CHAPTER ONE

This chapter will discuss of statement problem, questions, objectives, importance,hypothesis, thesis frame work, primary resources, secondary resources research gap, limitation of study research gap).

1. STATEMENT OF THE PROBLEM:

Portfolio management is difficult in different global economic circumstances faced by the investors overthe entire world the impact of factors like (diversification of financial assets, perceived financial risk, return of portfolio investment Marketability of financial securities, liquidity management). Have direct impact on the portfolio performance. In the republic of Sudan most of investors are retireso they don't have knowledge and skills and education to manage their portfolio investment.

The problem in portfolio management is often to reduce as much as possible risk, or to achieve the highest possible returns—or both. This, however, is easier said than done because it can quickly turn into a highly demanding optimization problem: The starting point, producing good estimates for future returns, their distribution and the dependencies between assets, is a challenging problem in itself. And including realistic constraints suchAs transaction costs, portfolio size or additional requirements from investors and authorities quickly adds a level of complexity that exceeds standard optimization methods.

2. **RESEARCH QUESTIONS**: for the purpose to test the impact between variables:

1. Does diversification has positively influence on return
2. Does Marketability has positively influence on return
3. Does diversification has positively influence on risk
4. Does Marketability has positively influence on risk

5. Does diversification has positively influence on liquidity
6. Does Marketability has positively influence on liquidity
7. Does Liquidity has positively influence on return
8. Does Risk has positively influence on return
9. Does risk mediate positively influence between diversification and return
10. Does risk mediate positively influence between Marketability and return
11. Does the liquidity mediate positively influence between diversification and return
12. Does the liquidity mediate positively influence between Marketability and return
13. Does the investor behavior moderator the positively influence risk and return
14. Does the investor behavior moderator the positively influence liquidity and return

3. OBJECTIVES OF STUDY:

1. Totest the relationship between diversification and risk? Clarifying the mechanism of construction investment portfolio (weights of assets).

2. Totest the relationship between the risk andreturn? Describe the relationship between risks of portfolio investment and level of return achieved.

3. Totest the relationship between the marketability and liquidity? To know the reasons that influence on marketability of financial securities in stock exchange.

4. Totest relationship between the liquidity and return? To know the factors that affect ability of liquidate the financial securities.

5. Does the investor behavior moderate the relationship between risk and return?

6. Does the perceived risk mediate the relationship between diversification and return?

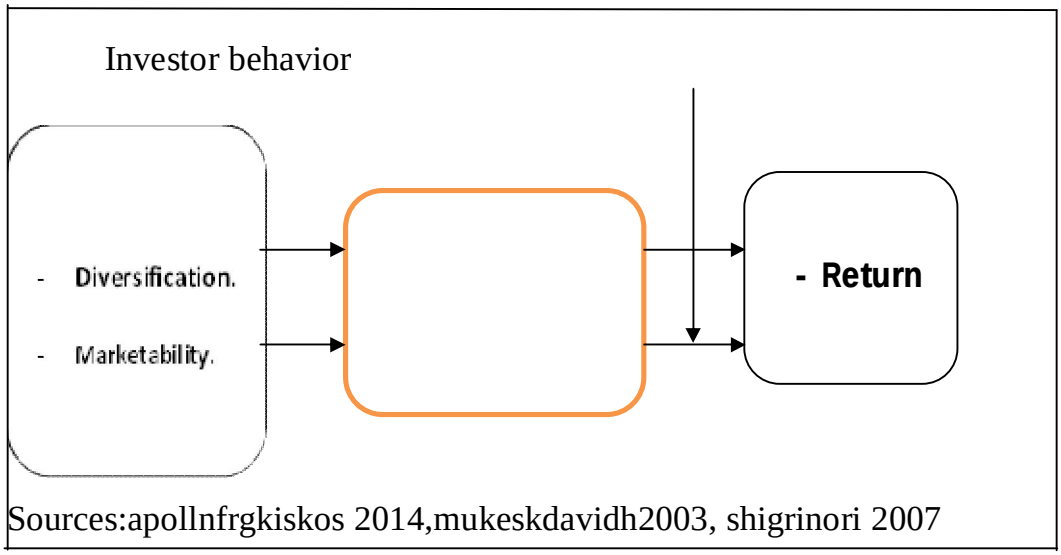
7. To increase the investment awareness of investors in Khartoum stock exchange

8. To know the impact of portfolios investments attract and develop investors

4. RESEARCHHYPOTHESIS:

1. diversification has positively influence on return
2. Marketability has positively influence on return
3. diversification has positively influence on risk
4. Marketability has positively influence on risk
5. diversification has positively influence on liquidity
6. Marketability has positively influence on liquidity
7. Liquidity has positively influence on return
8. Risk has positively influence on return
9. risk mediate positively influence between diversification and return
10. risk mediate positively influence between Marketability and return
11. Does the liquidity mediate positively influence between diversification and return
12. liquidity mediate positively influence between Marketability and return
13. investor behavior moderator the positively influence risk and return
14. investor behavior moderator the positively influence liquidity and return

Figure (1.1): the research framework



Sources:apollnfrgkiskos 2014,mukeskdavidh2003, shigrinori 2007

5. IMPORTANCE OF RESEARCH:-

1.Importance of scientificPart:-

1. The books and articles of the research topic is significanceespecially in republic of Sudan because the portfolio construction it still in beginning phase and all the Sudanese companies try to know in depth knowledge about it. Before joining in investment activities.
2. To make awareness for all the interested groups how we can construct and manage the portfolio.
3. The add value to Sudanese library about how stock exchange work in easy way for investors, students, and normal citizens.
4. To emphasizes the important of teaching the portfolio management in Sudanese university and trying to add it as new subject to (business administration, commerce, economic) specialization.

2. Importance of the Practical Part:-

1. The current environment needs the managers of Sudanese companies to have wisdom and skills and knowledge to deal with dynamic environment with high compaction from global wise. They should know the best strategy for construct the portfolio and manage.

2. To contribute for interest's people to know the analytics skills and knowledge require constructing and managing the portfolio professionally.

3. To provide suggestion and recommendation for Sudanese companies managers to improving the performance.

6. Scope ofthe Study:

The scope of the thesis is with special reference to “KSE" Financial and quantities statement.Futuristic – prepared and approved prior to defined period of time.

Goa oriented – for the purpose of attaining a given objective.

Components – income -return, liquidity, marketability, risk, diversification expenditure and employment of capital.

Providing basis for comparison of actual performance with the predetermined targets and investigation of deviation, if any of actual performance and expenses from the financial figures. It helps to take timely corrective measures.

7.Sample size:

Title (The mediating role of perceived financial risk and liquidity on the relationship between portfolio management and rate of return: the moderator effect of investor behavior)“case study Khartoum stock exchange”

8. Sources of Data:

Primary Sources: Questionnaire andThe study secondary data and discussion with the officials of the Khartoum stock exchange, companies.

Various other reports are collected from the stock exchange and companies magazines. Published books, financial journals, and websites.

9.Limitations of the Research

The study encountered some limitations that are noteworthy.

1. **Firstly,** the study suffered from complications in data collections in some aspects as some investors were reluctant in giving some information as they considered it a bit personal and cite it as some form of investigation to ascertain their wealth. However, the study had to involve the stock brokers at all level to assure them.

2. **Secondly,** the study encountered challenges in some investors deciding not to participate in the study citing their busy schedules.

3**. Thirdly,** the study suffered from lack of relevant behavioral finance empirical evidence in Sudan on individual investor portfolio performance. However, the study relied on similar studies from foreign stock markets to enhance the discussions.

10. PREVIOUS STUDIES:

1. (ShukairyNuri Musa, Marwan Abu Orabi, 2012) title The extent of the use of banks to the policy of diversification To reduce risk An Empirical Study on commercial Jordanian banks. The Research Methodology is Empirical research result Jordanian banks committed to investing a formation theories governor of invested capital and the stability of the yield and to the principle of diversification.

Jordanian banks committed to- the principle of trade-off between risk and return.to the principle of the policy in the composition of the portfolio. -

Appropriate principle - to ensure the principle of a capital-investor and the stability of yield.

Future research suggestion must the bank when the composition of the portfolio diversification tools so that it is an appropriate tool to the point of return this tool is no risk there will be a balance between risk and return 2. When you configure the investment portfolio that takes into account the low-yielding and risky assets Low.

On the bank to follow a balanced policy when configuring the wallet so that keeps the elemental yield and safety The same time together.4. Further studies on the subject of study in order to develop practical understanding of the process in the formation of the conservative foundations Investment.

2.(mohmedabdalmotaleb yassin2011) Title The impact of disclosure of accounting information on the composition of investment portfolio stocks market (case study Khartoum stock exchange the research methodology is descriptive research result is 1.The study showed a lack of quality of accounting information and the lack of the necessary information on the areas of investment of the most important factors influencing the composition of the portfolio -cares investors when making an investment decision and directing on the set of the most important accounting information relating to the profitability per share and net dividends and the company's ability to meet its obligations -. that there followed a strategy to diversify the portfolio is working to spread risk and avoid losses and increase yield.

3. (Christopher Kantos, 2010) title Incorporation of liquidity risk into equity portfolio risk estimate The Research Methodology is Empirical Research result Liquidity risk is a critical issue for most investors, particularly those that are either very large or are Leveraged -Estimation

of trading costs associated with liquidity Needs can be efficiently accomplished through our tick based model, as well as other models of cost -Variability in buyer/seller imbalance information can be used as a metric for short horizon risk- We have presented two methods for including liquidity risk into portfolio risk estimates.

4. (Sehammohmed ali, 2010)The impact of securities risk on financial investment decision Empirical research result -The research finding have shown that diversity in investment lead to minimize the risks -Profit distributed to shareholders considered as the most important indicators that financial securities investors depend on to make decision- Risk are not high in fact they are nearly not existed in financial investment bank. Sudan because there are variety of investment portfolio in addition shahama bond certificate. Research suggestion - The is Stance of financial securities of size and formula that conforms with privacies of investor in terms of income and culture Investors should analyze and evaluate financial securities before take investment decision -Make benefit form specialist in investment field and interested I enlightening investors in financial investment bank in Sudan and let them to take cognizance of development and change occur in Khartoum stock market.

5. (PrachiDeuskar and Timothy C. Johnson, 2009) The Liquidity of the Market Portfoliothe research methodology is empirical research result is There is four primary findings that we wish to highlight. -Flow and returns. A “stylized fact” about illiquidity is that it increases in down markets. Our results do not support this: there is no significant relationship between illiquidity a contemporaneous or lagged returns. Instead, the data show a previously undocumented negative relation with order flow. Since we have already established the strong positive correlation between flows and returns, the results suggest that it is the flow-driven component of returns only that is responsible for the apparent

relationship between illiquidity and returns. - Volume. We find that there is a significant negative contemporaneous response of illiquidity to volume, but that there is roughly equal positive lagged response. Measured by the sum of contemporaneous and lagged coefficients,25 there is essentially no relationship between activity levels and liquidity.Volatility. We do find a significant positive relation between market volatility and market illiquidity, in line with existing literature. We can go a step further, however, and determine that there is no such relationship with order-flow volatility. In fact, the latter relationship is significantly negative. (This is shown in the second panel of the table.) Hence the uncertainty that affects illiquidity is that of the non- flow-induced component of returns, i.e. “fundamental” uncertainty not uncertaintyabout orders.

6. (Bin Musa Kamal – 2008) title Investment portfolio - composition and risks, The Research Methodology is Empirical research result any securities linked to a certain degree of return and risk It can be estimated mathematically .The return and risk of any portfolio reflects the total return and risk Constituent assets. When selecting an investor to diversify his portfolio components must take into account the correlation between the returns of its assets, the higher the Link with increased risk to the degree the portfolio as a whole. And thus when selecting securities comprising the portfolio to be Take into account the diversification of the issuer, and therefore the failure of any The paper does not affect the other assets do not collect all the eggs In one basket.

7. (Bashir Osman Hassan Jabber, 2006)The impact of the risks of investing in securities portfolios to maximize the value of the business the research methodology is descriptive research result is - investor depends on the risk and return in the composition of the portfolio - There is a direct correlation between return the investment and associated risk him -

.positive diversification of the assets of the investment portfolio is one of the most effective means to reduce the risk of investing in securities - considered dividends for the shareholders of the most important indicators relied upon by the investor in the investment decision - capital structure affect the market value of the facility through its effect on the expected cash flows as well as the cost of money, or both -The efficiency of financial management to increase the operational efficiency of the facility the future study and suggestion . The financial structure of the composition and its impact on the market value of an entity- the impact of the diversification of the portfolio securities components to reduce the risk of the Investment.

8.Stephen Lee† & Simon Stevenson 2000) title Real Estate Portfolio Construction and Estimation Risk. The Research Methodology is Empirical, Research result conclude that there is a vast difference between “potential gains” from an ex-post analysis and “realized gains” from an ex-ante analysis. This is true for equity, fixed income and securitized real estate portfolios alike and is confirmed in this study for the direct real estate market. However, techniques such as Bayes-Stein estimation and the use of the MVP, which have yielded promising ex-ante results in capital market studies, are not completely successful in improving out-of-sample performance in this case.

It is hypothesized that such results are due to the cyclical nature of property and that the contrarian and mean-reversion effects picked up in studies of stocks and bonds are not captured when an asset such as direct property is examined. This conclusion is also supported by the strong performance of the tangency portfolios, and in particular the classical unadjusted Sharpe portfolio, over the shorter horizons, which would be consistent with a cyclical momentum effect. Future research and suggestions Possible extensions of this work would be investigate the

effect of shortening the ex-post time horizon over which the portfolio weights are estimated thereby hopefully making the results more sensitive to recent market conditions.

9.(Francies a .long staff ,1995) Title How much can marketability affect securities value, The Research Methodology is Empirical, Research Results The discount for lack of marketability can be large even when the length of marketability restriction is very short., the upper bond provides a benchmark for estimating the valuation effects of marketability restriction such as critical breakers, trading halts, and prohibition of program trading. -this result allows us to assess directly whether empirical estimates of discounts for lack of marketability are consistent with rational market pricing . -upper bound may actually be close approximation to absorved discounts for lack of marketability. Future research suggestion-valuing liquidity of financial market.

11. Research Gap:

The results indicate that ININ rely more on newspapers/media and noise in the market (Dimitrios I. Maditinos 2007) focus on investment decisions of professional investors more on fundamental and technical analysis and less on portfolio analysis. The techniques that professionals use for stock analysis. Investment managers, fiduciaries, and clients need to re-examine asset allocation and risk measurement in order to better execute a process of effective risk management of their portfolio Douglas Hubbard,2009).

We demonstrate that these tools can provide invaluable insights regarding portfolio risk, but must be applied with considerable care. Risk analysis, as it stands today, is as much an art as a science.(Madhavan& Yang, 2003)

Historical returns have little “forecasting power.” These issues are discussed in many academic studies, including (Jorion 1996, 2000, Michaud, 1989) (Pavlo Krokhmal1, Jonas Palmquist2, and Stanislav Uryasev.2016)

- The analysis could also be extend by taking into consideration the effects of transaction costs and taxes on the gains from diversification within the real estate portfolio.(Stephen Lee† & Simon Stevenson,2000).
- the portfolio securities foundations to manage them are as follows(planning, time, The reservation and prudence, Supervision and follow-up) .(bin Amer bin Hacene 2013)
- Focusing on number of stocks .Well diversified portfolio randomly chosen stocks (meirstatmen 1987). (Evans & archer1968), Focusing on the return profile of multiple stock portfolios, de Vassal (2011) examined the performance of portfolios with an increasing number of stocks..
- This research takes on to consideration over all managing of portfolio and relationship with return. And investor behavior. Look at research framework.

CHAPTER TWO

LITERATURE REVIEW

This chapter introduces a process on managing investment portfolios, written by Scholars for investment practitioners. In setting out to master the concepts and tools of portfolio management, Origin of portfolio, definition, Managing Investment Portfolios We first needs a coherent description of the portfolio management process.

The portfolio management process is an integrated set of steps undertaken in a consistent manner to create and maintain an appropriate portfolio (combination of assets) to meet clients' stated goals. The process we present in this chapter is a distillation of the shared elements of current practice.

Because it serves as the foundation for the process, we also introduce the investment policy statement through a discussion of its main components. An investment policy statement (IPS) is a written document that clearly sets out a client's return objectives and risk tolerance over that client's relevant time horizon, along with applicable constraints such as liquidity needs, marketability, diversification, tax considerations, regulatory requirements, and unique circumstances.

The portfolio management process moves from planning, through execution, and then to feedback. In the planning step, investment objectives and policies are formulated, capital market expectations are formed, and strategic asset allocations are established. In the execution step, the portfolio manager constructs the portfolio. In the feedback step, the manager monitors and evaluates the portfolio compared with the plan. Any changes suggested by the feedback must be examined carefully to ensure that they represent long-run considerations.

"A common objective of the portfolio investor is to achieve a higher portfolio risk adjusted return as opposed to investment in a single asset. Combining assets into a portfolio carries the opportunity of risk reduction and at the same time acquiring a higher return compared to single asset investment. As financial markets experience different phases, different regimes reside in the markets and many investment portfolios incur both losses and gains if it is not managed in accordance with the investor's expectations to future market developments hypothesis by Lo (2004) who acknowledges the problematic issue of the assumption of market efficiency.

Technology. This thesis will not seek to investigate the extent of these implications but yields an important conclusion: a portfolio has to be actively managed.

The main objective behind all the investment process is Achieve "return" and in the light of this objective is the design plans Future financial (Bnmoussa-2004) (Howard et al., 2013).

The concept of portfolio management has been introduced by Markowitz (1952),((MiladJasemi a, Ali M. Kimiagari b, A. Memariani c ,2011). Portfolio theory has been organized to overcome the challenge of assigning one's wealth among different assets(Deng et al., 2005) or in other words every way of diversifying money among several assets is called a portfolio (Fernández and Gómez, 2007) Recognizing the best portfolio of assets is one of the major challenges of financial world (Ballestero et al., 2007) and is called portfolio selection. As a matter of fact, portfolio selection is the process of making a portfolio that maximizes the investor's satisfaction .the majority of professional among mangers cannot beat a buy and hold policy on risk adjusted basis. (Frank .k. Reilly & Keith c.brown2013)The Proper diversification does not require investing in large number different industries and securities

(gup.2007)One of the first definitions of a well-diversified portfolio is the market portfolio.

Based on the Capital Asset Pricing Model, there exists a linear relationship between systematic risk and portfolio return.(apolln 2014). The return variance of a portfolio of a group of securities is lower than the average variance of the individual securities, unless all of the securities are perfectly correlated. This was first examined in detail by Evans and Archer (2014), the benefits of diversification lie not in return enhancement, but in risk reduction.(apallon 2014).rational investors will prefer a safe income stream over a risky one unless the risky one promises a (sufficiently) higher return (Dietmar Maringer2008).

Global economy turmoil 2008 witnessed the, most worst financial crisis since 1930 the immediate priorities should be:

1. Endurance to more effective and solid risks management system.

2. Stronger liquidity management practices.

The local and global economic circumstances that directly and indirectly influenced the bank activates Recoverment government bonds and securities.(FIB 2008 report p.n 12).

The Real Merchants of Venice

the money lenders of Europe filled important gaps left by the larger banks. Moneylenders traded debts between each other; a lender looking to unload a high-risk, high-interest loan might exchange it for a different loan with another lender. These lenders also bought government debt issues. As the natural evolution of their business continued, the lenders began to sell debt issues to customers - the first individual investors.

In the 1300s, the Venetians were the leaders in the field and the first to start trading the securities from other governments. They would carry slates with information on the various issues for sale and meet with clients; much like a broker does today. (To learn more about the history of money lending, see *The Evolution of Banking*.)

The First Stock Exchange - *Sans* the Stock

Belgium boasted a stock exchange as far back as 1531, in Antwerp. Brokers and moneylenders would meet there to deal in business, government and even individual debt issues. It is odd to think of a stock exchange that dealt exclusively in promissory notes and bonds, but in the 1500s there were no real stocks. There were many flavors of business-financier partnerships that produced income like stocks do, but there was no official share that changed hands.

Section 1

1.1Introduction to Financialmarkets:

Financial markets are the other important component of investment

Environment. Financial markets are designed to allow corporations and governments to raise new funds andinvestors to execute their buying and selling orders. In financial markets funds are channeled from those with the surplus, who buy securities, to those, with shortage, who issue new securities or sell existing securities. A financial market can be seen as a set of arrangements that allows trading among its participants.

Financial market provides three important economic functions (Frank J. Fabozzi, 1999):

1. Financial market determines the prices of assets traded through the interactions between buyers andsellers;
2. Financial market provides a liquidity of the financialassets;

3. Financial market reduces the cost of transactions by reducing explicit costs, such as money spent to advertise the desire to buy or to sell a financial asset.

Financial markets could be classified on the bases of those characteristics:

- Sequence of transactions for selling and buyingsecurities;
- Term of circulation of financial assets traded in themarket;
- Economic nature of securities, traded in themarket;

From the perspective of a givencountry.

By sequence of transactions for selling and buying securities:

- Primarymarket
- Secondarymarket

All securities are first traded in the primary market, and the secondary market provides liquidity for these securities.(Frank J. Fabozzi, 1999).

Primary market is where corporate and government entities can raise capital and where the first transactions with the new issued securities are performed. If a company's share is traded in the primary market for the first time this is referred to as an initial public offering (IPO).

Investment banks play an important role in the primary market:

- Usually handle issues in the primarymarket;
- Among other things, act as underwriter of a new issue, guaranteeing the proceeds to theissuer.

Secondary market- where previously issued securities are traded among investors. Generally, individual investors do not have access to secondary markets. They use security brokers to act as intermediaries for them. The broker delivers an orders received form investors in securities to a market place, where these orders are executed. Finally, clearing and settlement processes ensure that both sides to these transactions honor their commitment. Types of brokers:

- Discount broker, who executes only trades in the secondarymarket;
- Full service broker, who provides a wide range of additional services to clients (ex., advice to buy orsell);
- Online broker is a brokerage firm that allows investors to execute trades electronically usingInternet.

  Types of secondary market places:

- Organized securityexchanges;
- Over-the-countermarkets;
- Alternative tradingsystem. (Frank J. Fabozzi, 1999).

An organized security exchange provides the facility for the members to trade securities, and only exchange members may trade there. The members include brokerage firms, which offer their services to individual investors, charging commissions for executing trades on their behalf. Other exchange members buy or sell.

For their own account, functioning as dealers or market makers who set prices at which they are willing to buy and sell for their own account. Exchanges play very important role in the modern economies by performing the following tasks:

- Supervision of trading to ensure fairness andefficiency;
- The authorization and regulation of market participants such as brokers

and marketmakers;

- Creation of an environment in which securities' prices are formed efficiently and without distortion. This requires not only regulation of an orders and transaction costs but also a liquid market in which there are many buyers and sellers, allowing investors to buy or to sell their securities quickly;
- Organization of the clearing and settlement oftransactions;
- The regulation of the admission of companies to be listed on the exchange and the regulation of companies who are listed on theexchange;
- The dissemination of information (trading data, prices and announcements of companies listed on the exchange). Investors are more willing to trade if prompt and complete information about trades and prices in the market is available(KristinaLevišauskait,2010).

The over-the-counter (OTC) market is not a formal exchange. It is organized network of brokers and dealers who negotiate sales of securities. There are no membership requirements and many brokers register as dealers on the OTC. At the same time there are no listing requirements and thousands of securities are traded in the OTC market. OTC stocks are usually considered as very risky because they are the stocks that are not considered large or stable enough to trade on the majorexchange.

An alternative trading system (ATS) is an electronic trading mechanism developed independently from the established market places – security exchanges – and designed to match buyers and sellers of securities on an agency basis. The brokers who use ATS are acting on behalf of their clients and do not trade on their own account. The distinct advantages of ATS in comparison with traditional markets are cost savings of transactions, the short time of execution of transactions for liquid securities, extended hours for trading and anonymity, often important for

investors, trading largeamounts.

By term of circulation of financial assets traded in the market:

- Moneymarket;
- Capitalmarket

Money market - in which only short-term financial instruments are traded.

Capital market - in which only long-term financial instruments are traded. The capital markets allow firms, governments to finance spending in excess of their current incomes.(Kristina Levišauskait, 2010)

Table2.1 showing the comparison of money market and capital market

Features	Money market	Capital market
Term of circulation securities traded	Short-term, less than 1year	Long-term, more than 1year
Level of risk	Low, because of trading short-term securities which have lower level of risk and highliquidity	Long-term securities, traded in This market, is more risky
Fund suppliers	Commercial banks, non- financial business institutions with the excess funds	Banks, insurance companies, pension funds, lending the large amounts of funds for a long-term period; investment funds with big pools of funds for investing
Financial instruments	Certificates of deposit; Treasury bills; Commercial paper; Bankers 'acceptances; Repurchase agreements, other short-term investment vehicles	Common stocks; Preferred stocks ; Treasury bonds; Municipal bonds; Corporate bonds; other long-term investment vehicles
Aims for raising money	For financing of working capital and current needs	For financing of further business development and investment projects

Source: Kristina Levišauskait, 2010, Investment Analysis and Portfolio Management Leonardo da vinciTransfer of Innovation -Vytautas Magnus University Kaunas, page 22.

By economic nature of securities, traded in the market:

- Equity market or stockmarket;
- Common stockmarket;
- Fixed-incomemarket;
- Debtmarket;
- Derivativesmarket.

From the perspective of a given country financial markets are:

- Internal or nationalmarket;
- External or internationalmarket.

The internal market can be split into two fractions: domestic market and foreign market. Domestic market is where the securities issued by domestic issuers (companies, Government) are traded. A country's foreign market is where the securities issued by foreign entities aretraded.

The external market also is called the international market includes the securities which are issued at the same time to the investors in several countries and they are issued outside the jurisdiction of any single country (for example, offshore market).

Globalization and integration processes include the integration of financial markets into an international financial market. Because of the globalization of financial markets, potential issuers and investors in any country become not limited to their domestic financial market. (Kristina Levišauskait, 2010).

2.2 Introduction of portfolio management:

Introduction: The main objective behind all the investment process is Achieve "return" and in the light of this objective is the design plans Future financial through which is determined by the standards is choosing the right investment, and contrast this subject Investment for the element of risk, it is devoid of any element of the project Risk, so that the retention of funds in the form of criticism of the media Risk, where there is no guarantee that the purchasing power of currencies Fixed. To avoid the risks for the investment in stock Are resorting to the so-called diversification, and this means that the formation of a diversified portfolio in terms of its content.

It can also propose another definition is more precise and "that the portfolio Securities is a selection of those, or of specific tariff several securities (stocks and bonds) a different type, and dates Merit, maintained by the investor,

And the for two main:

1. The impact of the investment in stock returns.

2. The possibility of converting the securities into cash ready in case Investor protest for it**.**

Advantage of the investment portfolio according to their origins in terms of type, Also vary in terms of quality, where it can be kind It contains real assets and the assets that have economic value Concrete such as real estate and gold, silver and projects Economic, and financial assets such as stocks and bonds, And Treasury bonds (Bnmoussa-2004)

.The principle of diversification is based on an important piece of advice they do not lay eggs in One basket. Where portfolio management aims to achieve a balance between Risk and return, the overall risk of the portfolio is : (Bnmoussa-2004)

- The risk is systematic: And is your specific portfolio.

