothesis.

1.5 **PLAN OF THE STUDY**

The plan of the study is to analyze the firms of the study to see how they construct and manage their portfolios. As stated earlier, there are two approaches to efficient portfolio management–The Traditional and Modern Approach. The approach used would determine the type of information that would be made available.

A situation of traditional approach would mean less statistical measure. The question that remain to be asked is the criterion (e.g. risk and return within the equity market) used in the construction and management. The use of Modern Portfolio Theory involves several statistical measures like the expected return, standard deviation and the principle of correlation.

Also, part of the study plan is to look at allocation to various investment vehicles over time. In other words, asset allocation as it affect return on portfolio. The objective is to understand the proportion of the total capital invest in each of the securities and how this changes overtime. Which of the securities in the original portfolio is disposed off and which is added to replace it (periodic reallocation and balancing) given the dynamics of the investment world.

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CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCATION

An analysis of the construction and management of efficient portfolio form the bases of this research work. The determining variables of any portfolio (or any investment for that matter) are the risk and return associated with the portfolio. The outcome of the two– risk and return– is based on the trade-off between them. On the other hand, the degree of diversification plays an important role in portfolio's return. This chapter therefore take a thorough look at the concept of risk and return, the principle of diversification and correlation, the approaches to portfolio construction, portfolio theory and Asset allocation and the evaluation of portfolio performance. The type of investment vehicles is discussed also.

2.1 THE CONCEPT OF RISK AND RETURN

This section discus the salient features involved in the analysis of risk and return in investment

Risk

Risk can be seen as the possibility that actual return will deviate from that which w as expected. The unanticipated part of the return. In other words, that portion that results from surprises is the true risk of any investment.

Base on the above, it can be agreed that, the proportion or rate of risk vary from investment to investment i.e. investment are affected differently. The risk of investment is made up of two components: The diversifiable and non-diversifiable risk. Diversifiable risk sometimes called unsystematic risk results from uncontrollable or random an event that affects various investment vehicles differently. They include events such as labour strike, regulatory actions and lawsuit. They represent the portion of investment risk that can be eliminated through diversification. Non-diversifiable risk, also known as systematic risk represent events that are not unique to a given vehicle. They include forces such as wars, inflation, and political events, which affects all investments. The sum of diversifiable and non- diversifiable risk is called total risk.

		Systematic risk or		Unsystematic
Total Risk =	Non - diversifiable	+		Diversifiable or
	Unavoidable			Avoidable risk

An intelligent investor can virtually eliminate or reduce diversifiable risk by holding a diversified portfolio of securities.

Return

Return is the level of profit from an investment in other words, the reward for investing. This includes return on a risk-free asset plus the market price of risk to the investor due to one or more factors.

> Return from investment may come from two sources. Current Income or return may take the form of dividends from stocks, interest received on bonds, rent received from real estate and so on. This can be in the form of cash or be readily convertible into cash. For this purpose, current income is considered as cash or near cash that is periodically received as a result of having an investment.

Capital gains or losses is concerned with changes in the market value of an investment. The amount by which the proceeds from sales of an investment exceed its original purchase price. Where an investment is sold at a price less than the purchase price, capital loss result.

Table 1

Profiles of Two Investments Y Z

Investment		
Y	Z	
Purchase price (beginning of year)	2,000	2,000
Cash received:		
1st quarter	40	50

2nd quarter		10		40
3rd quarter		30		30
4th quarter		40		50
Total Current income (for year)	N120		N170	
Sales price (end of year)	**2,200**		**1,850**	

Project Y has a capital gain of N200 (N2,200 Sales price - N2,000 purchase price) over the one year period. For investment Z, a N150 Capital loss (N1,850 sales price N2,000 purchase price). Investments Y and Z have N120 and N170 respectively. Combining the capital gain (or loss) with the current income above gives the total return for each investment. In terms of the total return earned on the N2,000 investment over the one year period, investment Y is superior to investment Z. However, the use of percentage return is generally preferred to the use of value (for example Naira value) for the fact that it allows for direct comparison of different sizes and types of investment.

$$\text{Holding period Return} = \frac{\text{Ending price} - \text{Beginning Price} + \text{Cash dividend}}{\text{Beginning price}}$$

> Since it is the future that matters when we make investment decisions, holding period return is expressed in terms of the expected return; that is, what we think the investment will earn in the future in relation to the current income and capital gain.

Using the above equation on holding period return, the following historical hypothetical investment for a security can be obtained.

Base on the result, we can expect a low return in 2000 to be followed by increase in returns for 2001 through 2008. This however, is subject to a number of factors– Internal and External forces. Internal characteristics include type of vehicle, the way the investment is financed, quality of management, and customer base of the issue. The external forces on the other hand include government economic policy,

war, shortages, political events, price controls and importantly too inflationary situation–inflation and deflation.

Table 2

		Market Value (price)				Total Return
Income	Begin	Ending	Capital			
			ning Price	Price	Gain	
	(1)	(2)	(3)	(4)	(5)	(6)
	Year					(3)-(2) (1)+ (4)
	(2)%*					
N						
1990		5.00	100	94	-6	-1.0 - 1.00
1991		5.00	90	95	5	10 11.11
1992		4.00	95	100	5	9 9.47
	1993		3.00	100	110	10 13 13.00
	1994		5.00	105	120	15 20 19.05
	1995		4.00	110	125	15 19 17.27
	1996		3.00	110	120	10 13 11.82
	1997		4.00	112	125	13 17 15.18
	1998		3.00	116	130	14 17 14.
Average		N4.00			9.0	13 12.28%

* Percent return on beginning-of-year market value of investment

Austin (1985)[1], The two basic elements in return on any investment are:

1. Income return

2. Capital gain or loss; The overall return on an investment is income return plus the capital gain minus the capital loss after taking into account costs associated with investments such as brokerage, commission and legal expenses.

Lawrence and Joehnk (1998)[2], Rusell and James (1987)[3] and Richard and Stewart (1988)[4] all are of the view that, the return on a portfolio is

calculated as a weighted average of return on the assets–investment vehicles from which it is formed.

Equation 1

$$r_p = (w_1 x\ r_{1)} + (w_2 x\ r_{2)} + \ldots + (w_n x\ r_n$$

$$= \sum_{j=1}^{n} (Wj \times rj)$$

Markowitz in his article – portfolio selection (March, 1952)[5] –believe that the portfolio with maximum expected rectum is not necessarily the one with minimum variance. He believe there is a rate at which an investor can gain expected return by taking on variance or reduce his expected return so a to reduce variance. He call this expected returns- variance of returns (E-V) rule.
E is seen as the expected value (or mean) of Y defined to be

$$E = p_1 y_1 + p_2 y_2 + \ldots + p_n y_n$$

The Variance of y is defined to be

$$V = P_1 (Y_1 - E)^2 + p_2 (Y_2 - E)^2 + \ldots + p_n (y_n - E)^2$$

V is the average squared of deviation of Y from its expected value. V is a commonly used measure of dispersion Other measures of dispassion, closely related to V are the standard deviation, Õ= V

What this mean is, if we have random variables: R_i…, Rn. Assume R to be the weighted sum of the Ri (base on linear combination) this gives
$R = a_1 R_1\ a_2 R_2 + \ldots + a_n R_n$

This will mean R is also a random variable $R_1\ R_2\ R_3$ …means the series of die that can be obtained. Obviously for a 100-security portfolio, the combination will result in tedious computation.

Sharp in his article –A simplified model for portfolio Analysis– (January,1963)[6] facilitate the practical applicability of Markowitz's technique base on a number of assumptions. One of the assumptions is the diagonal model. According to him the model has two virtues: It is one of the simplest which can be constructed without assuming away the existence of interrelationship among securities, and there is considerable evidence that it can capture a large part of such interrelationship. The major characteristic of the diagonal model is the assumption that the returns of various securities are related only through common relationships with some basic underling factor. The return from any security is determined solely by random factors and this single outside element, more explicitly:

$Ri = Ai + Bi\ I + C_i$

Where Ai and Bi are parameters, Ci is a random variable with an expected value of zero and variance $\tilde{O}_{i,}$ and I is the level of some index. The index, I may be the level of stock market as a whole, the Gross National Product, some price index or any other factor thought to be the most important single influence on the returns from securities. The future level of I is determined in part by random factors:

$$I = A_{n+i} + C_{n+1}$$

When A_{n+i} is a parameter and C_{n+i} is the random variable with an expected value of zero and a variance of Q_{n+i}. It is assumed that the covariance between C_i and C_j is zero for all value of i and j ($i \neq j$)

Base on sharpe's analysis, a machine code written in the FORTRAN Language has been developed which takes full advantage of the characteristics of the diagonal model. This therefore reduces computing time and memory space required. It

uses the critical line method to solve the problem. Sharpe[7] in his article stated:

The computing time required by the diagonal code is considerably smaller than that required by standard quadratic programming codes. The RAND QP code requires 33 minutes to solve a 100-security example on IBM 7090 computer; the same problem was solved in 30 seconds with the diagonal code. Moreover, the reduced storage requirements allow many more securities to be analyzed with the IBM 709 or 7090. The RAND QP code can be used for no more than 249 securities, while the diagonal code can analyze up to 2000 securities.

> Although the diagonal code allows the total computing time to be greatly reduced, the cost of a large analysis is still far from insignificant. Thus, there is every incentive to limit the computations to those essential for the final selection of a portfolio. By taking into account the possibility of borrowing and lending money, the diagonal code restricts the computations to those absolutely necessary for the determination of the final set of efficient portfolios

Standard Deviation

The risk or variability of both single asset and portfolios of assets can be measured statistically. According to Lawrence and Joehnk (1989)[8] the most common single indicator of an assets risk is the standard deviation, s, which measures the dispersion (variation) of returns around an assets average or expected return.

Standard Deviation = $\sqrt{\sum_{j=1}^{n} \text{return}}$ (return for outcome j _ average or expected return)

Total number of outcome - 1

Equation 2 $S = \sqrt{\frac{\sum (r-\bar{r})^2}{n-1}}$

Suppose we have two securities x and y with expected returns (future returns) of 25 & 20 percent respectively. Base on these returns, one would ask why invest in security y when x will do better. The answer must depend on the risk of the two investment. It could be that the risk on x could turn out to be higher or lower.

We have two economic situation boom and recession. In the case of boom, we think stock x will have a 70 percent return and recession, the return will be –20percent. Although this is oversimplified, it allows us to provide explanation of same key ideas. we can also assume that the two economic situation both have equal chances of happening. Table below provide detail information

Table 3

state of economy	probability of state of economy	returns if state of economy occurs	
		X	Y
Recession	0.5	-20%	30%
Boom	0.5	70	10

Clearly, if you invest in the securities, the return you get from any year will depend on what the economy turnout to be during that year. However, if the

probability remain the same over time if you invest in x for a number of years, you expect –20 percent and 70 percent of the two states (Recession and Boom).Given this situation, your expected return on security x, $E(R_x)$, will be

$E(R_x) = .50x –20\% + .05x\ 70$

$= -.1 + .35$

$=\underline{25\%}$

$E(R_y) = .50x\ 30\% + .50\ x10\%$

$= .15+05$

$=20\%$

Table 4

To calculate the variance of the two securities:

state of economy	probability of state	return deviation	squared return	product
(1)	(2)	(3)	(4)	(5)=
Security x				
Recession	.5	-.20-.25= -45	$(-45)^2$ =.2025	.10125
Boom	.5	.70-25=45	$(.45)^2$ =2025	10125
s Q^2_x =2025				
Security y				
Recession	.5	.30-.20=.10	$(.10)^2$=.01	.005
Boom	.5	.10-.20=-10	$(-.10)^2$=.01	.005
				Q^2x .010

Coefficient of Variation

The coefficient of variation, CV, is a measure of the relative dispersion of an asset's return. It is useful in comparing the risk of assets with differing average or expected return.

Coefficient of Variation = Standard deviation

Average or Expected return.

s

Excitation 3 CV = —

r

Stephen, Randolph and Bradford (1991)[9] The return on any stock traded in a financial market is composed of two parts. First, the normal or expected return from the stock is the part of the return that shareholders in the market predict or expect. This return depend on the information shareholders have that bears on the stock, and it is based on the market's understanding today of important factors that will influence the stock in the coming year. The second part of the return on the stock is the uncertain or risky part. This is the portion that comes from unexpected information that is revealed within the year. Government figures released on gross national product (GNP), the result from the latest arms control, news that sales figures are higher than expected, a sudden unexpected drop in interest rate.

2.2 CAPITAL ASSET PRICING MODEL - CAPM

The relationship between risk and return using beta was first established by finance professors William P. Sharpe and John Linter some 39 years ago. CAPM explain the behavior of security prices and mechanism by which investors can assess the impact of a proposed security investment on their portfolio’s risk and return. In other wards, risk return trade-offs in investment decisions. This is simply to say that; a security will be expected to provide a return commensurate with its unavoidable risk (risk that cannot be avoided by diversification).

It is however important at this point to note some of the assumptions of the model as believed by Van Horne (2000)[10]. First it is assumed that capital markets are highly efficient when investors are well informed. costs of transactions are zero. There are negligible restrictions on investment and no taxes and that no investor is

large or strong enough to influence the market price of stock. Also the assumption is that investors are in general agreement about the likely performance and risk of individual securities and that their expectations are base on a common holding period, say, a year. Under these conditions, all investors will perceive the opportunity set of risky securities in the same way and will draw their efficient frontier in the same place. Haven't stated this, CAPM can be viewed both as an equation and as a graph.

Equation

Using beta, b, as measure of non-diversifiable risk, capital asset pricing model defines the required rate of return on an investment.

Required

return on Inv. = risk-free rate + [beta for Investment x (market return - risk free rate)]

$r_i = R_f + [b_i \times (r_m - R_f)]$

Where

r_i= the required return on investment, given its risk as measured by beta:

R_f= the risk-free rate of return; the return that can be carried on a risk-free investment;

b_i= beta coefficient or index of non diversifiable risk, for investment;

r_m= the market return; the average return on all securities.

Base on the equation, as beta increases, the required return for an investment increases. This can be shown using hypothetical figures:

Assuming you are considering security A with a beta (b_A) of 1.50 and risk-free rate (R_f) of 8% and market return (r_m) of 11 %. Substituting these data into the CAPM equation, we have

r_A =.08+[1 .50 x (.11-.08)]

= .08+[1.50x.03

=.08 + .045

=. 125 = 12.5`%

This means expected return of 12.5°% on this investment as compensation for the risk taken base on this security's beta 1.50. It should be noted however. that if the beta is less than 1.50 or more, the required return would be lower or higher than 12.5% respectively.

$$r_A = .08 + [1.25 \times (.11 - .08)]$$

= .08 + .0375

=.1 175 = 1 1.75%

$$r_A = .08 + [1.6 \times (.11 - .08)]$$

=.08 + .048

=.1 2 8 =1 2.8%

CAPM therefore, clearly reflect the positive mathematical relationship between risk and return. The higher the risk (beta), the higher the required return.