1- Systematic risk: is the risk of the market. The first danger can be reduced by sectorial diversification.

Of the portfolio (investing in a number of different sectors of the economy National), and the second risk could be reduced through diversification International (investment in various international stock exchanges). [(1)]

2.3 Conceptualization:

Modern portfolio theory is an effort for evolution of traditional principles in portfolio selection. Portfolio theory has been organized to overcome the challenge of assigning one's wealth among different assets(Deng et al., 2005). In Mathematical programming asset is a random variable with a stochastic distribution for future returns and portfolio is a linear combination [of] these variables (Liu and Shenoy, 1995), or in other words every way of diversifying money among several assets is called a portfolio (Fernández) and Gómez, 2007). Recognizing the best portfolio of assets is one of the major challenges of financial world (Ballestero et al., 2007) and is called portfolio selection. As a matter of fact, portfolio selection is the process of making a portfolio that maximizes the investor's satisfaction [(FernándezandGómez, 2007), (Huang, 2007), (Elikyurt and Ozekici, 2007), (Huang, 2008)].The concept of portfolio management has been introduced by Markowitz (1952),((MiladJasemi a, Ali M. Kimiagari b, A. Memariani c ,2011)proving that diversification of an investment portfolio

is preferable to a homogenous portfolio based on the dimensions risk and return.These concepts led to the development of the Modern Portfolio Theory (MPT) (Elton et al., 2007), and to its former applications in the financial domain. However, over the years, portfolio management has been applied for the management of business objects such as business units, products, relationships, projects, or IT applications. Cooper et al. (2001) define three generic goals of portfolio management for new products based on empirical findings: maximization of value against one or more business objectives, balancing, in order to manage the overall risk of the portfolio; strategic alignment of the portfolio with the strategy. Accordingly, portfolio models can be clustered in seven different categories: financial or economic models; scoring models; probabilistic financial models; behavioral approaches; mathematical optimization procedures; Decision support

systems (Cooper et al., 2001; Henderson, 2006Parkhe,1991;Avlonitis&Papastathopoulou,2006).Portfolio is a group of financial assets such as shares, stocks, bonds, debt instruments, mutual funds, cash equivalents, etc. A portfolio is planned to stabilize the risk of non-performance of various pools of investment.((MiladJasemi a, Ali M. Kimiagari b, A. Memariani c ,2011).

Objective and Constrained Identification

Most investors enjoy selecting investments and are inclined to jump to this step right away, but defining financial goals always comes first. Knowing the endgame—investing for financial freedom in retirement, building and protecting wealth, funding education or other goals—sets up the rest of the process. Before deciding where to invest, a risk questionnaire is useful to further define an investor's risk and return objectives and constraints on the investment process. Since investors typically choose portfolios with either too much or too little risk, match goals with investment choices is critical.

Capital Market Expectations

After defining goals and analyzing risk tolerance, capital market expectations (CMEs) are made. Created from scratch or taken from a third-party source, such as Ibbotson, CMEs are the expected return and risk for different asset classes. They are used in the mathematical analysis of how to allocate assets in a portfolio, based on an investor's pre-specified goals.

Implementation

Based on how asset classes affect each other and the overall return and risk profile for the portfolio, a number of different asset classes are specified by the advisor, along with a targeted allocation range for each. While the portfolio is a collection of individual investments, a majority of portfolio variability is determined by asset allocation. This makes asset allocation a critical component in the portfolio management process.An essential concept in asset allocation is the correlation among investments and asset classes. Correlation is a measure of how related two things are, with meaning perfectly correlated and -1 being perfectly negatively correlated.(Douglas Hubbard 2009).

With investments, if one stock always goes up 1 percent and another always goes down 1 percent They have a perfect negative correlation of -1. By having investments that perform differently, the overall risk level (as measured by volatility) in the portfolio can be greatly reduced. By adding different investments with low correlation, the overall risk in the portfolio is reduced.

This is way diversifying into international investments and other assets classes, which both derive return from different factors than domestic stocks, is so important in portfolio management.

Monitoring and Rebalancing

After implementing investment decisions, the final steps are monitoring and feedback. Monitoring includes the evaluation of return, risk and ensuring that the behavior of investments or investment managers is in line with original expectations. Traditionally, the measures for performance have been limited to percentage gain (return) and standard deviation (risk). However, these measures cannot be so simply stated when it comes to personal finance. Portfolio performance should be based on the likelihood of achieving financial goals, not solely on the level of returns generated. This assessment method is often referred to as shortfall risk, and is more important and meaningful for the individual than is standard deviation. When investment values have significant changes, their allocation can deviate substantially from the range targeted in the asset allocation step. Returns are cyclical; one asset class may outperform one year but are in general are unlikely to continue to do so for an extended period of time, with a general return to the norm. (Douglas Hubbard 2009)To successfully manage an investment portfolio, the advisor must clearly identify an investor's objectives and constraints.

- Portfolio management is an ongoing feedback process. It never stops, and changing market factors and personal investment preferences require advisors to regularly monitor market conditions and investor responses.
- The concept of diversification and correlation cannot be overly stressed. Even by adding an investment that is more risky by standard deviation, it can help to increase return while reducing overall portfolio risk. The portfolio return and risk is the critical focus in investment planning.

2.4 Definition of Portfolio Management

Portfolio -an appropriate mix of or collection of investments held by an institution or a private individual.

Portfolio Management-the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk vs. performance. (.BogdanBilaus 2010).

Portfolio management is the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance.

Portfolio management is all about strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and many other tradeoffs encountered in the attempt to maximize return at a given appetite for risk.

1. Portfolio is a group of financial assets such as shares, stocks, bonds, debt instruments, mutual funds, cash equivalents, etc. A portfolio is planned to stabilize the risk of non-performance of various pools of investment.

2. Management is the organization and coordination of the activities of an enterprise in accordance with well-defined policies and in achievement of its pre-defined objective

Definition of the securities portfolio: as a cluster of financial assets or investments 1 are known As well as that it had "portfolio, which includes all securities and financial assets traded in the market capitalism According to the relative value of each of them to the total market portfolio includes assets used in this portfolio Stock returns calculated risk and return" (Rodriguez, 2016.)

2/ and is also known as:" they present a selection of one or more of. Various assets in the type and quality "3We conclude from the foregoing that the securities portfolio is the presence of more than one investment, where They include a range of individual investments and purpose of showing that investing in the stock better Of any individual investment because the distribution of wealth on several investments lead to a reduction of the total risk.

VALUE MAXIMIZATION:- A process that increases the currentnet value of business or shareholdercapital gains, with the objective of bringing in the highest possible return. The wealth maximization strategy generally involves making sound financialinvestment decisions which take into consideration any risk factors that would compromise or outweigh the anticipated benefits.

SECURITY SELECTION –SS Deciding the structure of one asset class within the portfolio/ setting the so called **"model portfolio"** for each asset class / selecting form the/e investment universe the securities which will be included in the portfolio; **Factors to consider** liquidity; diversification vs. crowding effect; valuation; top down vs. bottom up;

Determinants of investment decision these are factors that investors consciously consider in the course of making their investment choices for example corporate earnings, past performance of company, stock index.

Individual investor Is an individual investor who buy and sell securities for his/her personal account, and not for another company or organization.

Investment decision is the choice an investor makes of committing his/her Funds from among the available alternatives by guide of the existing factors

Portfolio This is a collection of securities that are well selected to achieve the highest return for a given level of risk

Portfolio Performance: The return an individual investor gets after Investing in a portfolio over time. This study measures this using Sharpe measure Portfolio management presents the **best investment plan** to the individuals as per their income, budget, age and ability to undertake risks.

Portfolio management **minimizes the risks** involved in investing and also increases the chance of making profits.

Portfolio managers understand the client's financial needs and suggest the best and unique investment policy for them with minimum risks involved.

Portfolio management enables the portfolio managers to **provide customized investment solutions** to clients as per their needs and requirements.

1.9 Who is a Portfolio Manager?

An individual who understands the client's financial needs and designs a suitable investment plan as per his income and risk taking abilities is called a portfolio manager. A portfolio manager is one who invests on behalf of the client.

A portfolio manager counsels the clients and advises him the best possible investment plan which would guarantee maximum returns to the individual.

A portfolio manager must understand the client's financial goals and objectives and offer a tailor made investment solution to him. No two clients can have the same financial needs (www.managementstudyguide.com 8/11/2016).

The art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance.

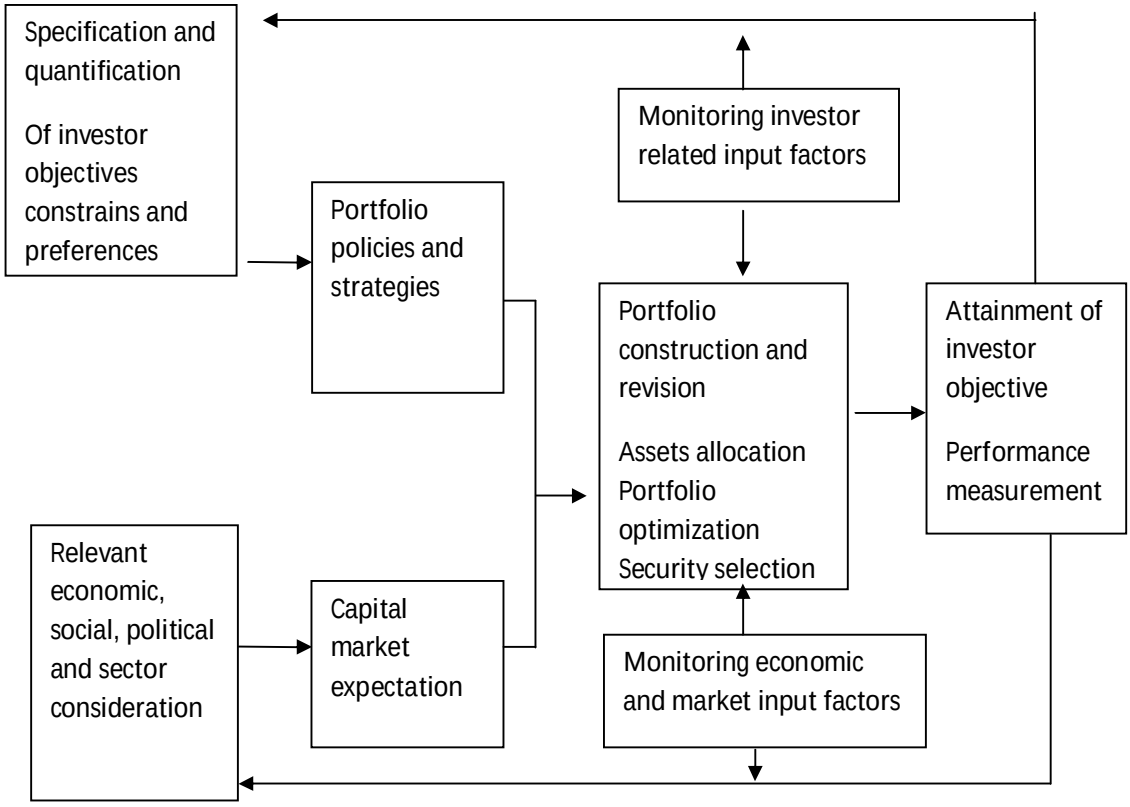
Portfolio management is all about strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and many other tradeoffs encountered in the attempt to maximize return at a given appetite for risk.

Breakdown "Portfolio Management'

In the case of mutual and exchange-traded funds (ETFs), there are two forms of portfolio management: passive and active. Passive management simply tracks a market index, commonly referred to as indexing or index investing. Active management involves a single manager, co-managers, or a team of managers who attempt to beat the market return by actively managing a fund's portfolio through investment decisions based on research and decisions on individual holdings. Closed-end funds are generally actively managed.

1.5What is Portfolio Management?'

Figure 2.1 portfolio construction, monitoring and revision process



Resource: John L. Maginn, CFA and others 2010, the portfolio management process and the investment policy statement page 23.

Active investment approaches encompass a very wide range of disciplines. To organize this diversity, investment analysts appeal to the concept of investment style. Following Brown and Goetzmann (1997), we can define an investment style (such as an emphasis on growth stocks or value stocks) as a natural grouping of investment disciplines that has some predictive power in explaining the future dispersion in returns across portfolios.

Now let's comprehend the meaning of term Portfolio Management.

1. Portfolio Management (PM) guides the investor in a method of selecting the best available securities that will provide the expected

rateof return for any given degree of risk and also to mitigate (reduce) therisks. It is a strategic decision which is addressed by the top-level managers.

For example, Consider Mr. John has $100,000 and wants to invest his money in the financial market other than real estate investments. Here, the rational objective of the investor (Mr. John) is to earn a considerable rate of return with less possible risk.(John L. Maginn, 2010)So, the ideal recommended portfolio for investor Mr. John can be as follows:-

Table2.2 show example of portfolio management.

No.	Investor's Portfolio	Investment	Percentage	Security	Returns
1.	Government Bonds	$ 25,000	25 %	High	Low
2.	Bank's Fixed Deposits	$ 15,000	15 %	High	Average
3.	Shares	$ 35,000	35 %	Low	High
4.	Mutual Funds	$ 25,000	25 %	Average	Average

Note: - This is just an example and may not be taken as a standard for the portfolio management.

Called as portfolio management:

Portfolio management refers to managing an individual's investments in the form of bonds, shares, cash, mutual funds etc so that he earns the maximum profits within the stipulated time frame.

Portfolio management refers to managing money of an individual under the expert guidance of portfolio managers. In a layman's language, the art of managing an individual's investment is called as portfolio management..(John L. Maginn, 2010)

2.7 Foundations Management Portfolio:

The investor chooses its portfolio including fit his needs, within the framework of focusing on the best yield when A certain level of risk or risk aversion and reduction at the lowest level according to the investor's desire To achieve this principle, the portfolio securities foundations to manage them are as follows:

a. **Planning:** The planning of the portfolio requires setting goals clearly to the possibility of risk reduction Possible, since the random testing of the components of the portfolio investor exposed to the difficulties raised by the left Capital actual investor requires thinking and portfolio securities as alternatives are in line And objectives of the investor.

B. Time: moving prices in the stock market as a result of the economic climate affected And political of the country concerned, price volatility and make it difficult for the investor to buy the lowest constantly Price and selling price and the top of it, the study and the prospects for activity helps an investor enters GMT and out of the market.(bin Amer bin Hacene 2013)

(C**) The reservation and prudence**: there must be a balanced investment behavior when you prepare and build a portfolio Stock, according to the principle of benefit, investor who runs a scientific portfolio to determine levels desired potential risks in order to avoid unexpected events, which may affect capital portfolio.

(D) **Supervision and follow-up:** The market price movements on an ongoing basis and lack of relative stability Calls by the portfolio manager to the periodic review and direct supervision of the position of the

components of a portfolio, since the Procurement strategy and keep without follow-up and supervision on market conditions presents a portfolio losses.

2.8 Types of Portfolio Management

Portfolio Management is further of the following types:

- **Active Portfolio Management:** as the name suggests, in an active portfolio management service, the portfolio managers are actively involved in buying and selling of securities to ensure maximum profits to individuals.
- **Passive Portfolio Management:** In a passive portfolio management, the portfolio manager deals with a fixed portfolio designed to match the current market scenario.
- **Discretionary Portfolio management services:** In Discretionary portfolio management services, an individual authorizes a portfolio manager to take care of his financial needs on his behalf. The individual issues money to the portfolio manager who in turn takes care of all his investment needs, paper work, documentation, filing and so on. In discretionary portfolio management, the portfolio manager has full rights to take decisions on his client's behalf.
- **Non-Discretionary Portfolio management services:** In non-discretionary portfolio management services, the portfolio manager can merely advise the client what is good and bad for him but the client reserves full right to take his own decisions.(bin Amer bin Hacene 2013).

2.9 Objectives of Portfolio Management

The main objectives of portfolio management in finance are as follows:-

1. **Security of Principal Investment**: Investment safety or minimization of risks is one of the most important objectives of portfolio management. Portfolio management not only involves keeping the investment intact but also contributes towards the growth of its purchasing power over the period. The motive of a financial portfolio management is to ensure that the investment is absolutely safe. Other factors such as income, growth, etc., are considered only after the safety of investment is ensured.

2. **Sustainable of Returns**: Portfolio management also ensures to provide the stability of returns by reinvesting the same earned returns in profitable and good portfolios. The portfolio helps to yield steady returns. The earned returns should compensate the opportunity cost of the funds invested. (Rodriguez. 2016)

3. **Capital Growth**: Portfolio management guarantees the growth of capital by reinvesting in growth securities or by the purchase of the growth securities. A portfolio shall appreciate in value, in order to safeguard the investor from any erosion in purchasing power due to inflation and other economic factors. A portfolio must consist of those investments, which tend to appreciate in real value after adjusting for inflation.

4. **Marketability**: Portfolio management ensures the flexibility to the investment portfolio. A portfolio consists of such investment, which can be marketed and traded. Suppose, if your portfolio contains too many unlisted or inactive shares, then there would be problems to do trading

like switching from one investment to another. It is always recommended to invest only in those shares and securities which are listed on major stock exchanges, and also, which are actively traded.

5. **Liquidity**: Portfolio management is planned in such a way that it facilitates to take maximum advantage of various good opportunities upcoming in the market. The portfolio should always ensure that there are enough funds available at short notice to take care of the investor's liquidity requirements.

6. **Diversification of Portfolio**: Portfolio management is purposely designed to reduce the risk of loss of capital and/or income by investing in different types of securities available in a wide range of industries. The investors shall be aware of the fact that there is no such thing as a zero risk investment. More over relatively low risk investment give correspondingly a lower return to their financial portfolio.

7. **Favorable Tax Status**: Portfolio management is planned in such a way to increase the effective yield an investor gets from his surplus invested funds. By minimizing the tax burden, yield can be effectively improved.

   A good portfolio should give a favorable tax shelter to the investors. The portfolio should be evaluated after considering income tax, capital gains tax, and other taxes. (Rodriguez. 2016)

The objectives of portfolio management are applicable to all financial portfolios. These objectives, if considered, results in a proper analytical approach towards the growth of the portfolio. Furthermore, overall risk needs to be maintained at the acceptable level by developing a balanced and efficient portfolio. Finally, a good portfolio of growth stocks often .

2.10Theories for investment portfolioformation

1. Markowitz portfoliotheory

The author of the modern portfolio theory is Harry Markowitz who introduced the analysis of the portfolios of investments in his article "Portfolio Selection" published in the Journal of Finance in 1952. The new approach presented in this article included portfolio formation by considering the expected rate of return and risk of individual stocks and, crucially, their interrelationship as measured by correlation. Prior to this investors would examine investments individually, build up portfolios of attractive stocks, and not consider how they related to each other. Markowitz showed how it might be possible to better of these simplistic portfolios by taking into account the correlation between the returns on thesestocks.

The diversification plays a very important role in the modern portfolio theory. Markowitz approach is viewed as a single period approach: at the beginning of the period the investor must make a decision in what particular securities to invest and hold these securities until the end of the period. Because a portfolio is a collection of securities, this decision is equivalent to selecting an optimal portfolio from a set of possible portfolios. Essentiality of the Markowitz portfolio theory is the problem of optimal portfolioselection.

The method that should be used in selecting the most desirable portfolio involves the use of indifference curves. Indifference curves represent an investor's preferences for risk and return. These curves should be drawn, putting the investment return on the vertical axis and the risk on the horizontal axis. Following Markowitz approach, the measure for investment return is expected rate of return and a measure of risk is standard deviation

The exemplified map of indifference curves for the individual risk-averse investor is presented in Fig.2.3. Each indifference curve here (I1, I2, I3) represents the most desirable investment or investment portfolio for an individual investor. That means that any of investments (or portfolios) ploted on the indifference curves (A, B, C or D) is equally desirable to theinvestor.

Features of indifference curves:

- All portfolios that lie on a given indifference curve are equally desirable to the investor. An implication of this feature: indifference curves cannot intersect.
- An investor has an infinitive number of indifference curves. Every investor can represent several indifference curves (for different investment tools). Every investor has a map of the indifference curves representing his or her preferences for expected returns and risk (standard deviations) for each potentialportfolio.

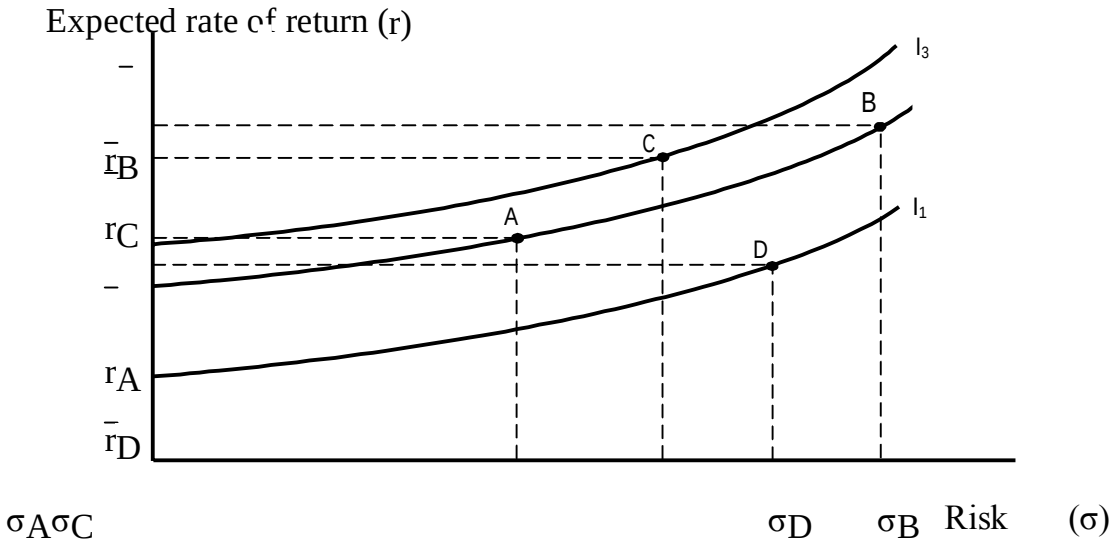


Fig. 1.2 Map of Indifference Curves for a Risk-Averse Investor

Two important fundamental assumptions than examining indifference curves and applying them to Markowitz portfolio theory :

1. The investors are assumed to prefer higher levels of return to lower levels of return, (Kristina Levišauskait, 2010)
2. because the higher levels of return allow the investor to spend more on consumption at the end of the investment period. Thus, given two portfolioswiththesamestandarddeviation,theinvestorwillchooseth e

   Portfolio with the higher expected return. This is called an ***assumption of no satiation.***
3. Investors are risk averse. It means that the investor when given the choice will choose the investment or investment portfolio with the smaller risk. This is called ***assumption of riskaversion***

2. Market efficiencytheory:

The concept of market efficiency was proposed by (Eugene Fama in 1965), when his article “Random Walks in Stock Prices” was published in Financial Analyst Journal.

Market efficiency means that the price which investor is paying for financial asset (stock, bond, ot her security) fully reflects fair or true information about the intrinsic value of this specific asset or fairly describes the value of the company – the issuer of this security**.**

The key term in the concept of the market efficiency is the information available for investors trading in the market. It is stated that the market price of stock reflects:

1. All known information,including*:*

- Past information, e.g., last year’s or lastquarter’s, month’s earnings;
- Current information as well as events, that have been announced but are still forthcoming, e.g. shareholders’meeting.

2.Information that can reasonably be inferred, for example, if many investors believe that ECB will increase interest rate in the nearest future or the government deficit increases, prices will reflect this belief before the

Capital market is efficient;if the prices of securities which are traded in the market react to the changes of situation immediately, fully and credibly reflect all the important information about the security’s future income and risk related with generating this income actual eventoccur What is the important information for the investor? From economic point of view the important information is defined as such information which has direct influence to the investor’s decisions seeking for his defined financial goals. Example, the essential events in the joint stock company, published in the

newspaper, etc.

Market efficiency requires that the adjustment to new information occurs very quickly as the information becomes known. Obvious, that Internet has made the markets more efficient in the sense of how widely and quickly information is disseminated.

There are 3 forms of market efficiency under efficient market hypothesis:

- Weak form ofefficiency;
- Semi- strong form ofefficiency;
- Strong form of theefficiency.

Under ***the weak form of efficiency*** stock prices are assumed to reflect any information that may be contained in the past history of the stock prices. So, if the market is characterized by weak form of efficiency, no one investor or any group of investors should be able to earn over the defined period of time abnormal rates of return by using information about historical prices available for them and by using technical analysis. Prices will respond to news, but if this news is random then price changes will also berandom.

Under **the semi-strong form of efficiency** all publicly available information is presumed to be reflected in stocks' prices. This information includes information in the stock price series as well as information in the firm's financial reports, the reports of competing firms, announced information relating to the state of the economy and any other publicly available information, relevant to the valuation of the firm.

The strong form of efficiency which asserts that stock prices fully reflect all information, including private or inside information, as well as that which is publicly available. This form takes the notion of market efficiency to the ultimate extreme. Under this form of market efficiency securities' prices quickly adjust to reflect both the inside and public information. If the market is characterized by strong form of efficiency, no one investor or any group of investors should be able to earn over the defined period of time abnormal rates of return by using all information available for them. The validity of the market efficiency hypothesis whichever form is of great importance to the investors because it determines whether anyone can outperform the market, or whether the successful investing is all about luck. Efficient market hypothesis does not require behaving rationally, only that in response to information there will be a sufficiently large random Reaction that an excess profit cannot be made (Yu Tian June, 2009.

Section 2:

2.12 Diversification of portfolio:

1. Number of securities

Another common way to think about a diversified portfolio is to analyze one that contains a large number of Securities N. The return variance of a portfolio of a

Group of securities is lower than the average variance of the individual securities, unless all of the securities are perfectly correlated.

This was first examined in detail by Evans and Archer (1968), who showed the impact on the variance of a portfolio's return as the number of securities increases. Using 470 of the securities listed in Standard & Poor's Index, with semi-annual observations between January 1958 and July 1967, they calculated the geometric mean and standard deviation of the return for each security.

They then formulated portfolios by randomly picking securities among the group of 470. Starting with one security and sequentially adding additional securities, they calculated each portfolio's variance and discovered a strong linear relationship between the variance of the formulated portfolios and the inverse of the portfolio size. They noted that the variance of the formulated portfolios asymptotically approached the variance of the market portfolio (consisting of all 470 securities) as the portfolio size increased.

The market portfolio variance was well approximated with only 10 securities. The benefit of holding a large number of securities was clearly demonstrated in a more recent study, where Sankaran and Patil (1999) created a set of portfolios where Each portfolio can hold a maximum of N stocks. Using a specific algorithm, Sankaran and Patil demonstrated how portfolios with an increasing number of securities are able to achieve higher Sharpe ratios.

However, the marginal benefit from diversification decreases with the number of securities.

Their findings are based on no constraints on short-selling and the same pairwise correlations. Focusing on the return profile of multiple stock portfolios, de Vassal (2001) examined the performance of portfolios with an increasing number of stocks. (ApollonFragkiskos, 2010)De Vassal calculated the returns of the constituents of the Russell 1000 during the seven-year period between 1992 and 1999, and subsequently used these returns to simulate multiple random portfolios that spanned all sizes between and 100 stocks. De Vassal reported that portfolios with bigger sizes demonstrated returns that had lower variance or downside risk.

In particular, single stock portfolios exhibited an 18% probability of a negative return, while portfolios with 10 or more stocks exhibited 10% probability over the bull market period examined. The author confirmed previous findings from Evans and Archer (1968) suggesting that the

portfolio variance is inversely related to the number of securities. The studies mentioned above refer to naive diversification.One of the main advantages of investing in more than one asset is the possible reduction of risk. Intuitively, by sharing your resources among several different assets, even if one of them has a disastrous (very low) payoff due to its variability, chances are the others will not.

The study of diversification has long attracted the interest and attention of strategic management scholars and is one of the most frequently researched areas of business (e.g. Channon, 1983; Dyas and Thanheisers, 1976; Constable, 1986; Reed and Luffman, 1986; Salter and Weinhold, 1982). Among others, researchers have examined the antecedents of diversification and the financial performance outcomes of these strategies (e.g. Rumelt, 1974, Porter 1987; Ramanujam and Varadarajam, 1989; Elango, Ma and Pope, 2008). Despite several attempts however, strategic management research has failed to establish a consistent and clear relationship between patterns of diversification and performance and most of such attempts are inconclusive (Johnson and Scholes, 2007) with conflicting results reported from some of the investigations.

For instance, while Lei and Schmit (2009) have found that more diversified insurers have better financial performance, Hakrabarti (2007), concluded that diversification is associated with poorer performance for both affiliated firms and independent firms. (Ade Oyedijo, 2012).Apart from the fact that the various attempts to demonstrate the effects of diversification on performance are inconclusive because of the conflicting evidence emerging from such studies, most of the investigations carried out so far are based on the experiences of companies in industrialized economies. (Ade Oyedijo, 2012)

Diversifying in several securities decreases the exposure to firm-specific

factors, this leads to portfolio volatility continues to decrease. But even with a large number of assets, it is not possible to avoid all risk. All portfolios are affected by the macroeconomic factors that influence the market (Bodie et Al.,2004).(Kristian Kierkegaard & others, 2006)

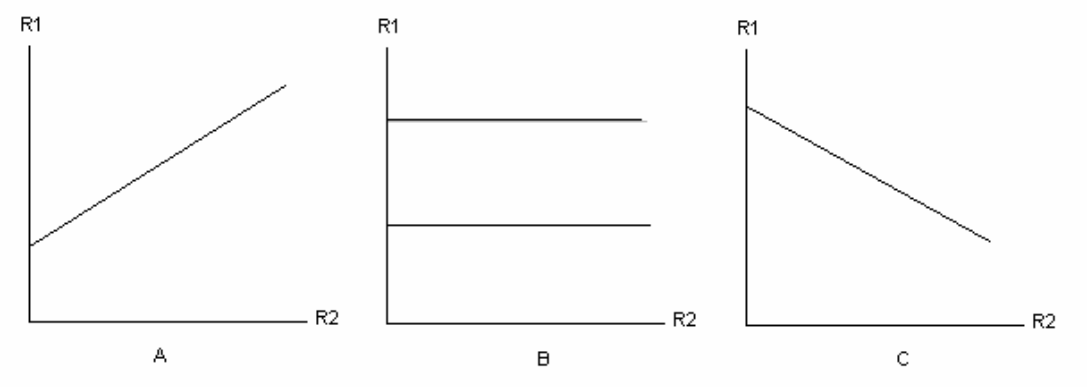
When allocating the assets it is important to understand how the uncertainties of the different assets interact. The key determinant of the risk from the portfolio is the extent to which the returns on the different tend to vary either together or in the opposite direction. Risk depends on the correlation between returns on the different securities in the portfolio. The performance of assets within a given portfolio tend to follow the market, if there is a recession or a growth the asset will move in a certain direction.

If one asset goes up in a growth period, the chance that a similar asset will go up is almost certain.

This is what correlation states and this is also why there have to be a variety of assets within the portfolio in order to provide a portfolio that can handle recessions and growth (Sharpe,2000).

The problem is to measure the tendency of the returns from the different assets, if they move together or in the opposite direction. The measurements to solve these problems are the covariance and the correlation coefficient. The covariance[2] is calculated similar to the variance, but instead of measuring the difference of an asset from its expected value, it is measured to the extent of the returns from the different assets reinforce or offset each other.

Figure 2-3 illustrates the three extremes of correlation coefficients between two risky assets.



(A) Represents a case of perfect positive correlation, where the correlation coefficient is +1. This means that the returns of the two assets follow each other perfectly. If the return of one asset increases, the return of the other asset will in- crease with the same amount.

Comprising a portfolio of two perfectly positively correlated assets will not have an effect of diversification (Sharpe,2000).

The straight opposite of the positive correlation is figure 2-1

(C), representing a perfect negative correlation of -1. When the return of one asset increases, the return of the second asset will decrease with the same amount (Sharpe, 2000). Effective diversification is finding risky assets with

low correlation as possible, as illustrated in figure 2-1.

(B). Zero correlation results in that the assets interact independently of each other. One asset's movement does not affect another asset's direction, consequently efficient diversification is accomplished. A compounded portfolio with an overall low correlation is crucial for investors' that aims to diversify in order to eliminate the unsystematic risk (Sharpe, 2000)(sKristian Kierkegaard & others, 2006.

Figure 2- 4 Diversification

As figure 2-4 shows, diversification is highly beneficial. A portfolio consisting of only five securities will have a portfolio risk only 14 percent higher than the most highly diversified Portfolio possible. When the portfolio consists of 10 assets the risk is only 7 percent higher than the most highly diversified portfolio. As we can see, the risk falls significantly with only a small degree of diversification. The more assets added to the portfolio; decrease the marginal benefit of the diversification. The largest advantage of the diversification is gained with the first five assets added to the portfolio. (Sharpe,2000).

2.13 Marketability:

In theory, the price of any asset is given by the present value of the cash flows to be received from owning the asset. In the absence of taxes, transaction costs, and other restrictions on trade, an asset can be instantaneously converted to cash at this equilibrium price. In the presence of transaction costs, however, buyers will demand a discount on the price of the asset equal to their cost of converting the asset to cash. Similarly,

investors will demand a discount if they are unable to sell the asset for a period of time. This discount represents compensation to the investor for the inability to convert the asset to cash.

This inability potentially causes the investor to miss opportunities to allocate capital to assets with higher returns. The marketability of an asset refers to the degree to which an asset can be converted to cash quickly, without incurring large transaction costs or price concessions.

All else equal, the more marketable an asset, the higher the price an investor will be willing to pay for the asset. Long staff (1995) derives an upper bound on the value of marketability using option pricing theory.10 Specifically, he considers a hypothetical investor with perfect market timing ability; *i.e*., the investor has the ability to identify the point in time in which the price of a security reaches its maximum. If this investor is restricted from selling the security for a fixed period of time, the investor forgoes the ability to sell the security at its maximum price. The difference between the present values of the price received from selling the security after marketability restrictions are relaxed and the present value from selling the security at its maximum price represents the value of marketability. Using standard techniques for option pricing literature and certain assumed parameter values, Long staff estimates discounts for lack of marketability(Mukesh Bajaj*, David J. Denis**& others 2007) as a function of marketability restriction period and the standard deviation of the security's returns. He concludes that marketability discounts can be economically relevant even when the period of illiquidity is relatively short.

Several factors are likely to influence an asset's marketability.

First, the more uncertain the asset's value, the higher will be the potential opportunity cost associated with a lack of marketability. Hence, the discount demanded by investors will be higher.

Similarly, the more difficult it is for an outsider to appraise the value of an asset, the less marketable that asset will be. Hence, potential investors will demand a discount in price.

Third, the extent to which there are close substitutes for an asset will influence its marketability. For example, the fact that many common stocks are close substitutes for one another contributes to the high degree of liquidity present in the stock market. Conversely, the lack of substitutes in the market for fine art contributes to the lack of liquidity in that market.

Fourth, the duration of restrictions on trade is likely to influence an asset's marketability discount. All else equal, the longer the period that an asset is non-marketable, the lower its value will drop.

Fifth, the larger the amount of the asset being sold, the less marketable the asset will be. This effect potentially comes from two different sources. The more of an asset that is sold, relative to the total outstanding, the less liquid the remaining market for the asset.

Furthermore, the larger the size of the transaction, the smaller the pool of potential buyers due to capital constraints and desires for diversification of personal portfolios. In sum, marketability has inherent value to investors because the lack of marketability increases potential opportunity costs for holders of assets. Consequently, all else equal, asset values will be positively correlated with the marketability of the asset. (Mukesh Bajaj*, David J. Denis**& others 2007)

Stated differently, expected returns from holding assets will be negatively correlated with the asset's marketability. The higher expected returns for less marketable assets reflect equilibrium compensation to investors for bearing the additional risks (in the form of opportunity costs). This is caused by the inability to convert the asset to cash quickly, with minimal price impact.

What investors want?

- They want to trade the stock.
- They believe the information that supports a valid forecast of abnormal future return.
- They are trading to implement a change in asset allocation.
- They are trading to implement cash versus futures arbitrage trade on a stock index
- They are a mutual fund or ETF sponsor responding to investor cash flows in or out of the portfolio.
- They are hedge fund that is forced to transact because of a margin call.
- They are forced to cover a short position by having the stock called high liquid stock. (Christopher Kantos/ June 2010)

A variation of different assets will provide the investor with a variability of return in the investor's portfolio and reduce the risk. In order to achieve portfolio optimization the investor has to allocate the portfolio in different asset classes. The most beneficial way to allocate the assets is to let a global touch permeate the portfolio. Look at different national markets in order to find independency, hence reduce the risk (Litterman, 2003).

In order to attain optimization at a national level it is of great importance to look at different type of sectors and industries, this is supported by Markowitz (1959). The investor treats the national market as a global market with all its different industrial sectors where each sector symbolizes a national market. The diverse industrial sectors are to some extent uncorrelated and will provide a positive excess return and consequently should be added to theportfolio.

Independency and diversification is of significance to attain optimization, and allocating asset in different type of industries is

whatthe investor practically does to achieve optimization. Search for the window of opportunity with mathematical tools, the statistical result gives the investor an indication of the suitability of the opportunity in the perspective of the investor's aversion to risk. When allocating the portfolio from a global point of view, it is important to be aware of that the transaction costs probably will rise to a great extent (Litterman,2003)

2.14 Return:

Showing the impact to return, Booth and Fama (1992) proved that portfolio's compound return is higher than the weighted average of the compound returns on the assets in the portfolio. This is due to the fact that the contribution of each asset to the portfolio return is greater than its compound return. The justification for this is that the contribution of each asset and portfolio variance is less than its own variance due to less than Perfect correlation (ApollonFragkiskos .2013)

As well as the offer is received by the investor in exchange for the postponement of current consumption goods and services to a later time and consumption of money at a specific time. Thus, the yield is the additional bonus that investor expects to obtain in the future. In exchange for abandoning satisfy a specific need at the present time Through the above, we can say that the rate of return is one of them process variables Investment because it measures the speed by which increases investors' wealth or lack, and therefore the most Cares about the investor is the added value obtained from his investments, that is, through his sacrifice Temporary his money, which is represented by the rate of return that can be calculated and appreciation subject to change who gets the wealth Investor through time. The return is the absolute wealth at the end of the period - beginning of the period of wealth and it is:

The rate of return = (cash flows - (w 1 - w 0 / w 0) (bin Amer bin Hacene 2013)

And that all future projections are accompanied by a state of uncertainty, where the investor is no longer sure From returns on investments and resort to the use of the possibilities that accompany each expected return and all this It produces for the investor that there is more than likely return on a single investment as a result of the difference in the circumstances Economic performance and the degree of exporting enterprises Securities might be a good, medium or bad, for the investor that takes into account the following elements:

- The expected performance and to cases related to investment

- The probability of each of these cases

- It can be achieved with each case of return.

This does not mean that the investor unsure of the occurrence and to achieve this yield there is still a case of non-Sure, knowing Doing investment returns alone, the process may lead to a negative result and it becomes Necessary to search for the degree of uncertainty and risk associated with the expected return .To return several concepts will be illustrated as follows:

a**. Expected rate of return**: defined as the rate of return on investment, which is expected to get the investor on him.

B. **The rate of return investigator**: is defined as the rate of return on investment that the investor gets actually.

C**. Required rate of return:** defined as the minimum rate of return of investment required by investors to compensate them to bear the risk and postpone current consumption for the future (bin Amer bin Hacene 2013).

Investment income and risk

A return is the ultimate objective for any investor. But a relationship between return and risk is a key concept in finance. As finance and investments areas are built upon a common set of financial principles, the main characteristics of any investment are investment return and risk. However to compare various alternatives of investments the precise quantitative measures for both of these characteristics are needed.

Return on investment and expected rate of return

General definition of return is the benefit associated with an investment. In Most cases the investor can estimate his/ her historical return precisely.

Investment Analysis and Portfolio Management Many investments have two components of their measurable return:

- a capital gain or loss;
- some form of income.

The rate of return is the percentage increase in returns associated with the Holding period:

Rate of return = Income + Capital gains / Purchase price (%) (2.1)

For example, rate of return of the share (r) will be estimated:

$$R = \frac{D + (Pme - Pmb)}{Pmb} (\%)$$

Here D - dividends;

Pmb - market price of stock at the beginning of holding period;

Pme - market price of stock at the end of the holding period.

The rate of return, calculated in formulas 2.2 and 2.3 is called holding period

Return, because its calculation is independent of the passages of the time.

All the investor knows is that there is a beginning of the investment period and an end. The percent calculated using this formula might have been earned over one month or other the year. Investor must be very careful with the interpretation of holding period returns in investment analysis. Investor can‘t compare the alternative investments using holding period returns, if their holding periods (investment periods) are different. (binAmer bin Hacene 2013).

Sharpe (2000) states that a portfolio’s expected return is the weighted average of the expected return of the individual assets. Depending on the weight of an individual asset this asset will have a larger or smaller impact on the return of the portfolio. Alternative assets differ in their terms of expected return, but the expected return is only a part of the asset’s future performance. What may influence the expected return is how volatile the asset is (Gibson, 2000).

There are different approaches to estimate the expected return of an asset. One approach is to estimate the probability of different return outcomes, opposed to making estimates based on historical data. To compose a portfolio, it is crucial to make estimates of the re- turns of assets included in the portfolio. If an accurate measurement of the return of each asset can be made, the return of the whole portfolio can be predicted with the same accuracy.

Unfortunately it is not possible to state the rate of return of an asset with certainty. The objective is to make a prediction about each asset in order to produce predictions about the whole portfolio. Without estimations of the

individual assets, it is impossible to make a prediction of the portfolio (Sharpe, 2000). The following equation shows the expected return of the portfolio, while the equation 2-2 shows the actual return of the portfolio. (Kristian Kierkegaard & others, 2006)

$$E(r_p) = \sum_{i=1}^{N} X_i E_i$$

Equation 2-1 Expected Return of the Portfolio

Where:

$E(r_p)$ = expected return of the portfolio

X_i = proportion of security i

E_i = expected return of asset i

The actual return for portfolio is expressed in the following equation:

$$R_p = \sum_{i=1}^{N} X_i R_i$$

Equation 2-2 Return of the Portfolio

Where:

R_p = Actual return of the portfolio

X_i = proportion of security i

R_i = actual return of security i

2.15 Risk.

- **Microstructure view equity risk:**

The process of price discovery for stocks arises from balancing the supply available from willing sellers to the demand from willing buyers Security returns are just the accumulation of the price impacts of the individual trades within that time period The volatility of returns manifests changes in the imbalance between buyers and sellers over time, but not all observed returns are informative If we can forecast the potential for imbalances to arise, we can forecast equity risk more efficiently The larger our own portfolio is, the greater the potential for we ourselves to create imbalances and contribute to risk.(Christopher Kantos ,June 2010)

The nature of investor like high return but don't like high risk we will in most instances use return to indicate the return on investment over particular span of time called (holding period).

Return will be measured by the sum change in the market price of security plus any income received over a holding period divided by the price of security at the beginning of holding period.

Thus if stocks started the year at $100 paid $5 in dividend at the end of the year and had a price of $105 at the end of the year the return would be 10%.

In describing security we mentioned several factors that should affect risk > these included :

1. The maturity of instrument (in general the longer the maturity the more risky it is).
2. The risk characteristics and credit worthiness of issue or guarantor of investment.
3. The nature and priority of claim the investment has on income of assets.

4. The liquidity of instrument and type of market in which is traded If risk is related to these elements then measures of risk such as variability of return should be related to same factors.(Edwin J.elton and others , 2011)

   Types of risk:

   In the financial world, the term risk is usually associated with the possibility of losing money. Three main types of risk can be distinguished:

   1. **Market risk** - the risk of a change in the value of a financial position due to changes in the value of the underlying components on which that position depends, e.g., stock and bond prices, exchange rates, commodity prices, etc.

   2. **Credit risk** - the risk that a bank borrower or counterparty will fail to meet its

   Obligations in accordance with agreed terms.

   3. **Operational risk** - the risk of loss resulting from inadequate or failed internal

   Processes, people and systems or from external events. (Yu Tian ,2009)

Risk contribution:-

Another way to define diversification is in terms of risk contribution, which is equivalent to the beta of a security to the portfolio. It closely relates to loss contribution and, under certain instances, the two measures are identical (Qian 2005). One such example is a portfolio that is optimal from a mean-variance perspective. In that case, risk contribution is equal to the expected return contribution.

To the extent that a portfolio is not mean-variance efficient, loss contribution will dominate risk contribution, which will in turn dominate return contribution. For extreme losses, loss and risk contributions will be equal. Under this concept, diversification can be defined as the uniformity of risk contributions across a portfolio's components (Maillard, Roncalli, Teiletche, 2009). Equally weighted risk portfolios ensure that all portfolio components contribute the same amount to the total risk. In contrast, the minimum variance portfolio equalizes marginal risk contributions. This means that a small increase in any component will increase the total risk by the same amount as a small increase in any other component.(ApollonFragkiskos ,2014)

Portfolio Risk Reduction

We focus first on risk. The risk of a portfolio is measured by the ratio of the variance of the portfolio's return relative to the variance of the market return.

This is the *beta* of the portfolio.

As an investor increases the number of securities in a portfolio, the portfolio's risk declines rapidly at first, then asymptotically approaches the level of ***systematic risk***of the market. A fully diversified domestic portfolio would have a beta of 1.0, as shown in illustrates portfolio risk reduction for the U.S. economy. It shows that a fully diversified U.S. portfolio is only about 27% as risky as a typical individual stock.

This relationship implies that about 73% of the risk associated with investing in a single stock is diversifiable in a fully diversified U.S. portfolio. Although we can reduce risk substantially through portfolio diversification, it is not possible to eliminate it totally because security returns are affected by a common set of factors—a set we characterize as the market.

The total risk of any portfolio is therefore composed of systematic risk (the market) (John Maynard Keyne, 2009)

Unsystematic risk (the individual securities). Increasing the number of securities in the portfolio reduces the unsystematic risk component leaving the systematic risk component unchanged.(John Maynard Keyne, 2009)

Investment risk

Risk objectives Define the amount of risk to which portfolio will be exposed be defined as a chance that the actual outcome from an investment will differ from the expected outcome. Obvious, that most investors are concerned that the actual outcome will be less than the expected outcome.The more variable the possible outcomes that can occur, the greater the risk. Risk is associated with the dispersion in the likely outcome. And dispersion refers to variability. So, the total risk of investments can be measured with such common absolute measures used in statistics as

• variance;

• Standard deviation.

Variance can be calculated as a potential deviation of each possible investment

rate of return from the expected rate of return:

$$\sigma^2(r) = \sum_{i=1}^{n} hi \cdot ri - E(r)^2 \quad \textbf{(2.5)}$$

To compute the variance in formula 2.5 all the rates of returns which were observed in estimating expected rate of return (**ri)** have to be taken together with their probabilities of appearance (**hi).**

The other an equivalent to variance measure of the total risk is

Standard deviation which is calculated as the square root of the variance:

$$\sigma(r) = \sqrt{\sum hi \; [ri - E(r)]^2} \quad (2.6)$$

In the cases than the arithmetic average return or sample mean of the returns

(ř) Is used instead of expected rate of return, ***sample variance*** ($\sigma^2 r$) can be calculated :

$$\sigma^2 r = \frac{\sum_{t=1}^{n} (rt - ř)^2}{n - 1} \quad (2.7)$$

Sample standard deviation (**r**) consequently can be calculated as the square

root of the sample variance:

$$\sigma r = \sqrt{\sigma^2 r} \quad (2.8)$$

(John Maynard Keyne, 2009)

2. PortfolioRisk:

The risk is as stated in the "The chance that an investment's actual return will be different than expected. This includes the possibility of losing some or all of the original investment. It is usually measured by calculating the standard deviation of the historical returns or average returns of a specific investment" (Investopedia.com, 2006).

The portfolio risk can be interpreted with the following equation:

$$\sigma^2 = \sum_{N} P(s)[r - E(r)]^2$$

Equation 2-4 Risk of the Portfolio

Where:

$E(r)$ = the expected return

$P(s)$ the probability that the rate r occurs

r = the return level.

2.16 Liquidity.

Asset pricing theory suggests that liquidity only affects prices if claims to the Market portfolio display time-varying liquidity. Most empirical research on aggregate liquidity has had to rely on indirect measures constructed from liquidities of individual stocks.

These measures may differ significantly from the liquidity of a claim on the index itself. We directly study the liquidity of the market portfolio via the price impact of order flow in the S&P 500 futures. Using identification through heteroskedasticity to address simultaneity of order flow and returns, we find that flow strongly and permanently affects prices. We construct a directly observable ex-ante, real-time measure of illiquidity via the slope of the limit order book.

This measure is a highly significant predictor of subsequent price impact,

With a coefficient that is typically close to one. From its dynamics we find that

(i) The non-flow component of return volatility decreases liquidity, but the volatility of order flow does not;

(ii) trading volume has only a transient effect on liquidity;

(iii) Liquidity varies positively with order flow itself. Our results point to limited

Risk bearing capacity, rather than asymmetric information or temporary price Pressure, as a primary determinant of market illiquidity Error.

Asset pricing theories describe a central role to the market portfolio – a hypothetical claim to all productive processes in the economy – because the logic of diversification dictates, in many settings, that investors will hold no other risky securities.

The expected risk and return of such a portfolio then become the dominant quantities for financial decision making. For the same reason,

The liquidity of such a portfolio – **defined** as the cost of executing information less trade – is the dominant quantity in theories that attempt to explain why liquidity matters to investors.

An alternative approach is to try to assess the liquidity of claims to large segments of the market. The last decade has seen widespread growth in the market for exchange traded funds (ETFs), such as SPDRs, which represent shares in the S&P 500 index. At the same time, the market for stock index futures has continued to deepen, and the adoption of electronic limit order books by the major exchanges has greatly enriched the available data.

In this paper, we use high-frequency data on the S&P 500 e-mini futures contracts to study aggregate liquidity. We argue that the size of this market as well as its.(PrachiDeuskar and Timothy C. Johnson , 2009)

It is clear that liquidity is a very complex concept. In principal, we may think about liquidity as the ease of trading any amount of a security without affecting its price. This already suggest that liquidity has two key dimensions; its price and quantity characteristics. It is very common to proxy these two dimensions by the relative bid ask spread and depth respectively. (Ana González And Gonzalo Rubio , 2007)

Liquidity –expected or unexpected cash outflows to be met at some point in time;

- Time horizon.
- Tax concerns.
- Legal and regulatory factors.
- Unique circumstances.

Liquidity and liquidity risk

The recent turmoil in financial markets which began in the middle of 2007 strongly indicates that liquidity is a very important issue for financial institutions to consider. Before the crisis, asset markets like mortgage markets and stock exchange markets were booming, and funding was readily attainable for financial institutions at a low cost. When the economic situation worsened, many types of assets became difficult to sell without a loss, we infer that before the subprime crisis, liquidity was in good shape and the financial market was booming in 2005 and 2006.

- When the crisis happened, liquidity conditions became tighter accompanied by a high volatility of asset prices.
- A similar result can be found in the Asian financial crisis in 1998.
- All these events emphasize the crucial role of liquidity.
- When talking about liquidity, we can distinguish between two kinds of liquidity, i.e., *market liquidity* and *funding liquidity*.(Bogdan Bilaus,2010)
- **Definition Market liquidity** is the ability of a market participant to execute a trade or liquidate a position with little or no cost, risk or inconvenience.
- **Funding liquidity** is the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses.
- Two kinds of risk are respectively associated with the above liquidity notions: one is *market liquidity risk*, and the other is *funding liquidity risk*.
- The meanings of liquidity condition and asset price volatility are explained in the 1 is the internet bubble from 20000. The reason might be that the infrastructure of the financial market was not ruined during that period.(Bogdan Bilaus,2010).

Definition Asset price volatility and funding and market liquidity

- **Market liquidity risk** is the loss incurred when a market participant wants to execute a trade or to liquidate a position immediately while not hitting the best price.
- **Funding liquidity risk** is the risk that a bank is not able to meet the cash flow and collateral need obligations.
- When these two types of liquidity risk occur at the same time, they will give rise to systemic liquidity risk which can be seen as the risk of drainage of liquidity

  Circulating in the whole financial system.

  The bank that provides the necessary liquidity so or to meet depositors' withdrawals ongoing unexpected. In the case of the bank's desire to retain the current deposits more than other bank deposits for that retains liquid Very high unlike other deposits such as the depository for the deposit or a notification and therefore the liquidity means of over the ability of banks to cope with withdrawals by retaining the liquid assets.

Liquidity policy a risk:-

We can formulate a liquidity policy as:

 We have to be able to liquidate X% of the portfolio in N trading days.

 given our models of cost, we can estimate the cost of liquidation. (Yu Tian 2009).

 To adjust our portfolio risk estimate for liquidity.

 Convert our portfolio volatility estimate to parametric Value at Risk for the length of time specified in our liquidity policy.

 Add the expected cost of fulfilling liquidation to Va R.

 Convert the new VaR value back to the equivalent volatility.

Quick example:-

Our liquidity policy:

 We must be able to liquidate 30% of the portfolio in 10 trading days.

 Our estimated portfolio volatility is 25% per year.

 Assume 3 standard deviation VaR (covers 99.8% of normal distribution)

 % Parametric VaR = 14.94 [25 * 3 * (10/252)^.5]

 Assume our forecast liquidation cost is 4%.

 % Parametric VaR with Cost = 18.94 [14.94 + 4]

 Revised portfolio volatility = 31.70 [18.94 / 3 * (252/10)^.5]

 Volatility estimate increased by more than 23 %. (Christopher Kantos, June 2010).

Liquidity management is crucial, given highly volatile markets and increasingly complex investment options. The misalignment of a portfolio's liquidity profile with cash flow demands can lead to a liquidity squeeze. This problem is particularly challenging in stressed market environments, as demonstrated by the global financial crisis (GFC) of 2008. An efficient liquidity management program can help mitigate the challenge. In this paper, we discuss various approaches and considerations for non-profit organizations looking to establish a holistic liquidity management program, including:

1. Establishing the cash flow expectations and requirements of the fund,

2. Utilizing various approaches to achieve the required liquidity profile,

3. Documenting and frequently monitoring the fund’s liquidity profile.

Why is liquidity management important?