The Graph

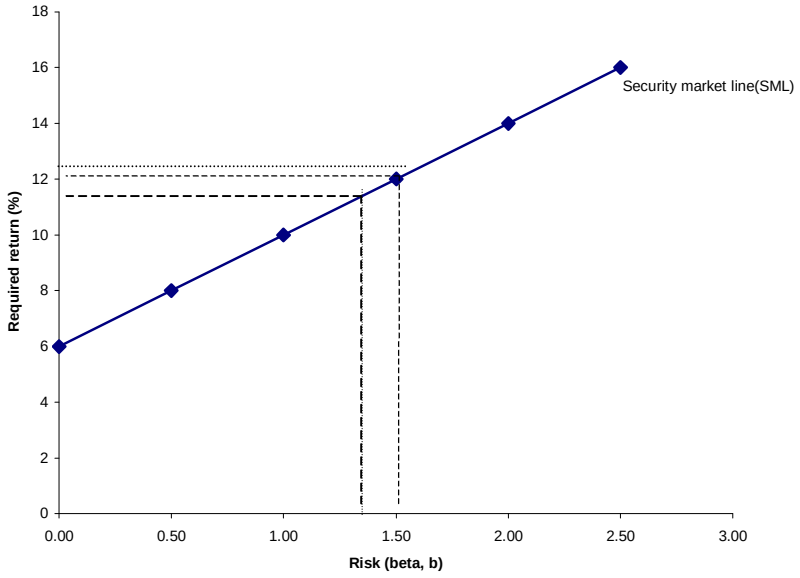
The Security Market Line (SML). The graphical explanation of the relationship between risk and return is directly related to the equation explained above. When the capital asset pricing model is represented graphically, it is referred to as the Security Market Line (SML). When CAPM is plot. A straight line represents SML. Each level of non-diversified risk (beta), the SML depict the required return to be earned at the market place. Using the above data; risk-Free rate (R_f) 8%and market return (r_m) 11%, the following table can be obtained.

Table 5

Risk (beta)	Required Return %
0.00	6
0.50	8

1.00	10
1.50	12
2.00	14
2.50	16

The above table when plotted on a graph would show a straight line depicting the SML.



2.3 PRINCIPLE OF CORRELATION AND DIVERSIFICATION

Diversification involves the inclusion of a number of' different vehicles in a portfolio. It is an important aspect of creating an efficient portfolio. However, underlying this is the statistical concept of correlation. Therefore, efficient portfolio planning requires the understanding of the concept of correlation and diversification and their relationship to a portfolio total risk and return discussed earlier.

Correlation

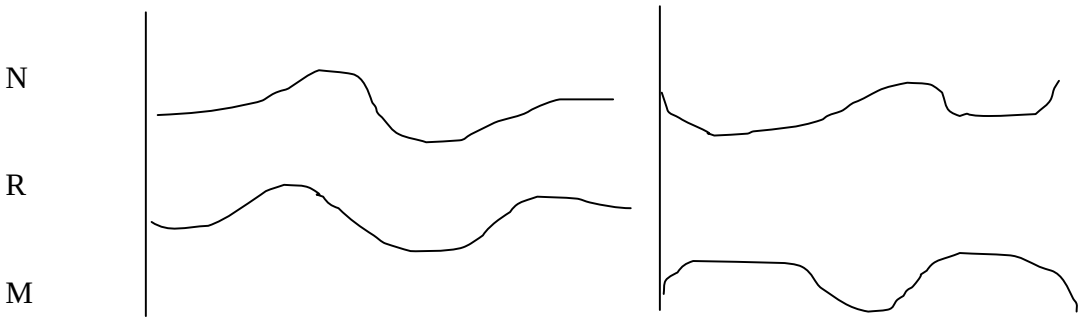
Correlation is a statistical measure of the relationship, if any, between series of numbers representing data of any kind. If two series move in the same direction; they are positively correlated. If the series move in opposite direction, they are

negatively correlated. The degree of correlation, whether positive or negative is measured by the correlation coefficient. The coefficient ranges from +1 for perfectly positively correlated to -1 for perfectly negatively correlated series. Perfectly positively correlated series move exactly together, whereas the perfectly negatively correlated series move in exactly opposite directions.

A view I share with Van Horne (2000) [13] is that, a correlation coefficient of 1.00 indicates that an increase in the return of one security is always associated with a proportional increase in the return for the other security, and similarly for decreases. A correlation coefficient of -1.00 indicates that an increase in the return for one security is always associated with a proportional decrease in the return for the other. Security and vice versa. A zero coefficient indicates an absence of' correlation, so that the returns of each security vary independently of the other. However, most stock returns tend to move together, so the correlation coefficient between two stocks is positive.

figure 1

Perfectly positively correlated Perfectly Negatively Correlated



Time Time

Series M and N move exactly together Series M and N moves exactly opposite directions

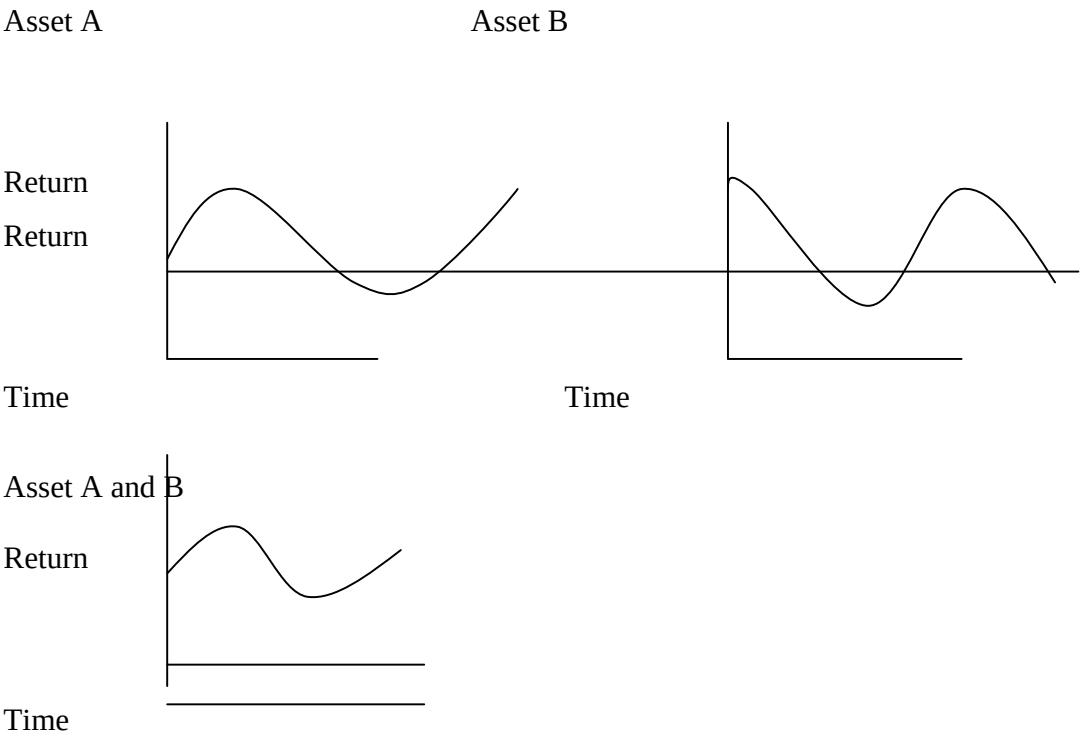
Diversification

Diversification reduces the overall risk of portfolio. By selecting securities that have little relationship with each other, an investor is able to reduce relative risk. Therefore, the process of spreading investments across assets (thereby forming a portfolio) is called diversification. This principle - diversification - shows that spreading/shearing investment across a broad range of assets will eliminate some of the risk. To reduce overall risks in a portfolio, therefore, it is best to combine assets that have a negative/low positive correlation. This is to say that combining uncorrelated assets can reduce risk but not as effectively, as combining negatively correlated assets, but more effectively than combining positively correlated asset. According to Lawrence and Joehnk (1998)[12]

The correlation coefficient for uncorrelated asset is close to zero and act as the midpoint between perfect positive and perfect negative correlation.

Given the tables below, the returns overtime for security A are cyclical in that they move with the economy in general. Returns for security B, however. are mildly counter cyclical. The implication is that, an equal amount invested in securities A and B will reduce the dispersion of the return on total investment.

Figure 2 Combining Negatively Correlated Assets to diversity Risk



Markowitz in his article (march, 1952)[13] stress the importance of portfolio diversification:

That the hypothesis (or maxim) that the investor does (or should) maximize discounted return must be rejected. If we ignore market imperfections, the foregoing rule never implies that there is a diversified portfolio, which is preferable to all non-diversified portfolios. Diversification is both observed and sensible; a rule of behavior which does not imply the superiority of diversification must be rejected both as a hypothesis and as a maxim.

Table 6, Exemple 1

Expected Return, Average Return. and Standard Deviation of Return for Portfolio XY using equation above

(A) Expected Portfolio Returns

Year Exp. Returns Portfolio Return Exp. Portfolio

Asset X		Y		Calculation	Return r_p
(1)	(2)		(3)	(4)	
	2000	8%	16%	(.50x.8%) + (.50x 16%)	12%)
	2001	10	14	(.50x 10) + (.50x 14)	12
	2002	12	12	(.50x 12) + (.50x 12)	12
	2003	14	10	(.50x 14) + (.50x 10)	12
	2004	16	8	(.50x 16) + (.50x8)	12

(B) Average Expected Portfolio Return 2000-2004

$$\bar{r}_p = \frac{12\%+12+12+12+12}{5} = \frac{60\%}{5} = 12\%S$$

(C) Standard Deviation of' Expected Portfolio Returns

$$S_p = \sqrt{\frac{(12\%- 12\%)^2+(12- 12)^2+(12- 12)^2+(12- 12)^2+(12-12)^2}{5 -1}}$$

$$= \sqrt{\frac{0\%+0+0+0+0}{4}}$$

$$= \sqrt{\frac{0\%}{4}}$$

$$= 0\%$$

The average expected portfolio return is the sum of the expected portfolio returns divided by the number of years (5) which equal 12%. Portfolio XY standard deviation S_p, of 0% is calculated. This is so because the expected return for each is the same 12%. Therefore, no variability is exhibited in the expected return from year to year.

Table 7, Example 2

Another portfolio can be created by putting together assets (say X and Z) that are perfectly positively correlated in nature

(A) Expected Portfolio Returns

Year	Exp. Returns	Portfolio Return	Fxp. Portfolio

(1)	(2)		(3)	(4)
	Asset X	Asset Z	Calculation	Return r_p
	2000 8%	8	(.50x5%) + (.50x8%)	8%)
	2001 10	1 0	(.50x 1())+ (.50x 10)	1 0
	2002 12	12	(.50x 12) + (.50x 10)	12
	2003 14	14	(.50x I 4) + (.50x 14)	14
	2004 16	16	(.50x 16)+ (.50x 16)	16

(B) Average Expected Portfolio Returns 2000-2004

$\overline{r_p}$ = 8% + 10 + 12+ 14 + 16 = 60% = 12%

5

(C) Standard Deviation of Expected Portfolio Returns

S_p= $\frac{(8\%- l2\%)^2+(10- 12)^2+(12- 12)^2 +(14- 12)^2+(16- 12)^2}{5 -1}$

= $\frac{16\%+4+0+4+ 16}{4}$

= $\sqrt{\frac{40}{4}}$

= $\sqrt{10}$

3.16%

(D) Coefficient of Variation

CV = Standard Deviation

Average Expected Return

3. 16%

= 12%

= .26 33

= 26. 33%

This goes to confirm that. the lower (less positive) and more negative the correlation between asset returns, the greater the potential diversification of risk. This also confirms our earlier standard on the three possible correlation - perfect positive, uncorrelated, and perfect negative - which explain the effect of correlation on the diversification of risk and return. Lawrence and Joehnk (1998)[14] are of the opinion that;

As we move from perfect positive correlation to uncorrelated assets to perfect negative correlation the ability to reduce risk is improved... in no case will creating portfolio of assets result in risk greater than that of the riskiest asset included in the portfolio.

Haven't said that, it should be born in mind that, the amount of risk reduction achieved also depends on the proportions in which assets are combined.

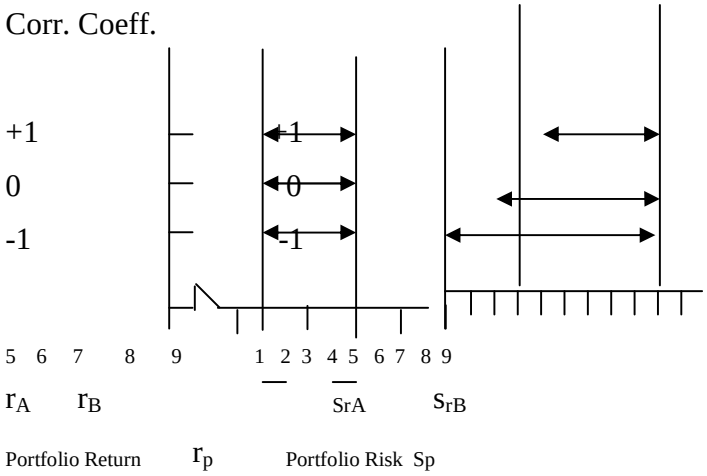
Table 8

Correlation, Return, and Risk for various two Assets portfolio combination.

Correlation coefficient	Range of Return	Range of Risk
+1 (perfectly positive) two assets held in Isolation	Between returns of assets held in isolation	Between risk of two
0(uncorrelated) two assets held in isolation	Between returns of most risky asset less than risk of	Between risk of
least risky asset, but greater than 0		

-1 (perfectly negative) two assets held in isolation	Between returns of most risk y asset and 0	Between risk of

Range of portfolio Return and Risk for combination of Assets A and B



The range of a portfolio's return (r_p) is between that of the lowest and highest component asset returns and is unaffected by the degree of assets correlation. Portfolio risk ($_{Sp}$), on the other hand, can be reduced below the risk of the least risky asset as the asset correlation moves from perfectly positive to uncorrelated to perfectly negative, where it can be reduced to zero by combing assets in the proper proportion.

2.4 STRATEGIES TO PORTFOLIO CONSTRUCTION

To provide a framework for portfolio construction and management, the idea of active and passive strategies (see the purpose of study) stands very relevant. An organization, investor or financial manager can endeavor to pursue an active or a passive strategy in order to achieve investment objective. Lawrence and Joehnk believe that, although passive portfolio may out perform equally risky active portfolio, evidence suggests that active portfolio management is a worthwhile activity that can result in superior returns. According to Rusell and James (1987)[15]

Organizations that pursue an active strategy with respect to market components are known as "market timers". These organizations implement their strategies by varying the cash position or beta of the equity portion of the portfolio according to the forecast direction of the market. Correspondingly, organizations wishing to maintain a passive stance with respect to market timing would maintain the beta of their portfolio in line with the target for achieving long term portfolio objectives.

Once a portfolio is built, the first step in active portfolio management is to assess performance on a regular bases and use that information to revise the portfolio. Ruesell and James[16] refer to this idea of active strategy as “group rotation". This idea entails/involves shifting the sector or industry weighting in the portfolio depending on the information from the market.

Where, however, an organization believes it has no information or ability to assess the market of individual stock, the organization is left with the choice of holding many stocks and weigh them in accordance with the weighing in an index. an ideal way to go about this is to create an index fund, which is the ultimate in totally passive strategy. Base on the situations associated with passive and active strategies in relation to each component, Rusell and James (1987)[17] identify three strategies.