Liquidity management means enabling the investment portfolio to (a) stay within its targeted asset allocation bands and (b) be able to meet cash flow obligations as they come due, without incurring unacceptable losses. If there are mismatches between the maturity of the non-profit s investments and its scheduled cash outflows (where "maturity" is defined as the time required liquidating assets in an orderly manner, without incurring forced losses), the portfolio is exposed to a potential liquidity squeeze. It is also important to take into account not only anticipated or budgeted liquidity needs, but also additional liquidity needs which may arise from unanticipated or "surprise" events. (Russell Investments2013)

Total-return investors have long embraced opportunities in less-liquid assets, such as private capital, for an expected return premium relative to liquid assets, given the long-term nature of the investment pools.

The GFC, however, left many investors coping with illiquidity at a time when the liquid portion of the portfolio did not hold up. As the portfolios struggled with the loss in value of the public equity allocation, the illiquid portion came to represent a larger percentage of the total portfolio and yet was not available to meet cash outflow needs without the investors? Incurring significant losses.

In order to meet their immediate liquidity needs, many non-profits1 were forced to liquidate securities at deep discounts, to delay important projects

and, in some cases, to borrow funds during a period of extreme market stress and high borrowing rates. Unfortunately, many concurrently saw their donation streams drying up.

Illiquidity is not necessarily an undesirable attribute; it just needs to be managed. In addition, each portfolio has unique circumstances, and thus, aligning the liquidity profile of the portfolio with the time horizon and the cash flow demands of the non-profit is crucial. A well-thought- out, holistic liquidity program can go a long way toward minimizing liquidity squeeze for institutions.

A holistic approach means taking a total-enterprise view. Investors should evaluate the portfolio under multiple lenses as well, in order to truly understand the potential liquidity stressors. For instance, considering investment vehicles and securities types; looking at the portfolio in both normal and stressed environments; examining different asset allocation scenarios - all of these are different lenses for analyzing the liquidity composition. (Russell 2013).

2.17 Investor behavior

INTRODUCTION

How behavioral biases affect Investment behavior Established financial theory focuses on the trade-off between risk and return. However, behavioral finance

Suggests investors are overconfident with respect to making gains and oversensitive to losses. (Shefrin,2003) In conventional financial theory, investors are assumed to be rational wealth maxi misers, following basic financial rules and basing their investment strategies purely on the risk-

return consideration. However, in practice, the level of risk investors are willing to undertake is not the same, and depends mainly on their personal attitudes to risk. Research in behavioral finance has developed rapidly in recent years and provides evidence that investors' financial decisions are also affected by internal and external behavioral factors (Shefrin, 2000; Shleifer, 2000; Warneryd, 2001). (Dimitrios I. Maditinos,2007.)

Individual investments behaviour is concerned with choices about purchases of small amounts of securities for his or her own account. Investment decisions are often supported by decision tools. According to the behavioral finance approach, individual investors' decision-making captures two vital elements, *beliefs* and *preferences* (Barberis and Thaler, 2003). Since the outcomes of investors' investment choices are unknown at the times of their decision-making, they are compelled to rely on their judgments which are determined by both their beliefs and preferences. **(**Boram Lee, 2013)Bodie*et al*., (2008) define investment as the current commitment of money or other resources with the view of realizing future benefits. Determinants of investment decision are factors that investors consciously consider in the course of making their investment choices (Hussein, 2007).

Defining the utility function accurately is thus crucial to being able tsso determine

the optimal investment portfolio. If the utility function is to assist the decision maker in making rational decisions, then it needs to be in some senses ‘‘well behaved’’; that is, it needs to reflect rational assumptions about how anInvestor should value monetary outcomes and approach risk. The following areProperties that may be sensibly ascribed to rational long-term investors consideringHow to invest their total wealth:

- More is always preferred to less. Each additional amount of money should always increase utility. Graphically, this means that the function is always increasing as wealth increases.
- The investor should be averse to risk. At each point on the utility function,

the investor should place a stronger emphasis on losing one unit than on gaining an additional unit. In effect, this means that while more is preferred to less, each additional unit of money should yield less utility than the previous ones (diminishing marginal utility). A more risk-averse individual will feel this more strongly than an investor who is more risk tolerant. Graphically, this means that the function is concave—the curve at any point is steeper to the left than to the right. The more concave the curvature, the stronger is the risk aversion of the investor.

- There should be no sudden jumps in utility. A well-behaved utility function

for money should not have smoothly increasing utility up to some value of wealth and then a sudden surge in utility over this value. For such a surge to be rational, there would have to be other nonmonetary benefits to achieving this particular level of wealth, such as some social or psychological benefit from achieving some aspiration. Such nonmonetary benefits are certainly plausible, but for the purposes of investment strategy, we are concerned here with purely financial outcomes.

(ShwetaAgarwal, 2010).

CHAPTER THREE

THE RESEARCH METHODOLOGY

The chapter one introduces a research methodology procedure, research methodology, research social and sample, research tools, procedure of dividing research tools, the process we present in this chapter is a distillation of the shared elements of current practice Statistical processing procedure.

Analysis of data regarding risk tolerance over that client's relevant time horizon, along with applicable constraints such as liquidity needs, marketability, diversification, tax considerations, regulatory requirements, and unique circumstances. In this chapter describes Design Science Research (DSR), which is the research paradigm used for this study. The chapter also examines different research processes available in DSR. And Types of Processes for Analyzing Qualitative Data.

3.1The Philosophical Grounding of Design Science Research (DSR)

The process of knowledge creation started with a substantive field of inquiry, which is called philosophy. Philosophy is primarily concerned with rigorously establishing, regulating, and improving the methods of knowledge creation in all fields of intellectual endeavor (Partington, 2002).in philosophical inquiry, the facts, the theory, the alternatives and the ideals are brought together and weighed against each other in creation of knowledge and legitimize knowledge. Philosophical thinking propagates around the four principles of metaphysics, logic, epistemology, and ethics (Annas, 2000, ;Partington, 2002) There are many varieties of philosophical approaches for "ways of knowing", which have commonly been divided into positivism, interpretivist, realism, critical theory, hermeneutics and phenomenology. Usually, the selection of research strategy and the methods

for research activities depends on the research philosophical stances (Saunders et al., 2016).

Ontology refers to assumptions about the nature of reality, your ontological assumptions shape the way in which you see and study your research objects. When **Epistemology** concerns assumptions about knowledge, what constitutes acceptable, valid and legitimate knowledge, and how can communicate knowledge to others. And **Axiology** refers to the role of values and ethics within the research process. This incorporates questions about how we, as researchers, deal with both our own values and those of our research participants. (Saunders et al, 2016)

Positivism relates to the philosophical stance of the natural scientist and entails working with an observable social reality to produce law-like generalizations. the philosophy of critical realism focuses on explaining what we see and experience, in terms of the underlying structures of reality that shape the observable events. And **Epistemological** relativism recognizes that knowledge is historically situated (in other words, it is a product of its time and is specific to it) and that social facts are social constructions agreed on by people rather than existing independently. When **Interpretivism**, like critical realism, developed as a critique of positivism but from a subjectivist perspective.Interpretivism emphasizes that humans are different from physical phenomena because they create meanings. (Saunders et al, 2016)

3.2. Design Science Research

The research design is the general plan of how you will go about answering your research question. Research is defined as the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions (Soanes and Stevenson, 2008). Three characteristics of Design Science Research are listed below (Walliman, 2009).

- Gaining experience is an uncontrolled and haphazard activity, while research is systematic and controlled.

- Reasoning can operate in an abstract world, divorced from reality, while research is empirical and turns to experience and the world around us for validation.

- Unlike experience and reason, research aims to be self-correcting. The process of research involves rigorously testing the results obtained, and methods and results are open to public scrutiny and criticism.

3.3 Establish Awareness of the Problem

This kind of research study begins by identifying and representing opportunities and practical problems in an actual application environment. It starts by looking into the process involved in The Realm of Inquiry. A study on the existing knowledge, under the direction of theory, is being carried out to generate proposals or hypothesized solutions. The information included in here is the contextual background of the research, where existing theories are housed and which acts as a precursor to the research process. Theory use at this stage is to formulate a hypothesis of a kind of approach to reduce the identified problem (Venable, 2006)

3.4 Design Science Evaluation

DSR involves the process of building the artifact as the solution to or alleviating the practical problems, evaluating the artifact and subsequent feedback to refine the design further. This cycle can be described as generating design alternatives and evaluating the alternatives against requirements until a satisfactory design is achieved (Simon, 1996, Venable, 2006). The core idea of the hypothesized solution invention is thought out and fleshed out in detail here (Venable, 2006). The activities may involve the development of notations for diagrams, description of steps, stages, and others. Once built, the solution invention is still hypothesized until it is evaluated. The development of a solution may be just a small refinement (s) of an existing solution or it may be the invention of a wholly new and complex solution (Venable, 2006).

Sample size: **Title (**The mediating role of perceived financial risk and liquidity on the relationship between portfolio management and rate of return: the moderator effect of investor behavior) "case study Khartoum stock exchange"

3.5 Types of Research

There are many ways to classify research. When research starts with a theory, often developed from a reading of the academic literature, the design of research strategy to test the theory, you are using a **deductive** approach if your research starts by collecting data to explore a phenomenon and you generate or build theory then you are using an **inductive** approach. are collecting data to explore a phenomenon, identify themes and explain patterns, to generate a new or modify an existing theory which you subsequently test through additional data collection, you are using an

abductive approach. The next three sub-sections explore the differences and similarities between these three approaches and their implications for your research. (Saunders et al., 2016)

3.6 Methodological of research design

One way of differentiating quantitative research from qualitative research is to distinguish between numeric data (numbers) and non-numeric data, that means, 'quantitative' is often used as a synonym for any data collection technique (such as a questionnaire) or data analysis procedure (such as graphs or statistics) that generates or uses numerical data. In contrast, 'qualitative' is often used as a synonym for any data collection technique (such as an interview) or data analysis procedure (such as categorizing data) that generates or uses non-numerical data. By the way, two philosophical positions that often lead to mixed methods research designs. Mixed methods research is the branch of multiple methods research that combines the use of quantitative and qualitative data collection techniques and analytical procedures. This knew of study called Triangulation. This study will use Mixed methods in order to answer the main research question as well as achieve its objectives. (Saunders et al, 2016)

3.7Data Collection:

Questionnaire may be highly formalized and structured, using standardized questions for each research participant. There are intermediate positions depending on the level of formality and structure used. One typology that is commonly used relates to these levels of formality and structure.

3.8 Structured questionnaires

Structured questionnaires based on a predetermined and 'standardized' or identical set of questions and we refer to them as interviewer-administered questionnaires. The interviewer reads out each question and then record the response on a standardized schedule. Usually with pre-coded answers. While there is social interaction between the researcher and the participant, such as during the preliminary explanations that need to be provided, the researcher should read out the questions exactly as written and in the same tone of voice so that no bias is indicated. This type of interview is used to collect quantifiable data and they are also referred to as 'quantitative research interviews'. (Saunders et al, 2016)

3.9 Data Analysis:

In view of the objectives of the study.A qualitative research is one, which largely interpreters the already available information, and it lays particulars emphasis on analysis and interpretation of existing and available information. It makes use secondary data. And descriptive research of the information which is come as consequence of data analysis.

It is helpful to commence our discussion by understanding what we mean by qualitative data. Understanding qualitative data will help you to analyze these meaningfully. Qualitative research is often associated with an interpretivist philosophy because researchers need to make sense of the subjective and socially constructed meanings expressed by those who take part in research about the phenomenon being studied. Social constructionism indicates that partially shared meanings and realities are dependent on people's interpretation of the events that occur around them. Since meanings in qualitative research depend on social interaction, qualitative data are

likely to be more varied elastic and complex than quantitative data. Analysis and understanding of these data therefore need to be sensitive to these characteristics to be meaningful.

Qualitative data are likely to be characterized by their richness and fullness, based on your opportunity to explore a subject in as real a manner as is possible. A contrast can thus be drawn between the 'thin' abstraction or description that principally results from quantitative data collection and the 'thick' or 'thorough' abstraction or description associated with qualitative data (Saunders et al, 2016).

Table 3.1 Distinctions between quantitative and qualitative data

Quantitative data	**Qualitative data**
- Based on meanings derived from numbers - Collection results in numerical and standardized data - Analysis conducted through the use of diagrams and statistics	- Based on meanings expressed through words (spoken and textual) and images - Collection results in non-standardized data requiring classification into categories - Analysis conducted through the use of conceptualization

The type of data collected for this research study is qualitative data which refers to all non-numeric data or data that have not been quantified. Based on (Saunders et al., 2016), there is no standardized procedure for analyzing qualitative data. However, it is still possible to group those data into three main types of processes, i.e. summarizing of meanings, categorization of meanings and structuring of meanings using narrative. These same three

processes were also discussed by (Miles and Huberman, 1994) as the processes of analyzing data, which is shown in Table 5. The detail explanations are written in the following sections.

Table 3.2: Types of Processes for Analyzing Qualitative Data.

Saunders et al (2016) and Miles and Huberman(1994)

	Saunders et al (2016)	Miles and Huberman (1994)
Type of processes	- Summarizing of meanings - Categorization of meanings - Structuring of meanings using narrative	-Data reduction -Data display -Conclusion and verification of summary

Source: Adapted from Saunders et al (2016) and Miles and Huberman (1994) .

CHAPTER FOUR

DATA ANLYSIS AND HYPOTHESES DEVELOPMENT

This chapter presents the findings of the data analysis and it is presented in three sections. The first section presents the process followed for measurement and validation of various constructs. Started by describe the descriptive statistics of the sample data then respondent's demographic information, section two The measurement and validation process of constructs, section three the results of the path analysis and hypotheses testing.

1- Data screening

Data screening (sometimes referred to as "data screaming") is the process of ensuring your data is clean and ready to go before you conduct further statistical analyses. However, the data must be screened in order to ensure the data is useable, reliable, and valid for testing causal theory.

1-1 Missing data

Missing data can cause several problems. The most apparent problem is that there simply won't be enough data points to run the analyses. The EFA, CFA, and path models require a certain number of data points in order to compute estimates. Additionally, missing data might represent bias issues. Some people may not have answered particular questions in your survey because of some common issue. Overall any missing data more than 10% of the responses on a particular variable making several problems.

Not removed any items or questionnaire in dataset because the missing data in questionnaire is less than 10%.

1-2 Outlier

An outlier is an extreme response to a particular question, or extreme responses to all questions. though,Outliers will appear at the extremes.however, there was no any outliers on dataset everything in dataset is logic.

1-3 Unengaged Respondent

Another type of outlier is an unengaged respondent while, unengaged refer to the same answer in each question. sample Sometimes respondents will enter '3, 3, 3, 3,...' for every single survey item. This participant was clearly not engaged, and their responses will throw off your results. However, removed two questionnaires in dataset according to calculate (STDEV.P) is less than 0.5 while using 5 liker scale.

1-4 Normal distributions

Normality refers to the distribution of the data for a particular variable. In this study testing normality first by **Skewness** means that the responses did not fall into a normal distribution, secondly **Kurtosis** refers to the outliers of the distribution of data.

the value for Skewness kurtosis for all items ranged benign to 3. While this does violate strict rules of normality, it is within more relaxed rules suggested by sposito (1983) who recommend 3.3 as the upper threshold for normality. Except the phrase(Return2) equal 7.9 in **Skewness** and 112.3 in**Kurtosis**. So it has been deleted.

2 Response rate

It was well known that most of the **Stock market in**the capital of the country (Khartoum) therefore, the population of this study was the **inStock**

market. The researcher employed convenient sample where self-administrated survey was used to distribute 400 questionnaires to the **Investors**, the researcher asked **Investors** to fill the questionnaire, the overall response rate was 81.75% this was considered as high rate due to questionnaires given one by one to respondents and in researches used a self–administrated survey (Sekaran, 2003).Below is Table (4.1) to shows the summary of questionnaire response rate.

Table (4.1) Response rate of questionnaire

Total distributed questionnaires	
Total questionnaires distributed	400
Total questionnaires received from respondents	327
Valid questionnaires received from respondents	309
Invalid questionnaires	18
Questionnaires not received	73
Overall response rate	81.75%
Useable response rate	77.25%

Source: prepared by researcher from statistical analysis results 2018.

Table (4.2) demographic factors

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	male	155	50.2	50.2	50.2
	female	154	49.8	49.8	100.0
	Total	309	100.0	100.0	
		Frequency	Percent	Valid Percent	Cumulative Percent
Age	less than 25	30	9.7	9.7	9.7
	25-35	118	38.2	38.2	47.9
	36-45	61	19.7	19.7	67.6
	above 45	100	32.4	32.4	100.0
	Total	309	100.0	100.0	
		Frequency	Percent	Valid Percent	Cumulative Percent
education	under graduate	27	8.7	8.7	8.7
	graduate	166	53.7	53.7	62.5
	post graduate	110	35.6	35.6	98.1
	others	6	1.9	1.9	100.0
	Total	309	100.0	100.0	
		Frequency	Percent	Valid Percent	Cumulative Percent
	engineering	40	12.9	13.0	13.0

Specialization	medical	36	11.7	11.7	24.7
	social	64	20.7	20.8	45.5
	others	168	54.4	54.5	100.0
	Total	308	99.7	100.0	
Missing	System	1	0.3		
Total		309	100.0		

		Frequency	Percent	Valid Percent	Cumulative Percent
activities	special sectors	126	40.8	40.8	40.8
	government sector	105	34.0	34.0	74.8
	free business	44	14.2	14.2	89.0
	Others	34	11.0	11.0	100.0
	Total	309	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Experience	less than 5	100	32.4	32.5	32.5
	5-10	87	28.2	28.2	60.7
	10-15	58	18.8	18.8	79.5
	15-20	34	11.0	11.0	90.6
	more than 20	29	9.4	9.4	100.0
	Total	308	99.7	100.0	
Missing	System	1	0.3		
Total		309	100.0		

Source: prepared by researcher from statistical analysis results 2018.

5.3 Goodness of measures

This section, reports the results of validity and reliability tests as a means to assess the goodness of measure in this study constructs (Sekaran, 2003). The study used exploratory factor analysis (EFA). The following are the detailed information of each

2- Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) is a statistical approach for determining the correlation among the variables in a dataset. This type of analysis provides a factor structure (a grouping of variables based on strong correlations). In general, an EFA prepares the variables to be used for cleaner structural equation modeling. An EFA should always be conducted for new datasets.

1-1 Factor structure for IV

Factor structure refers to the intercorrelations among the variables being tested in the EFA. Using the pattern matrix below as an illustration, all variables into single factors - more precisely, they "load" onto factors.using Maximum Likelihood as method, the summary of results was showed in Table (4.3) and the SPSS output attached in appendix B3. As shown in Table (4.3) below all the remaining items has more than recommended value of at least 0. 5 in measure of sample adequacy (MSA) with (KMO) (above the recommended minimum level of 0.60), and Bartlett’s test of sphericity is significant ($p<.01$). Thus, the items are appropriate for factor analysis.

Table (4.3) Factor structure for IV

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.790	
Bartlett's Test of Sphericity	Approx. Chi-Square	412.623	
	Df	10	
	Sig.	.000	
diversification1			.693
diversification3			.755
diversification4			.836
diversification6			.689
diversification7			.667
marketability1		.620	
marketability2		.663	
marketability3		.592	
marketability4		.629	
marketability5		.727	
marketability6		.719	
marketability7		.699	

Variables loaded significantly on factor with Coefficient of at least 0.5, * Items deleted due to high cross loading. Source: prepared by researcher from statistical analysis results 2018.

2-2 **Discriminant validity**

Discriminant validity refers to the extent to which factors are distinct and uncorrelated. The rule is that variables should relate more strongly to their own factor than to another factor.

Table (4.4) Component Correlation Matrix

Component Correlation Matrix

Component	1	2
1	1.000	.390
2	.390	1.000

1-1 Factor structure for DV

Factor structure refers to the intercorrelations among the variables being tested in the EFA. Using the pattern matrix below as an illustration, all variables into single factors - more precisely, they "load" onto factors.using Maximum Likelihood as method, the summary of results was showed in Table (4.5) and the SPSS output attached in appendix B3.

Table (4.5) **Factor structure for DV**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	537.775
	Df	15
	Sig.	.000
Return3		.712
Return4		.704
Return5		.763
Return6		.674
Return7		.765
Return8		.703

Variables loaded significantly on factor with Coefficient of at least 0.5, * Items deleted due to high cross loading.Source: prepared by researcher from statistical analysis results 2018.

1-1 Factor structure for MEM

Factor structure refers to the intercorrelations among the variables being tested in the EFA. Using the pattern matrix below as an illustration, all variables into single factors - more precisely, they "load" onto factors.using Maximum Likelihood as method, the summary of results was showed in Table (4.6) and the SPSS output attached in appendix B3.

Table (4.6) Factor structure for MEM

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.877	
Bartlett's Test of Sphericity	Approx. Chi-Square	1385.619	
	Df	105	
	Sig.	.000	
Risk1		.567	
Risk3		.694	
Risk4		.865	
Risk5		.524	
Risk6		.794	
Risk7		.818	
Risk8		.578	
Liquidity2			.544
Liquidity3			.580
Liquidity4			.714
Liquidity5			.721
Liquidity6			.623
Liquidity7			.583
Liquidity8			.540
Liquidity9			.585

Variables loaded significantly on factor with Coefficient of at least 0.5, * Items deleted due to high cross loading.

Source: prepared by researcher from statistical analysis results 2018.

2-2 **Discriminant validity**

Discriminant validity refers to the extent to which factors are distinct and uncorrelated. The rule is that variables should relate more strongly to their own factor than to another factor.

Table (4.7) Component Correlation Matrix

Component Correlation Matrix

Component	1	2
1	1.000	.528
2	.528	1.000

Source: prepared by researcher from statistical analysis results 2018.

1-1 Factor structure for MOD

Factor structure refers to the intercorrelations among the variables being tested in the EFA. Using the pattern matrix below as an illustration, all variables into single factors - more precisely, they "load" onto factors.using Maximum Likelihood as method, the summary of results was showed in Table (4.8) and the SPSS output attached in appendix B3.

Table (4.8) Factor structure for MOD

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.724
Bartlett's Test of Sphericity	Approx. Chi-Square	271.623
	Df	10
	Sig.	.000
Investorbehavior1		.557
Investorbehavior2		.678
Investorbehavior3		.727
Investorbehavior4		.756
Investorbehavior5		.670

Variables loaded significantly on factor with Coefficient of at least 0.5, * Items deleted due to high cross loading.Source: prepared by researcher from statistical analysis results 2018.

2-3 Reliability refers

Reliability is a one of the basic psychometric requirement of scale validity. Reliability is concerned with the ability of an instrument to produce similar result, time and again under the assumption that group of respondents and prevailing conditions remain same. It reflects the degree to which an instrument is free from random error and consistently measures the underlying construct with reasonable accuracy (Churchill, 1979; Leedy and Ormrod, 2001; Yang et al., 2007; Hair at al. 2008). Internal consistency is an important aspect of reliability. It describes the extent to which the different scale items of a same construct correlate with one another. A higher degree of internal consistency, not only proves the convergence of scale items towards the common definition of underlying construct but it also affirms the claim that amount of variance captured by a scale is significantly higher

to the amount of error variances i.e. random error in a scale. Random error is assessed by squaring the inter-item correlation and subtracting the same from 1.00. As the estimate of reliability increases, the fraction of a test score that can be attributed to random error decreases.

Cronbach alpha is one of the most popular methods for assessing internal consistency (Churchill, 1979; Peter, 1981). Closer the cronbach's alpha to 1, higher the internal consistency. In general, the reliabilities less than 0.70 indicates a poor estimate of observed variance i.e. amount of error variance in the test score is relatively higher to the observed variance. In context of the present study, reliability of the various constructs has been assessed through cronbach's alpha.

The value of cronbach's alpha for all the constructs (Table 3.9) are below the threshold limit of 0.70.

Table 4.9Cronbach's Alpha for Study Variables

Construct	**Variable**	**Number of items**	**Cronbach's alpha**
Independent variable	Diversification	5	.783
	Marketability	7	.790
Dependent variable	Return	6	.814
Mediator variable	Risk	6	.809
	Liquidity	8	.775
Moderator variable	Investor behavior	5	.740

Source: prepared by researcher from statistical analysis results 2018.

3- Formative vs. Reflective

Specifying formative versus reflective constructs is a critical preliminary step prior to further statistical analysis. Formative constructs should not be expected to properly factor in SPSS, and cannot be modeled appropriately in AMOS.

Formative

- Direction of causality is from measure to construct
- No reason to expect the measures are correlated
- Indicators are not interchangeable

Reflective

- Direction of causality is from construct to measure
- Measures expected to be correlated
- Indicators are interchangeable

4- Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is the next step after exploratory factor analysis to determine the factor structure of your dataset. EFA explore the factor structure (how the variables relate and group based on inter-variable correlations); while, CFA we confirm the factor structure extracted in the EFA.

4-1 **Validity**

The validity of the various constructs of interest has been examined by employing Campbell and Fiske criteria of validity. Campbell and Fiske (1959) proposed two aspects of construct validity: convergent and divergent validity. Convergent validity is the degree to which multiple attempts to measure the same concept are in agreement. Whereas, discriminant or

divergent validity examines the extent to which the group of items representing a specific construct- differentiate that construct from another set of items - representing some other distinct construct (Bagozzi et al., 1991).

The convergent validity has often been assessed by looking at the standardized factor loadings (SFL), average variance extracted (AVE) and composite reliability (CR). SFL reflect the amount of explained variance by an indicator in accordance to the underlying construct (Hair et al., 2008; Markus, 2012; Byrne, 2013). Loading of .5 or more confirm the convergence of scale item i.e. the indicator is strongly related with its associated construct (Bagozzi et al., 1991; Hair et al., 2008; Byrne, 2013). AVE provides the summary of overall convergence of a scale and reflects the average communality (Fornell and Larker, 1981) i.e. the variance captured by an instrument through all its items. An AVE of less than .5 indicates that, on average, more error (i.e. systematic error) remains in measure than variance explained by the latent factor structure (Hair et al., 2008), whereas a score of more than .5 affirms the higher amount of explained variance. CR indicates the internal consistency of the instrument. Any value of .70 or higher affirms high degree of internal consistency between different scale items.

Divergent validity tests whether the concepts that are supposed to be unrelated are, in fact, unrelated. It is generally examined through the comparison of the AVE score with the squared correlations of respective constructs. A lower index of shared variance (squared correlation) between each pair of constructs against the minimum of the AVEs of both of the concerned constructs affirms the divergent validity of the underlying constructs (Fornell and Larker, 1981). The logic here is based on the idea

that if two or more concepts are unique, then valid measures of each should not correlate too highly (Bagozzi et al., 1991).

In context of present study, the convergent and divergent validity of different constructs have been examined during the validation of measurement models. Confirmatory Factor Analysis (CFA) has been utilized to estimate measurement adequacy (Hair et al., 1998). In the context of the scale development and validation, recent literature (e.g. Rentz et al.,2002) affirms the superiority of CFA over Exploratory Factor Analysis. To assess the fit between theory and reality, CFA rather concentrating on a single index, often rely upon numerous fit indices like: Normed Chi-square index, Goodness-of-fit index (GFI), Adjusted goodness-of-fit index (AGFI), Root mean square residual (RMR) and Root mean square error of approximation (RMSEA) – as indicators of absolute fit indices (Hu and Bentler, 1995; MacCallum et al., 1996; Steiger, 2007); Comparative Fit Index (CFI), Tucker-Lewis index (TLI), and Normed fit index (NFI) – as indicators of incremental fit indices (Bentler and Bonnet, 1980; Mulaik et al, 1989; Bentler, 1990; Hu and Bentler, 1995; Kline, 2005; Tabachnick and Fidell, 2007); Parsimony goodness-of-fit index (PGFI) and Parsimony Normed fit index (PNFI) – as indicators of parsimony fit indices. In contrast, these fit statistics are generally not available in standard methods of Exploratory Factor Analysis. A careful consideration is that assessing a measurement model through numerous fit indices is more parsimony approach than one with absolute or single criteria (Hair et al., 1998).

In the context of present study, following criteria (Table 4.4) has been adopted for the measurement and validation of various constructs:

Table 4.10 Criteria

S. No.	Parameter	Criteria
1	Normed Chi-square (ratio of Chi-square to degrees of freedom)	Less than 3
2	Goodness-of-Fit Index (GFI)	At least .90
3	Adjusted Goodness-of-Fit Index (AGFI)	At least .90
4	Normed Fit Index (NFI)	At least .90
5	Comparative Fit Index (CFI)	At least .90
6	Root Mean Square Residual (RMR)	Less than .10
7	Root Mean Square Error of Approximation (RMSEA)	Less than .08
8	Standardized Residuals	Less than 2.5
9	Standardized factor loadings (SFL)	At least .50
10	Average Variance Extracted (AVE)	At least .50
11	Composite Reliability (CR)	At least .70

Source: prepared by researcher from statistical analysis results 2018.

4.2.1Measurement and Validation to independent variable.

To assess the degree of correspondence between the manifest variables and latent construct of (**independent variable**) a uni-dimensional CFA model

(Figure 4.1) has been conceptualized and tested for its psychometric properties. The result of CFA show in Table (4.10).

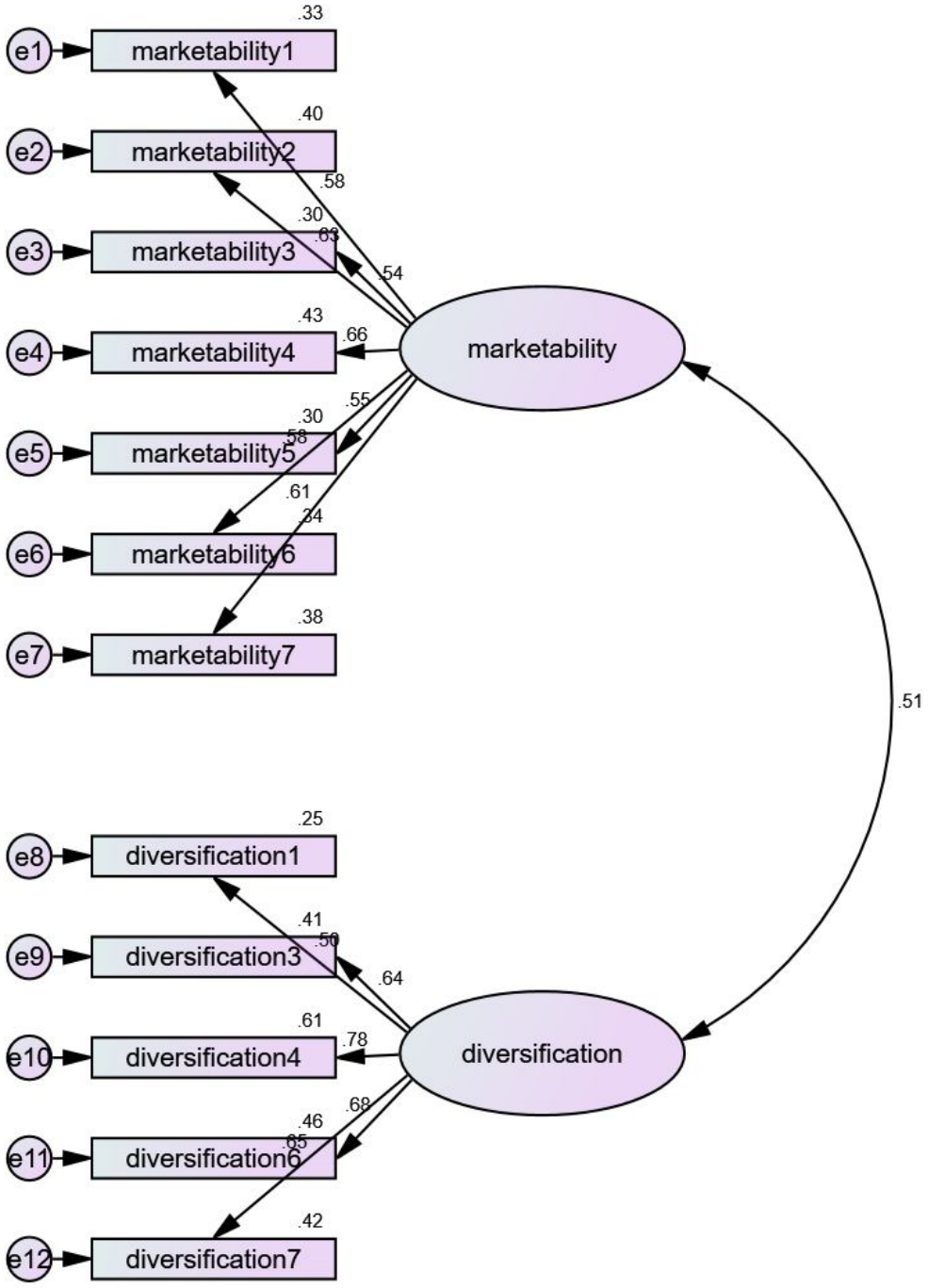


Figure (4.1)**CFA for IV variables.**

Figure (4.1) show Confirmatory Factor Analysis (CFA) reveals The normed chi square was 2.317, CFI was 0.944, RMSEA was .083 and the significance level for coefficients was p<.001. The structural model was therefore judged to also have acceptable goodness of fit (Hair et al., 2010).thesame measures that can be calculated to determine goodness of fit show in Table (4.11)

Table 4.11 **Model Fit Indices ofall variable in data set.**

Measure	**Estimate**	**Threshold**	**Interpretation**
CMIN	149.695	--	--
DF	53	--	--
CMIN/DF	2.824	Between 1 and 3	Excellent
CFI	0.902	>0.95	Acceptable
SRMR	0.061	<0.08	Excellent
RMSEA	0.077	<0.06	Acceptable
PClose	0.001	>0.05	Terrible

Source: prepared by researcher from statistical analysis results 2018.

The next step is to examine composite reliability as well as convergent and discriminant validity. Table3.12 shows composite reliabilities, average variance extracted (AVE), and the squared interconstruct correlations. The composite reliabilitiesequal .79 to .78, which is considered very good. AVE is a measure of the convergent validity of the model's constructs and should be .50 or higher (Hair et al., 2010).

Table 4.12composite reliabilities.

	CR	AVE	MaxR(H)	marketability	diversification
marketability	0.792	0.353	0.795	0.655	
diversification	0.787	0.429	0.806		0.505

Source: prepared by researcher from statistical analysis results 2018.

4.2.2Measurement and Validation to dependent variable.

To assess the degree of correspondence between the manifest variables and latent construct of (**independent variable**) a uni-dimensional CFA model (Figure 4.1) has been conceptualized and tested for its psychometric properties. The result of CFA show in Table ().

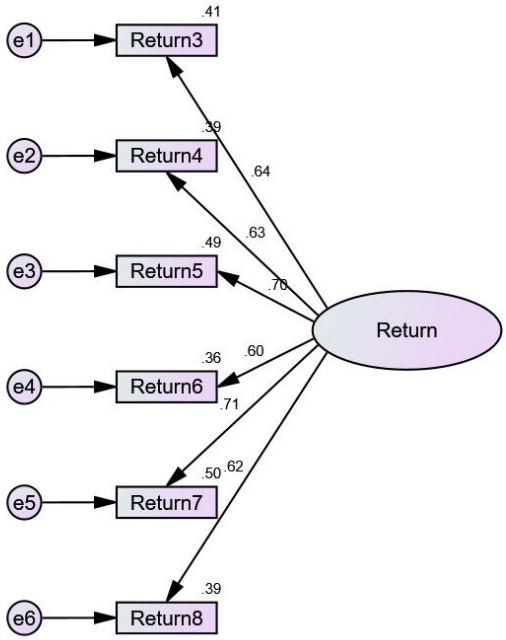


Figure (4.2) **CFA for IV variables.**

Figure (4.2) show Confirmatory Factor Analysis (CFA) reveals The normed chi square was 2.317, CFI was 0.944, RMSEA was .083 and the significance level for coefficients was p<.001. The structural model was therefore judged to also have acceptable goodness of fit (Hair et al., 2010).thesame measures that can be calculated to determine goodness of fit show in Table ()

Table 4.13**Model Fit Indices ofall variable in data set.**

Measure	**Estimate**	**Threshold**	**Interpretation**
CMIN	0.624	--	--
DF	2	--	--
CMIN/DF	0.312	Between 1 and 3	Excellent
CFI	1.000	>0.95	Excellent
SRMR	0.010	<0.08	Excellent
RMSEA	0.000	<0.06	Excellent
PClose	0.861	>0.05	Excellent

Source: prepared by researcher from statistical analysis results 2018.

The next step is to examine composite reliability as well as convergent and discriminant validity. Table 4.14 shows composite reliabilities, average variance extracted (AVE), and the squared interconstruct correlations. The composite reliabilitiesequal .76, which is considered very good. AVE is a measure of the convergent validity of the model's constructs and should be .45 or higher (Hair et al., 2010).

	CR	AVE	MaxR(H)
Return	0.766	0.451	0.771

Source: prepared by researcher from statistical analysis results 2018.

4.2.3 Measurement and Validation to Mediation variable.

To assess the degree of correspondence between the manifest variables and latent construct of (**independent variable**) a uni-dimensional CFA model (Figure 4.3) has been conceptualized and tested for its psychometric properties. The result of CFA show in Table (4.14).

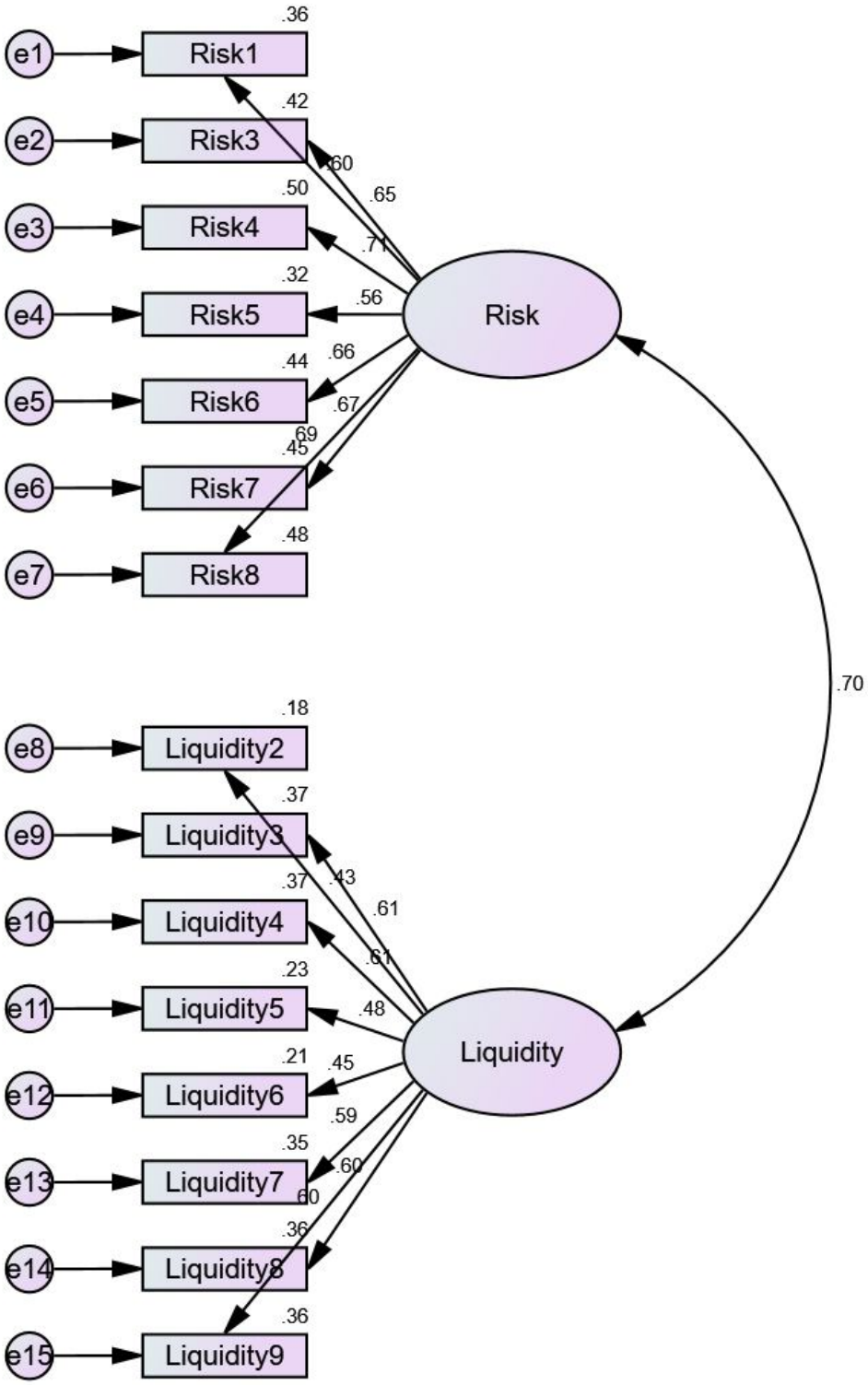


Figure (4.3) **CFA for IV variables.**

Figure (4.3) show Confirmatory Factor Analysis (CFA) reveals The normed chi square was 2.549, CFI was 0.944, RMSEA was .071 and the significance level for coefficients was p<.001. The structural model was therefore judged to also have acceptable goodness of fit (Hair et al., 2010).thesame measures that can be calculated to determine goodness of fit show in Table (4.15)

Table 4.15**Model Fit Indices ofall variable in data set.**

Measure	**Estimate**	**Threshold**	**Interpretation**
CMIN	226.825	--	--
DF	89	--	--
CMIN/DF	2.549	Between 1 and 3	Excellent
CFI	0.895	>0.95	Need More DF
SRMR	0.059	<0.08	Excellent
RMSEA	0.071	<0.06	Acceptable
PClose	0.002	>0.05	Terrible

Source: prepared by researcher from statistical analysis results 2018.

The next step is to examine composite reliability as well as convergent and discriminant validity. Table 4.16 shows composite reliabilities, average variance extracted (AVE), and the squared interconstruct correlations. The composite reliabilitiesequal .76, which is considered very good. AVE is a measure of the convergent validity of the model’s constructs and should be .45 or higher (Hair et al., 2010).

	CR	AVE	MaxR(H)	Risk	Liquidity
Risk	0.837	0.424	0.841	0.551	
Liquidity	0.774	0.304	0.784		0.695

Source: prepared by researcher from statistical analysis results 2018.

4.2.4 Measurement and Validation to moderation variable.

To assess the degree of correspondence between the manifest variables and latent construct of (**independent variable**) a uni-dimensional CFA model (Figure 4.1) has been conceptualized and tested for its psychometric properties. The result of CFA show in Table ().

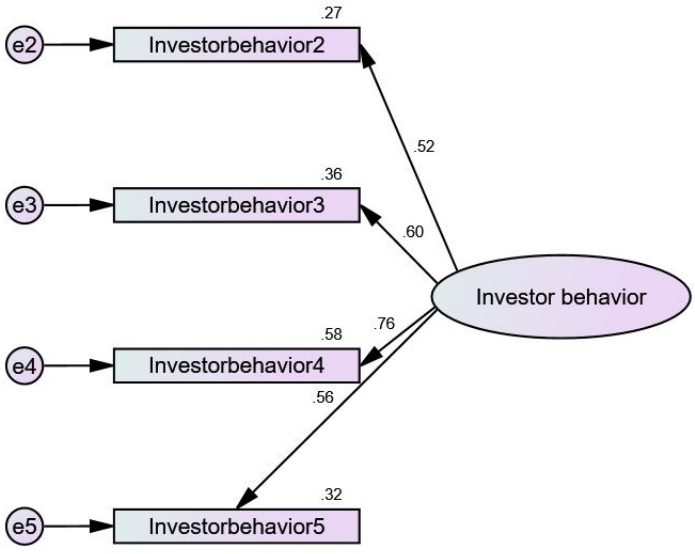


Figure (4.4) **CFA for IV variables.**

Figure (4.4) show Confirmatory Factor Analysis (CFA) reveals The normed chi square was 2.549, CFI was 0.944, RMSEA was .071 and the significance level for coefficients was p<.001. The structural model was therefore judged to also have acceptable goodness of fit (Hair et al., 2010).thesame measures that can be calculated to determine goodness of fit show in Table ()

Table4.17 **Model Fit Indices ofall variable in data set.**

Measure	**Estimate**	**Threshold**	**Interpretation**
CMIN	11.535	--	--
DF	2	--	--
CMIN/DF	5.767	Between 1 and 3	Terrible
CFI	0.974	>0.95	Excellent
SRMR	0.039	<0.08	Excellent
RMSEA	0.124	<0.06	Terrible
PClose	0.028	>0.05	Acceptable

Source: prepared by researcher from statistical analysis results 2018.

The next step is to examine composite reliability as well as convergent and discriminant validity. Table 4.18 shows composite reliabilities, average variance extracted (AVE), and the squared interconstruct correlations. The composite reliabilitiesequal .76, which is considered very good. AVE is a measure of the convergent validity of the model's constructs and should be .45 or higher (Hair et al., 2010).

	CR	AVE	MaxR(H)
Risk	0.798	0.499	0.806

Source: prepared by researcher from statistical analysis results 2018.

4.3 Descriptive Statistics of Variables

In this section descriptive statistics such as mean and standard deviation was used to describe the characteristics of surveyed banks and all variables (Independent, dependent and moderators) under study.

Table 4.19 Descriptive Statistics

Descriptive Statistics

	Mean	Std. Deviation
diversification1	4.00	.896
diversification2	3.19	1.036
diversification3	3.63	.905
diversification4	3.70	.938
diversification5	3.68	.946
diversification6	3.74	.906
diversification7	3.63	.987
diversification8	3.03	1.151
diversification9	3.53	1.008
diversification10	3.46	1.073
Return1	3.48	1.049
Return3	3.61	.942
Return4	3.72	.906

Return5	3.70	.948
Return6	3.78	.874
Return7	3.67	.894
Return8	3.76	1.000
Risk1	3.77	.981
Risk2	3.81	.929
Risk3	3.71	.871
Risk4	3.82	.933
Risk5	3.74	.840
Risk6	3.93	.842
Risk7	3.92	.838
Risk8	3.84	.931
Investorbehavior1	4.28	.783
Investorbehavior2	3.83	.930
Investorbehavior3	3.62	1.143
Investorbehavior4	4.00	.820
Investorbehavior5	4.06	.810
Liquidity1	3.95	.775
Liquidity2	4.03	.731
Liquidity3	3.78	.759
Liquidity4	3.77	.849
Liquidity5	3.83	.873
Liquidity6	3.70	.913
Liquidity7	3.75	.832
Liquidity8	3.71	.825

Liquidity9	3.86	.808
marketability1	3.88	.827
marketability2	3.84	.781
marketability3	3.62	.954
marketability4	3.81	.936
marketability5	3.43	.996
marketability6	3.61	1.022
marketability7	3.55	1.011

Source: prepared by researcher from statistical analysis results 2018.

4.4.1**Relationship between portfolio management and return**

To assess the impact of portfolio management, such as Diversification and Marketability on return,structural equation modeling has been employed and a measurement model of theseconstructs has been assessed. Figure 4.5 reveals that reflective indicators have been usedfor the measurement of latent constructs and non-causal relationship has been studiedamong different constructs, by drawing path

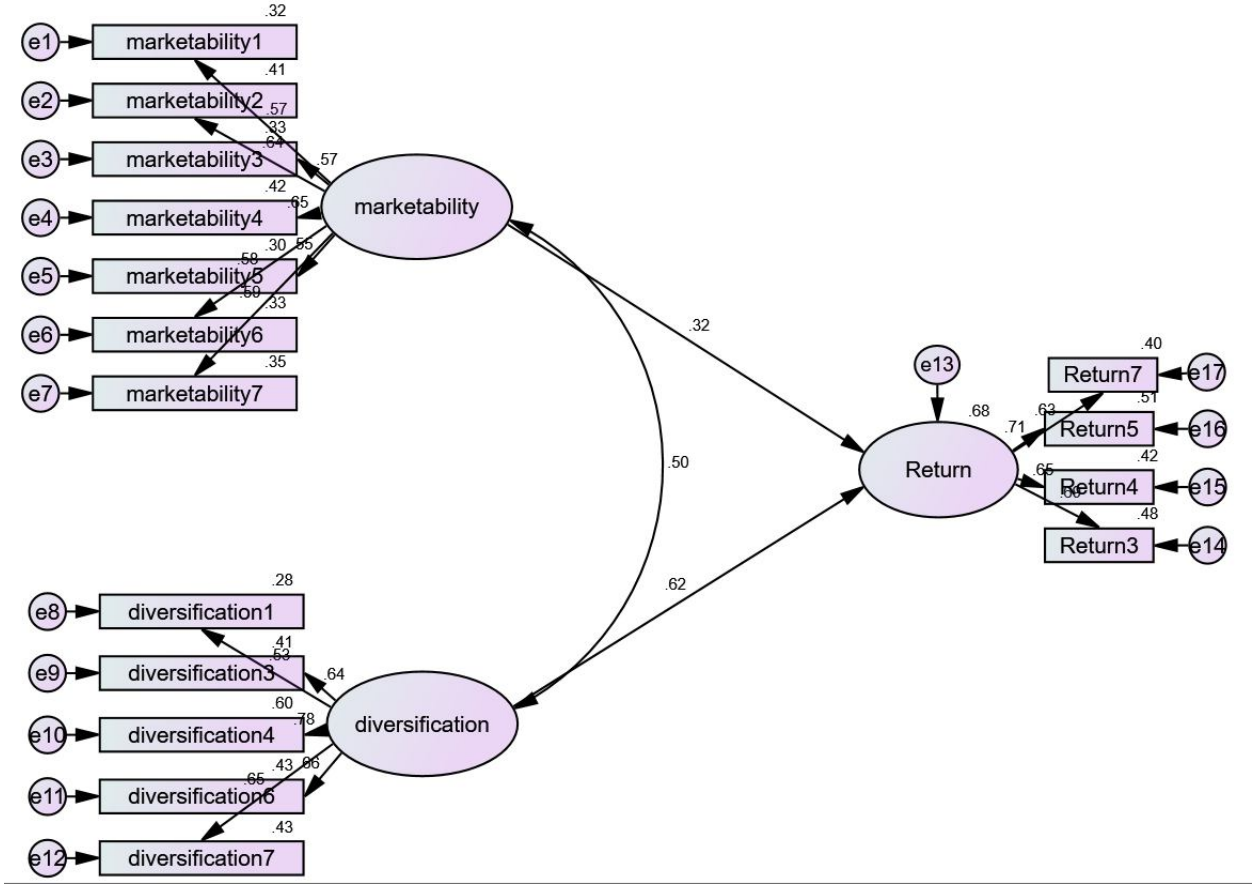


Figure (4.5) the structural model

The structural model reveals the same value of model fit.The low index of R2 square (Coefficient of Determination) (i.e. 0.68) justifies the underlying theoretical model. However, when marketability goes up by 1 standard deviation, Return goes up by 0.322 standard deviations. while, The probability of getting a critical ratio as large as 4.237 in absolute value is less than 0.001. In other words, the regression weight for marketability in the prediction of Return is significantly different from zero at the 0.001 level (two-tailed). also, when diversification goes up by 1 standard deviation, Return goes up by 0.615 standard deviations. The probability of getting a critical ratio as large as 6.298 in absolute value is less than 0.001. In other

words, the regression weight for diversification in the prediction of Return is significantly different from zero at the 0.001 level (two-tailed).

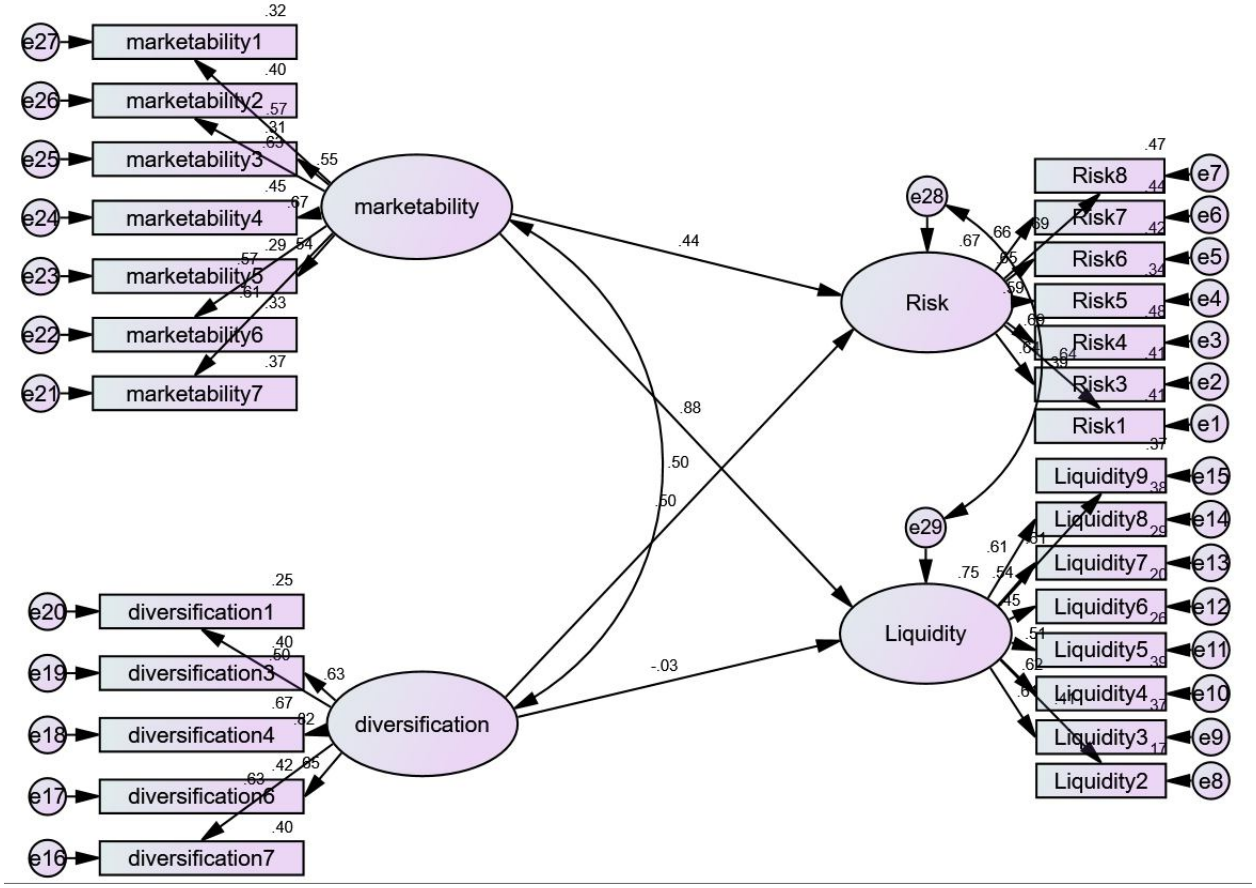
Table 4.20**Regression Weights: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P
Return	<---	marketability	.444	.105	4.237	***
Return	<---	diversification	.846	.134	6.298	***

Source: prepared by researcher from statistical analysis results 2018.