An active strategy with respect to individual stocks (“stock selector”) is a strategy used extensively by investment organizations. Stock that are identified as most attractive would be over weighted with respect to their weighing in the market index, while those considered to be attractive would not be held or under weighted relative to their position in the index. Organizations typically hold many individual stocks to hedge against the fact that their knowledge of the out look for the individual stock is at best imperfect. In portfolio analysis, this is known as diversification. When an organization considers that it has ability to assess the outlook for individual stocks it would logically hold stock and weight them in line with weighting in an index. The most efficient way to attain this objectives is to create an index fund, which is the ultimate in totally passive strategies.

Given this kind of framework for thinking about individual components of the stock return generating process, we can begin to describe more specifically the kind of investment products that an organization might offer based on combinations of active and passive strategies association with each components. In this regard, we have chosen to analyze this type of strategies that would seem to be genuine enough that they would provide perspective on a multitude of variations. These strategies include (1) remain totally passive with respect to all the return components-stock, group, and market (2) remain passive with respect to market and group components and active with respect to stock selection, and (3) determine to be active with respect to all three components.

Active managers, on the other hand, do not believe that the markets on perfectly efficient and they tend to quote considerable effort to search out misplaced securities. Since securities are unlikely to be mis priced for very long, these, buying and selling at frequent intervals, in an attempt to achieve abnormal return and “beat the market”.

The point raised earlier by James and rusell is an important aspect of stock market price behaviour.

Historically, two schools of thought existed concerning security valuation and the behaviour of security prices. One, the “chartist” or technical analysis school which maintain that discernible trends exist in share price movements that could not only be discussed but exploited profitably. On the other hand, the fundamental or intrinsic value analysis school argues that at any point in time an individual security/stock has an intrinsic valve which should, in principle be equal to the discounted value of the future stream of income from that security. The fundamentalist argument is base on the estimated intrinsic value/worth of a security by considering the key economic and financial variables, which then decide an investment action in a given situation depending on whether the actual price is above or below its intrinsic value.

However, in the 1960's a "country theory" come up known as the random walk and later a theory of efficient markets. This explain the fluctuation in share prices turnover which casted serious doubt on the usefulness of the fundamentalists and technical analysis schools thereby generating a serious field argument between the traditionalists (fundamentalists and technical analysts) on the one hand and the disciple of the efficient market on the other hand.

Technical Analysis believes in the study of historical price and volume data for a particular stock or group of stocks and using the information to predict the future trend. Hence the information from the market itself is used to predict the future price level of stock. This argument by the technicians is based on the principle of demand and supply. That the price of a stock depends on supply and demand in the market place which has little relationship with the intrinsic value of the stock. A number of factors (rational or irrational) however determine the behaviour of demand and supply which translates in the price movement of the stock which is believed to follow a trend over an appreciable length of time. Gitman and Joehnk(1998, p.276)[18] share the view that, analyzing the stock market is known as technical analysis and involves a study of the various forces at work in the market place itself. For some investors, its another piece of information to use when deciding whether to buy, hold or sell a stock; for other it's the only input they use in their investment decisions, and for still others, technical analysis, like fundamental analysis, is regarded as a big wastes of time.

The analysis of the market behavior dates back to the 1900's when there was no such thing as industry or company analysis. Detailed financial information simply was not made available to stockholders, let alone the general public. There were no industry figures, balance sheets, or income statements to study, no sales forecasts to make, and no earning per share data or price/earnings multiples. About the only thing investors could study was the market itself. Some investors used detailed charts in an attempt to monitor what large market operators were doing. These charts were intended to show when major buyers were moving into or out of particular stocks and to provide information that could be used to make profitable buying and sell decisions. The chart centered on stock price movements, because it was believed that these movements produced certain "formations" that indicated when the time was right to buy or sell a particular stock. The same principle is still applied today: Technical analysis argue that internal market factors, such as trading volume and price movements, often revealed the market's future direction long before the course is evident in financial statistics.

If the behaviour of stock prices were completely independent of market movements, market studies and technical analysis would be useless. But we have ample evidence that stock prices do, infact, tend to move with the market. Studies of stock beta have shown that as a rule, anywhere from 20% to 50% of the price behaviour of a stock can be traced to market forces. When the market is bullish, stock prices in general can be expected to behave accordingly. When the market turns bearish, most issues are affected.

Stock prices, in essence, react to various forces of supply and demand that are at work in the market. After all, it's the demand for securities and the supply of funds in the market that determine whether we're in bull or a bear market. So long as a given supply-and-demand relationship holds, the market will remain strong (or weak). When the balance begins to shift, however, future prices can be expected to change as the market itself changes. Thus, the supply and demand forces in the market and to detect any shifts in this important relationship.

Levy (1966) summarized the rational behind the technical analysis school. He stress that the basic assumption of technical theorists is that history tends to repeat itself. In order words, past patterns of the market behaviour will recur in the future and can thus be used for predictive purpose. In statistical technology, the stock market technician relies upon the dependence of successive price changes.

Fundamental analysis school strongly believes that the actual price of a security is a function of a set of anticipated returns and anticipated capitalization rates corresponding to future time period. Prices in the market changes as expectation changes, which in turn is brought about by new information. They thus argue that, if there is "something less than complete dissemination of information, the actual price of a security is generally away from its theoretical value" (fisher and jorden (1975,p.72))[20.] This statement by fisher and jorden states the fact that the market can very often be wrong in appraising the value of company.

Base on this market imperfection, what the fundamentalists attempt to do is to estimate the real worth of the security taking into consideration the key economic and financial variables. Where the price is above the intrinsic value of a stock, selling decision is made and vice versa. The fundamentalists believe that the market will eventually see "the error of its ways" (Dreman, (1977,p.33))[21]

The random walk or the efficient market school as they are sometime called represent the third school in the stock market price behaviour. The theory emanate from the work of a French mathematician, Louis Bachelier in1900. This school contrast sharply with the idea of the two schools (the technical school and the fundamental analysis school) discussed earlier. Basically, it deals with the possibility predicting future stock market prices from the past stock prices. The conclusion of the school basically is that price changes cannot be predicted from earlier changes in any "meaningful" way/manner. This is because, they believe,

successive price changes (or successive one period returns in individual securities are independent over time and that its actual price fluctuates randomly about its intrinsic or theoretical value. In the word of fama (1965) [22]

> … The theory of random walks implies that a series of stock price changes has no memory – the history of the series cannot be used to predict the future in any meaningful way. The future path of the price level of a security is no more predictable than the part of a series of accumulated random numbers.

However, the understanding of the randomness of stock prices is based on the knowledge of the mechanism of stock market. This knowledge therefore led to the development of the theory of efficient markets – Efficient Market Hypothesis (EMH). This theory is basically base on the amount of information available in the market. An efficient Market is one in which securities fully reflect all possible information quickly and accountably. This is base on the believe that investors build in all available information into their decision of the price to buy or sell. Therefore current price reflects information that might be found in company reports, financial newspapers, magazine articles and those events that have been announced but haven't occurred yet such as forth coming dividend payment. In addition, the current price reflect predictions about future information.

The efficient market hypothesis (EMH) is based on some believes:

1. No one individual traders can affect the price of any security, because, there are many knowledgeable investors who are actively involve in analyzing, valuing and trading any particular security.
2. Information is practically "Free" and therefore widely available to all investors at about the same time.
3. Information on events such as labour strikes, changes in product demand, industrial accidents tend to occur randomly, and
4. Investors react quickly and accurately to new information thereby causing prices to adjust quickly and on average accurately.

Gitman and Joehnk (1998 p.289) [23] are of the view that, the efficient market hypothesis is concerned with information - not only the type and source of information, but also the quality and speed with which it is disseminated among investors. It is convenient to discuss the EMH in three cumulative categories or

forms: Past prices only, Past prices plus all other public data, and, finally, past prices and public data plus private information. Together, these three ways of looking at information flows in the market represent three forms of the EMH: the weak, semi strong and strong forms.

However, going back to our question of whether active management is worth the effort. Before engaging in an active investment / portfolio management, the fact that needs to be established is whether or not the additional time, effort and cost associated with active management as against positive strategy is well spent. For an active strategy the securities markets needs to be competitive and as a minimum reasonably efficient. Rosell and James (1987) [24] agree that even those studies which examined and rejected the super strong – form EMH did not report exceedingly larger abnormal returns. For example, the Jaff study on insider trading reported that insiders earned abnormal returns on the order of 4 to 5% over a period of 8 months before transaction costs.

Nevertheless, it appears that if one is able to consistently identify market inefficiencies, an active strategy will provide large enough abnormal returns to justify the additional costs. A particularly interesting study along these lines was performed by Hodges and Brealey. They simulated the results for various active strategies using stock return and variances similar to the historical distributions of stocks returns.

2.5 PORTFOLIO THEORY- TRADITIONAL VS MODERN PORTFOLIO THEORY

The discussion here relates to the proceeding explanation given on the active and passive strategies. Two theories are currently used by portfolio managers to plan and construct portfolios. The Traditional Approach or Theory –refer to less quantitative methods that financial managers have found useful since the evolution of public

securities markets. The Modern Portfolio Theory (MPT) is a more recent, mathematical in nature which has grown in popularity and acceptance. The Active and passive strategies are used in the two theories.

The Traditional Approach/Theory

Traditional portfolio management emphasizes balancing the portfolio by assembling a wide variety of stock and/or bonds. Generally, the emphasis is on what can be referred to as inter industry diversification which is a collection of securities from a broad range of industries. Lawrence and Joehnk (1998)[25] gave three reasons why traditional portfolio managers like to invest in well-known companies;

First, because these companies have been and probably will continue to be successful business enterprises, investing in them is perceived as less risky than investing in lesser-known firm. Second, professional managers prefer to invest in large companies because the securities of these firms are more liquid and are available in large quantities. Managers of large portfolio invest substantial sums of money and need to acquire securities in large

quantities to achieve an efficient order size. Third, traditional portfolio managers also prefer successful well-known companies because it is easier to convince clients to invest in them.

Called window-dressing, this practice that allows portfolios to be packed full of successful well known stocks enables investment sell their services with ease.

Tradition portfolios are constructed using security analysis techniques. They help to provide sound principles for formulating a sound, successful long-range investment–portfolio. These techniques have been used by millions of investors which has helped to achieve attractive rates of return on investment. Security analysis entails gathering information, organizing it into a logical framework and using the information to determine the intrinsic value of security. Intrinsic value of the underlying work of a security, in other wards, provide a standard to judge whether a particular stock is undervalue or fairly priced or overvalued. It should be noted that, in investment value center on return. Intrinsic value of security depend on a number of factor:

1. Estimates of the security future cash flow-dividends and capital gains.

2. Discount rate use to translate future cash flow to present value.
3. The amount of risk associated with achieving the forecasted are level of performance.

Traditional Security analysis starts from economic analysis to industry analysis and finally to fundament analysis.

Economic analysis is the analysis of the general state of the economy and its effect on the security return. This is due to the fact that stock prices are greatly influenced by the state of the economy and economic events. The performance and profitability of a company influenced by the overall performance of the economy. As the economy become stronger the prices moves up and falls when the economy softens. The key economic factors include: Government Fiscal Policy–Taxes, Government spending, Dept Management; Monetary Policy–Money Supply, Interest Rates; other factors include inflation, consumer spending, business investments and foreign trade and foreign exchange rates.

Industry analysis is the assessment of security in terms of industry grouping. This assessment is very important because security prices are influenced by industry situation. This means that if, industry outlook is good, the prospects are likely to be strong for the companies within the industry. The first thing in industry analysis is to establish the competitive position of the industry to that of other. Then companies within the industry that hold particular prospect are identified. This therefore provide the ground for a more thorough analysis of individual companies and their securities. Things that have to be taken into consideration include; the industry makeup and the basic characteristics, the key economic and operating variables that drive industry performance, and the outlook for the industry. This also include taking note of the companies well situated to take advantage of the industry situation /conditions. Companies with strong market positions maintain dominance in terms of ability to maintain pricing leadership and this gives them advantage of economies of scale and low-cost production.

The analysis can be conducted with the help of published industry reports. The report covers all the important economic, market, and financial aspect of an industry, commentary as well as vital statistics. Other sources include brokerage house reports and write-ups in popular financial media. Industry analysis provide an understanding of the nature and operating characteristics of an industry, which can be used to form judgment about the prospects for industry growth

Fundamental analysis is the study of the financial affairs of business for the benefit of understanding the nature and operating characteristics of the company. This is base on the belief that stock value is influenced by the performance of the company. Fundamental analysis is based on the belief that the value of a security is not only dependent on the return it promise but also on the amount of risk exposure and therefore conveniently build them into the valuation process. Historical analysis of the financial strength of a firm (called company analysis phase) in addition to the information from economy and
industry analysis enable an investor to formulate expectations about the future growth and profitability of a company. Fundamental analysis provide the following information on a company:

i The competitive position of the company
ii Its composition and growth in sales
iii Profit margins and the dynamics of company earnings
iv The proposition and liquidity of corporate resources – asset mix
v The company's capital structure –its financing mix

Due to the demanding nature of historical analysis, most investors depend on published re reports for the needed background material. The sources include major brokerage firms, popular financial report, financial subscription Services

Modern Portfolio Theory- MPT

The theories that form the bases of modern portfolio management were based on the work of a mathematician, Harry Markowitz–Portfolio selection– during 1950s. Many scholars and investment experts have contributed to the theory in the intervening years. Markowitz draw attention to the common practice of portfolio diversifications and showed exactly how an investor can reduce the standard deviation of portfolio returns by choosing stocks that do not move exactly together. Modern Portfolio Theory (MPT) utilizes several basic statistical measures to develop a portfolio plan. This include as mentioned above expected returns and standard deviation for both securities and portfolios and correlation between returns. However, two important aspect of MPT are the efficient frontier and Beta.

The Efficient Frontier

Investment opportunities will be represented by portfolio of investment. These will vary according to the types and quantities of investments combined. The combinations may give an infinity large number of them (portfolios). However, they must exist within the boundaries of the opportunities available. These opportunities are set by the type of investment under consideration. Consider this statement by Markowitz in his article (march, 1975) [26]:

The E-V rule states that the investor would (or should) want to select one of those portfolios which give rise to the (E,V) combinations indicated as efficient in figure; i.e. those with minimum V for given E or more and maximum E for given V or less… The calculation of efficient surface might possibly be of practical use. Perhaps there are ways, by combing statistical techniques and the judgment of experts, to form reasonable probability belief (ui, Qij). We could use these beliefs to compute the attainable efficient combinations of (E,V).The investor, being informed of what (E.V) combinations were attainable, could then find the portfolio which gave this desired combination.