4.4.2**Relationship between portfolio management and perceived financial risk**

To assess the impact of portfolio management, such as Diversification and Marketability on risk and liquidity,structural equation modeling has been employed and a measurement model of theseconstructs has been assessed. Figure 4.6 reveals that reflective indicators have been usedfor the measurement of latent constructs and non-causal relationship has been studiedamong different constructs, by drawing path



The structural model reveals the same value of model fit.The low index of R2 square (Coefficient of Determination) (i.e. 0.68) justifies the underlying theoretical model. However, The probability of getting a critical ratio as large as 5.593 in absolute value is less than 0.001. In other words, the regression weight for marketability in the prediction of Risk is significantly different from zero at the 0.001 level. however The probability of getting a critical ratio as large as 5.64 in absolute value is less than 0.001. In other words, the regression weight for diversification in the prediction of Risk is significantly different from zero at the 0.001 level. And also, The probability of getting a critical ratio as large as 5.603 in absolute value is less than 0.001. In other words, the regression weight for marketability in the

prediction of Liquidity is significantly different from zero at the 0.001 level. And finally, The probability of getting a critical ratio as large as 0.491 in absolute value is .623. In other words, the regression weight for diversification in the prediction of Liquidity is not significantly different from zero at the 0.05 level .

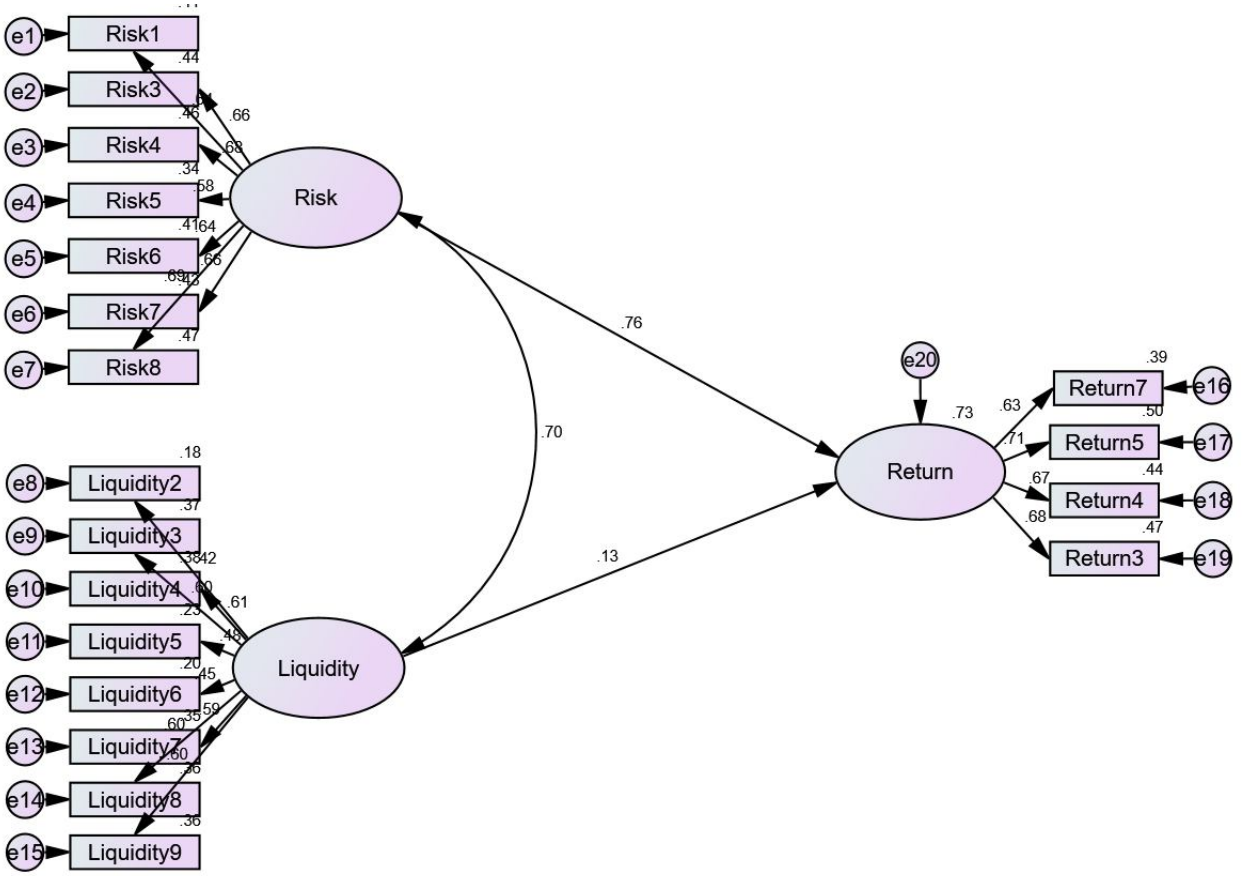
Table 4.21Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
Risk	<---	Marketability	.593	.106	5.593	***
Risk	<---	Diversification	.702	.125	5.640	***
Liquidity	<---	Marketability	.560	.100	5.603	***
Liquidity	<---	Diversification	-.022	.045	-.491	.623

Source: prepared by researcher from statistical analysis results 2018.

4.4.3**Relationship between perceived financial risk on return**

To assess the impact of portfolio management, such as risk and liquidity on return ,structural equation modeling has been employed and a measurement model of theseconstructs has been assessed. Figure 4.7 reveals that reflective indicators have been usedfor the measurement of latent constructs and non-causal relationship has been studiedamong different constructs, by drawing path



The structural model reveals the same value of model fit. The low index of R2 (Coefficient of Determination) square (i.e. 0.73) justifies the underlying theoretical model. However, The probability of getting a critical ratio as large as 6.806 in absolute value is less than 0.001. In other words, the regression weight for Risk in the prediction of Return is significantly different from zero at the 0.001 level. And also, The probability of getting a critical ratio as large as 1.395 in absolute value is .163. In other words, the regression weight for Liquidity in the prediction of Return is not significantly different from zero at the 0.05 level.

Table 4.22Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
Return	<---	Risk	.774	.114	6.806	***
Return	<---	Liquidity	.261	.187	1.395	.163

Source: prepared by researcher from statistical analysis results 2018.

Mediating Effect/ Intervening Effect

Mediation effect can be called as an intervening effect. A mediator is a predictor link in the relationships between two other variables. Normally, a mediator variable can become an exogenous and endogenous variable at same time. By testing for meditational effects, a researcher can explore to examine the influences between these variables. According to (ZainudinAwang, 2010) the mediation have three types mediator which is full mediation, partial mediation, and non-mediation.

For full mediation:

1. The regression coefficient of X1 on Y (or B1) is not significant.
2. The regression coefficient of X1 on X2 (or B3) is significant.
3. The regression coefficient of X2 on Y (or B2) is significant.

For partial mediation:

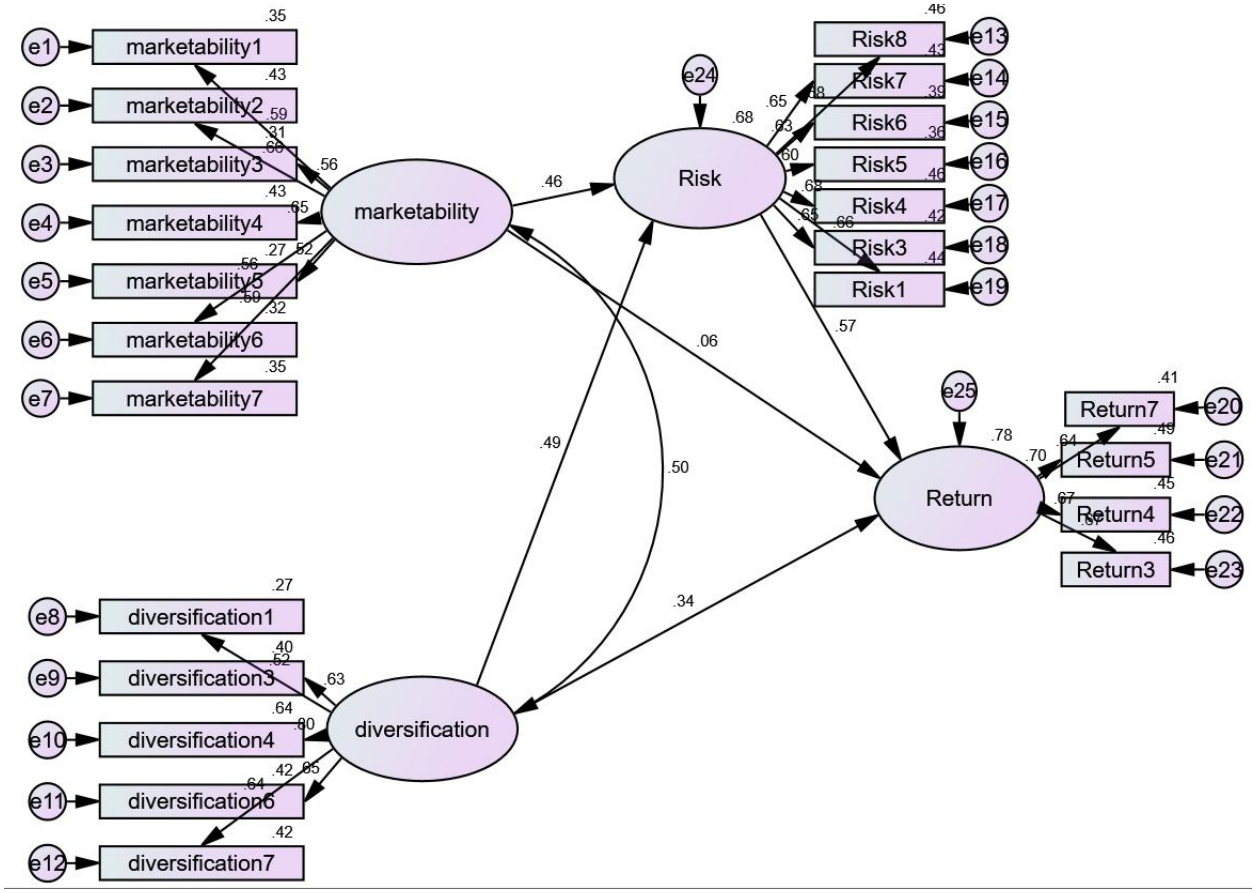
1. The regression coefficient of X1 on Y (or B1) is significant.
2. The regression coefficient of X1 on X2 (or B3) is significant.
3. The regression coefficient of X2 on Y (or B2) is significant.
4. The value B1 is lower than the product of (B3 multiply B2).

For non-mediation:

1. The regression coefficient of X1 on Y (or B1) is not significant.
2. The regression coefficient of X1 on X2 (or B3) is not significant.
3. Both regression coefficient (B1 and B2) are significant but B1 is higher than B3*B2

4.4.4 The mediating role of perceived financial risk on the relationship between portfolio management and return

To assess the impact of portfolio management, such as Diversification and Marketability on return mediating by **perceived financial risk**,structural equation modeling has been employed and a measurement model of theseconstructs has been assessed. Figure4.8 reveals that reflective indicators have been usedfor the measurement of latent constructs and non-causal relationship has been studiedamong different constructs, by drawing path



The structural model reveals the same value of model fit. The low index of R2 (Coefficient of Determination) square (i.e. 0.68 and 0.78) justifies the underlying theoretical model. However, The indirect (mediated) effect of diversification on Return is .382. That is, due to the indirect (mediated) effect of diversification on Return, when diversification goes up by 1, Return goes up by 0.382. This is in addition to any direct (unmediated) effect that diversification may have on Return. While, the indirect (mediated) effect of marketability on Return is .336. That is, due to the indirect (mediated) effect of marketability on Return, when marketability goes up by 1, Return goes up by 0.336. This is in addition to any direct (unmediated) effect that marketability may have on Return.

Table 4.23Indirect Effects (Group number 1 - Default model)

	diversification	marketability
Risk		
Return	.382	.336

Source: prepared by researcher from statistical analysis results 2018.

While table () show Significance for Indirect Effects,the indirect (mediated) effect of diversification on Return is significantly different from zero at the 0.001 level (p=.001 two-tailed). The indirect (mediated) effect of marketability on Return is significantly different from zero at the 0.001 level (p=.001 two-tailed). The next table explain that.

Table 4.24 Indirect Effects - Two Tailed Significance (BC) (Group number 1 - Default model)

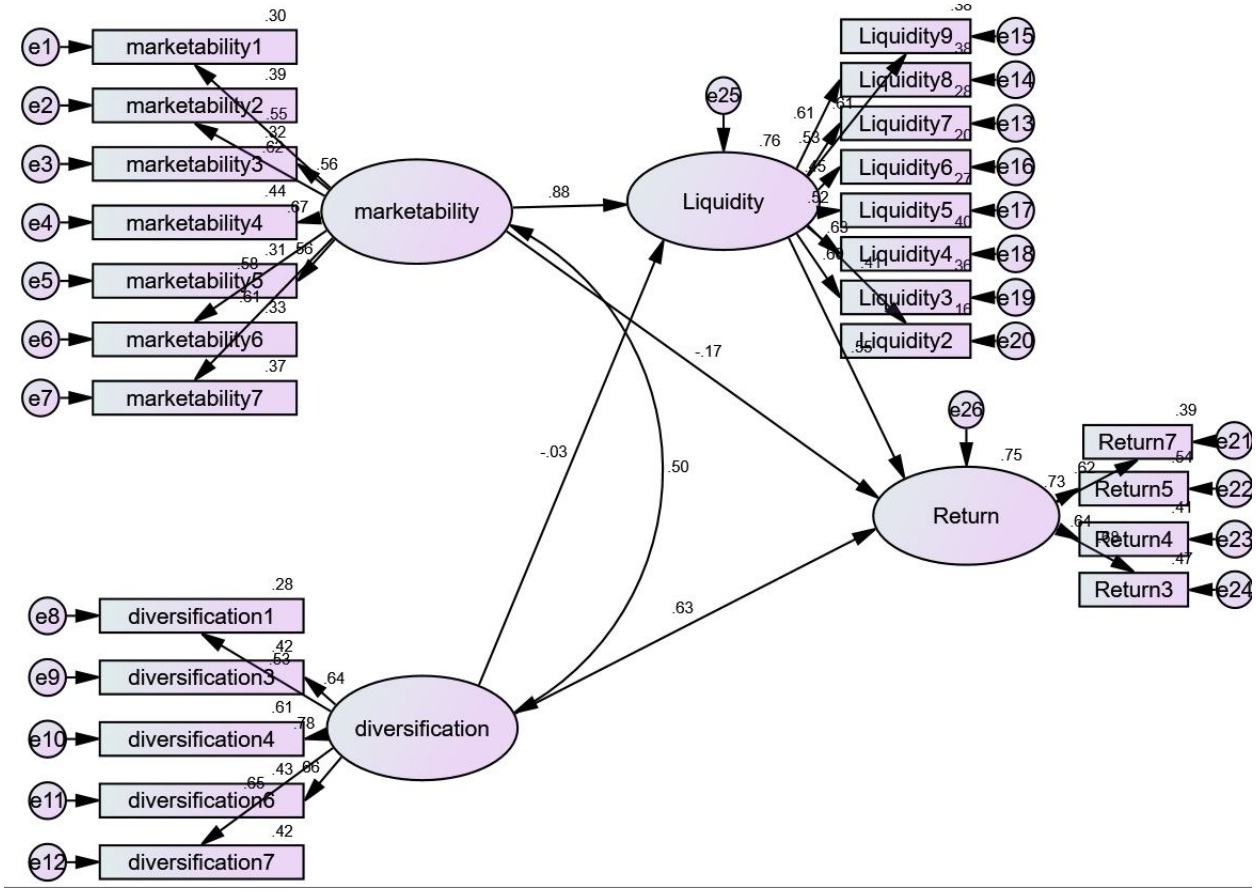
	diversification	marketability
Risk	...	...
Return	.001	.001

Source: prepared by researcher from statistical analysis results 2018.

4.4.5The mediating role of liquidity on the relationship between portfolio management and return

To assess the impact of portfolio management, such as Diversification and Marketability on return mediating by **liquidity,**structural equation modeling has been employed and a measurement model of theseconstructs has been assessed. Figure 4.9 reveals that reflective indicators have been usedfor the

measurement of latent constructs and non-causal relationship has been studiedamong different constructs, by drawing path



The structural model reveals the same value of model fit. The low index of R2 square (Coefficient of Determination) (i.e. 0.68 and 0.78) justifies the underlying theoretical model. However, The indirect (mediated) effect of diversification on Return is -.023. That is, due to the indirect (mediated) effect of diversification on Return, when diversification goes up by 1, Return goes down by 0.023. This is in addition to any direct (unmediated) effect that diversification may have on Return. While , The indirect (mediated) effect of marketability on Return is .682. That is, due to the indirect (mediated) effect of marketability on Return, when marketability goes up by

1, Return goes up by 0.682. This is in addition to any direct (unmediated) effect that marketability may have on Return.

4.25Indirect Effects (Group number 1 - Default model)

	diversification	marketability
Liquidity	.000	.000
Return	-.023	.682

Source: prepared by researcher from statistical analysis results 2018.

While table () show Significance for Indirect Effects, the indirect (mediated) effect of diversification on Return is not significantly different from zero at the 0.05 level (p=.642 two-tailed). The indirect (mediated) effect of diversification on Return is significantly different from zero at the 0.01 level (p=.007 two-tailed).

4.26 Indirect Effects - Two Tailed Significance (BC) (Group number 1 - Default model)

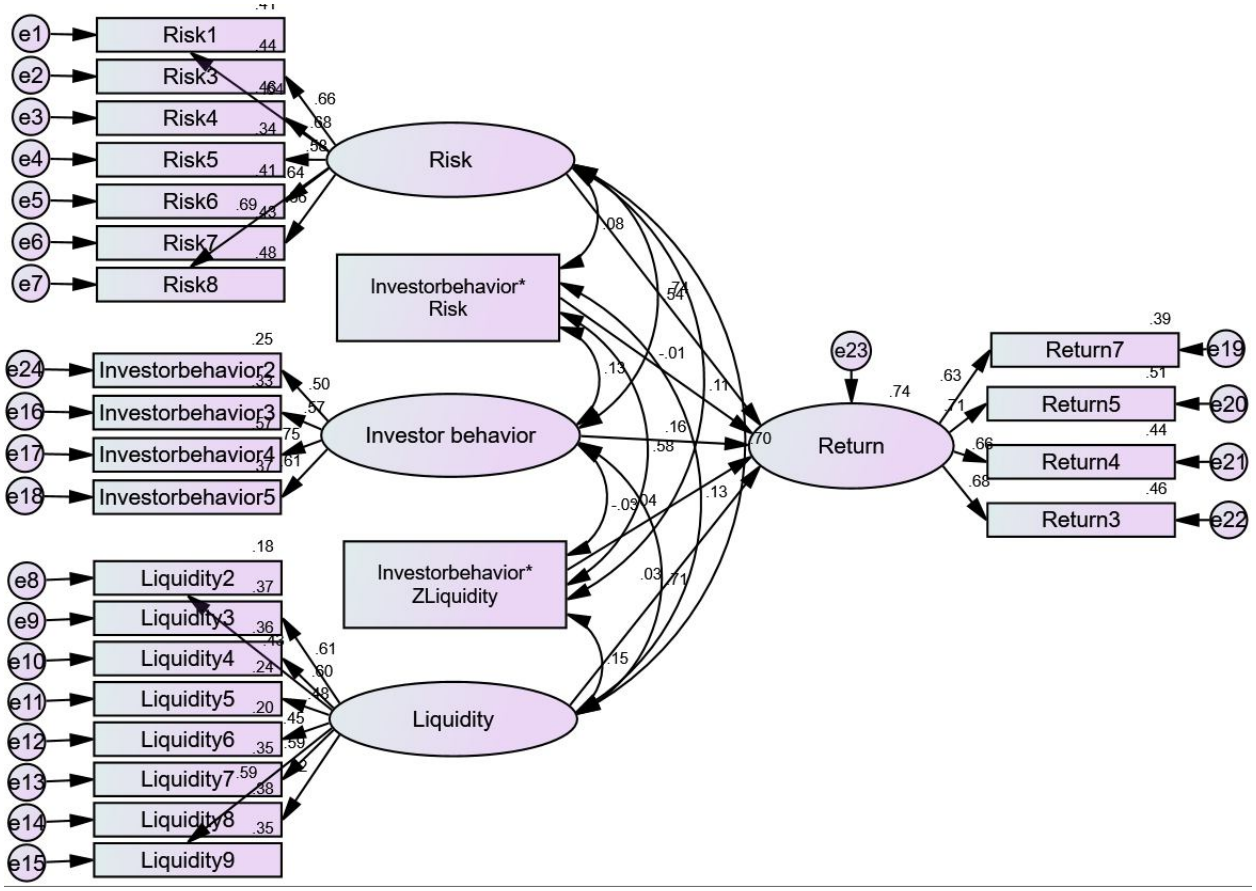
	diversification	marketability
Liquidity	...	...
Return	.642	.007

Source: prepared by researcher from statistical analysis results 2018.

5.10.1.1 moderator effect of investor behavioron the relationship between portfolio management and return

To assess the impact of portfolio management, such as Diversification and Marketability on return moderator by **investor behavior**,structural equation modeling has been employed and a measurement model of theseconstructs

has been assessed. Figure4.10 reveals that reflective indicators have been usedfor the measurement of latent constructs and non-causal relationship has been studiedamong different constructs, by drawing path



The structural model reveals the same value of model fit. The low index of R2 square (Coefficient of Determination) (i.e. 0.74) justifies the underlying theoretical model. However, the probability of getting a critical ratio as large as 6.761 in absolute value is less than 0.001. In other words, the regression weight for Risk in the prediction of Return is significantly different from zero at the 0.001 level. And also, The probability of getting a critical ratio as large as 0.15 in absolute value is .881. In other words, the regression weight for Investorbehavior_Risk in the prediction of Return is not significantly

different from zero at the 0.05 level. while, The probability of getting a critical ratio as large as 1.523 in absolute value is .128. In other words, the regression weight for Investor behavior in the prediction of Return is not significantly different from zero at the 0.05 level. however, The probability of getting a critical ratio as large as 0.686 in absolute value is .493. In other words, the regression weight for Investor behavior _Z Liquidity in the prediction of Return is not significantly different from zero at the 0.05 level. And finally , The probability of getting a critical ratio as large as 0.28 in absolute value is .780. In other words, the regression weight for Liquidity in the prediction of Return is not significantly different from zero at the 0.05 level. The next table describe the Regression value.

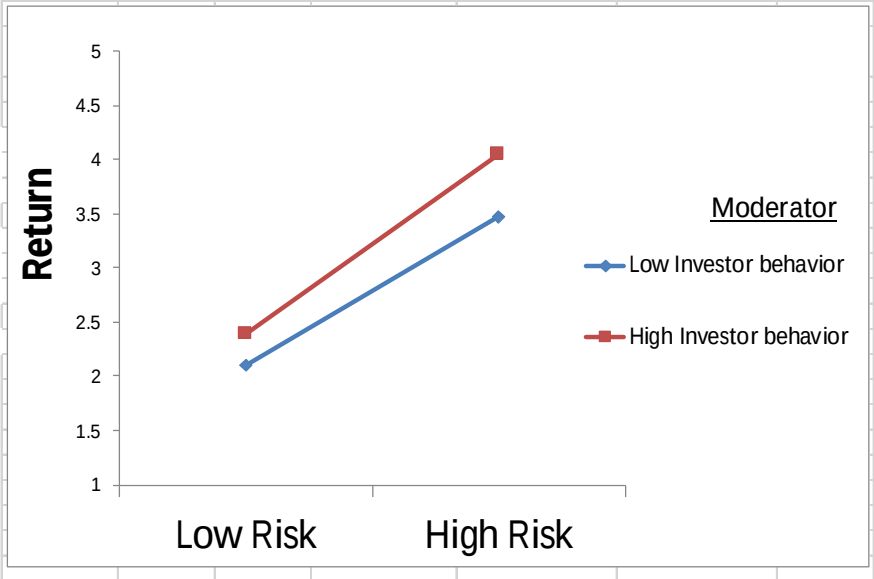
4.27 Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
Return	<---	Risk	.759	.112	6.761	***
Return	<---	Investor behavior _Risk	-.006	.043	-.150	.881
Return	<---	Investor behavior	.215	.141	1.523	.128
Return	<---	Investor behavior _Z Liquidity	-.027	.040	-.686	.493
Return	<---	Liquidity	.070	.249	.280	.780

Source: prepared by researcher from statistical analysis results 2018.

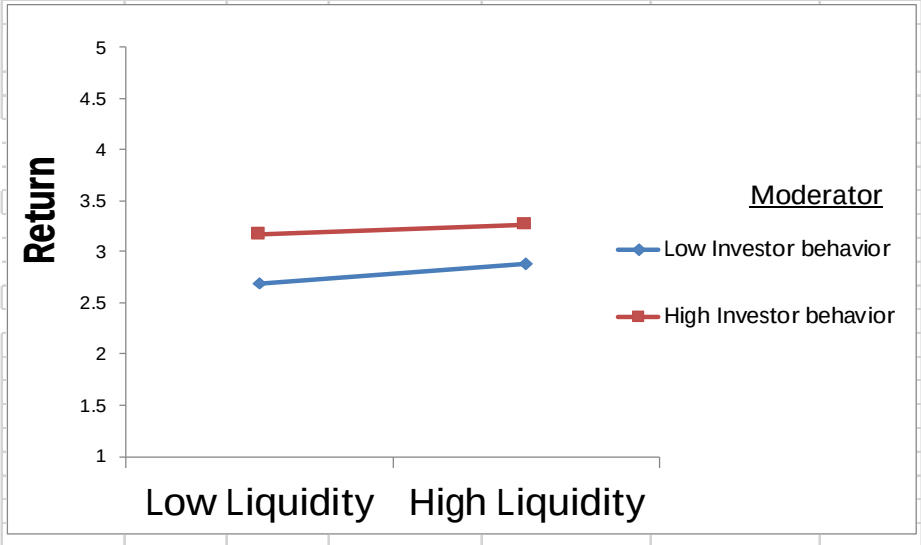
However, the common way to illustrate the results of a moderation analysis is by slopeplots. Developed by Jeremy Dawson the next figure explains that. where the x-axis represents the exogenousconstruct (Y1) and the y-axis the endogenous construct (Y2) and moderating variable in the middle.

Figure 4.11 relationship between risk and return investor behavior as moderator



Investor behavior strengthens the positive relationship between Risk and Return.

Figure 4.12 relationships between liquidity and return investor behavior as moderator



Investor behavior dampens the positive relationship between Liquidity and Return.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

This chapter for discussion and conclusion that come consistency with data analysis and findings, so it contains research recapitulation, major research outcomes, limitations and directions for future research. Finally, an overall conclusion of the research.

5.2.Recapitulation of the Research Findings

This contemplation aimed to determinants of the mediating role of perceived financial risk on the relationship between portfolio management and return: the moderator effect of investor behavior.

The first research aimed totest the relationship between diversification and risk Clarifying the mechanism of construction investment portfolio (weights f assets) .

1. to test the relationship between the risk and return ? Describe the relationship between risks of portfolio investment and level of return achieved.
2. to test the relationship between the marketability and liquidity? To know the reasons that influence on marketability of financial securities in stock exchange.
3. to test relationship between the liquidity and return? To know the factors that affect ability of liquidate the financial securities.
4. Does the investor behavior moderate the relationship between risk and return?

5. Does the perceived risk mediate the relationship between diversification and return? To increase the investment awareness of investors in Khartoum stock exchange To know the impact of portfolios investments attract and develop investors

Six research questions were outlined to attain the aims of the research. The questions are as follows:

1. Does diversification has positively influence on return
2. Does Marketability has positively influence on return
3. Does diversification has positively influence on risk
4. Does Marketability has positively influence on risk
5. Does diversification has positively influence on liquidity
6. Does Marketability has positively influence on liquidity
7. Does Liquidity has positively influence on return
8. Does Risk has positively influence on return
9. Does risk mediate positively influence between diversification and return
10. Does risk mediate positively influence between Marketability and return
11. Does the liquidity mediate positively influence between diversification and return
12. Does the liquidity mediate positively influence between Marketability and return
13. Does the investor behavior moderator the positively influence risk and return
14. Does the investor behavior moderator the positively influence liquidity and return

According to the first questions this study tries to explore the relationship between diversification and risk to do this purpose, an descriptive methodology was deemed to be appropriate. Therefore, a qualitative grounded research approach was adopted. Structured questionnaire were conducted with investors in Khartoum stock exchange.

And also making close end question to explore the most important idea of managing the portfolio, The study found different reason let investor create a portfolio, first found the most important reason for deciding the investment

Previous loss it make me more attention because it gets the highest Mean equal 4.28,secondly found **My knowledge of market helps me to take right decision** at Mean equal 4.06, and thirdly **found Financial information in cash flow statement helps me to determine the prices of securities**.at Mean equal 4.03,come in Fourth class **I invest in different economic sectors & I study overall components of my investment portfolio at Mean equal** 4.00 and fifth **The information available about quality of price of financial securities.**at Mean equal 3.95and seventh

Exchange rate effect on my investment decision at Mean equal 3.92 , in the last class came ,**My investment portfolio contains securities of un registered companies in the stock exchange** at mean equal 3.03..

While **I invest in sectors that have less correlations (assets components of portfolio)** came in the first class (mean 3.19, SD 1.036) second class is **The achieved return it near to expected return**(mean 3.43, SD 1.049)**I face difficulty to marketing the financial securities.** (Mean 3.43, SD .996). In the third class **I anticipate the price of securities according to available information about the price in the past.** (Mean 3.55, SD

1.011)while **The brokers increase the efficiency the marketability of financial securities.** came in the fourth class by (Mean 3.61, SD 1.022) and **I will sell the securities that has increased in value**came in the fifth class (mean 3.62, SD 1.143) while **I change the percentage weight of portfolio assets according to market study.** (mean 3.63, SD 0.905) and **My investment portfolio contain securities of ancient companies in the market** (mean 3.63, SD .987) came in the sixth class . and**I invest in institutions that issue the financial securities according to information available about higher management** came in the seventh class (mean 3.67, SD .894) And**The broker agents get fair commission in liquidation process.**came in eighth class (mean 3.70, SD .913) .While**I use the modern techniques for reduce the risks**(mean 3.71, SD .871) and **Financial securities that I own it able me change the components of investment portfolio assets.** came in ninth class (mean 3.71, SD .825)Whereas **I study the numbers of marketable securities (supply & demand) to determine my ability to portfolio liquidation**. came in tenth class (mean 3.75, SD .832)While came **I prefer the investment that Free risk securities government certificate** in the eleventh class (mean 3.81, SD .929)

Also, in order to identify the investor behavior among Sudanese investors the questionnaire distributed in Khartoum stock exchange in Khartoum state –Sudan.

The data gathered through a hard copy questionnaire was taken out from investors in Khartoum stock exchange - Sudan. The helpful sampling technique was used in selecting a sample for this research (convenience sampling). Using hard copy survey to collect data through a structured questionnaire survey pointed to all investors in Khartoum stock exchange.

The response rate achieved from the survey was 81.75%, which was assumed to be satisfying the research intents. To locate whether non-response bias was present in the research early respondents were compared with late respondents along all the descriptive response items in the survey. The Chi-square tests demonstrated no significant differences between the early and late respondents. Moreover, (Multiple Group Analysis) in AMOS 25 and the outcomes pointed out that there was no significant difference between the gender and specialization and education qualification field the rest of research variables that main there is no control variable. So, it can be understood that non-response bias was not a serious problem in this research.

Prior running the analyses for hypothesis testing, exploratory factor analysis and confirmatory factor analysis and reliability test were run to secure goodness of measures. Exploratory and confirmatory Factor analysis was used to test for validity of the measures on all the research variables. Especially, using Extraction Method: Maximum Likelihood.andPromax rotation was utilized to identify the dimensionality of the research variables.

The reliability of empirical measurements was taken out by internal consistency method using (Cronbach's alpha test) after exploratory factor analysis in the first steps and (CR) after making confirmatory factor analysis. The outcomes of the reliability analysis confirmed that all the scales show satisfactory level of reliability.

To test the characteristics of response such as gender age and education qualification as control variables under research, the research used (Multiple Group Analysis) in AMOS 25 to check the impact of this variable

in the analysis. The outcomes displayed three is no any impact of this variable.

Descriptive analysis was also run for other variables on the research namely: diversification, return, risks, investor behavior, marketability, liquidity. Using a (5 -point Likert scale.)

The outcomes of the research point out the high number of the mean (on a 5-point scale)investor behavior **My knowledge of market helps me to take right decision** is and followed by liquidity **I prefer the investment the can convert to cash quickly**. And investor behavior I **study overall components of my investment portfolio** equal 4.03 the outcomes of the bivariate correlations between the constructs incorporated in both the measurements and theoretical framework demonstrate that all the correlations are a positive relationship.

The path analysis was used to test the hypotheses of the research.

The first hypothesis **Diversification in financial securities leads to reduce the risk**. The outcomes brought out that **diversification has positively influence on risk Support**. The outcomes also demonstrated In other words, the regression weight for diversification in the prediction of Risk is significantly different from zero at the 0.001 level. And also, the probability of getting a critical ratio as large as 5.603 in absolute value is less than 0.001.

The second hypotheses in this research **There is statistical denotable relationship between expected return and level of risk.** The outcomes **Risk has positively influence on return Support** the probability of

getting a critical ratio as large as 6.806 in absolute value is less than 0.001. In other words, the regression weight for Risk in the prediction of Return is significantly different from zero at the 0.001 level. And also, the probability of getting a critical ratio as large as 1.395 in absolute value is .163.

The third hypotheses in this.**Availability of the information about possibility of liquidates financial securities in the short term increase the chance of marketability in stock exchange**. The outcomes the probability of getting a critical ratio as large as 5.603 in absolute value is less than 0.001. In other words, the regression weight for marketability in the prediction of Liquidity is significantly different from zero at the 0.001 level.

The fourth hypotheses **there is statistical denotable relationship between liquidity and expected return of portfolio. The outcomes** the probability of getting a critical ratio as large as 1.395 in absolute value is .163. In other words, the regression weight for Liquidity in the prediction of Return is not significantly different from zero at the 0.05 level.

The fifth hypotheses **There is statistically significant relationship between marketability volume and return maximization** the outcomes The probability of getting a critical ratio as large as 4.237 in absolute value is less than 0.001. In other words, the regression weight for marketability in the prediction of Return is significantly different from zero at the 0.001 level (two-tailed). Also, when diversification goes up by 1 standard deviation, Return goes up by 0.615 standard deviations.

5.3 Discussion

Instituted on the previous section, this section foster discusses the research findings. The discussion covers the determinants of managing of portfolio the relationship between component and return.

5.4 The Relationship between Relationship between portfolio management and return Full support

5.5 Diversification has positively influence on return Support

Madura and Abernathy (1986) conclude that there is a vast difference between "potential gains" from an *ex-post* analysis and "realized gains" from an *ex-ante* analysis. This is true for equity widely accepted notion that the benefits of diversification are virtually exhausted when is a portfolio contains approximately ten stocks (evan, archer 1968).Most of Sudanese investors own more than ten stocks. The essential message of portfolio theory is that diversification reduces risk. It is also shown that the effectiveness of diversification depends on the correlation or covariance between returns on the individual assets combined into a portfolio. The gains from diversification are largest when there is negative correlation between asset returns, but they still exist when there is positive correlation between asset returns, provided that the correlation is less than perfect. In practice, the positive correlation that exists between the returns on most risky assets imposes a limit on the degree of risk reduction that can be achieved by diversification. (McGraw-Hill 2010).We explore an alternative, finance theory-based explanation for the documented positive relationship between fund diversification (or lack of fund specialization) and performance in venture capital (Buchner 2017).

Future returns are not known for certain at the Beginning of the investment period, but depend on a vast array of factors and events. Even though the actual outcome is then not exactly predictable, one can still have beliefs about the likelihood of certain outcomes. In this case, future returns of an investment will be characterized not only by the expected return per period in the long run, but also by the magnitude and likelihood of deviations from this expected value.

(Maringer.2008) (Buchner 2017)

We have illustrated the importance of keeping your costs low while building a broadly diversified portfolio. Indexing is a proven way to accomplish both of these goals, as investments that seek to track their benchmarks at the lowest possible costs have historically outperformed their active counter-parts on average over time. If an investor wants to try to outperform a benchmark, he or she must carefully choose active managers or strategies. Successful investors employ superior due diligence, focusing on a firms' people, philosophy, process, and, lastly, performance—all at a cost competitive with indexing. Fortunately (Donaldson and other2013)

Investors often spread their wealth not just across a limited number of asset classes; they do not behave (fully) rationally when spreading their wealth among the various asset categories either. (Deutsche bundesbank 2011) . Sudanese investors have same characteristics.

Moreover, the sustainability of the return is achieved not only by high profitability, but also by such factors as optimal capital structure, good level of corporate governance, accountability and high innovative potential. Determining these factors has helped us to prove hypothesis on achieving shareholder value sustainability. (Julia Bistrova and Natalja Lace 2013).

Must the banks when composition f the portfolio diversification tools so that is an appropriate tools to point the return . This tools it will be balance between risk and return. (mussa,abuorabi 2011). The index investor can be quick idea of the change in the yield of various portfolio securities positively or negatively as soon as his knowledge of direction of change in state index, market without the need to pursue financial performance of each sheet separately (berk2010).

There is vast difference between potential gains form an ex-post analysis and realized gains an ex-ante analysis this is true for equity (Stephen lee 2001).

The common way to think about diversified portfolio is to analyzed one contain large number of securities, a return variance of portfolio of group of securities is lower than average variance of individual securities unless all securities are perfectly correlated. (apollon.2014, patil 1999, devassal 2001).

Diversification can be beneficial across countries from perspective of local investor (driessen and la even 2007). Investor were first allowed to trade in regional equity market based on the fact that investors prefer familiar investing opportunities. (huerman 2001). Than they were allowed to invest globally. (applon 2014).

5.6 Marketability has positively influence on return Support

. The probability of getting a critical ratio as large as 6.298 in absolute value is less than 0.001. In other words, the regression weight for diversification in the prediction of Return is significantly different from zero at the 0.001 level (two-tailed).

The discount of lack marketability is can be large even when the length of marketability restriction is very short. the upper bond provide bench mark

for estimation the valuation effect of marketability restriction such as critical breakers ,trading halts and prohibition of program trading (lon staff 1995)

It considered indicators stock price mirror that reflects the general economic situation in the state an important tool to predict future economic situation (Kaplan 2011).

It indicators at many application of interest of investors and others parties dealing in capital market to predict future development in the market against which take investment decision .(Kaplan 2011). When the market are competitively average active managers cannot beat passive managers does not imply that the average active managers lack skill (b.berk 2013).

Investor chase past return. investors are not chasing past performance they are chasing the future performance and doing so compete away the opportunity of benefiting from the skill that produced the historic superior performance (b.berk 2013).Considered dividends for shareholders is most important indicators related upon by investment decision (jabber 2006).

Trading volume and return on asset are related to better diversification whereas profit margin and return on equity related to least diversification (Khan 2017).

The investors they could Cleary predict the development of market even though they we sometime highly conscious the over valuation f market during speculative bubble (jonson 2002) Statistical analysis on whether there is relationship between the investors opinions on market ability to recover .the result is that there is no relation correlation between perceived ability of market to recover and current valuation of market (jonson 2002).As regards the relation between diversification and return the results are consistent with

previous findings, and reflect Diversification has positively influence on return(Ade Oyedijo.2009)

This study has similar finding with study of Asset location is a simple but powerful tool to add long-term value to a portfolio on an after-tax basis. When setting return expectations, look at after-tax results, as this will reflect the actual money available to meet a portfolio's objectives(Donaldson and other2013)

.Hence it appears that the diversifiable risks are greater than common risks and thus favors international diversification we find that risk is substantially lower in the vast majority of cases. Even holding one foreign asset can reduce the risk of a US portfolio by up to 20%. (falvin 2006).

In general, investors value marketability. Therefore, other things being equal,
investors will pay more for an asset that is readily marketable than for an otherwise
identical asset that is not readily marketable. The usual valuation methodologies, which utilize cash flows or market transactions, do not explicitly account for the marketability of an asset. Hence, in order to value an asset that is not marketable, the usual approach is to value the asset as if it were marketable, then apply a marketability discount to this estimated value.2 The challenge in valuing non-marketable assets lies in determining the appropriate discount to be applied in a given situation. (Mukesh Bajaj,2003)

I have argued here that no single measure is likely to capture adequately
the variety of systematic risk influences on individual stocks and
portfolios. Returns are sensitive to general market swings, to changes in

interest rates and in the rate of inflation, to changes in National Income and, undoubtedly, to other economic factors as well. Moreover, if one were to select the best individual risk estimate Benjamin M. Friedman, ed.1982).

5.7 Relationship between portfolio management and perceived financial risk Partially Support

3.8 Diversification has positively influence on risk Support

Opinions and forecasts regarding industries, companies, countries and/or themes, and portfolio composition and holdings, are all subject to change at any time, based on market and other conditions, and should not be construed as a recommendation of any specific security. (haward 2014).Lack saving and investment awareness m twice listed companies in market management , positive diversification on the assets of investment portfolio on of the most effective means to reduce the risk of investing in securities (jabber 2006, pinto 2011) .

The diversity in investment lead to minimize risks level (seham 2010).There is exists linear relationship between systematic risks and portfolio return (apollon 2014). Portfolio provide slightly lower level of risk diversification benefit than investment trusts (goskum 2007).

The benefit of diversification such risk reduction and reducing portfolio variance , investors in most cases tend to hold under diversified portfolio ,whichconsidered as costly ad sub-optimal decision (blume& friend 1975, de bondt 1998, Kelly 1995, khan 2017).

Our model seems to capture te he features of return distributions quite well and we find that common market shocks are, on average, in a high-volatility

regime about 23% of the time. Some market pairs, e.g. Italy and UK, incur few common shocks and consequently are likely to provide risk reduction benefits if held together in portfolios.(falvin 2006)

Results show that there is a significant relationship between credit portfolio diversification and risk(Raeia2016) Firstly, we find that expected stock returns are statistically different between regimes. (Flavin 2006)

The existing studies in general examined the effects of trading costs, geographical, myopic loss aversion , successful exploitation of informational advantage , familiarity bias , overconfidence and informational advantage , and financial literacy and financial advice (Gaudecker, 2015) on portfolio diversification

All investments are subject to risk, including the possible loss of the money you invest. Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index. There may be other material differences between products that must be considered prior to investing. Diversification does not ensure a profit or protect against a loss in a declining market. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account.

Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk, which is the chance that political upheaval, financial troubles, or natural disasters will adversely affect the value of securities issued by companies in foreign countries or regions, and currency risk, which is the chance that the value of a foreign investment,

measured in U.S. dollars, will decrease because of unfavorable changes in currency exchange rates.

Bond funds are subject to the risk that an issuer will fail to make payments on time and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments. Funds that concentrate on a relatively narrow market sector face the risk of higher share-price volatility.

Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. Please remember that all investments involve some risk. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. High-yield bonds generally have medium- and lower-range credit quality ratings and are therefore subject to a higher level of credit risk than bonds with higher credit quality ratings.(Donaldson and other2013)

Although the income from a municipal bond fund is exempt from federal tax, you may owe taxes on any capital gains realized through the fund's trading or through your own redemption of shares. For some investors, a portion of the fund's income may be subject to state and local taxes, as well as to the federalAlternative Minimum Tax.

I disagree with (Buchner2017) Our proposed "Risk Hypothesis" posits that the expected negative impact of diversification on fund risk induces fund managers to endogenously select riskier investments, which in turn leads to higher performance of more diversified funds.

5.9 Marketability has positively influence on risk Support

One assumption before interviews was that there would be a little more variance in answers about risk awareness based on every person's different position, educational background, work tasks and perspective in general. Surprisingly, answers Risk models can be applied to a variety ofpractical problems. A new and interesting set of applications concerns trading, especially in a portfoliocontext, and we expect further developments in this area as traders recognize the value of high frequencyrisk models to their operations. (AnanthMadhavan, Jian Yang, 2003) It can be used as indicators to measure the systematic risks of portfolio securities (Kaplan 2011) the indicator can reduce financial risk buying and selling on credit index. Choice for index is tols used t take shelter from risk (Kaplan 2011).

The movement f prices for each of the studied stock exchange d not follow normal distributing that existence of random in stock prices the efficiency of these market (bin hacence 2013).

There is stability in time series of price of securities is lck of the sample .random movement of prices of stocks. it means efficiency market .(bin hacence 2013)

Weakness of regulatory and supervisory frame work of market operation. The cost of variability in buyer/seller imbalance information can be used as metric for short horizon risk (kanots 2010).

were quite unified. Sales risk was commonly seen as a main risk of the moment in this business and it could realize in market shock situation which could derive from political or economic crisis which would probably be global (Markku Karvonen,2014)

Ï Younger investors seemed to give most importance to opinions of either friends/brokers. 47.8% of them opined that they listened to friends or recommendations from brokers, while making their investment decisions. This could possibly be owing to the fact that broker recommendations are frequently available in the trading platform and via email intraday and before/after-market. From the survey, it was clear that younger investors mainly prefer online trading rather than trading at the brokerage, which is preferred by the more experienced traders.

I Experienced investors, on the other hand, were biased towards opinions from media and other so-called experts, as disclosed by 56.5% of the experienced participants. Rightly so, because they seem to have more time to follow financial news and the views of ¡¥experts¡¦ who seem to know just about every twist and turn (Rahul Subash,2012)

5.10 Diversification has positively influence on liquidity Not support

According to formulation of acerbi the liquidity of assets consisting portfolio is built into value f the portfolio via a so called liquidity policy the valuation of portfolio becomes convey optimization problems capital structure effect the market value of the facility . Through its effect on expected cash flows as well a cost of money or both (jabber 2006).This paper shows strong effects of liquidity on optimal portfolio selection(Ana González,2007)

We employ daily rates of returns on 29 stocks trading in the Spanish Stock Market from January 1996 to December 20004. We also collect daily relative bid-ask spreads for the available 29 individual stocks. From daily returns, and the corresponding compounding given the number of trading

days for each month in our sample, we calculate monthly returns for each stock. From the daily relative bid-ask spreads, we calculate the average relative bid-ask spread for each month and each stock. The monthly three-month Treasury bill rate is employed as the risk-free rate in the optimization problems, where we always use monthly data.

5.11 Marketability has positively influence on liquidity Support

There is significant positive relationship between market volatility and market volatility. The statistical analysis was not able to prove that there is relationship between information sources investor focus on asset what sort of companies they invest in . Decreased the importance of own institution and information from media when making investment decision , suggest too emphasis on more fundamental perspectives (jhonson 2002).

The direction of during the last few days does not affect the direction of stock tomorrow. The marketability of an asset refers to the degree to which an asset can be convertedto cash quickly, without incurring large transaction costs or price concessions. All elseequal, the more marketable an asset, the higher the price an investor will be willing to payfor the asset. The lack of marketability of an asset is costly to investors because itpotentially causes the investor to miss opportunities to allocate capital to alternative uses,such as liquidity or portfolio rebalancing. (Mukesh Bajaj, 2003)

This article has the aim of investigating the relationship between market efficiency and liquidity on an emerging market, the Romanian financial market. market liquidity has a positive impact on informational efficiency, the increase of liquidity leading to greater efficiency.

the empirical research of the 13 most liquid securities traded on Bucharest Stock Exchange test the link between the relative efficiency and liquidity, a bond processed on intraday data on Romania's emerging market. This result is obtained by econometrically modeling the collected data. Being arranged in a panel, these observations help at constructing variables (using a true measure of liquidity, an efficiency proxy and a control variable), market liquidity has a positive impact on informational efficiency, the increase of liquidity leading to greater efficiency.

Managers expected to earn bench mark return. Regard prior performance or skill level all managers expected return going forward are the same the bench mark expected return (b.berk 2014).If the information set at the times the investment would flow to the managers' predictability better return (B.berk 2014).

Estimation of trading costs associate with liquidity needs can be efficiency a accomplished through our models (kanots 2010).

Asset pricing theory suggests that liquidity only affects prices if claims to the market portfolio display time-varying liquidity. Most empirical research on aggregate liquidity has had to rely on indirect measures constructed from liquidities of individual stocks. These measures may differ significantly from the liquidity of an claim on the index itself.

Nonetheless, where liquidity risk is measured at all, it is usually via variations on two types of statistic. The first attempts to measure transaction cost risk and is based on bid-ask spreads, while the second attempts to capture the risk of depressing the market price by selling, and is based on trade volume or outstanding stocks. We will describe the mechanics and rationale of these typical measures and assess their validity and relevance to liquidity risk.

From its dynamics we find that (i) the non-flow component of return volatility decreases liquidity, but the volatility of order flow does not; (ii) trading volume has only a transient effect on liquidity; and (iii) liquidity varies positively with order flow itself. Our results point to limited risk bearing capacity, rather than asymmetric information or temporary price pressure, as a primary determinant of market illiquidity. (PrachiDeuskar and Timothy C. Johnson,2009)

In this report, we debated the buying and selling of investment trusts principally from a behavioral finance perspective. As a result, we concluded that investors have a strong preoccupation with purchase price, and tend to sell rapidly when unit price exceeds purchase price We also concluded that much investor behavior is irrational, and pointed out that, as such, further investor education is necessary.

This report focused on investment trusts and debated the behavior of individual investors. However, from the perspective of individual investors, investment trusts are only one means of managing assets.

Going forward, we need to improve our understanding of the decision - making processes of individual investors with regard to asset management, while also taking savings deposits and equity holdings into account. In addition, (Hisashi Kaneko,2004)

Algorithmic trading and especially high frequency trading is the issue that pays attention of current researchers and legislative authorities. It is also the subject of criticism as a mechanism of market manipulation but simultaneously it is positively rated because of its influence on the market liquidity.

This paper was focused on testing the relationship between market liquidity of futures traded on EUREX Exchange and HFT activity on European derivative markets. The model results are mixed and it is influenced by the way of volatility measurements. Although, the mixed results the effect of HFT on market liquidity is positive. The reason of mixed
findings might be caused by the usage of proxies for measurement of liquidity because of limited public information about the analyzed market. This way of liquidity measurement will be the subject of our future investigation. (JurajHruskaa, 2015)

Transaction Costs Setting up a portfolio is costly as transaction costs are often linked to the traded volume. Proportional costs are then charged as a percentage on the value of the trade. In practice, these rates, too, can depend on the volume; here, however, we will consider only a fixed percentage rate, i.e., linear costs. If the traded volume is below a certain limit, there might also be a minimum fee which comes into effect. (marginer 2008).

Liquidity risk is a critical issue for most investors, particularly those that are either very large or are leveraged. Estimation of trading costs associated with liquidity needs can be efficiently accomplished through our tick based model, as well as other models of cost Variability in buyer/seller imbalance information can be used as a metric for short horizon risk We have presented two methods for including (Kantos 2010).

5.12Relationship between perceived financial risks on return Partially Support

5.13 Liquidity has positively influence on returnNot support

Weak economic performance and lack of access to security and stability the theory of quantification f liquidity risk need to be bettered by more effort (yatain 2009).

There is strong positive relationship between flows and return they consider the stock worth buying solely based on recent high stock price increases and positive future out lock (Jonson 2002).

We introduce an analytical construct that liquidity as shadow allocation if liquidity deployed to raise expected utility we attach the shadow asset to traded assets to capture thick incremental benefit.it accounts for fact that liquidity secures n only to meet demand for capital but also to exploit trading opportunity (will kinlaw2013).

This study investigates whether market-wide liquidity is a state variable important

for asset pricing. We end that expected stock returns are related cross-section ally to the sensitivities of returns to °actuations in aggregate liquidity. Our monthly liquidity Measure, an average of individual-stock measures estimated with daily data, relies on the principle that order °ow induces greater return reversals when liquidity is lower.

Over a 34-year period, the average return on stocks with high sensitivities to liquidity exceeds that for stocks with low sensitivities by 7.5% annually, adjusted for exposures To the market return as well as size, value, and momentum factors .(Lubo·s Pastor2002)

Complex simultaneous relations are found between average returns, volatility and liquidity that should probably be taken into account when selecting optimal portfolios. Portfolio performance However, these portfolios display a much lower level of liquidity than the optimal portfolios obtained when recognizing explicitly preference on liquidity.

they have different empirical implications .Following the notion of information asymmetry, junior securities are more likely to be traded by investors with an information advantage. By contrast, the risk management aspect examined in our

paper indicates that the market participants' decision to invest in junior or senior tranches depends on the combination of assets held in their portfolios. (vanOord t 2014).

5.14 Risk has positively influence on return Support

The evidence shows a significant positive relationships between realized returns and systematic risk. However, the relationship is not always as strong as predicted by the capital asset pricing model. Franco Modigliani and Gerald A. Pogue1973

One of the best-documented propositions in the field of finance is that, on

average, investors have received higher rates of return on investment

securities for bearing greater risk. (Benjamin M. Friedman, ed.1982).

to describe the relationship between variables when you configure the investment portfolio that takes into account the low yielding and risk of assets low (musa,abuorai 2011) any securities linked to certain degree of return and risk it can be estimated mathematically.(kamal 2013). On the other side lack information and financial data , lack availability of financial

instrument (bin hacene 2013) Return measure managerial skill the result is that managers who hold portfolio on the some riskiness are expected to earn some return regardless the level of skill (b.brek 2013). That there followed a strategy to diversify the portfolio is working to spread risks an avoid losses increase yield (yassin 2011).