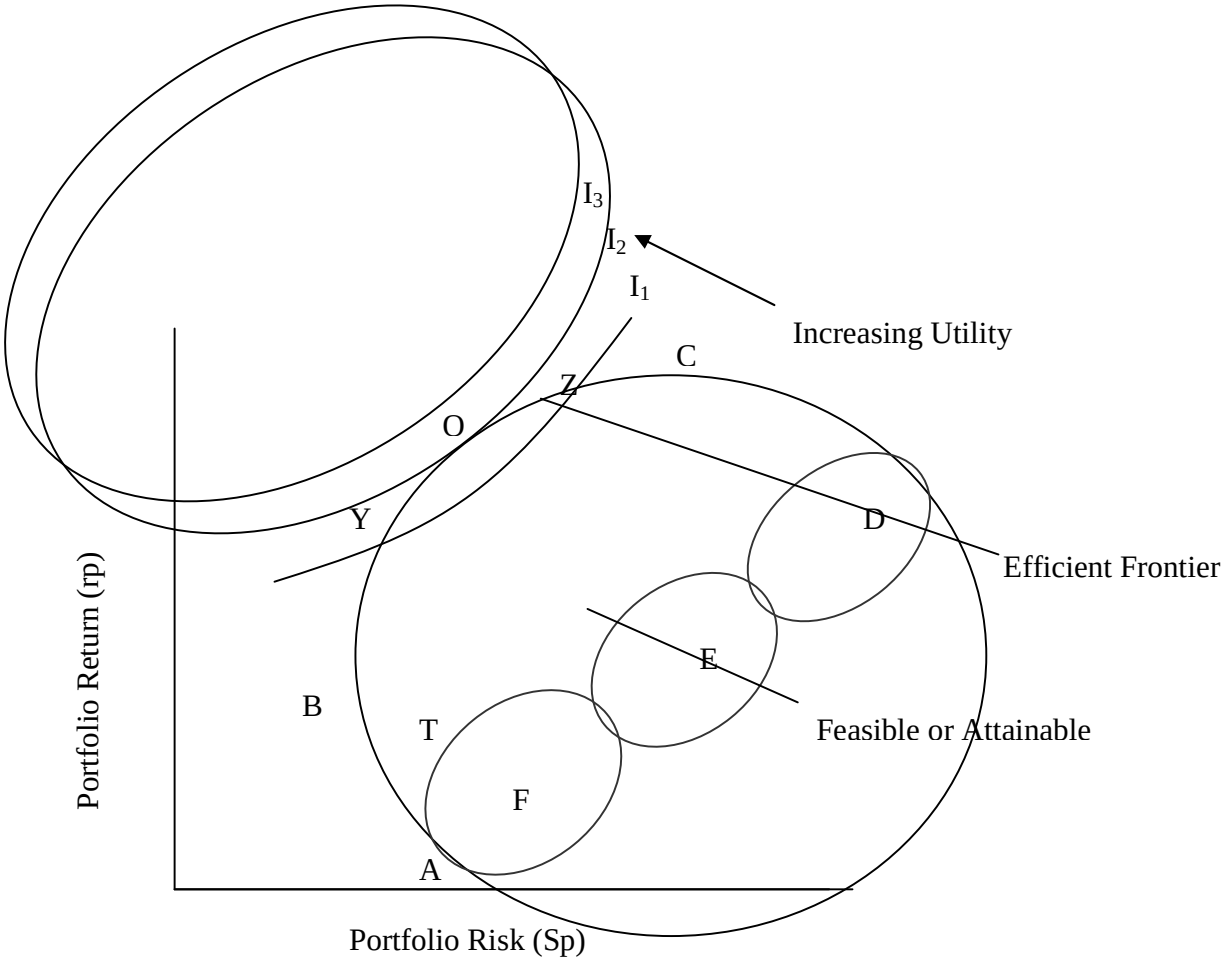
Two conditions– at least – must be satisfied before it would be practical to use efficient surface in the manner described above. First, the investor must desire to

act according to the E–V maxim. Second, we must be able to arrive at reasonable ui and Qij

A calculation of risk and return (refer to earlier explanations) of each possible combination plot on a set of risk return axes would give the feasible or attainable set of all possible portfolios. As defined in chapter one, an efficient portfolio is a portfolio that provides the highest return for a given level of risk or provides minimum risk for a given level of return. The graph represents all the investment opportunities available at a particular time to an investment fund. A chosen portfolio may lie anywhere within the shaded portion–feasible or attainable area. If, however, we assume for a moment that our investor is rational, he would choose that portfolio which gives him the highest return at any given level of risk. On the other hand also, he would choose that portfolio which gives him least risk at any given level of return. However, such portfolios, which are known as efficient portfolios, represent a small proportion of all those actually available. The boundary BYOZC of the feasible or attainable set of portfolios. Called the efficient frontier, represents all the efficient portfolios. In other words, those that provides the best trade-off between risk and return. Therefore, all portfolios on the efficient frontier are preferable to all other portfolios in the feasible or attainable set. Portfolios outside the feasible zone arc not available for investment.

An investors risk sensitivity play an important part in defining the highest level of satisfaction the investor can achieve given the available set of portfolios. This is referred to as investors utility function or risk indifference curves. The investor is indifferent between any combination of expected return and standard deviation on a particular curve. In other words. a curve is defined by those combinations of expected return and standard deviation that result in a fixed level of expected utility.

These curves, labeled, I_1 I_2 and I_3 shows increasing utility (satisfaction) as we move from , I_1 to I_2 to I_3. The optimal portfolio, O, is the point at which indifference curve I_2 meets the efficient frontier. The higher utility provided by I_3 cannot he achieved given that the area is outside the efficient frontier.



Portfolio Beta

Evidence suggests that only with non-diversifiable risk is there a positive risk return relationship. In other wards, non-diversifiable risk gives higher return than diversifiable risk. This non-diversifiable risk of a security can therefore be calculated/measured using beta. It is number that measures non diversifiable or market risk. Beta indicates how the price of a security responds to market forces.

The more responsive the price of a security is to changes in the market, the higher that security's beta. Beta is found by relating the historical returns for the market. Market return is the average return for all (for a large sample of stocks). Beta is in two forms: positive and negative beta. Positive beta, return changes in the same direction as the market, while in the case of negative beta, return changes in the opposite direction as the market. Where beta is greater than 1.0, the security is more risky than the market. A less than 1.0 beta, means the security is less risky than the market. A 0.0 beta means a risk-free security. The beta for the market is equal to 1.0.

Portfolio beta, b, is mainly the weighted average of the betas of individual assets it includes:

Equation 4 $b_p = \sum_{j=1}^{n} (Wi \times bi)$

Example 1

Suppose that Asset A has an expected return E (R_A) =25% and a beta of B_A=1.8. furthermore, the risk-fee rate is R_f= 8%.if 25% of the portfolio is invested in Asset A. The expected return is

E (R_p) =.25 * E (R_A)+(1-.25)xR_f

=.25 x.25+(1-.25)x08

=.25x.25+.75x.08

=12.25%

Similarly, the beta on the portfolio B_P Would be

B_P =.25 x B_A(1-.25) x 0

=.25 x 1.8

=.45

Example 4

Consider the Volta fund, a large investment company that wishes to assess the risk of two portfolios T and A. Both portfolios contain five assets with the proportion and beta shown in table.

Table 9

Volta fund's portfolios T and A

	Portfolio T		Portfolio A	
Asset	Proportion	Beta	Proportion	Beta
1	.10	1.65	.10	.80
2	.30	1.00	.10	1.00
3	.20	1.30	.20	.65
4	.20	1.10	.10	.75
5	.20	1.25	.50	1.05
Total	1.00		1.00	

Proportion of assets in a portfolio should sum to 1.00

Using the portfolio beta equation above

b_r = (. 1 0x1 .65) + (. 30 x 1 .00) + (.20 x 1.30) + (.20 x 1 .10) + (.20 x 1.25)

= .165 + .300 + .260 + .220 + .250

= 1.195= 1.20

b_A = (.10 x .80) + (.10 x 1.00) + (.20 x .65) + (.10 x .75) + (.50 x 1.05)

= .080+.100+.130+.075+.525

= .9l

Portfolio T's beta is 1.20, and portfolio A's beta is .91. Portfolio T contains relatively high -beta assets and portfolio A contains relatively low-beta assets. This shows shat portfolio T’s returns are more responsive to changes in the market returns and therefore more risky than portfolio A's. The coefficient of determination (R^2) can statistically evaluate a beta coefficient. An R^2 of 1.00 indicate the existence of perfect correlation of 100% between a security (portfolio) and the market. Beta is more useful in explaining a portfolio return fluctuation than a security return fluctuation. A well diversified portfolio with

beta equation of about .90 means that. 90% fluctuation in portfolio stock is as a result of change in the market as a whole.

If a portfolio has a beta of+1.0, this means that the portfolio experience changes in its rate of return equal to changes in the market rate of return. This can be interpreted thus, the +1.0 beta portfolio would tend to experience a 10% increase in return brought about by a 10% increase in stock market return. Another way round, a 16% decline in market return would also means a 16% decrease in portfolio return with the beta of +1.00

Table 10

Portfolio Betas and Associated Changes in Returns

Portfolio Beta	**Charge in Market Return**	**Change in Expected** Portfolio Return
+2.0	+ 10.00	+20.0%
- l 0.0	-2	+0.5
+ 10.0	+5.0	
-10.0	-5.0	
- 1.0	+10.0	-10.0
-10.0	+10.0	

2.6 ASSET ALLOCATION

In chapter one reference was given to the need for asset allocation. Once the needs are converted into specific portfolio objectives, then portfolio can be constructed to achieve these objectives. Research studies have shown that as much as 90% or more of a portfolio's return comes from asset allocation. In other worlds, less than 10% is attributed to the actual selection of securities.

Base on the above statement, asset allocation plays a much greater role in reducing the total portfolio risk than does selecting the best investment vehicles in any portfolio. Consider this statement by John Bogle[27]the chairman of the Vanguard Group of investment companies;

> The most fundamental decision of investing is the allocation of your assets: How much should you own in stock? How much should you own in bonds? How much should you own in cash resources'? .... That decision (has been shown to account) for an astonishing 94% of the differences in total returns achieved by institutionally managed pensions funds.... There is no reason to believe that the same relationship does not also hold true for individual investors.

Three approaches can be identified in asset allocation.

2.6.1 **Fixed Weighting Approach** allocates a fixed percentage of the portfolio to each of the asset categories. In general the fixed weight do not change overtime. However, due to changes in market values, the portfolio may have to be changed or adjusted annually or after each major market move in order to maintain the desired percentage allocation to each category.

Table 11

Category	**Allocation**
Common stock	30%
Bonds	45

Foreign securities	15
Short-term securities	10
	100%

2.6.2 **Flexible Weighting Approach:** This involves periodic changes of the weights base on market analysis and technical analysis. This is often called strategic asset allocation, in other words active management strategy.

Table 12

Category	**Initial Allocation**	**New Allocation**
Common stock	30%	40%
Bonds	50	45
foreign securities	10	10
Short-term securities	10	5
100%	100%	

2.6.3 **Tactical Asset Allocation:** Uses market index (of stock or bond) to change asset allocation. When stock is less effective than bond, the strategy is to sell, some stock-index futures and buy more bond future and vice versa.

However, irrespective of the approach used by our investor, asset allocation can be grouped into three categories. In each of the approaches above allocation can be a conservative portfolio (low – return – low risk), a moderate portfolio (average - return – average risk), and an aggressive portfolio (high – return – high risk). A conservation portfolio is known for it safe and predictable returns which is largely made up of bonds and short - term securities. The moderate portfolio is largely made up of common stock and bonds including more foreign security and less of short – term securities. Its mode racy is portrayed by the inclusion of common stock which increases the risk - return and reduces the safety as against the conservative investment. In the case of an aggressive portfolio more capital is allocated to common stock and foreign securities leaving less capital to bonds. This category leaves an investor with higher expected portfolio return and risk.

2.7 EVALUATING THE PERFORMANCE OF A PORTFOLIO

In the introductory chapter reference was made to the fact that investment environment is characterized by high degree of uncertainty and therefore the need to do constantly more than simply devises what appear to be a feasible plan for achieving a future goal in terms of the set portfolio. An investor must periodically assess the progress toward the set goal. It is very important that as actual outcomes occur, they are or must be compared with the planned outcomes and necessary adjustments made to the plan in order to allow for the achievement of the set goal. Knowing how to measure investment performance is therefore crucial.

In the preceding discussions in the chapter, the sources of information that can be used to make informed decisions were mentioned. Basically, the two key areas are: returns on owned investments (under the fundamental analysis), and economic and market activity (economic and industry analysis).

As an addition to the previous discussion, Return Data include – current market information like the daily price quotations for stocks and bonds as well as dividends, interest, cost of each investment etc. You should also monitor corporate earnings and dividends which will affect a company's stock price. The two sources of investment return – current and capital gains – must of course be combined to determined total return.

Change in economic and market activities affects returns. An investor must also keep abreast of local, national and international economic and market developments. The developments in the market will allow an investor to assess their implications / impact on returns and make change in plan appropriately.

A number of techniques are used in measuring the performance of each investment vehicles (refer to type of investment vehicles) which are needed to monitor an investment portfolio. Earlier in the chapter, holding period Return

(HPR) was presented which provide a general technique for the calculation of return. HPR is an excellent way to assess actual return behaviour, because it captures total return performance. It is most appropriate for holding or assessment of 1 year or less. Other measures of investment return for stock and bonds are: Dividend yield, and current yield and promised yield or yield to maturity (for bond). However, all the technique can be built into the HPR. Basically, the need to measure investment performance is to identify the relationship between return and risk. In other words, to see whether the actual return measure up to expectation in terms of the risk. The question in the actual sense is "Am I getting the proper return for the amount of investment risk I am taking?" To answer this question, problem investment(s) have to be identified.

A problem investment is one that has not live up to expectations. This can either be a lost situation or an investment that has provided a return less than expected. In a problem investment situation, the answer will either be to take the loss and get out, or hang on and hope it turns around. The decision to be taken would absolutely require an immediate attention / analysis. Base on the outcome of the analysis, an investor should be able to say if it has performed in a manner reasonably expected; and if one would own it where it is not currently owned. An investment would qualify as a problem investment where only one answer to the two questions is negative. The investment should probably be sold where the answers are both negative.

A number of risk adjusted, market adjusted rate -of -return measures are available for use in assessing portfolio performance. Three of the measures will be discussed –Sharpe`s measure, Treynor's measure and Jensen's measure.

Shapes measure

This measure divides average portfolio excess return (risk premium) over the sample period by the standard deviation of return over that period. The risk premium on a portfolio is the total portfolio return minus the risk-free-rate. This allows the investors to assess the risk premium per unit of total risk, which is

measured by the portfolio standard deviation. Shape's measure can be expressed as the following formula:

Shape's measure = total portfolio return – risk-free-rate

Portfolio standard deviation

$$SM = \frac{r_p - R_f}{Sp}$$

Assuming the risk free rate of 7.50% and standard deviation of 15% with the total portfolio return – HPR of 14.55%, we get

$$SM = \frac{14.55 - 7.50\%}{15\%}$$

$$= \frac{7.05}{15}$$

$$= \underline{\underline{0.47}}$$

Treynor's Measure

This measure is similar to shape's measure. Treynor used portfolio beta to measure portfolio risk. The use of beta shows that only the systematic risk (non diversifiable risk) is considered in place of total risk.

Treynor's measure = total portfolio return – risk-free-rate

Portfolio beta

$$TM = \frac{r_p - R_f}{bp}$$

Assuming a portfolio beta, bp, of 1.10, Treynor's measure gives the following;

$$TM = \frac{14.55 - 7.50\%}{1.10}$$

$$= \frac{7.05\%}{1.10}$$

$$= \underline{\underline{6.41\%}}$$

Jensen's measure (Jensen's Alpha)

The jensen`s measure is the average return on the portfolio over and above that predicted by the capital Asset pricing model – CAPM, given the portfolio's beta and the average market return.

Jenson's measure = (total portfolio return – risk-free-rate) – [portfolio beta x (market return – risk-free-rate)].

$JM = (r_p - R_f) – [bp \times (rm – Rf)]$

$JM = (14.55 – 7.50) – [1.1 \times (12 – 7.50)]$

$= 7.05 – [1.1 \times 4.5]$

$= 7.05 – 4.95$

$= \underline{2.1\%}$

The Sharpe's and Treynor's are important when compared either to other portfolios or to the market. The higher the measure the better, that is, the higher the risk premium per unit of risk and risk of non diversifiable risk respectively. Jensen's measure shows the difference between the portfolio`s actual return and its required return. Positive values indicate that the portfolio earned a return in excess of its risk – adjusted, market adjusted required return. A zero value indicate that portfolio return exactly equal its required return.

Its is also very important to note that Jensen's measure adjust automatically for the market return as against Sharpe and Treynor measures. In this case (Jensen's), then is no need to make a separate market comparism as in the case with Sharpe and Treynors. However, Jensen's measure is theoretically consistent with Treynor's measure.

2.8 TYPES OF INVESTMENT VEHICLES

It is important at this point to look at the various types of investment vehicles:

Common Stock

Common stock is the most popular form of investment vehicle. It is an equity investment in a corporation that represents ownership. It is a fractional representation of ownership interest in a firm. The return to common stock holders is in two forms: dividends which are periodic payment to the holder by the corporation from current and past earning, and capital gains is the profit realized from selling the stock at a price above the original price of purchase.

Bonds

Bonds are long-term instruments (of corporation and government) which allow the holder right to receive a known interest in addition to the bond's face value (value on the certificate) at maturity. In typical cases, maturity can be for period of 20 to 40 years. Bond allows the holders the right to buy or sell prior to maturity. If you buy a N5,000 bound paying 8% interest, you would expect to be paid N400 (i.e.8% x N5,000)per anuum.

Preferred Stock

Like the common stock, preferred stock gives the holder ownership interest in a corporation, however, the

difference lies in the fact that it has a stated dividend rate. As the name implies, preferred stock has the preference of first payment over common stock of the same firm. Unlike bond, it has no maturity date.

Convertible Securities

Convertible security is a special type of obligation (bond or preferred stock) which gives the holder the right to convert it into a specified number of shares of common stock. While it provides fixed income benefit, it may also provide capital gains.

It should be noted that bond, preferred stock and convertible securities are a group of investment vehicles that offer a fixed periodic return.

Derivative Securities

These securities derive their value from the underlying security or asset. They typically posses high levels of risk because of their uncertain returns or unstable market value. On the other hand, however, because of the high risk associated with them, they also have high level of expected return. The major types of derivatives securities are options and feature.

Options

Options are securities that gives the investors an opportunity to sell or buy another security or property at a specified price over a given period of time. The aim of

purchasing is to take advantage of an anticipated decrease or increase in the price of common stock. The purchaser may loss if the option does not become attractive. This is to say in other words that, the purchaser is not guaranteed of any return. The common types of options are puts and calls, rights warrant.

Futures

Futures are legally binding obligations stipulating that the seller of such contract will make delivery and the buyer of the contract will take delivery of specified commodity or financial instrument at a specified date in the future contract. According to Van Horne (2001)[28], "In the case of financial futures, the commodity is a security." Transaction occurs either on an exchange or through an investment bank in what is known as the over-the-counter market.

Gitman and Joehnk[29] gave examples of the commodities as include soya beans, pork bellies, platinum and cocoa and financial future to include contracts of Japanese Yen, U.S Treasury Securities, interest rates and stock indexes.

Mutual funds

Mutual funds are companies that raise money from the sales of its shares and invest in and professionally manage a diversified portfolio of securities. Thus the investors in the funds have an interest in the fund of portfolio of securities. Money market mutual funds are examples of investment vehicles solely in short-term vehicles.

Real Estate

Real estate refers to things like homes, raw-land, warehouses, office and apartment buildings etc. These types of investment vehicles offer returns in the form of rental income, tax write-off and capital gains that were not available from alternative investment vehicles.

Tangibles

Tangibles represent investment vehicles/assets other than real estate, that can be seen or touch. They include things like gold, precious metals, gem stone, antiques,

artwork, coins etc. These assets can be purchased in anticipation of future price increase. Apart from the financial benefit, they can also provide owners some psychological or esthetic employment benefit.

All the vehicles above represent possible areas were capital can be placed/invested for future benefit/returns.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

In this chapter emphasis is paid to the type of research design used. The sources of

data used in the work and the entrustment used in the collection of data. The sample of the study and the method of data analysis. The historical background of the company used is given.

3.1 HISTORICAL BACKGROUNDS

3.1.1 NEWDEVCO FINANCE SERVICES COMPANY LIMITED managed by New African Merchant Bank Limited was incorporated in 1978. The company commenced operation in January 1979 with the primary objective of providing financial services to individuals and corporate bodies. NEWDEVCO is one of the leading Stock-broking firms in Nigeria with head office in Lagos and branch office in Kaduna. Until recently the company was managed by NNDC, the biggest investment Conglomerate in Kaduna.

The services render by NEWDEVCO can be classified into two broad areas: Personal financial services and corporate financial services:

Personal Financial Services

i Stock-broking and investment counseling"

ii Fund/portfolio management

iii Commodities brokerage; and

iv LPO finance

Corporate Financial Services

i. Capital issues/stock exchange quotation;

ii. Trusteeship

Stock Broking & Investment Counseling

The company buy and sell shares on behalf of' individuals, corporate investors and pension funds. This services also include the buying and selling of debentures, government stock and industrial loans.

NEWDEVCO enlighten clients on the basic of the characteristics, functions, and trading in common/ordinary stocks, rights, warrants and convertible securities. The company on behalf of its client carry out analysis on the unique features of every investment vehicle including voting rights, dividend policies, liquidity and capital gain possibilities. NEWDEVCO also explores the range of debt security, corporate, government and municipal bonds as well as money market instruments-such as banker's acceptances and commercial papers. With its vast experience in the capital/stock market, also examines for clients, industry factors, economic and regular issues, company factors and evaluation involving management structure, financial resources, performance and earnings forcast of sales/profit margin/EPS. The modern investor requires all these analysis before taking an investment decision.

Fund/Portfolio Management

With young, dynamic, innovative and well trained capital market operators under its employment backed by the must sophisticated computer technology, NEWDEVCO offers custom-made fund/portfolio management services tailored towards the individual needs of the funds.

Commodities Brokerage

Through the medium of wholly owned subsidiary, NEWDEVCO Nominees Limited, the company provides commodity brokerage services for large scale industrial consumers or high net worth individuals. Provide a link between buyers and sellers of commodities. The commodities include cotton beans, cocoa, palm kernel, cement, paddy rice, etc.

Local Purchase Order Financing

To supplement the efforts of banks in galvanizing industries and to assist in timprovement of the capacity utilization of the manufacturing sector of the economy, NEWDEVCO provide short term financing to companies at very competitive rates.

Capital Issues/Stock Exchange Quotation

Only dealing members of the stock exchange can sponsor an application for issuing house or stockbroker to public or private issues of' debt or equity instruments. NEWDVCO act as issuing house or stockbroker to public or private issues of' debt equity instruments. NEWDEVCO prepares prospectus, writing, procure approvals of the securities and Exchange Commission and the Nigerian Stock Exchange in all primary issues of debts or equity instrument.

Trusteeship

Under its trustees services NEWDEVCO provide impartial fiduciary services to beneficiaries and grants of trust of varying nature. NEWDEVCO has a very active desk for the monitoring of both legal and financial covenants in Trust Deed for and on behalf of consortium lenders and subscribers in the case of debenture issues.

3.2 TIDDO SECURITIES LIMITED

The firm "Tiddo" was licensed in 1990 and a registered member of the Nigerian Stock Exchange and has been a leading provider of comprehensive range of investment services such as stock broking, fund / asset management and Registrar ship services to its vast clientele.

The company's approach ensues that the individual investors are thoroughly defined and understood. These will in the main relate to whether th client requires capital growth, income or a mixture of the two. An investment manager is assigned to each client to assist in realizing his / her investment objectives.

In view of the need to provide efficient services to a larger segment of the investing public, Tiddo presently has four (4) offices. The company has its head office in Abuja with branch offices in Lagos, Kaduna and Yola. The operations of the company is fully computerized and investor friendly. With the increasing awareness and interest in the capital market, Tiddo is poised to establish more branches in no distant future to bring its services nearer to the investing public.

PRODUCTS

The company offer / provides discretionary and non discretionary portfolio management services, focusing on corporate and highly net worth individuals to whom they render excellent and efficient services.

The services covers the following areas:

1. Execution of buys and sells orders of shares, bonds and other eligible (marketable) securities in the stock market.
2. Acting as stock brokers to primary issues.

3. Arrange / facilitate share purchase facilities on reasonable terms and conditions. This is especially advantageous to the public and private sector employees.
4. Track your net – worth by periodic valuation of your stockholding.
5. Effective liaison with other capital market operators such as registrars, stock broking firms, company securities; and regulators such as SEC or NSE.
6. Transmission of a dead relations shareholding to the next of kin.
7. Processes and demobilize / dematerialize clients existing share certificate into the central securities clearing system (CSCS) depository of the stock exchange which offers you the following key benefits:
    - Mitigation of risk of loss, misplacement, theft, fire and other hazards to physical share certificate(s)
    - Readings of your stocks for disposal at your earliest convenience to meet urgent needs or to curtail unfavorable shocks of the market.
8. Shares / stocks advisory services.

Other investment services:

1. Privatization advisors
2. Capital Market Consulting
3. Investment training Programmes.

With the acquisition of the state of art technology the company provide registrarship functions to both private and public company's.

3.1.3 LIGHTHOUSE ASSET MAANGEMENT LIMITED

Lighthouse Assist Management Limited was incorporated on July 24th, 1985, as a stock broking firm. It was admitted to the dealing membership of the Nigerian Stock Exchange on February 4th 1986.

The Company has its corporate Head Office at 5, Customs Street Lagos, and Branch Office in Kaduna and Abuja. The company has a paid up capital of N40 million.

Lighthouse –Asset Management Limited is one of the frontiers security outfits in the country that has distinguished itself in stockbroking business, fund management and in provision of portfolio management felicities for institutional investors like pension and provident funds, Banks and insurance company

3.2 RESEARCH DESIGN

The research design used is exploratory design. This is a descriptive design gear towards the collection of data for the purpose of hypothesis testing.

3.3 SOURCES OF DATA

The research study used material from two sources: The primary and secondary. The primary source obtained data from the samples of the study – investment fund managers – through an unstructured interview. The secondary source used data from available relevant literatures such as Textbooks, Journals, Newspapers.

3.4 INSTRUMENT FOR DATA COLLECTION

Data are collected through review of record from a brokerage firm– NEWDEVCO. LIMITED, TIDDO SECURITIES LIMITED AND LIGHTHOUSE ASSET MANAGEMENT LIMITED

3.5 STUDY SAMPLE

The sample of three financial institutions are used. They are NEWDEVCO FINANCIAL SERVICES COMPANY LIMITED, TIDDO SECURITIES LIMITED AND LIGHTHOUSE ASSET MANAGEMENT LIMITED

3.6 METHOD OF DATA ANALYSIS

Data analysis is based on the grouping of the securities contained in each of the portfolios show their level of diversification. The analysis also shows the proportion of capital investment in the securities contained in each of the portfolios.

CHAPTER FOUR

DATA PRESENTATION ANALYSIS

4.0 INTRODUCTION

In this chapter the aim is to provide explanation of the hypothesis of the study through the data collected.

It is however important to state at this point that the analysis in this chapter is based on Traditional Approach vis -a- vis the active portfolio management strategy (refer to chapter two) as used by the organizations (samples). And that any portfolio construction is based on the investor characteristics and portfolio objective (refer to the introductory note) and Appendix 2

4.1 DATA PRESENTATION

4.1.1 NEWDEVCO FINANCE COMPANY LIMITED

ANALYSIS OF SHARES PURCHASED
MARKET POSITION AS AT 19TH JUNE 2002

Table 13 -PORTFOLIO A

We give below the market position of your investment as at Thursday 19th June, 2002

	A	B	C	D	E	F (CXE)	G (F-D)
		PURCHASE			CURRENT MARKET		
PURCHASE DATE	**STOCKS**	**PRICE N**	**QUANTITY**	**VALUE N**	**PRICE N**	**VALUE N**	**MARGIN N**
1998/1999	PZ	6.20	10,800	66,960.00	9.50	102,600.00	35,640.00
1998/1999	CADBURY	17.00	9,761	165,937.00	27.30	266,475.30	100,538.30
1998/1999	JOHN HOLT	6.80	1,860	12,648.00	1.56	2.901.60	(9,746.40)
1998/1999	JOHN HOLT	9.90	8,202	81,199.80	1.56	12.795.12	(68,404.68)
1998/1999	NESTLE	16.50	5,000	82,500.00	67.50	337,500.00	255,000.00
1998/1999	LBN	7.40	10,700	79,180.00	17.50	187,250.00	108,070.00
1998/1999	UNT PLC	3.25	5,000	16,250.00	2.40	12,000.00	(4,250.00)
1999/2000	TOTAL	35.50	2,000	71,000.00	59.60	119,200.00	48,200.00
1999/2000	TOTAL	35.12	3,000	105,360.00	59.60	178,800.00	73,440.00
1999/2000	TEXACO	25.00	9,000	225,000.00	53.25	479,250.00	254,250.00
1999/2000	AGIP	9.24	5,000	46,200.00	24.00	120,000.00	73,800.00
1999/2000	AP	15.70	800	12,560.00	19.34	15,472.00	2,912.00
1999/2000	FBN	10.25	2,000	20,500.00	25.38	50,760.00	30,260.00
23/2/2001	FBN	27.49	3,500	96,215.00	25.38	88,830.00	(7,385.00)
22/2/2001	UBN	31.11	9,000	279,990.00	23.67	213,030.00	(66,960.00)
20/2/2001	UBA	14.75	6,000	88,500.00	10.00	60,000.00	(28,500.00)
20/2/2001	FBN	22..95	4,000	91,800.00	25.38	101,520.00	9,720.00
26/3/2002	FLOUR MILLS	20.25	4,500	91,125.00	24.19	108,855.00	17,730.00
26/3/2002	CADBURY	27.99	3,500	97,965.00	2730	95,550.00	(2,415.00)
26/3/2002	WAPCO	17.90	5,000	89,500.00	26.45	132,250.00	42,750.00
26/3/2002	ASHAKACEM	29.00	3,500	101,500.00	18.60	65,100.00	(36,400.00)
26/3/2002	**TOTAL**			**1,921,889.80**			**828,249.22**

N.B:

1. The purchase value of N1,921,889.80 exclude the buying commission of 3.9625% : The purchase value is N1,921,889.80 plus 3.9625% i.e. N76.154.88. The total value will now be N1,921,889.80 + 76,154.88 = N1,998,045.00.
2. The current market value include the seller's commission plus other statutory charges of 3.962%.