The return on an investment and the risk of an investment are basic concepts in finance. Return on an investment is the financial outcome for the investor

Portfolio management is mostly about reducing as much risk as possible while achieving the highest possible returns. (Marginer 2008).
that there are significant and negative effects from individuals' risk aversion levels which lead them to hold negative stock market expectations. (Boram Lee2013)

There are risks involved with mutual fund and stock investing, including the risk of loss of principal. There is no assurance that the investment process will consistently lead to successful results. Investing in securities involves inherent risks, including the risk that you can lose the value of your investment. Past performance is not indicative of future results. Investing may not be appropriate for all individuals, always consult a qualified professional prior to making any investment decision. You should consider the investment objectives, risks, charges, and expenses of mutual funds carefully before investing. The prospectus contains this and other information(haward 2014)

5.15 The mediating role of perceived financial risk on the relationship between portfolio management and return

5.16 risk mediate positively influence between diversification and return Support

individual stock just as risk adjusted stock returns should be unpredictable, so should be portfolio managers return (berk 2013, jaber 2006).

The return and risk are two main variables that were upon investment decision ,commercial banks in Sudan ,and they do not use methods to assessing ROI average internal rate of return, and net present value to decision making (ben ali 2009). Commercial banks ignore the impact of inflation or ROI when evaluating the return on investment there is no modern techniques to measure the risk.

In fact risk not high they nearly not exist because the variety of investment portfolio in addition (shahama) bond certificate the most utilized (seham 2010).

The benefit of diversification is not return enhancement but risk reduction (apollon 2014). Past investment experience, investment information and investment duration have significant impact on risk perception as t-value is greater than 1.96 and p-value less than 0.05. Risk perception has significant impact on risk propensity as t statistics is 19.447 and risk propensity has significant impact on expected return as p-value is less than 0.05. In addition to this, by taking risk propensity and risk perception as mediating variable, the results show that investment experience, investment information and investment duration have significant impact upon expected return.(Zeeshan Mahmood,2015)

Too many investors focus on the markets, the economy, manager performance, or the performance of a given security or strategy instead of the core fundamentals that we believe should drive a successful portfolio (Donaldson and other2013)

Past performance does not guarantee future results. There are risks involved with mutual fund and stock investing, including the risk of loss of principal. There is no assurance that the investment process will consistently lead to successful results. Investing in securities involves inherent risks, including the risk that you can lose the value of your investment. (Howard 2014)

5.17risk mediate positively influence between Marketability and return Support

investors cares when making an investment decision and directing set of the most important accounting information .relating to the profitability per share and net individual and company ability meet an obligation (yassin 2011.)

investor show preference for dividend yield stock evaluation firms product and brand ,also about investment return . and superior or private information (khan 2017).

5.18 liquidity mediate positively influence between diversification and return Not support

lack of quality of accounting information the necessary information of the area of investment the most important factors influencing the composition of portfolio (yassin 2011). The existing studies show that effect of trading cost . The existing studies in general examined the effects of trading costs (Guiso, Haliassos, &Jappelli, 2002). The availability of detailed information on investor categories enables us to provide more accurate and detailed

evidence on investors' heterogenous trading behavior and their different impacts on return volatility. (Che,2011)

Historically, broker/dealers have provided liquidity to the markets, by serving as intermediaries between sellers and buyers of investments. Losses faced during the Global Financial Crisis in 2008 and 2009 meant that some of these broker/dealers were shuttered, while many that survived reduced the risks they were willing to take. Flow and returns a" stylized fact about illiquidity is that it increase in down markets there is no significance relationship between illiquidity and contemporaneous or lagged returns, instead the data show. A previously un documented negative relation with order flow. (Johnson 2009).

Profit distributed to shareholders considered as most important indicator that financial securities investors depend on making decision .

We compare the estimated liquidity risks factor with the real one for consecutive a trading days. The recorded may not capture all information prior time and error is large , there are two ways to remedy this a using more empirical data or using other models for approximation .(Yatain 2009).

Liquidity risk are critical issue for most investor particularly those are either very large or are leveraged (kantos 2010).

5.19liquidity mediate positively influence between Marketability and return Support

We review the theories on how liquidity affects the required returns of capital assets and the empirical studies that test these theories. The theory predicts that both the level of liquidity and liquidity risk are priced, and empirical studies find the effects of liquidity on asset prices to be statistically significant and economically important, controlling for traditional risk measures and asset characteristics. Liquidity-based asset pricing empirically helps explain (1) the cross-section of stock returns, (2) how a reduction in stock liquidity result in a reduction in stock prices and an increase in expected stock returns, (3) the yield differential between on- and off-the-run Treasuries, (4) the yield spreads on corporate bonds, (5) the returns on hedge funds, (6) the valuation of closed-end funds, and (7) the low price of certain hard-to-trade securities relative to more liquid counterparts with identical cash flows, such as restricted stocks or illiquid derivatives. Liquidity can thus play a role in resolving a number of asset pricing puzzles such as the small-firm Effect, the equity premium puzzle, and the risk-free rate puzzle.(Yakov Amihud1,2005)

In other words, liquidity will be at its worst exactly when you need to sell! Of course, for investors with little need to sell their bond holdings, illiquidity is irrelevant, as this group of investors could simply hold their bonds until they're redeemed or mature. The good news is that most liquidity-driven declines in the value of investments recover over time, as was the case during the Global Financial Crisis for corporate bond values, for example. Nonetheless, everything else equal, weaker market liquidity is a good reason to own a greater percentage of high-quality assets in your portfolio. (janney Montgomery scott llc,2014).

It’s important to consider liquidity risk in constructing a portfolio, though the ability to take liquidity risk varies tremendously among investors. An investor in or near retirement generally requires greater liquidity, as s/he may soon begin drawing down her/his investments—that’s a predictable liquidity need, one that can be achieved with predictable bond maturities or the sale of assets over time (janney Montgomery scott llc,2014).

Calm markets are associated with significantly positive returns while turbulent markets are characterized as generating negative mean returns (Flavin,2006)

Portfolio analysis earns a higher reputation in the long-term, but still ranks in last position. Users of fundamental analysis prefer to employ accounting measures in their analysis, followed by discounted cash-flow measures, with the relatively new market value-based measures taking third place with the lowest mean values (damitrs 2007).

We demonstrate that higher-frequency information that is ignored by the influential practice of considering monthly averages is actually consequential in the sovereign bond context, and that the relationship between such liquidity benchmarks and proxies can become substantially thinner as the frequency

becomes higher. Thus, the use of liquidity proxies could lead to erroneous conclusions on liquidity when there is a need to convert sovereign bonds into cash within a short timeframe, or when there are information events driving trading. In general, any liquidity proxies need to be assessed against the particular needs and timeframe of the liquidity context being considered.

In the context of the EU sovereign bond market, we have shown that the end-of-day spread is a proxy that performs well and thus can be considered as a useful

and practical tool to assess liquidity(Sven Langedijk, 2018)

The analysis of changes in the number of transactions (one of the indicators characterizing stock liquidity) in the Baltic stock markets evidenced quite different trends companies with higher liquidity of assets, higher financial leverage and making profit are more liquid as well. The stock liquidity of Latvian companies during the period of 2005–2012 was significantly affected only by size of a company The research of relation of Lithuanian stock liquidity and company-level factors evidenced that stock liquidity

was positively affected by size of a company and return on assets (Rasa Norvaišien,2014).

5.20 moderator effect of investor behavior on the relationship between portfolio management and return Partially Support

5.21 investor behavior moderator the positively influence risk and return Support

Rational investor will prefer a safe income stream over risky one unless the risky one promises a sufficiently higher return (maringer 2008). Individual behavior decision making was influenced by strong benefit in their own skills. Which can lead to the underestimating of likhood of bad outcome.

Consistent patterns of information such news pointing in the same direction. or consecutive stocks price increases can lead to overreaction among investors (jhonson 2002). The investor claimed that they were not

able to predict the market future (johnsonn 2002).an explanation f diversification decision there has been growing research placing in particular focus on behavioral explanation ,information advantage , excessive extrapolation of past return , and misinterpretation of risk concept (sialm&werbenner 2008).(khan 2017).

Working on the behavior of investment fund clients at the most granular level possible allowed us to obtain a number of new results. First, we were able to assess the difficulty of building a single database using information from different management companies. The specific features of the distribution systems make it very difficult to characterize the end client, and thus to createuniform groups of clients in order to study their behavior. We then developed relatively simple and easily estimable models of investor behavior. These models clearly use only a fraction of the information contained in the data, but we were nevertheless able to draw a number of conclusions about how investors behave based on the liquidity of the fund in which they have placed their money. These behavioral models form one of the basic building blocks required to analyze the liquidity transformation performed by investment funds. They can be used to evaluate the liquidity mismatch between the portfolio's level of liquidity and the liquidity actually requested by the fund's clients.

We are clearly still in the early stages of the statistical analysis of investor behavior. The predictive capabilities of the models could certainly be improved by looking, for example, at the correlations between behaviors of different types of investors, e.g. institutional and retail. Working with much larger data samples would also help improve the quality of the results, and would allow us to use much more complex models. We nevertheless believe

that, before we do any more work on the modeling side, we should help educate participants in the asset management world and start to explain clearly what they would gain from a better statistical understanding of the behavior of a fund's clients. To that end, workshops have been held to give the risk teams at the project's partner management companies an opportunity to discuss the uses of the work presented in this article. A prototype of a risk management tool has also been developed. Based on a big data platform, the tool uses its storage and computing power to give fund managers, salespeople and risk teams real-time knowledge of redemption probabilities and to enable them to simulate various liquidity stress scenarios by incorporating shocks to the structure of their liabilities.Scientific Advisory Board Review When selecting an investor to diversify his portfolio components must take into account the correlation between the return of its assets the higher link with increasing risk to degree of portfolio as whole (bin musa 2013,kamal 2013).

Idea of portfolio management is different from investor to another according to nature of education and qualification .

Investor depend on risk and return in the composition of portfolio , beside that there is direct correlation between rate of investment and associate risk (jabber 2006).

Fifthly, from test of hypothesis five which is the moderating effect of determinant of investment decision on the relationship between behavioral biases and individual investor portfolio performance, the study confirm that in deed there was such moderation which was statistically significant to the

relationship. However, model 2 overall was found not to be statistically significant. (Shiundu, 2012).

the investor injects emotions into the portfolio construction process. It is important to distinguish between emotions and investment risk so that the best decisions can be made. (Howard,2013) The researcher found out that the most important factors that influence individual investment decisions were: reputation of the firm, firm's status in industry, expected corporate earnings, profit and condition of statement, past performance firms stock, price per share, feeling on the economy and expected divided by investors.(Jagongo,2014).

I agree with thesis that Drawing evidence from financial theory, which suggests the tendency of investors to sell winning stocks quickly and to hold on to losing ones for a long time, this is the first study to investigate the relevance of the effect of disposition bias on individual investors in the Tunisian equities market. (Bouteska2018)

Because of finance-related job, they are typically better than the individual investors in term s of financial knowledge, sophistication, efficient information processing, professional training experience and qualification (Glaser, Langer, & Weber, 2009; Kaustia, Alho, &Puttonen, 2008). As a result, it is likely that they would hold well-diversified portfolio.

The results indicate that ININ rely more on newspapers/media and noise in the market When making their investment decisions, while professional investors rely more on fundamental and Technical analysis and less on portfolio analysis. The investment horizon seems to have a direct association with the relative importance of the techniques that professionals use for

stock analysis. Also, the use of specific techniques seems to have a different impact on the performance of professionals (Maditinos& others 2007).

The results of this study indicate that most Greek investors rely heavily on fundamental and technical analysis, and less on portfolio analysis. Fundamental analysis is less important. used by ININ .Portfolio analysis earns a higher reputation in the long-term, but still ranks in last position.

Because investing evokes emotion, even sophisticated investors should arm themselves with a long-term perspective and a disciplined approach. Abandoning a planned investment strategy can be costly, and research has shown that some of the most significant derailers are behavioral: the failure to rebalance, the allure of market-timing, and the temptation to chase performance.(Donaldson and other 2013).

To illustrate the phenomenon called the “disposition effect,” we performed an empirical study on the Tunisian stock market for the period from January 1, 2009, to September 30, 2014. Our results indicate that Tunisian investors exhibit the disposition effect. We first performed initial tests to see, at the individual level and at time scale, the degree of difference in behaviors of distinct individuals in terms of characteristics such as age and gender or features related to portfolio management and bull or bear market conditions. The study showed that the disposition effect depended on investor characteristics that could be summarized in age, gender, type of management, trading frequency, trading in round numbers, the number of securities held over the study period, and trading volume. Considering the parameters one by one, we found greater exposure to the disposition effect among male than female investors. This can be explained by the high level

of risk aversion among females (Booth & Nolen,2012; Rau, 2014; Sutter &Rutzler, 2010), which allows them to sell falling stocks quickly without a lot of emotional attachment. Similarly, we note that the disposition effect is weaker among older traders. This result is consistent with previous studies by (Dhar and Zhu, 2006) and Korniotis and Kumar, 2011). Age therefore seems to have a positive effect on people's ability to make effective investment decisions because older investors have greater experience and a better understanding of the fundamental principles of investment. Their accumulated wisdom allows them to make more efficient investment decisions. Also, we found that the disposition effect follows a curve inversely proportional to the degree of experience and sophistication of Tunisian investors, in particular with regard to trading frequency, trading volume, and the number of shares held. Moreover, stocks managed by professionals are significantly less exposed to the disposition effect than stocks managed independently by individual investors, which parallels the results about experience. The tendency to trade in round numbers has been demonstrated to be a behavioral bias that fits into the perspective of heuristics. According to our study, such a bias makes the investor more subject to the disposition effect. It is overall the same for trading volume, which increases the disposition effect when it rises. Our study also shows that the disposition effect depends on the market condition, that is, if it is bullish, it has a significant impact: when market is bullish, the disposition effect increases, while this effect decreases in a bearish market. This result can be explained by behavioral factors. Indeed, in a bull market, investors more easily make gains, so they prefer to account them to avoid feeling regret froma subsequent fall in stock prices. On the contrary, the realization of losses in such a market implies a bad previous purchase decision that is

difficult to accept psychologically. Investors therefore prefer to hold on to losers. In a bear market, investors accept their losses more easily because they attribute them to external factors. A simultaneous observation of internal and external factors that influence the disposition effect produces fairly relevant results: human behavior is rarely determined solely by the impact of nature (internal factor) or the impact of the market (external factor). The simultaneous study of age and gender as well as other trader characteristics allows us to update some results of prior research that, for example, found that older investors had a higher disposition effect. Our approach, based on simultaneous observation of parameters that are innate (gender) and evolve over time (age and experience), in addition to external influences, provides more precision and detail on the real behavior of individuals, which considerably reduces the margin of error. Finally, and after the robustness tests that we have conducted that eliminate other rational explanations of the disposition effect, such as portfolio rebalancing and transaction costs, we conclude that the disposition effect is indeed a behavioral bias that exists in the Tunisian stock market in a significant way and cannot be explained by the traditional theory of the informational efficiency of markets.(Ahmed Bouteska a, Boutheina Regaieg,2017)

concerning investors' portfolio allocations, stock market expectations exhibit significant and positive influences, while risk aversion and the interactions between individuals' stock market expectations and their risk aversion levels are no longer significant once they have become active market participants (Brome, 2013).

The study concludes that disposition bias overall do have a statistically significant effect on individual investor portfolio performance. This finding

is supported by several empirical studies though it also contradicts some other studies. With the model overall for disposition bias being statistically significant, the study concludes that there is a tendency of investors to sell stocks that are increasing in price too soon and holding stocks that are decreasing in price too long thus having a major effect on their portfolio performance.

The results of this study further imply that the prospect theory which postulates that investors manage risk under uncertainty is not applicable among investors at the NSE since investors tend to regret more about keeping underperforming stocks for too long than selling performing ones too early. Again the optimal returns as postulates in the modern portfolio theory does not hold since investors are not patient when holding and selling their stocks thus end up making abnormal returns which is in contrary to expectations based on modern portfolio theory.

5.22investor behavior moderator the positively influence liquidity and return Not Support

because investment climate weakness (bin hecence,2013). In speculative bubble where often made with much shorter target periods. Therefor the current emphasis on long term – investment may well be sign of version towards similar.

Short term profit opportunities and experienced during the speculative bubble Before the investment f investors have earn investment horizon covering a period over five year. That also indicate more **caution attitude towards** investing today (Johnson 2002).

We have tried to put the role of management of the liquidity reserve into a broader contextand to fill a gap in the literature: when managing the liquidity reserve and its included assets, the responsible persons have to take the following influencing factors into account:

−The banking organization itself, with its business model, funding structure and related types of risk;

−National and international regulatory requirements have to be fulfilled;

−Market behavior and its participants need to have carefully watched and anticipated, in order to manage the risk which might arise from the liquidity reserve itself. (ChristianBuschmann& Thomas Heidorn,2014)

The review highlights that consumers generally lack any detailed knowledge or understanding of pensions and investments, even though they are increasingly expected to make their own financial provision for retirement. They also tend to be risk averse (women in particular), and seek to minimize losses rather than maximize (Sharon Collard 2009) gains, even in relation to long-term investments such as a pension This means that investors believed that their skills and knowledge of stock market could help them to outperform the market and also they were able to anticipate the end of good or poor market returns at NSE and that they normally have the ability to anticipate the ends of good or poor market Only 21% of the investors trusted their own judgment more than information/analyses from other listed sources.

we find that there are significant and negative interactions between stock market expectations and risk aversion levels in determining individuals' stock ownership decisions, in addition to the effects of these two variables singularly. This finding is robust to the inclusion of additional variables to control for individuals' health status within our models (Boram Lee2013).

What truly influences individuals' heterogeneous stock market expectations, however, is hard to determine individuals develop their expectations in many different ways, and over time they are likely to apply a mixture of different approaches. Despite this, however, one of the relatively constant behavioral features of individuals, influencing not only their stock market expectationsbut also their portfolio allocation decisions,is their levels of risk aversion.(Boram Lee2013).

We provide three explanations: trading style, trading volume and investment horizons, for the results of different types of investors' impacts on stock return volatility. (Che, 2011).

Which were based mostly on fundamental analysis and less on non-financial factors, provided satisfactory returns. In contrast, the investment practices employed by ININ, which in most cases were based upon non-financial factors such as instinct/experience,

Newspapers/media and noise in the market, led them to experience significant capital losses. In summary, although finance theory suggests that investors should mainly focus on conventional portfolio analysis, the results of this study indicate that they are more concerned with fundamental and technical analysis; this evidence is consistent with that of earlier studies of emerging stock markets (Maditinos& others 2007).

The result exemplifies typical regret aversion behavior when the investors hold losing stocks instead of selling them because they do not want to feel regretful about buying such stocks at the first place. So, from a practical point of view, this behavior may lead to serious problems related to investment decisions. The investors become irrational in their investment decisions and may lose many chances for selling the losing stocks and

purchasing others especially when they keep losing and their prices keep decreasing. In other words, the investors seem to be willing to sell shares increasing in value than decreasing ones. AU NADA 2014

CONCLUAION

1.Finding:

1. The results revealed the relationship between portfolio management and return it positive because it different form zero at 0.05 level of significance.
2. The relationship between portfolio management and perceived financial risk it positive because it different from zero at 0.05 level of significance. Except the relationship between diversification and liquidity not significance at level 0.05.
3. The relationship between perceived financial risk and return it positive because it different from zero at 0.05 level of significance. Except the relationship between liquidity and return not significance.
4. The mediating role of perceived financial risk on the relationship between portfolio management and return it positive because it different from zero at 0.05 level of significance. Except the liquidity mediate positively influence between diversification and return. not significance at level 0.05.
5. Moderator effect of investor behavior on the relationship between portfolio management and return it positive because it different from zero at 0.05 level of significance. Except the investor behavior moderate positively influence liquidity and return. not significance.
6. This research shows that education of investors is immensely important for the present day investors in Khartoum. Investors, before making investments, need to collect investment related information from the

internet and consult with friends, peers and investment experts before making investments.

7. Previous loss it make investors more attention. Beside The knowledge of investors about market helps them to take right decision. Also The Financial information in cash flow statement helps investors to determine the prices of securities.
8. Most of investors invest in different economic sectors & study overall components of investment portfolio also The information available in the market about quality of price of financial securities.
9. Exchange rate effect on investor's investment decision.
10. Investors prefer the investment that Free risk securities like government certificate. And Safetyin investment is first for investors.

2.Recommendations:

1. The recommendation is must be well diversified of individual portfolio by less correlations (assets components of portfolio).

2. The investor should know about benefit of diversification education may be solution.

3. The achieved return of portfolio should be near to expect return should have known much about investor's goals and preferences to develop framework that describes how they form portfolio.

4. Khartoum stock exchange management should take care of marketing the financial securities. And make it easy to increase the efficiency of market. Should improve the fundamental and technical analysis of market for

individual investors to anticipate the price of securities according to available information about the price in the past.

5. Also the investors need to be flexible with market environment to change the percentage weight of their portfolio assets according to market study. And also invest in institutions that issue the financial securities according toinformation available about higher management.The market factor consists of three variables: price changes, market information, and past trends of stocks. The very high influences of market variables can be linked to the respondents' profiles, which show that most of them have not attended training courses about stocks. However, they understand the importance of market information to the

3. Suggestions for future research:

This study is one of the investors' volunteers using behavioral finance in Sudan with the measurements of 5-point Likert scale. It is necessary to have further researches to confirm the findings of this research with the larger sample size and the more diversity of respondents. Further researches are suggested to apply behavioral finance to explore the behaviors influencing the decisions of institutional investors at the KSE. These researches can help to test the suitability of applying behavioral finance for all kinds of securities markets with all components of investors.

The study mainly used primary data to gather information for the research project.

Further researches should be done through secondary data. Secondary data analysis saves time that would otherwise be spent collecting data and, particularly in the case of quantitative data, provides larger and higher-

quality databases than would be unfeasible for any individual researcher to collect on their own.

This study was based on a descriptive survey research design on the stock Investors in Sudan. Future studies should be undertaken through a case study of investors in a particular stock brokerage or investment bank. Case study helps in finding in-depth investigation of a single group, or event and may produce new insights that generate additional studies.

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Faculty of higher studies

Questionnaire no:

Thesis questionnaire to fulfill requirement to get the Ph.D. in Business Administration

Title:

The mediating role of perceived financial risk and liquidity on the relationship between portfolio management and rate of return: the moderator effect of investor behavior

(Case study Khartoum stock exchange)

Student: Abobakr Ali Khedr **supervisor: Ahmed Ali Ahmed**

Dear respected respondent

You are one of the potential respondents that we hope to seek assistance incompleting the survey which is designed for academic purpose. The data gathered ofthis survey attempts to understand **The mediating role of perceived financial risk and liquidity on the relationship between portfolio management and rate of return: the moderator effect of investor behavior** To this end we kindly request that you complete the followingquestionnaire regarding your opinion, your business Data and knowledge you have tosubject under investigation. It should take no longer than 20 minutes of your time.Although your response is of the utmost importance to me, your participation in thissurvey is entirely voluntary.

Please do not enter your name or contact details on the questionnaire. It remainsanonymous. Information provided by you remains confidential and will be reportedonly as academic format only.

If you have any questions, comments please contact me.

Yours sincerely

Abobakr Ali Khedr

PhD candidate

0912452333

Under the Supervision of

Dr**Ahmed Ali Ahmed**

0912204658

Part One:

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree

Personal Informational:

Please mark(√)in front ofa phrase thatsuits you

1.1 Sex

Male F

Age group	Less than 25	25 to35	25 to 30	36 to 45	More than 45
choice(√)					

1.2 Age:

1.3: scientific qualification:

Under graduate	graduate	Post graduate

1.4: scientific specialization:

engineering	medical	Social	others

1.5: activities:

Special sectors	Government sector	Free sectors	others

1.6: experience:

Less than 5 years	5 less than 10	10 less 15	15 less 20	More than 20

Section 2: This section inquires about entrepreneurial intention. Please circle the most appropriate number after the following sentence according to your opinion about your bank (to the best of what you knew).

	Items	1	2	3	4	5
	Diversification					
1	I invest in different economic sectors					
2	I invest in sectors that have less correlations (assets components of portfolio)					
3	I change the percentage weight of portfolio assets according to market study.					
4	I invest in different financial securities type.					
5	I invest in government financial securities					
6	The components of my portfolio consists of different time range					
7	My investment portfolio contain securities of ancient companies in the market					
8	My investment portfolio contains securities of un registered companies in the stock exchange.					
9	The numbers of securities components of my portfolio it more than ten stocks.					
10	I invest in local market only (geographical borders)					
	Return					
1	The achieved return it near to expected return					
2	The information disclosure in financial reports and statement help me to expect return.					
3	I use the scientific models for evaluate the return for purpose of making financial decision					
4	I compare the expected return with the nature of investment for take the investment decision					
5	the information provide by financial analysis help me to take the right decision					
6	I invest in company securities according to it past performance					
7	I invest in institutions that issue the financial securities according to information available about higher management					

8	I put in my consideration inflation rate to calculate the expected return					
	Risks					
1	Information disclosure in financial reports and statement help me to measure the risks.					
2	I prefer the investment that Free risk securities government certificate					
3	I use the modern techniques for reduce the risks					
4	increasing the inflation rate effect my investment decision					
5	I have ability to know the issued institution ability to pay the debit in merit date					
6	Political stability effect the degree of my investment risks.					
7	Exchange rate effect on my investment decision					
8	I study the financial position for issued of financial securities.					
	Investor behavior					
1	previous loss it make me more attention					
2	I will not sell the securities that has reduced in value					
3	I will sell the securities that has increased in value					
4	I study overall components of my investment portfolio					
5	My knowledge of market helps me to take right decision					
	Marketability					
1	The information available about quality of price of financial securities.					
2	Financial information in cash flow statement helps me to determine the prices of securities.					
3	I get the information of companies performance in fair time and cyclical					

4	profit distributed on stock it the main indicator of sell & buy					
5	I face difficulty to marketable of financial securities					
6	the brokers increase the efficiency the marketable of financial securities					
7	I anticipate the price of securities according to available information about the price in the past.					
	Liquidity					
1	the information available of liquidate the financial securities in short term.					
2	I prefer the investment the can convert to cash quickly.					
3	I always evaluate and measure the liquidity by specific mechanism					
4	I manage the cash flow by good financial planning.					
5	.I invest in government securities. Because of fast liquidation.					
6	The broker agents get fair commission in liquidation process.					
7	I study the numbers of marketable securities (supply & demand) to determine my ability to portfolio liquidation.					
8	Financial securities that I own it able me change the components of investment portfolio assets.					
9	For secure my capital the securities I owned has fast liquidity.					

List of arbitrators

No	name	Scientific degree	University
1	Ahmed Ibrahim abu sin	professor	Sudan university of science & technology

2	Ali abdalla hakim	professor	Sudan university of science & technology
2	Altahirmohmed ali	Associate professor	Sudan university of science & technology
3	Tajelserahmedkhalid	Associate professor	Sinnar university
4	Hamzabushrajumma	Associate professor	El imam El Mahdi University
6	Nasirjummaabakr	Associate professor	El imam El Mahdi University