* Return on investment (ROI) - Net Profit N828,249.22

Asset = 1,921,045 = 43%

BREAKDOWN OF COMMISSION CHARGES

Buyer's Side		**Seller's Side**	
Broker's Commission	2.75%	Broker's Commission	2.75%
SEC Fees	1%	NSE Fees	0.5%
Stamp Duty	0.075%	Stamp Duty	0.075%
VAT	0.1375%	COT	0.50%

3.9625% VAT 0.1375%

‘39625%

TABLE 14 - PORTFOLIO B

		UNITS	**VALUE**
1	FIRST BANK NIG PLC	158,406	3,635,417.70
2	ROYAL EXCHANGE ASSURANCE	225,000	753,750.00
3	NESTLE FOODS NIG PLC	20,000	1,289.400.00
4	LIVER BROTHERS NIG. PLC	100,000	2,450,000.00
5	UNION BANK NIG PLC	53,333	1,328,525.03
	TOTAL		**N9,457,092.73**

4.1.2 TIDDO SECURITIES LIMTED

MARKET POSITION AS AT FEB 28, 2003

TABLE 15 – PORTFOLIO C

	A	B	C	D	E	F(C*E)	G(F-D)
		PURSHASE			CURRENT MARKET		
PURCHASE DATE	STOCKS	PRICE ₦	QUANTITY	VALUES ₦	PRICE ₦	VALUE ₦	MARGIN ₦
17/10/02	U B N	18.01	27,000	499,399.29	29	62,384.42	262,985.13
15/10/02	F B N	20.0	10,000	205,400	25.03	257,058.10	51,658.1
15/10/02	A P P L C	9.0	20,000	184,860	24.0	467,040	282,180
15/10/02	CODBURY	29	5,000	148,915	43	209,195	60,280
	TOTAL			1,O38, 574.2		1,695,677.5	657,103.23

TABLE 16 – PORTFOLIO D

	A	B	C	D	E	F(C*E)	G(F-D)
		PURSHASE			CURRENT MARKET		
PURCHASE DATE	STOCKS	PRICE ₦	QUANTITY	VALUES ₦	PRICE ₦	VALUE ₦	MARGIN ₦
8/11/ 02	CONOIL	12.38	13,133	169,519.23	24.00	311,352.22	141,832.77
1/7/ 02	WEMA PLC	5.00	10,000	51,350	2.76	59,155.20	7,805.20
1/7/ 02	ASHAKO	20.93	2,000	42,990.22	18.97	38,964.38	(40,2581)
1/7 02	WAPCO PLC	31.20	20,000	640,707.45	18	369720	(251,128)
	TOTAL			904,707.45		779191.82	(125,515.84)

TABLE 17 – PORTFOLIO E

	A	B	C	D	E	F(C*E)	G(F-D)
		PURSHASE			CURRENT MARKET		
PURCHASE DATE	STOCKS	PRICE ₦	QUANTITY	VALUES ₦	PRICE ₦	VALUE ₦	MARGIN ₦
1/7 / 02	FSB	6.0	30,000	184,860	6.02	185,476.20	616.20
1/7/ 02	PZ	9.50	16,333	159,352.91	10.49	175,959.17	16,606.25
1/7 /02	L. BROS	18.50	7,500	142,496.25	14.99	115460.48	27,035.77
1/7/ 02	NBC	26.90	11,200	309,414.56	37.05	426.163.92	116,749.36
	TOTAL			796123.72		903059.77	161,007.58

4.1.3 LIGHTHOUSE ASSET MANAGEMENT LIMITED

TABLE 18 PORTFOLIO F THE MARKET POSITION AS AT 17/6/03

	A	B	C	D	E	F(C*E)	G(F-D)	H
		PURSHASE			CURNT. MARKET			
PURCHASE DATE	STOCKS	PRICE ₦	QUANTITY	VALUES ₦	PRICE ₦	VALUE ₦	MARGIN ₦	DIVIDEND ₦
13/13/12	FBN	19.07	5,000	99.164	27.95	139,750	405,86	-
13/12/02	UBN	19.50	10,000	202,800	28.98	289,800	87,000	-
13/12/02	CADBURY	31.00	3,000	96,720	35.00	105,000	8,280	
13/12 / 02	NBC	30.90	15,00	482,040	36.50	547,500	65,460	1.50
	CONOIL	14.70	5,000	76,440	25.20	126,000	49,560	-
								2.10
				957,164		1,208,050	250,886	

4.2 DATA ANALYSIS

At the beginning of this chapter, it was stated that for any portfolio construction to take place, the portfolio objective and investor characteristics must be known. Portfolio objective is in two form- Current income and Capital Preservation.

Current income objective is short-term (Low-risk) in nature that focuses on immediate return on investment i.e. dividend declared. Capital Preservation is long-term (increased-risk) in nature that focuses on reduced level of current income. See Appendix 1 –An analysis of some stocks provided by NEWDEVCO.

Capital Base

The capital which / that an investor has to invest is an important factor in portfolio diversification. An investor with quite a huge capital to invest is most likely to have a well diversified portfolio as against an investor with small capital investment, particularly for individual investor. The situation is different with investment in Trust Fund – Sec Appendix 2 and 3. For instance, if N10,000 is available for investment in stock, the ideal thing is to invest this money into various securities. This may push the cost up so that the whole investment becomes uneconomical. Also, depending on the price per shares of the security, the number of shares that can be held may be very small with security with high price per share.

Profit Declared

The previous profits declared by the company is a point of attention to an investors. This is so because, it is profit that determine the dividend to and share appreciation (particularly bonus issues) to the shareholders.

Returns: An investor with current income objective would prefer to invest in security that declare high dividend at the end of accounting period. Also return declared by an organization to a large extent determines the level of share subscription it gets from this group of investors when capital is floated in the market.

On the other hand however, an investor with long-term objective prefer to see the market value (i.e. price) of his security appreciates form year to year rather than current income.

An investor here is interested in the security with prospect for capital appreciation. The prospect of a security to a large extent determines the level of share subscription it gets from this group of investors.

Risk Disposition: Short-term investor has low-risk given the time span within which he expects return on his investment. On the other hand however, the risk

he faces is high if the security does not perform within this period. In comparison, long-term investment has high risk given the long-term for which his investment is tie down. On the other hand, the risk is lower given the fact that his investment have enough time to grow.

Asset Allocation: Analysis of the statement of accounts allows an investor the opportunity for asset allocation, reallocation and balancing base on his objective. Current income and capital appreciation as shown in the statement of account provide the investor the knowledge of the performance of all the securities in the portfolio. Base on this knowledge, asset reallocation and balancing is carried out.

4.3 TEST OF HYPOTHESIS

4.3.1 NEWDEVCO FINANCE COMPANY LIMITED

Portfolio A represent the list of various securities held by an investor. The portfolio is made up of Twenty-One (21) different purchases with some securities having more than one purchase. The Twenty One (21) purchases are in Eighteen (18) different securities. To some extent this portfolio represent a well-diversified security of investments. It is also noted that these 18 securities are into Five (5) different industries – Building & Construction, Textile, Banking and Finance, Oil & Gas; and foods & Groceries. Portfolio B is made up of five (5) securities in Two (2) industries.

Table 19

Portfolio	Purchases	Securities	Industries
A	21	18	5
B	5	5	2

Table 20

Portfolio A in the No of securities

Company	**No of purchase**	**No of shares**	**₦**
PZ	1	10,800	66,960.00
CADBURY	2	13,261	263,902.00
JOHN HOLT	2	10,062	93,847.8
NESTLE	1	5,000	82,500.00
LBN	1	10,700	79,180.00
UNT PLC	1	5,000	16,250.00
TOTAL	2	5,000	176,360.00
TEXACO	1	9,000	225,000.00
AGIP	1	5,000	46,200.00
AP	1	800	12,560.00
FBN	3	9.500	208,515.00
UBN	1	9,000	279,990.00
UBA	1	6,000	88,500.00
FLOUR MILLS	1	4,500	91,125.00
WAPCO	1	5,000	89,500.00
ASHAKACEM	1	3,500	101,500.00

Table 21

Portfolio B in the No of Securities

COMPANY	NO.OF SECURITY	**UNITS**	**VALUE**
FIRST BANK NIG PLC	1	158,406	3,635,417.70
ROYAL EXCHANGE ASSURANCE	1	225,000	753,750.00
NESTLE FOODS NIG PLC	1	20,000	1,289.400.00
LIVER BROTHERS NIG. PLC	1	100,000	2,450,000.00
UNION BANK NIG PLC	1	53,333	1,328,525.03
TOTAL			**N9,457,092.73**

4.3.2 TIDDO SECURITIES LIMITED

Portfolio C has four (4) securities from three different industries – the Banking and finance, Oil and Gas and food and Grocemes. Portfolio D also has four (4) securities across four (4) industries. The industries are banking and Finance sector Oil and Gas sector, Building and Construction sector, and Food and Groceries sector. Portfolio E also is made up of Four (4) securities from two industries – the Banking and Finance sector and the Food and groceries.

Table 22

Portfolio	Purchases	Securities	Industries
A	4	4	3
B	4	4	4
C	4	4	2

4.4 RESEARCH FINDINGS

4.4.1 NEWDEVCO FINANCE COMPANY LIMITED

To a large extent, Portfolio A with 18 securities in 5 different industries is more diversified than portfolio B with 5 securities across 2 industries. Portfolio risk is much more diversified (less risky) in A compare to B. The chances of loosing is much higher in portfolio B either in terms of the number of securities involved or industry wise. For example, if the financial sector of the economy is in trouble that mean portfolio B with only two industries will be left with one industry. If by chance the remaining sector go into recession, this means the portfolio is very likely to loss all of its investment. On the other hand, portfolio A will have three more industries left. Base on the argument presented above, efficient portfolio is one that have investments across a large number of securities, in this case portfolio A.

ASSETS ALLOCATION

Table 23

SECURITY INVESTMENTS AND THEIR MARGIN FROM PORTFOLIO A

Security	**Capital inv**	**Proportion %**	**Margin**	**Proportion %**
PZ	66.960	3%	35,640	3%
CADBURY	263,902	14	98,123	9
JOHNHOLT	93,848	5	(78151)	(7)
NESTLE	82,500	4	255,000	24
LBN	79,180	4	108,070	10
UNT PLC	16,250	1	(4,250)	(0)
TOTAL	176,360	9	121, 640	12
TEXACO	225,000	12	254,250	24
AGIP	46,200	2	73,800	7
AP	12,560	1	2,912	0
FBN	208,515	11	32,595	3
UBN	279,990	15	(66,960)	(8)
UBA	88,500	5	(28,500)	(3)
FLOUR MILLS	91,125	5	17,730	2
WAPCO	89,500	5	42,750	4
ASHAKA CEM	101,500		(36400)	(3)

The table above shows the capital investment in each of the securities and the margin / capital appreciation from the securities. From this, a comparison can be made of the percentage margin made by each of the securities to the total portfolio margin.

If we take UBN with the highest capital contribution (15% - N279,990) to the portfolio, the capital appreciation is (-8%, – 66,960) of the total portfolio margin. However, it should be quickly stressed that, this is only true as long as there is no Bonus issue to the shareholders. On the other hand however, two securities (NESTLE & TEXACO) have. The highest capital margin of 24% each. The point to take note of is that the capital investments differs. NESTLE contributed a

capital investment of N82,500 representing about 4% while TEXACO contributed N225,000 representing about 12%. It can therefore be said that of the two securities, the margin from NESTLE is much acceptable given their capital contributions to the portfolio. This therefore to some extent stress the importance of the influence of asset allocation on total portfolio return.

An increase in the capital investment of NESTLE probably by reducing the investment in UBN will increase the return from NESTLE and invariably the total portfolio return. The same can apply to the securities with negative margin especially if there is no Bonus issue.

By this process, an investor is simply involved in asset reallocation and balancing. The objective of reallocation and balancing is to ensure that non performing securities. (Problem Investment) given the prevailing situation in the market or economy are replaced and also to ensure that the total capital investment for a portfolio is maintained.

4.4.2 TIDDO SECURITIES LIMITED

The three portfolio C D and E have the same number of securities (i.e. four each) which cut across three industries for portfolio C, four for portfolio D and two for portfolio E, it can be seen that portfolio D is more spread out (across 4 industries) than portfolio C which cut across two industries.

Though the number of securities in each of the portfolio is small some conclusion can still be drawn. Portfolio D can therefore be said to be more diversified than portfolio E. base on the idea of simple diversification.

The two returns from a portfolio are the current income and capital gain. The current income is based on the dividend declared by the companies that makes up the portfolio. The dividends declared multiplied by the quantity purchased for each security gives the total portfolio income taking into consideration tax provisions.

The capital gain or unrealized capital gain is the difference between the current market value and purchase value i.e. the margin. Considering portfolio C, the margin is N657,103.23 (1,695,677.5 – 1,038,574.2)

If any of the securities in portfolio C is sold, the difference between the security's current market value and the purchase value will give a realized gain. For instance, if A P security in portfolio C is sold, it bring in a realized gain of N282,180 (N467,040 – 184,860). Given this position the portfolio would have both a realized gain of N282,180 and unrealized gain of N37,923.23. the total in value equal the sum of the fund. N657,103.23.

However, this security (AP PLC) sold has to be replaced with another security in order to rebalance the portfolio.

The reason for the rebalancing is to ensure that the total capital invested in the original portfolio is maintained. It should be noted that the above situations can apply to any of the three portfolios.

Looking at portfolio E however, it can be noted that some of the securities – Ashaka cem and Wapco – making up the portfolio have negative (problem investment) value in terms of capital gain performance. For an investor with capital gain as his objective, the values call for the replacement of the securities especially if there is no sign of any appreciation in the near future. The replacement of these securities is necessary because their results has affected negatively the overall portfolio performance. The margin of – 125,515.84 is of the portfolio performance.

4.4.3 LIGHTHOUSE ASSET MANAGEMENT LIMITED

Only one portfolio is obtained from this brokerage firm. However, the portfolio is made up of five securities from the Banking, Beverage, Soft drinks and Oil Industries. This is to say that the portfolio is diversified across four Industries. This portfolio has much less securities when compared with security A which has 18 securities although cutting across the same number of Industries – five. This portfolio therefore can be said to be less diversified as against portfolio A.

ASSET ALLOCATION

Table 24

SECTORAL INVESTMENT AND THEIR MARGIN TAKEN FROM PORTFOLIO

Sector	Capital Invest	Proportion	Margin	Proportion
BANKING	301,964	32%	127,588	51%
BEVERAGE	96,720	10%	8,280	3%
SOFT DRINK	482,040	50%	68,460	26%
OIL	76,440	8%	49,560	20%
	957,164		**250,886**	

Looking at the table above, it can be seen that the return is not just a function of diversification only but also of the asset allocation i.e. the amount invested in each security / sector.

The sector with the highest capital investment (N482,040 – 50%) contributed only 26% (N250,886) of the total portfolio margin (N68,460). On the other hand, the sector with the lowest capital investment (N76,440) contributed 20% (N49,560) of the total portfolio margin. The portfolio with the highest margin (N127,588) representation 51% of the total portfolio margin contributed about 32% (N301,964) of the total capital investment.

Going by this capital allocations and the return there from, some adjustments can be made to improve the total portfolio return.

If the least security investment can be increased by three times its present size by reducing the investment in the two highest security investments, the margin would increase from the present 20% to about 60% of the total portfolio margin. By this, the quality of the portfolio margin can be improved upon.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMENDATION

5.0 INTRODUCTION

The chapter outlined the summary of research work and a conclusion of the findings. Recommendation is also given based on the findings of the research work.

5.1 SUMMARY

Investment is the fund place in a vehicle which is expected to generate an income or preserve or increase value. A number of these investments held together at the same time is referred to as a Portfolio,

An efficient portfolio is one that is well diversified. Diversification is the process of spreading investment across a broad range of assets with the objective of reducing risk. The construction and management of an efficient portfolio is based on Traditional Approach and / or Modern Portfolio Theory. Traditional approach entails the analysis of the general economic variables, the industry and the particular firm. Modern portfolio theory is based on statistical techniques for the construction of efficient frontier coupled with investor's utility function or risk-indifference curve and beta.

Portfolio construction is influenced by the investor's characteristics and portfolio objective. Portfolio objective can either be current income or capita preservation/growth. An investor with current income objective base his investment decision on dividend while investor with capital growth objective base his decision on behaviour of the stock price.

Asset Allocation is the division of the total portfolio investments into various asset classes in order to preserve capital. Asset allocation aims to protect against negative development while taking advantage of positive development in market/economy. Return of a portfolio is influenced more by the division of investments into assets classes than by the actual investments.

5.2 CONCLUSION

Given the discussion in the proceeding chapters on efficient portfolio construction, management and control, an investor stand a better chance to minimize risk and maximize return associated with investments.

Portfolio is better constructed and managed with the knowledge of total risk associated with and return from the portfolio.

To achieve an efficient portfolio, an investor's characteristic and portfolio objective must be well defined. This provides the bases for the construction of a portfolio that will suit individual investors

An efficient portfolio can only be achieved only when the total investment is spread across a broad range of asset i.e. a well diversified portfolio. Diversifications provide a portfolio the strength to absorb the shocks of the numerous risks within investment environment.

A portfolio with 15 and above securities from various firms is a well diversified investment than portfolio with about 5 securities. A well diversified portfolio has higher chances of survival in the event of failure of some firms.

A simple diversification reduces unsystematic or undiversifiable risk of a portfolio. This can be achieved by simply selecting securities from unrelated industries until about 15 securities are contained in a portfolio. Combining securities above this figure is likely to result in a superfluous portfolio. Investors should be aware of the implication of superfluous portfolio a low return of some securities that will result in reduced total portfolio returns, difficulty with portfolio management, high cost of searching for securities, high charges of transaction cost etc.

The level of diversification of a portfolio is dependent on the amount of capital investment. It makes no sense or benefit to invest a small amount of capital into a number of vehicles. But the benefit of diversification can be best be achieved if the capital is put into a trust where capital are put together for investment. This is

so partly because of the cost associated with the investment. Also securities with high unit price will only leave an investor with limited amount of stocks (i.e. the quantity of securities) in the portfolio if diversified and the total portfolio return will not justify its diversification in any way. So the higher the amount of the total capital investment, the higher the chances and benefit of diversification.

Asset Allocation, reallocation and balancing can best be achieved with better understanding of returns from securities and the principle of diversification couple with active portfolio management strategy. Without the knowledge of the minute by minute happenings within and outside (industry or firm) the capital market, an efficient portfolio cannot be achieved. Only through active portfolio management can reallocation and balancing of portfolio be achieved.

Traditional Approach and Modern Portfolio Theory can both be used to achieve an efficient portfolio. Although the method/techniques used by the two approached differ, the fundamental concerns of the two approaches remains that of risk minimization, well diversified portfolio and achieving portfolio objective.

Certain software programme can be used for easy analysis in modern portfolio theory, these are however not common within the Nigerian investment environment. Also the Nigerian capital market is not yet developed to such a level that will provide the information need of the investors as well as the financial analysts. This is greatly affecting the sophistication of efficient portfolio construction and management in Nigeria.

5.3 RECOMMENDATIONS

Although the final chapter analysis was based on the traditional approach to portfolio construction and management, the following recommendation can be made on the Modern Portfolio Theory.

Based on the literature review, the equations developed by Markowitzs and sharpe (refer to chapter two) can be tedious when applied manually. For this reason Sharpe recommended the use of computer programme for the analysis/calculation of portfolio return. These computer programme(s) have not really found their ways in to this country which is making the computation of data by inventors and

Brokerage firms as well very difficult. This therefore call for a concerted effort on the part of the authorities concern to get the needed software's available for the purpose of efficient portfolio management in Nigeria.

On a general note, Nigerian Capital Market development still have a very long way to go in terms of its sophistication when compared with what is obtainable outside world. Our capital market can only be relevant when the information need of an investor and financial analyst as well can be satisfied.

APPENDIX 1

PROPOSAL FOR INVESTMENT IN SHARES THROUGH THE SECONDARY MARKET.

1.0 INTRODUCTION

The capital market has experienced significant growth in recent times. For instance in the last two years, close to N100 billion was sourced through the new issues market. The Nigeria Stock Exchange All-Share index grew 35.2 percent to close the year at 10,963.11 as at 31st December 2001. From January to date the All-Share index has increased to 11,523.86 as at May 16, 2002. Similarly, the market capitalization has significantly appreciated by about 40% during the period under review to N685.76 billion as at May 16, 2002. If this trend and tempo of activities continue, the capital market may offer some good opportunities for investment.

2.0 APPRAISAL OF SOME SELECTED STOCKS

2.1 This proposal has been compiled to assist your investment decision on some selected shares which can be purchased through the secondary market.

2.2 The selected shares are:

1. First Bank of Nigeria PLC
2. union Bank of Nigeria PLC

2.3 In appraising the performance of the above selected stocks, we have been guided by the fact that most investment decision are made for two basic reasons:

a) To earn stream of dividend and bonuses
b) To make price gains

2.4 Accordingly, every prospective investor tries as much as possible to avoid losses and price depreciation of his/her investment. Hence the need for pre-investment decision making proposal/appraisal such as this.

2.5 There are various performance criteria/indices used to appraise shares for investment purposes. In most cases, the investors objective also determines the criteria or indices to be emphasized.

2.6 To enable you assess your decision for both prospective and existing investments, there is the need to subject such decisions constantly to analysis. In this proposal, we have based our appraisal on the following:

a) Turnover Growth
b) Profit After Tax Growth
c) Earnings per Share (EPS)
d) Price Movement
e) Stock Activity
f) Dividend Per share (DPS)
g) Dividend Growth
h) Dividend Yield
i) Dividend Pay Out
j) Price /Earning ratio-P/E ration
k) Timing of entry and exit.

2.7 In addition to the above objective criteria, we also consider some of the subjective criteria such as:

- Quality of Board and Management
- Nature of Business
- Effect of macro-economic policies on the business sub-sector.

1.0 **FIRST BANK OF NIGERIA PLC**

TABLE 1

KEY STATISTIC

	YR ENDED 31 DEC. 96 ₦	15 MTHS TO 31 MR 98 ₦	1999 ₦	2000 ₦	2001 ₦	9 MTHS TO 31 DEC 2001 ₦
Shareholders' FUND	6.8b	9.9b	11.9b		18.2b	
Deposits	58.2b	70.7b	89.9b	138.0b	155.6b	
Total Assets	77.3b	102.4b	137.9b	194.7b	224.0b	
Gross Earnings	10.88b	15.5b	19.96b	29.8b	32.9b	28.8b
PAT	1.2b	2.0b	3.4b	4.7b	5.0b	6.4b
EPS	166k	180k	307k	346k	312k	
DPS	56k	100k	100k	125k	130k	
BONUS	1:4	.	1.4	1:4	1:4	

CURRENT P/E ration: 6.20

DIVIDEND YIELD: 5%

FINANCIAL YEAR: 31ST MARCH

3.1 The table above shows some key statistics of FBN Plc between 1996 and 2001.

3.2 During the period under review, the Bank has recoded a steady growth in all the key performance indices.

3.3 For example, shareholders' funds increased from N6.8b in 1996 to N18.2b in 2001. Deposit liabilities has increased from N58.2b in 1996 to N155.6b in 2001 while total assets has increased from N77.3b in 1996 to N224.0b in 2001.

3.4 Gross earnings has also steadily increased from N10.99b in 1996 to N32.9b in 2001 while 9 months result to 31st December 2001 shows an improved turnover of N28.9b. Similarly, profit after tax. Recorded a steady increase from B1.2b in 1996 to N5.0b in 2001. Nine months PAT up to 31st December 2001 is N6.4b. Both EPS and DPS recorded similar increase. The Bank's bonus history is impressive while its P/E ration an dividend yield is among the best in the industry.

3.5 FBN has recently ventured into the financing of the telecommunications sector in the country. In the recently licensed GSM (Mobile telephone), FBN has financed ECONET – one of the two licensed GSM service providers. The Bank however got its fingers burnt in the privatization of NITEL when the bank lost about USS130 million in the process.

3.6 Despite the above loss (which may be recovered), the new MD/CE of FBN has recently assured stockbrokers on the floor of the NSE that the Bank will not disappoint shareholders this year. Although the Bank is yet to release its end of the years financials result, there is high expectation for a bonus issue and possibly a rights issue towards the end of the year.

3.7 In terms of activity on the floor of the Nigerian Stock Exchange (NSE), the stock is one of the most active in terms of volume, price movements and Naira value. The stock's highest price during the year is N26.30 while its lowest price is N20.15. Currently it is hovering between N25 and 26.30.

3.8 In view of the Bank's impressive performance statistics and future prospects, notwithstanding its recent set back in the NITEL privatization, FBN still remains an investors

4.0 UNION BANK OF NIGERIA PLC

TABLE 2

KEY STATISTICS

	YR ENDED 30 SEPT. 1996 N	1997 N	1998 N	1999 N	18 MTH 31 MAR 2001 N	9 MTHS TO 31 DEC 2001 N
Shareholders' FUND	**4.1b**	**6.3b**	**9.0b**	**10.98B**	**14.7b**	
Deposits	**56.9b**	**63.7b**	**83.1b**	**102.8b**	**189.6b**	
Total Assets	**80.1b**	**85.9B**	**109.6b**	**138.3b**	**238.3b**	
Gross Earnings	**11.21b**	**10.98B**	**14.97b**	**21.2b**	**40.7b**	**28.32b**
PAT	**1.14b**	**1.3b**	**1.94b**	**3.2b**	**5.8b**	**5.70b**
EPS	**89k**	**101k**	**149k**	**254k**	**448k**	
DPS	**32k**	**35k**	**70k**	**105k**	**150k**	
BONUS	**1:1**	**1:3**	**.**	**.**	**1:3**	

CURRENT P/E ration: 5.30

DIVIDEND YIELD: 6%

FINANCIAL YEAR: 31ST MARCH

4.1 Like its closest rival FBN PLC, UBN PLC has recorded a steady growth during the period under review 1996 to 2001. This is evidently portrayed by the above performance indices.

4.2 For instance shareholder's funds grew from N4.1b in 1996 to N14.7b in 2001 while deposits grew from N56.9b in 1996 to N189.6b in 2001. Similarly total assets significantly increased from N80.ib in 1996 to N238.3b in 2001.

4.3 Gross earnings made an impressive increase from N11.21b in 1996 to N40.7b in 2001 while PAT increased from N1.14b in 1996 to N5.8b in 2001. Gross earnings and PAT fro 9 months to December 2001 were N28.32b and N5.7b respectively. Both EPS and DPS recorded similar increase. The stock's bonus history is also good. There are no expectations for bonus issue this year. However, the stock's P/E ration and dividend yield are better than that of FBN Plc.

Recently the Bank has issued a 1 for 2 rights at N18 per share which was fully subscribed. The issue is yet to be concluded and that stock's price is still on technical suspension at N24.91. hopefully the technical suspension on the stock may be lifted soon. But until this is done, trading on the stock on the floor of NSE is currently very low.

4.4 In view of the stock's impressive performance indices, UBN Plc remains an investor's delight especially in the banking sub-sector.

5.0 **CONCLUSION**

5.1 In order to assist your investment decision to buy from the secondary market, we have carefully selected and appraised two stocks from the banking sector which we believe have a good history of performance indices. Both Banks have good Board and Management.

5.2 It should be noted however that the appraisal are generalized. It is necessary for your management to reappraise them based on your specific investment objectives and budgetary constraints

Source: NEWDEVCO FINANCE SERVICES CO. LTD.

APPENDIX 2

INVESTING IN ACTION

Portfolio – Building Tips For The Novice Investor.

You have managed to squirrel away a few thousand dollars and you are ready to invest it. Where do you start?

Before you spend a penny, be sure you have a cash reserve fund for emergencies and other liquidity needs. That is typically three months salary, which should be available in the event that you lose your job or have some kind of medical emergency. Leave the money in a money market fund for liquidity and safety – and perhaps 4% interest.

Once you have satisfied this emergency reserve requirement, develop along – term investment strategy, with a mix of assets geared to your overall goals. Stick to this framework as you build your portfolio. Otherwise, you could end up with investments that do not fit your needs. With limited funds, you can not fully implement your game plan right away, but you can work toward it. Start with your largest asset category and add to the others as you have more funds to invest.

Fortunately, a small investor can take many routes to build a portfolio. One conservative approach that appeal to many novices starts with a balanced or asset allocation mutual fund that invest in stocks, land, and cash. Many mutual fund families offer balanced funds or asset allocation funds. The big advantage of such a fund is that it provides you with instant diversification across a number of asset classes. With just a few thousand dollars, that would be difficult for you to accomplish outside a mutual fund environment . you can add to this type of fund regularly until you build up enough money – and investment confidence to move into specific fund categories or individual stocks.]

Another alternative is to plunge right into an equity mutual fund, bypassing bonds and cash. The logic: you have already got your cash reserve fund for emergencies, and stocks offer greater returns than bonds. If you have many years away from retirement, the

disadvantage of stock – volatility – becomes less of a problem as your time horizon lengthens. Because there are thousands of mutual funds to choose from, you might decide to invests in a stock – index fund that promises to match the standard & poors 500 composite index a broad index of large capitalization stocks. You need a greater risk tolerance to focus on stock, but an index fund is a consecutive way to do it. Then, once you build up a nice balance in your stock index fund, you might want to diversify into bonds. Or you might want to decide to diversify into small – cap stock or international investment.

Building a portfolio of individual stocks takes more time and discipline than buying fund. However, there are advantages for one thing, buying stocks and holding them minimizes your income tax liability. In contrast, mutual funds generates tax liability every year in the form of capital – gains distributions. In addition mutual funds have operating expenses, which reduce your returns. Buying individual stocks involve paying a commission to a broker, but brokerage commission have come down considerably since the advent of discount and online brokers. Another way to minimize your commission is to have your dividends automatically reinvested. Most major company's offer DRIPs, or dividend investment plans. Those that do tend to be larger, slower – growing companies, such as financial services and utility companies.

Whether you invest in individual stocks or buy mutual funds, the key to investing is to come up with a plan and stick with it. Invest regularly – every month or pay period, if possible – and be patient. Plan to hold your investment for a long time. Otherwise, transaction costs and taxes will eat up your returns.

Source Fundamentals of Investing (1998 p.652), Seventh Edition.

APPENDIX 3

INVESTING IN ACTION

Taming the Portfolio Monster

As your portfolio grows in number and types of investments, its easy to become over whelmed and confused by the paperwork you accumulate. Before long, you might lose control of your investments or loss track of important detail, such as why you bought that stock in the first place. "People tend to build portfolios the way they pick up seashells on the beach", says Roger Gilson, author of Asset Allocation: Balancing Financial Risk. As a result, many investors do not know whether the parts of their portfolio make sense when taken together.

How do you get an overall view of your portfolio? A good place to start is by doing a thorough house cleaning of your financial assets. That means sorting through stacks of paper: mutual fund "Welcome" kits, prospectuses, annual and quarterly reports, brokerage firm and mutual fund statements.

Take all the paperwork from each brokerage firm and mutual fund and put it in one file, organized by date, with the most recent mailing on top – you can throw out items you no longer need, such as welcome kits, old annual reports, and monthly or quarterly statements whose information is included in the annual statement. Then file each set of documents in an individual file folder.

Next, list all of your assets categorized by asset categories. Across the top, make columns for cash, domestic bonds, international bonds, domestic stocks, international stocks, real estate, and so on. Use the rows for the source, such as ABC mutual fund or XY2 brokerage firm. If one investment falls into two or more categories, such as a 401 (k) retirement plan with both bond and stick investments, then divide it accordingly. Add up all of your assets by category, and calculate the percentage of your portfolio for each asset category.

You may discover that you have many small, similar investments that can be consolidated to simplify your portfolio while still achieving your objectives. For

example, do you really need three stockbrokers, or can you combine your accounts at one firm? The same goes for mutual funds.

You may want to concentrate on one or two large fund families with many fund choices. Consolidating brokerage firms and mutual funds will constantly cut down on the blizzard records of paperwork.

Having organized records also will be a major benefit at tax time. your records will provide you with the necessary details about securities you sold during the year – such as the purchase and sale dates, the number of share you bought or sold, and the purchase and sale prices. But most important, having neat file and summary tables will make it easy for you to make informed investment decisions that fit your life circumstances.

Source: Fundamentals of Investing (1998 p.655), Seventh Edition.

APPENDIX 4

MEASURING PORTFOLIO RETURN

Table 17.5 present the investment portfolio, as of January1 1999, of Bob Hathaway. He is a 50 years – old widower, whose children are married. His income is $60,000 per year. His primary investment objective is long term growth with a moderate dividend return. He selects stocks with two criteria in mind: quality and growth potential. On January 1, 1999, his portfolio consisted of 10 issues, all of good quality. Hathaway has been fortunate in his selection process. He has approximately $74,000 in unrealized pries appreciation in his portfolio. During 1999, he decided to make a change in the portfolio. On may 7 he sold 1,000 shares of Dallas National Corporation for $32,040. Hathaway's holding period return for that issue was discussed earlier in this chapter. Using funds from the Dallas National Sale, he acquired an additional 1,000 shares of Florida South coast Banks on May 10, because he liked the prospects for the Florida bank. Florida South coast is based in one of the fastest – growing countries in the country.

TABLE 17.5 BEB HATHAWAY'S PORTFOLIO (JANUARY 1, 1999)

NUMBER OF SHARE	COMPANY	DATE ACQUIRED	TOTAL COST (INCLUDING CONSUMERS	COST PER SHARE	CURRENT PRICE PER SHARE	CURRENT VALUE
1,000	Bancorp West In	1/16/97	——	$21.61	$30	$30,000
1,000	Dallas National Corporation	5/1/98	27,312	27.31	29	29,000
1,000	Dator Companies, Inc	4/13/93	12,704	13.70	27	27,000
500	Excelsior Industries	8/16/96	40,571	81.14	54	27,000
1,000	Florida South coast Banks	12/16/96	17,460	17.46	30	30,000
1000	Maryland – Pacific	9/27/96	22,540	22.54	26	36,000
1000	Moronson	2/27/96	19,100	19.10	47	47,000
500	North West Mining and Mfg.	4/17/97	25,504	51.00	62	31,000
1000	Rawland Petroleum	3/12/97	24,903	24.90	30	30,000
1000	Vornox	4/16/97	37,120	37.12	47	47,000
	Total		**249,824**			**324,000**

To measure Hathaway's return on his invested capital, we need to perform a 1 year holding period return analysis. His invested capital as of January 1, 1999, is $324,000. No new additions of capital were made in the portfolio during 1999, Although he sold one stock, Dallas National and used the proceeds to buy another, Florida South coast Banks.

Measuring income

There are two sources of return from a portfolio of common stocks: Income and capital gains. Current income is realized from dividends or for a portfolio of bond, is carried in the form of interest. Investors must reports taxable dividend and interest in federal and state income tax returns. Companies are required to furnish income reports (form 1099 – DIV for dividends and form 1099 – INT for interest) to stockholders and bondholders. Many investors maintain logs to keep track of dividend and interest income as it is received. Tab 17.6 lists Hathaway's dividends for 1999. He received two quarterly dividend of 45 cents per share before he sold the Dallas National Stock, and he received two 32 – cent per share quarterly dividend on the additional Florida Southcaost Banks shares he acquired. His total dividend income for 1999 was $10,935

TABLE 17.6 DIVIDEND INCOME ON HATHAWAY'S PORTFOLIO
(Calendar Year 1999)

Number of Shares	Company	Annual Dividend per Share	Dividend Recieved
1000	Bankcorp West, Inc	$1.20	$1,2000
1000	Dallas National Corporation*	1.80	900
1000	Dator Companies, Inc	1.12	1,120
500	Excelsor Industries	2.00	1,000
2000	Florida Southcoast Banks* *	1.28	1,920
1000	Maryland – Pacific	1.10	1,100
1000	Moronson	-	-
500	North West mining and Mfg	2.05	1,025
1000	Rawland Petroleum	1.20	1,200
1000	Vornox	1.47	1,470
			10,935

* Sold May 7, 1999

** 1000 shares acquired on May 10, 1999

Measuring Capital Gains

Table 17.7 shows the unrealized gains in value for each of the issues in the Hathaway portfolio. The January 1, 1999, and December 31 1999, values an listed for each issue except the additional shares of Florida South coast Banks. The amount listed for Florida South coast Banks reflect the fact that 1,000 additional shares of the stock were acquired on May 10, 1999 at a cost of $32,040, Hathaway's current holdings had beginning – of- the- year value of $327,040 (including the additional Florida South coast banks shares at the date of purchase) and are worth $356,000 at year – end.

During 1999, the portfolio increased in value by 8.9%, or $28,960 in unrealized capital gains. In addition, Hathaway realized a capital gain in 1999 by selling his Dallas National holding. From January 1, 1999 until its sale on May 7, 1999, the Dallas National holding rose in value from $29,000 to $32,040. This was the only sale in 1999, so the total realized gain was $3040. During 1999, the portfolio had both a realized gain of $3040 and an unrealized gain of $28,960. The total in value equals the sum of the two: $32,000. Put another way, because no capital was added to or withdrawn from the portfolio over the year, the total capital gain is simply the difference between the year – end market value (of $324,000 from Table 17.5). This, of course, amounts to $32,000, of which, for tax purposes, only $3040 is considered realized.

Number of Shares	Company	Market value (1/1/99)	Market price (12/21/990	Market Value (17/31/99)	Unrealized Gain (Loss)	Percentage Charge
1,000	Bancorp West, In.	$30,000	$27	$27,000	($3,000)	-10.0%
1,000	Dator Companies, Inc.	27,000	36	36,000	9,000	+33.3%
500	Excelsior Industries	27,000	66	33,000	6,000	+22.2
2,000	Florida South Coast Banks	62,040	35	70,000	79,6000	+12.8
1,000	Maryland – pacific	26,000	26	26,000	-	-
1,000	Moronson	47,000	55	55,000	8000	+17.0
500	North West Mining and Mfg	31,000	60	30,000	(1,000)	-3.2
1,000	Rawland Petroleum	30,000	36	36,000	6,000	+20.0
1,000	Vornox	47,000	3	43,000	(4,000)	+8.5
		$327,040		**$356,000**	**28,000**	**8.9%**

Source: Gitman and Joehnk, (1998(Fundamentals of Investing (1998 p.681), Seventh Edition.

APPENDIX 5

LET THE DUST CLEAR

Hewlett – Packard announced recently that its quarterly earnings would come in below analysts estimates. The stock dropped 13 points, 18%, the next day on huge volume. The carnage was out of all proportion to the apparent cause: on a shortfall of a few tens of millions of dollars, the stock lost almost $3.5 billion in market value Disproportionate drops caused by earnings shortfalls are becoming more and more frequent.

How should the smart investor react? Buy right after the plunge? Or wait till the dust clears.

My advice: let the dust clear

The answer is based on a study I just completed of 2000 large companies that had single – day prices drops of over 10% during the past 12 months. The average decline was 17% the first day the stock traded after the disappointing news. I then compared the closing price that day with the price of the stock 30, 60 and 90 days later. This group of "bad news bears" included Salomon Brothers, caught up in the government – security scandal, Browing – Ferris, Harley – Davidson, Advanced Micro Devices and British Petroleum.

Though the stocks fell to fire sale levels after reporting bad news, they were even cheaper 30 days later, declining 25.1% on average from the pre –announcement price. The further decline after the initial stock averaged 50% of the first drop. Fully 90% of the stocks were lower one month later.

Once down, the stock stayed therefore months. After 60 days these bad news bears were still down 23.4% only fractionally better than after 30 days. After 90 days, the stocks were down 19.7%, again more than after the collapse on day one.

The study provides an important insight that should help you in your investment decision making. Don't be a hero and change into the initial panic. If you like a stock blown out

by disappointing news, it pays to sit on the sideline for a while. In all probability you will get plenty of chances to buy it cheaper in the next 90 days.

The nature of the street's research process explains why the phenomenon occurs so consistently. Analysts react to surprises by slashing their quarterly estimate on the announcement of the disappointing news. However, they are usually slower in making major changes to their projections for the next few quarter or the following year.

Normally, where there is negative surprises the poorer results, even for first – rate companies, are likely to continue for some time. Business conditions that often prompted the original announcement are not likely to change on a dine. It takes time to rise through an unanticipated rough stretch. As a result of the initial stock often followed by later, if lesser, stocks, continuing to pressure price.

So be patient. If a company you like comes out with an announcement that shakes the market's confidence, play the waiting games. It should pay off well over time.

Source: IBFC AGUSTO TRAINING, BANKING AND FINANCIAL TRAINER. Through Tiddo Security Limited (2003)

APPENDIX 6

PETER LYNCH'S ADVICE TO SMALL INVESTORS

Here's some improbable advice from the nations most favors mutual – fund manager. Don't get obsessed with mutual funds as the only way to invest.

"I think the best thing is individual stock, says Peter Lynch, the retired manager of Fidelity Investments' mammoh Magellan Fund. Small investor have been "sold a bill of goods" that they can't prosper in the institution dominated stock market.

Investors who take a "half – hearted" approach to stock investing are better off in mutual funds, he says but that doesn't mean they are the only roads to riches. The small investor can do very well as a stock – picker. "All you need is two or three good stocks a decade."

Investors should recognize strong companies right in front of them, he says. "The all – time dunce – cap award for investing" should go to any one who works in a shopping mall and by passes such stocks as Gap, toys" "Us and Limited" in favour of mysterious "biogenetic stock"

Despite hot – term dips in the stock market, investors can't go wrong buying established healthy companies with strong market shares in their product – like "Toys US". "I like to buy a company that any fool can manage", Mr. Lynch said, "because eventually, one will".

One of Mr. Lynch`s main investing rules for the 90s: Know what you own. Its amazing how few people can give you a reason in a minute or less why they own stocks they do, he says. Too many people, he says, are holding onto stocks of esoteric high – tech companies that they can't begin to understand. "If you don't understand thoroughly what they do, you should be cut of [them], he said. "That's why I made money in a stock like Dunkin Donuts. I mean Dunkin' donuts I can understand. Some goes for the auto parts retails pep Bays – Mangy, Moe & Jack, he says.

Mr. Lynch shuns the term “Small” investors as demeaning – “I guess this is a person under 5 – foot – 2, cracked – and insists that individuals years ago. That is, if they don’t try to act like the so –called professionals by making broad market and interest rate predictions. It’s a waste of time while is to get a feel for one company prospects.

“What I think is important is when you like to stear and they tell you the carpet business is better – that’s a fact”, he says. By contrast, he scoffs, when economists predict a recession or a recovery in two years, “That is whether for casting. This is just a joke. Its amazing to me how much time people spend trying to predict the stock market …… “If you spend over 14 minutes a year on economics, you have wasted 12 minutes”.

People are too lung up on whether they will “Miss” a good stock, he says. “You have plenty of time” to buy a stock that’s fundamentally sound. He cited Wal – Mart stores, which went public in 1970 with 38 stores. Even investors who bought the stock a decade later, when Wal – mart was already a 275 store success story, would still have made 30 times their money by the and of 1991, noted Mr. Lynch. He marked the notion, that you’ve got to buy a company. You know, three days after its formed – when they open their first taco stand.

At the top of Mr. Lynch’s list for the most dangerous things investors do is the tendency to assure that phunging stocks can’t go any lower (they can) and that soaring stocks won’t necessarily go higher (often they do). In his view, investors shouldn’t flee from stocks or quality companies that have already risen a lot - such as Home Depots, trading at a pricey 60 times reported earning. If a company is doing well and making money, “why the hell would you sell the stock?

Other advice from Mr. Lynch’s “Most – dangerous” list:

- Never say, “Its $3[a share], how much can I lose” This is the kind of statement that costs investors large sums, says Mr. Lynch. Let’s say you put $10,000 in a stock at 3…. If it goes to zero, you lose exactly the same amount everything you’ve put in” Remember that some companies are simply worth zero, even if they are listed on the New York stock Exchange, he says.

- Don’t believe that consecutive stocks won’t fluctuate much money people inherit stocks after their parents make dramatic deathbed pronouncements such as: whatever you do don’t sell the con Edison, But Con Ed fell 80% twice, notes Mr. Lynch. “You just can’t take consecutive stocks for granted. Either you know the story, you follow the story, or you don’t own it.”
- Don’t be one of those investors who fixates on how much money you have “lost” if you fail to buy a stock that later goes up. That’s silly, in Mr. Lynch’s view. “I Swear some people will say: Gec, the Pow Jones industrial Average today was up 35 points ….. I just lost $66 billion by not owing the entire market. As his evidence roared with laughter, Mr. Lynch stressed. If you don’t own it, and it goes up, you haven’t lost any thing.”

Mr. Lynch says he has lot money every time he invested in a “Long – shot” stock (the “if it works….” Kind). He expressed amazement that more people don’t invest in companies they know bout.

Source: IBFC AGUSTO TRAINING, BANKING AND FINANCE TRAINERS, Through TIDDO SECURITY LIMITED (2003)

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